

March 2023

Chapter 4

Queensland Health

Exploring the health of culturally and linguistically diverse (CALD) populations in Queensland: 2016–17 to 2019–20



Queensland
Government

4. Hospitalisation, death and potentially avoidable death rates

4.1 Summary

A hospitalisation is an episode of admitted patient care. This can be a total hospital stay (from admission until discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change of type of care (e.g. from acute care to rehabilitation). The broad types of admitted patient care (hospitalisation) are medical care, care involving an intervention or procedure such as surgery and other acute care, along with childbirth, mental health care and sub-acute and non-acute care such as palliative care and rehabilitation⁵³.

Hospitalisation rates usually indicate two main issues: serious acute illnesses and conditions requiring admitted patient hospital treatment; and the access to and use of hospital admitted patient treatment by people with such conditions⁵⁴. To avoid or limit unnecessary hospitalisations and re-hospitalisation rates, it is critical for a health system to focus on the prevention, early detection and management of health conditions to help keep people out of hospital. This is achieved through expanded access to and coordination of comprehensive primary health care.

Across healthcare systems internationally, there is also a growing need to measure and report on potentially avoidable death and/or death/mortality rates. Some evidence suggests that migrants appear to have increased life expectancy in comparison to native-born population. This is possibly influenced by factors that afford them the ability to migrate to Australia in the first place⁵⁵. For example, those from a higher socioeconomic status, with higher levels of education and who are younger in age may be more likely to be able to migrate.

Queensland was one of the three states that accounted for the largest contributions to preliminary net overseas migration in Australia in the year ending 30 June 2020, with migrants being predominantly from younger age groups. During this period, temporary visa holders were the majority of overseas migrant arrivals (61.3 per cent) in Australia; international students constituted 22.2 per cent of all migrant arrivals⁵⁶.

⁵³ Australian Institute of Health and Welfare. Hospital activity. Dec 2022 [cited 08 March 2023].

Available from: <https://www.aihw.gov.au/reports-data/myhospitals/themes/hospital-activity#more-data>

⁵⁴ Australian Institute of Health and Welfare. Tier 1 - Health status and outcomes, top reasons for hospitalisation. 2023 Jan [cited 08 March 2023].

Available from: <https://www.indigenoushpf.gov.au/measures/1-02-top-reasons-hospitalisation#:~:text=The%20top%20reason%20for%20overnight,20%20per%201%2C000%3B%208.6%25>.

⁵⁵ Page A, Begg S, Taylor R, Lopez AD. The impact of migration on life expectancy in Australia. Bulletin of the World Health Organization.

June 2007. Available from: <https://www.scielosp.org/pdf/bwho/v85n6/a14v85n6.pdf>

⁵⁶ Australian Bureau of Statistics. Statistics on Australia's international migration, internal migration (interstate and intrastate), and the population by country of birth. Reference period 2019-20 financial year. 2021 Apr [cited 08 March 2023].

Available from: <https://www.abs.gov.au/statistics/people/population/migration-australia/latest-release#key-statistics>

Literature has also suggested that the lower mortality rate for migrant groups in some host countries could be contributed by the unofficial remigration of unhealthy individuals back to their country of birth to receive treatment, or in extreme cases to die. This results in an underestimation of migrant mortality data⁵⁷.

A study in Amsterdam examined the mortality patterns in several migrant groups. The findings suggested that despite the low mortality among many migrant groups, often explained as being the result of the ‘healthy migrant effect’, there are still many health issues associated with detrimental working and living conditions as well as social inequality that leads to severe morbidity⁵⁸.

As part of the Australian Health Performance Framework (AHPF), it is important to examine trends and patterns in life expectancy, mortality rates and major causes of death. This can help evaluate health strategies and guide policymaking⁵⁹. Rates of death and leading causes of death differ between population groups due to variations in population characteristics, causes of death at different ages, characteristics of the places where people reside, the prevalence of illness and risk factors and access to health services⁶⁰. The recent COVID-19 mortality data in Australia, released by ABS in November 2022, showed that over the course of the pandemic, those born overseas had a higher death rate when compared to those born in Australia⁶¹.

