

Long-term health conditions: variations in the number of conditions by socioeconomic disadvantage and remoteness

Findings

Background

The release by the Australian Bureau of Statistics of data from the 2021 Census of Population and Housing for long-term health conditions provides the opportunity to examine variations in the number of conditions by socioeconomic disadvantage and remoteness.

Overall

Over four and a half million people, or almost one fifth of the population, reported in the 2021 Census that they had one long-term health condition. Another one and a half million people reported having two long-term health conditions and just under three quarters of a million people had three or more long-term health conditions. Notably, the rate drops off markedly between one and two conditions, and between two and three conditions.

By socioeconomic disadvantage

There is no noticeable difference in the data for those with one long-term health condition, with only 4% more people in the most disadvantaged areas than was the case in the least disadvantaged areas. However, there was a clear social gradient, and a marked differential between the most and least disadvantaged areas, for those reporting two conditions (a rate ratio of 1.39, or a rate of people in the Most disadvantaged areas reporting two conditions that was 39% higher than in the Least Disadvantaged areas). A gradient was again evident for those with three or more long-term health conditions, with almost twice the rate in the Most disadvantaged areas, a rate ratio of 1.98.

Although the age-standardised rates of people reporting that they have two or three long-term conditions are much lower than those reporting one condition, those with multiple long-term conditions have:

- poorer health outcomes, when measured by High or very high psychological distress levels, or premature mortality; and
- make greater use of public health services when measured by potentially preventable hospitalisations in public acute hospitals, or of emergency department presentations.

By remoteness

The highest rates of prevalence of long-term health conditions were in Inner Regional areas and the lowest were in Very Remote areas; the variation between the Very Remote and Major Cities areas was greatest for those reporting one or two conditions.

Summary

The data for long-term health conditions provide an important measure of the extent of variation in health status across Australia. When analysed by socioeconomic disadvantage and remoteness they provide a clear case for a population health approach, if the aim is to reduce inequalities in the prevalence of chronic conditions and health outcomes and reduce the burden on public health services.

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Related publications

Public Health Information Development Unit (PHIDU). *Long-term health conditions by type of condition: variations by socioeconomic disadvantage and remoteness*. Adelaide: PHIDU, Torrens University Australia, June 2023

Expected to be published in October 2023:

Public Health Information Development Unit (PHIDU). *Long-term health conditions: variations in the number and type of conditions reported by Aboriginal and Torres Strait Islander people*. Adelaide: PHIDU, Torrens University Australia, October 2023

Public Health Information Development Unit (PHIDU). *Long-term health conditions: variations in the number and type of conditions reported by Indigenous status*. Adelaide: PHIDU, Torrens University Australia, October 2023

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Long-term health conditions: variations in the number of conditions by socioeconomic disadvantage and remoteness

Background

The release by the Australian Bureau of Statistics (ABS) of data from the 2021 Census of Population and Housing for long-term health conditions provides the opportunity to examine variations in the number of conditions by socioeconomic disadvantage and remoteness. In addition to the caveats in the box, below, the ABS draw attention to the strong link between age and incidence of long-term health conditions; however, the data presented in this Fact sheet have been age-standardised to remove, as far as possible, the effects of differences in the age structure when comparing populations age¹. Other influences on the rate of long-term health conditions are also discussed at the previously-footnoted link.

Caveats

Self-reported data and quality of data

The data presented here were self-reported and, as such vary from other data about these conditions that the ABS collects. However, the value of the Census data are in providing data for small geographic areas. For more detail, see under the heading *Methodology* at <https://www.abs.gov.au/articles/long-term-health-conditions#cultural-diversity-and-long-term-health-conditions>. The ABS also advise that the use of a single question in the Census to collect information on the complex and sensitive topic of long-term health conditions likely results in some underestimation of the number and proportion of people with long-term health conditions. This was observed particularly for mental health conditions. For further details see the heading *Demographic characteristics and long-term health conditions* at <https://www.abs.gov.au/articles/long-term-health-conditions#cultural-diversity-and-long-term-health-conditions>.