The current Queensland Health study explored hospitalisation, death and potentially avoidable deaths and compared rates between the Queensland residents born overseas (CALD background) and Australian-born (non-CALD background) populations in Queensland. Further analysis of these variables was undertaken using the categories of country of birth English status (either MESB or NESB), region of birth, sex, as well as the specific country of birth.

It is worth noting that analysis of these variables revealed no meaningful data to illustrate specific causes or health conditions, as was in the case for the analysis of PPH, where data was sufficient to infer meaningful interpretations.

⁵⁷ Page A, Begg S, Taylor R, Lopez AD. The impact of migration on life expectancy in Australia. *Bulletin of the World Health Organization*. June 2007. Available from: <https://www.scielosp.org/pdf/bwho/v85n6/a14v85n6.pdf>

⁵⁸ Uitenbroek DG, Verhoeff AP. Life expectancy and mortality differences between migrant groups living in Amsterdam, the Netherlands. 2002. *Social Science and Medicine*, 54(9), Available from: <https://www.sciencedirect.com/science/article/pii/S0277953601001204>

⁵⁹ Australian Institute of Health and Welfare. Health status: Deaths. 2023 Feb [cited 08 March 2023]. Available from: https://www.aihw.gov.au/reports-data/australias-health-performance/australias-health-performance-framework/national/all-australia/deaths/deaths/3_4_3

⁶⁰ Australian Institute of Health and Welfare. Deaths in Australia. June 2022 [cited 08 March 2023]. Canberra: AIHW. Available from: Australian Institute of Health and Welfare, Deaths in Australia, June 2022

⁶¹ Australian Bureau of Statistics. COVID-19 Mortality by wave. Canberra: ABS; 2022 Nov [cited 03 March 2023]. Available from: <https://www.abs.gov.au/articles/covid-19-mortality-wave#deaths-from-covid-19-by-country-of-birth>

Key findings

At an aggregate population level, both MESB and NESB populations showed lower rates of hospitalisation, death and potentially avoidable death rates than the Australian-born population. However, when further analysis is undertaken at the region and country of birth level, disparities in health outcomes are highlighted for the Queenslanders who are born overseas (CALD background). This observation is similar to the findings from the previous chapter on PPH, which indicates that analysing data at aggregated levels in broad categories potentially masks the differences of health outcomes for individual population groups that are observed when data is analysed at the most detailed level.

Hospitalisation rates (all causes)

- Overall, MESB and NESB populations had lower rates of hospitalisation than the Australian-born population.
- Queensland residents from the Other Oceania and Antarctica region had significantly higher hospitalisation rates when compared to the Australian-born population.
- The highest rates were seen in Queensland residents born in Syria, Tonga, Samoa, Bangladesh and Eritrea.

Death rates (all causes)

- Overall, MESB and NESB populations showed lower death rates than the Australian-born population.
- No region had significantly higher death rates than the Australian-born population.
- The highest death rates were seen in Queensland residents born in Tonga, Serbia, Ukraine, Cook Islands and Poland.

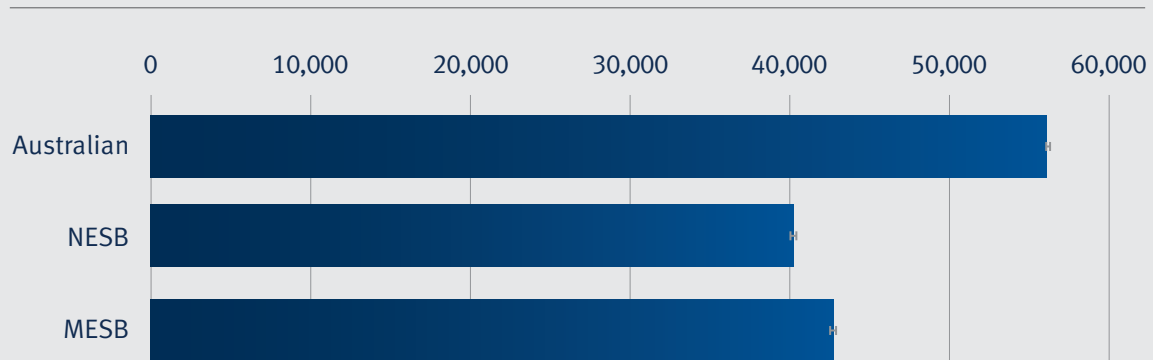
Potentially avoidable death rates (all causes)

- Overall, MESB and NESB populations showed lower rates of potentially avoidable deaths than the Australian-born population.
- Queensland residents from the Other Oceania and Antarctica region had significantly higher rates of potentially avoidable deaths than the Australian-born population.
- The highest rates were seen in Queensland residents born in Cook Islands and Tonga.