Coverage

The statistics are of Australians, whether living in a private dwelling (a private dwelling can be a house, flat or even a room; it can also be a caravan, houseboat, tent, or a house attached to an office, or rooms above a shop) or non-private dwelling (hospitals, nursing homes, gaols, etc.). Although the proportion of those with one or more chronic conditions is higher for those living in non-private dwellings (43.7% compared to 28.6% in private dwellings), with much larger differences for those with two or three conditions, and relatively large differences for some individual conditions, only 2.2% of the population lives in non-private dwellings*. As a result, the proportions shown in this report (regardless of living arrangements) closely reflect those for the population living in private dwellings, with never more than a one percentage point difference.

*Data extracted from ABS TableBuilder, 1 June 2023: table available on request.

Number of conditions by socioeconomic disadvantage

Over four and a half million people, or almost one fifth of the population, reported in the 2021 Census that they had one long-term health condition. Another one and a half million people reported having two long-term health conditions and just under three quarters of a million people had three or more long-term health conditions (Table 1). Notably, the rate drops off markedly between one and two conditions, and between two and three conditions.

¹ Australian Bureau of Statistics (ABS). Demographic characteristics and long-term health conditions at <https://www.abs.gov.au/articles/long-term-health-conditions#demographic-characteristics-and-long-term-health-conditions>

There is no noticeable difference in the data, by socioeconomic disadvantage, for those with one long-term health condition, with only 3% more people in the Most disadvantaged areas than was the case in the Least disadvantaged areas (Table 1); there were similar rates across the middle quintiles² (and Figure 1).

Table 1: Population by number of long-term health conditions and quintile of socioeconomic disadvantage, Australia 2021

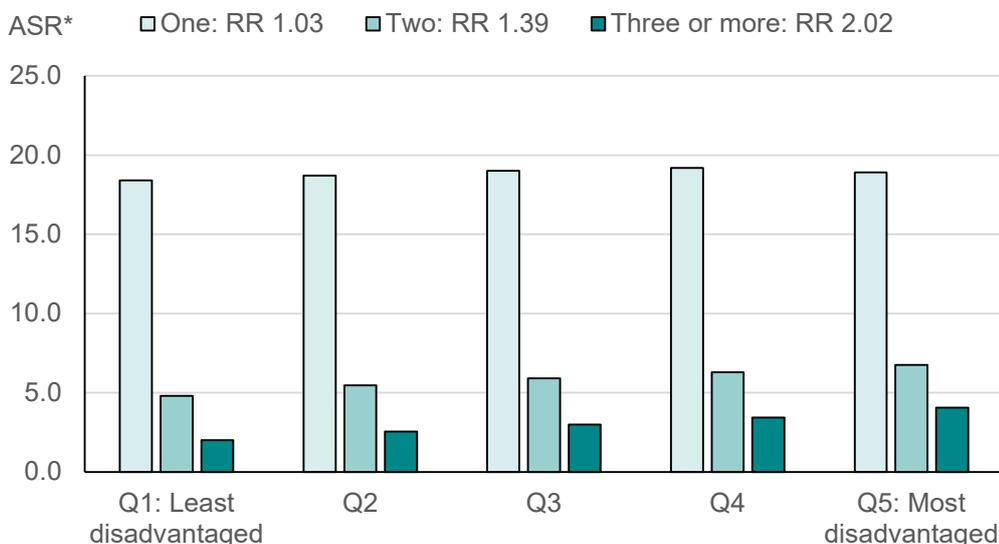
Number of long-term health conditions	ASR ¹	Number	Quintile of disadvantage (ASR ¹)		Rate ratio ²
			Least	Most	
One	18.8	4,791,516	18.4	18.9	1.03
Two	5.9	1,490,344	4.9	6.7	1.39
Three or more	3.0	722,452	2.0	4.1	2.02
One or more	27.7	7,053,999	25.2	29.7	1.18

¹ASR is the (indirectly) age-standardised rate per 100 population

²Rate ratio is the rate in the Most disadvantaged areas to the rate in the Least disadvantaged areas

However, there is a clear social gradient, and a marked differential between the Most and Least disadvantaged areas, for those reporting two conditions (a rate ratio of 1.39, or a rate of people in the Most disadvantaged areas reporting two conditions that was 39% higher than in the Least Disadvantaged areas) (Figure 1). A gradient was again evident for those with three or more long-term health conditions, with almost twice the rate in the Most disadvantaged areas, a rate ratio of 1.98.