4.2 Hospitalisation rates (all causes) by region, sex and country of birth

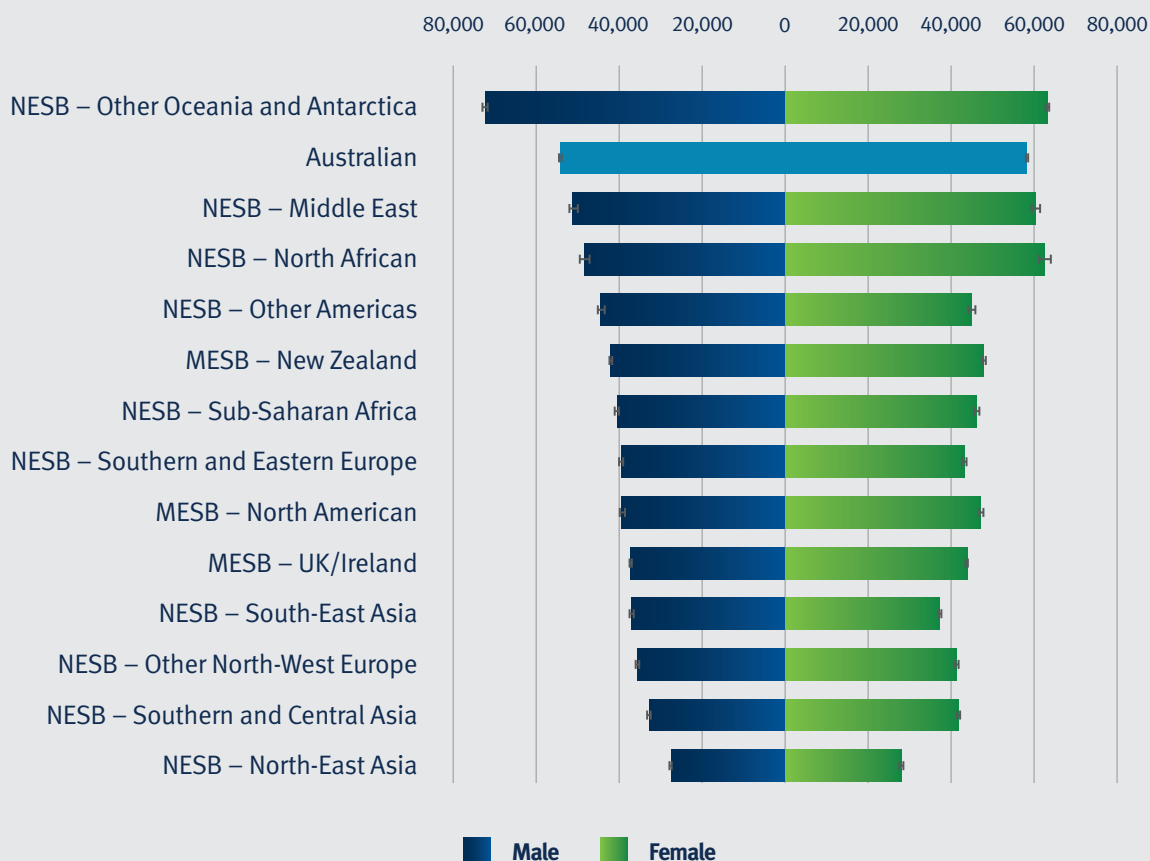
In this current study, analysis of total hospitalisation rates at an aggregate population level revealed that both MESB and NESB populations had lower rates of hospitalisation when compared to the Australian-born population (Figure 28).

Figure 28: Age-standardised rates for all hospitalisations by broad country of birth category, Queensland, 2016–17 to 2019–20



However, further analysis by region of birth revealed that people from the Other Oceania and Antarctica region had significantly higher hospitalisation rates when compared to the Australian-born population. In addition, females from Middle East and North African regions had significantly higher hospitalisation rates when compared to the Australian-born population. In the North African region, females had significantly higher rates than males (Figure 29).

Figure 29: Age-standardised rates for all hospitalisations by region of birth and sex, Queensland, 2016–17 to 2019–20



Analysis at the level of country of birth revealed that people born in several countries with NESB populations had significantly higher hospitalisation rates when compared to the Australian-born population (Table 24). The top five countries with the highest rates of hospitalisation were Syria, Tonga, Samoa, Bangladesh and Eritrea.

Table 24: Age-standardised rates for all hospitalisations by country of birth, Queensland, 2016–17 to 2019–20

Country of birth	Count	ASR	(95% CI)		Rate ratio
Australian					
Australia	8,022,145	56,163.9	56,124.7	56,203.2	1.00
NESB – Middle East					
Syria*	2,822	120,746.6	116,266.0	125,353.7	2.15
Israel*	2,335	75,823.1	72,659.9	79,084.6	1.35
Iraq*	6,016	70,970.8	68,651.7	73,334.5	1.26
Jordan*	900	68,718.0	63,791.3	73,893.8	1.22
Lebanon*	4,737	59,216.2	56,798.7	61,686.2	1.05
Turkey*	3,831	58,699.9	56,619.6	60,830.5	1.05
NESB – North African					
Sudan*	6,960	80,254.9	77,067.6	83,499.3	1.43
NESB – Other North-West Europe					
Austria	10,576	60,095.3	56,001.9	64,248.0	1.07
NESB – Other Oceania and Antarctica					
Tonga*	10,600	117,916.6	115,305.7	120,565.2	2.10
Samoa*	41,120	102,985.6	101,873.9	104,105.5	1.83
Cook Islands*	7,056	77,508.4	75,560.9	79,490.5	1.38
NESB – Southern and Central Asia					
Bangladesh*	4,320	87,598.5	83,233.0	92,063.4	1.56
NESB – Southern and Eastern Europe					
Serbia*	11,852	80,895.0	79,146.3	82,667.5	1.44
NESB – Sub-Saharan Africa					
Eritrea*	1,877	84,629.2	80,469.0	88,933.9	1.51
Somalia*	3,375	78,549.1	74,574.4	82,626.2	1.40
Uganda	1,146	57,814.1	54,210.3	61,579.0	1.03

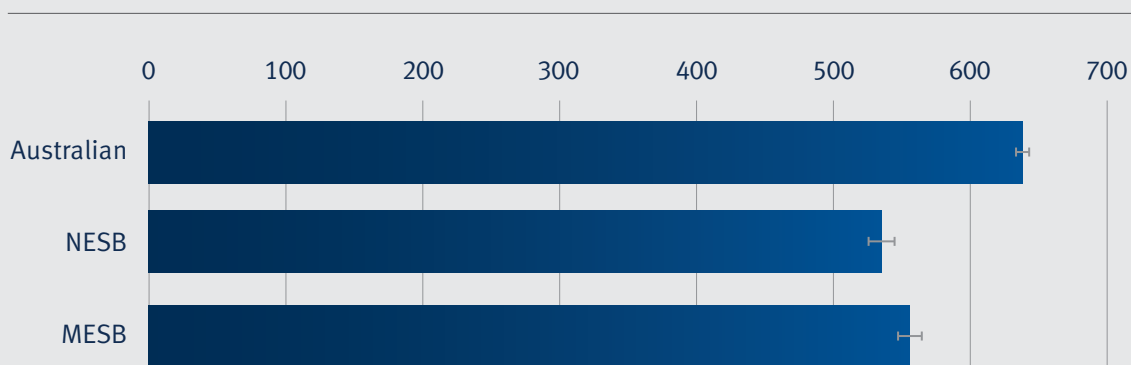
* Statistically significant difference from the Australian population based on non-overlap of 95% confidence intervals

4.3 Death rates (all causes) by region, sex and country of birth

Death rates report the number of persons who died over a selected period, divided by the corresponding population. Rates are age-standardised to reduce the influence of age between populations with different age structures. If a particular population has a lower age-standardised death rate compared to another, it indicates that relatively fewer deaths are occurring in the population and/or that persons are generally living longer.