Figure 1: Population by number of long-term health conditions and quintile of socioeconomic disadvantage of area, Australia 2021



*ASR is the (indirectly) age-standardised rate per 100 population

To view similar charts by number of conditions for each State and Territory and by Greater Capital City and Rest of State/Territory area, as well as for individual conditions for adults and children, see under the heading *Long-term health conditions (ABS Census) data* [here](#). Other indicators can also be compared; e.g., smoking, obesity and hospitalisations, as can a wide range of socioeconomic and demographic characteristics.

² Details of the composition of Most disadvantaged and Least disadvantaged areas and definitions of quintiles, social gradient and rate ratios are available [here](#).

Although, as shown in Table 1, the age-standardised rates of people reporting that they have two or three long-term conditions are much lower than those reporting one condition, those with multiple long-term conditions have:

- poorer health outcomes, when measured by High or very high psychological distress levels and premature mortality; and
- make greater use of public health services when measured by potentially preventable hospitalisations in public acute hospitals and of emergency department presentations.

Table 2 shows the extent of correlation between these four measures and the number of reported long-term conditions in the capital cities. In the majority of instances, the correlations are stronger as the number of conditions increases.

Table 2: Correlation between numbers of long-term health conditions, capital cities, 2021

Capital city	High or very high psychological distress levels	Premature mortality	Potentially preventable hospitalisations	Emergency Department presentations
<i>Cells show Number of conditions (1, 2, 3) and related correlation coefficient (r)</i>				
Sydney	1 – 0.0 2 – 0.4 3 – 0.6	1 – 0.4 2 – 0.7 3 – 0.9	1 – 0.2 2 – 0.6 3 – 0.8	1 – 0.5 2 – 0.7 3 – 0.7
Melbourne	1 – 0.1 2 – 0.4 3 – 0.7	1 – 0.1 2 – 0.5 3 – 0.6	1 – 0.0 2 – 0.6 3 – 0.8	1 – 0.3 2 – 0.7 3 – 0.7
Brisbane	1 – 0.2 2 – 0.7 3 – 0.8	1 – 0.4 2 – 0.7 3 – 0.8	1 – 0.4 2 – 0.8 3 – 0.9	1 – 0.4 2 – 0.6 3 – 0.7
Adelaide	1 – 0.5 2 – 0.9 3 – 0.9	1 – 0.3 2 – 0.8 3 – 0.9	1 – 0.5 2 – 0.9 3 – 0.9	1 – 0.7 2 – 0.9 3 – 0.9
Perth	1 – 0.5 2 – 0.9 3 – 0.9	1 – 0.4 2 – 0.7 3 – 0.9	1 – 0.4 2 – 0.8 3 – 0.9	1 – 0.6 2 – 0.9 3 – 0.9
Hobart	1 – 0.3 2 – 0.9 3 – 1.0	1 – 0.2 2 – 0.8 3 – 0.9	1 – 0.3 2 – 0.8 3 – 0.8	1 – 0.1 2 – 0.7 3 – 0.7
Darwin*	1 – 0.7 2 – 0.8 3 – 0.9	1 – 0.4 2 – 0.7 3 – 0.8	1 – 0.7 2 – 0.8 3 – 0.9	1 – 0.4 2 – 0.9 3 – 1.0
Canberra	1 – -0.0 2 – 0.4 3 – 0.9	1 – -0.2 2 – 0.0 3 – 0.4	1 – 0.2 2 – 0.5 3 – 0.9	1 – -0.2 2 – 0.2 3 – 0.8

*The correlations for Darwin should be used with caution, as there are only three geographic areas in the analysis

Number of conditions by remoteness

These data from the 2021 Census provide, for the first time, information as to the prevalence of long-term health conditions for the Australian population across all of the remoteness categories. Data previously available from health surveys has not been able to capture prevalence for non-Indigenous people living in the sparsely settled Remote and Very Remote areas of Australia.

In each case, when viewed by the number of conditions, the highest rates were in Inner Regional areas and the lowest were in Very Remote areas; the variation between the Very Remote and Major Cities areas was greatest for those reporting one or two conditions (Table 1).

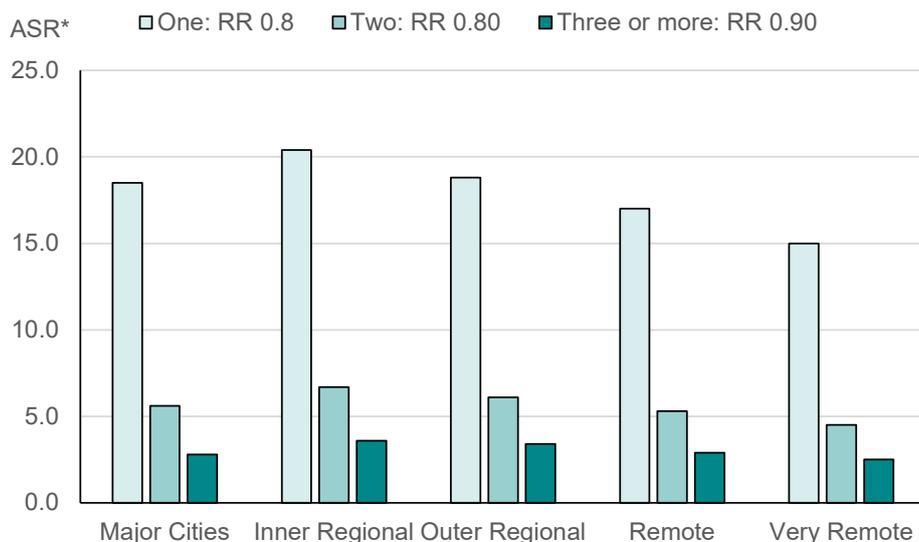
Table 1: Population by number of long-term health conditions and Remoteness Area, Australia 2021

Number of long-term health conditions	ASR ¹	Remoteness Area (ASR ¹)					Rate ratio ²
		Major Cities	Inner Regional	Outer Regional	Remote	Very Remote	
One condition	15.8	18.5	20.4	18.8	17.0	15.0	0.81
Two conditions	5.9	5.6	6.7	6.1	5.3	4.5	0.80
Three or more conditions	3.0	2.8	3.6	3.4	2.9	2.5	0.90
One or more conditions	27.7	26.9	30.7	28.4	25.2	22.1	0.82

¹ASR is the (indirectly) age-standardised rate per 100 population

²Rate ratio is the rate in the Very Remote areas to the rate in the Major Cities areas

Figure 1: Population by number of long-term health conditions and Remoteness Area, Australia 2021



Had the comparison been between the Very Remote and Inner Regional areas, the rate ratios would have been 0.74 (or 26% lower in the Very Remote areas) for one condition, 0.67 for two conditions and 0.69 for three conditions.

The rates in the Very Remote areas are low when compared with other data, such as hospitalisations (for which there is little difference across the remoteness categories), or premature mortality (where rates in Very Remote areas are substantially higher than in Major Cities).

Summary

The data for long-term health conditions provide an important measure of the extent of variation in health status across Australia. When analysed by socioeconomic status and remoteness, they provide a clear case for a population health approach, if the aim is to reduce inequalities in the prevalence of chronic conditions and health outcomes and reduce the burden on public health services.

Data sources

The data referred to above are available from the PHIDU website, at the links shown, or from <https://phidu.torrens.edu.au/>