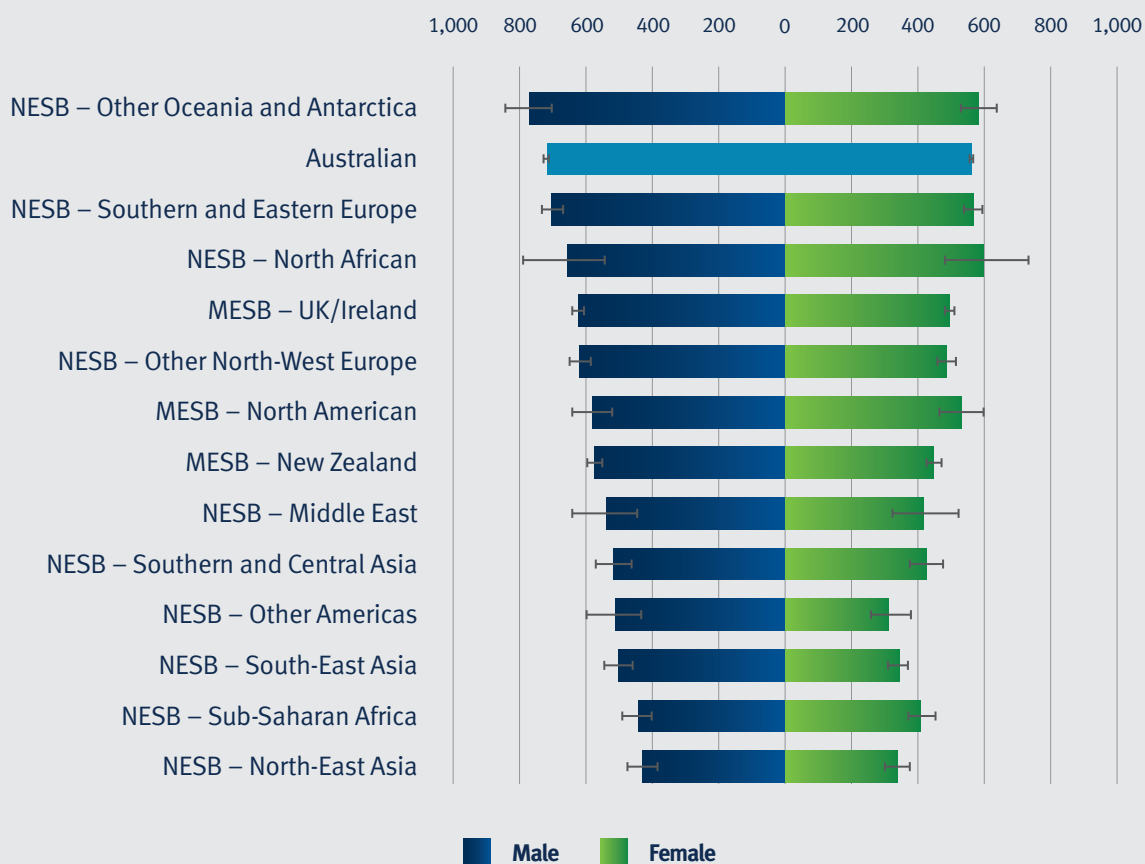
In this current study, when death rates due to all causes were analysed at an aggregate population level, both MESB and NESB populations showed lower death rates when compared to the Australian-born population (Figure 30).

Figure 30: Age-standardised rates for all causes of death by broad country of birth category, Queensland, 2016–17 to 2019–20



Further analysis by region of birth revealed that no region had significantly higher death rates when compared to the Australian-born population (Figure 31).

Figure 31: Age-standardised rates for all causes of death by region of birth and sex, Queensland, 2016–17 to 2019–20



However, when death rates were further analysed at the level of country of birth, several countries showed significantly higher death rates when compared to the Australia-born population. The top five countries were Tonga, Serbia, Ukraine, Cook Islands and Poland (Table 25). Tonga leading in the highest death rate in the current study is compounded by the recent COVID-19 mortality data in Australia. This data showed that people born in Tonga had the highest rate ratio in both the Delta and Omicron wave when compared to those born in Australia. During the Delta wave, the COVID-19 mortality rate for those born in Tonga was 80 times higher compared to people born in Australia⁶².

Table 25: Age-standardised rates for all causes of death by country of birth, Queensland, 2016–17 to 2019–20

Country of birth	Count	ASR	(95% CI)		Rate ratio
Australian					
Australia	93,412	637.6	633.5	641.8	1.00
MESB – UK/Ireland					
Northern Ireland*	383	819.1	733.0	912.1	1.28
Wales*	396	783.2	704.8	867.7	1.23
Scotland	1,626	655.7	622.4	690.3	1.03
NESB – Other North-West Europe					
Norway	41	765.3	538.6	1,051.6	1.20
Finland	213	660.4	559.7	771.8	1.04
NESB – Other Oceania and Antarctica					
Tonga*	79	1,114.2	864.2	1,409.8	1.75
Cook Islands*	75	1,003.8	771.3	1,279.9	1.57
Samoa*	256	819.5	715.1	934.0	1.29
NESB – Southern and Central Asia					
Pakistan	32	734.0	472.3	1,074.7	1.15
NESB – Southern and Eastern Europe					
Serbia*	190	1,112.4	958.1	1,284.3	1.74
Ukraine*	107	1,014.5	816.4	1,243.3	1.59
Poland*	415	878.4	765.9	999.5	1.38
Romania*	98	843.5	682.1	1,030.9	1.32
Russian Federation	82	724.7	575.2	900.9	1.14
Hungary	292	688.5	602.5	782.3	1.08
Cyprus	88	687.0	436.7	980.3	1.08
Italy	1,570	641.4	590.5	694.3	1.01

* Statistically significant difference from the Australian population based on non-overlap of 95% confidence intervals

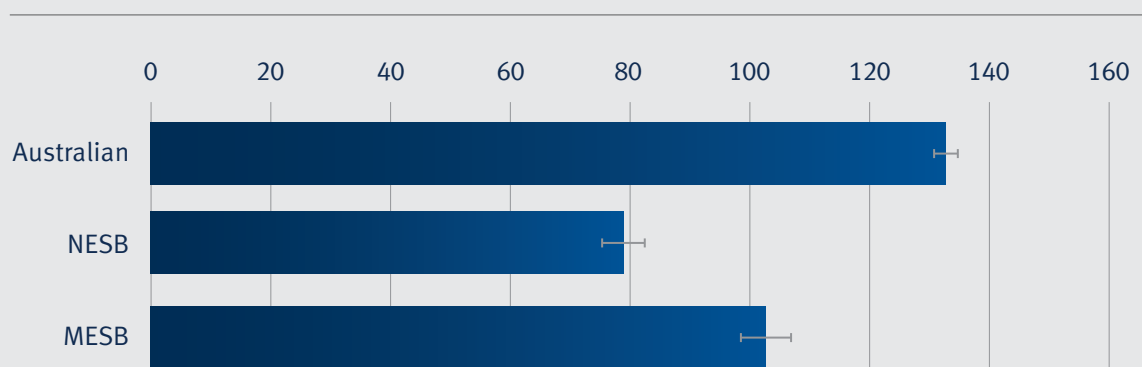
⁶² Australian Bureau of Statistics. COVID-19 Mortality by wave. Canberra: ABS; 2022 Nov [cited 03 March 2023]. Available from: <https://www.abs.gov.au/articles/covid-19-mortality-wave#deaths-from-covid-19-by-country-of-birth>

4.4 Potentially avoidable death rates (all causes) by region, sex and country of birth

Potentially avoidable deaths are classified using nationally agreed definitions⁶³ based on cause of death for people aged less than 75. They include deaths that are potentially preventable through individualised care and/or treatable through existing primary or hospital care⁶⁴.

Analysis of potentially avoidable death rates at an aggregate population level revealed that both MESB and NESB populations had lower rates of potentially avoidable deaths when compared to the Australian-born population (Figure 32).

Figure 32: Age-standardised rates for potentially avoidable deaths (PAD) by broad country of birth category, Queensland, 2016–17 to 2019–20



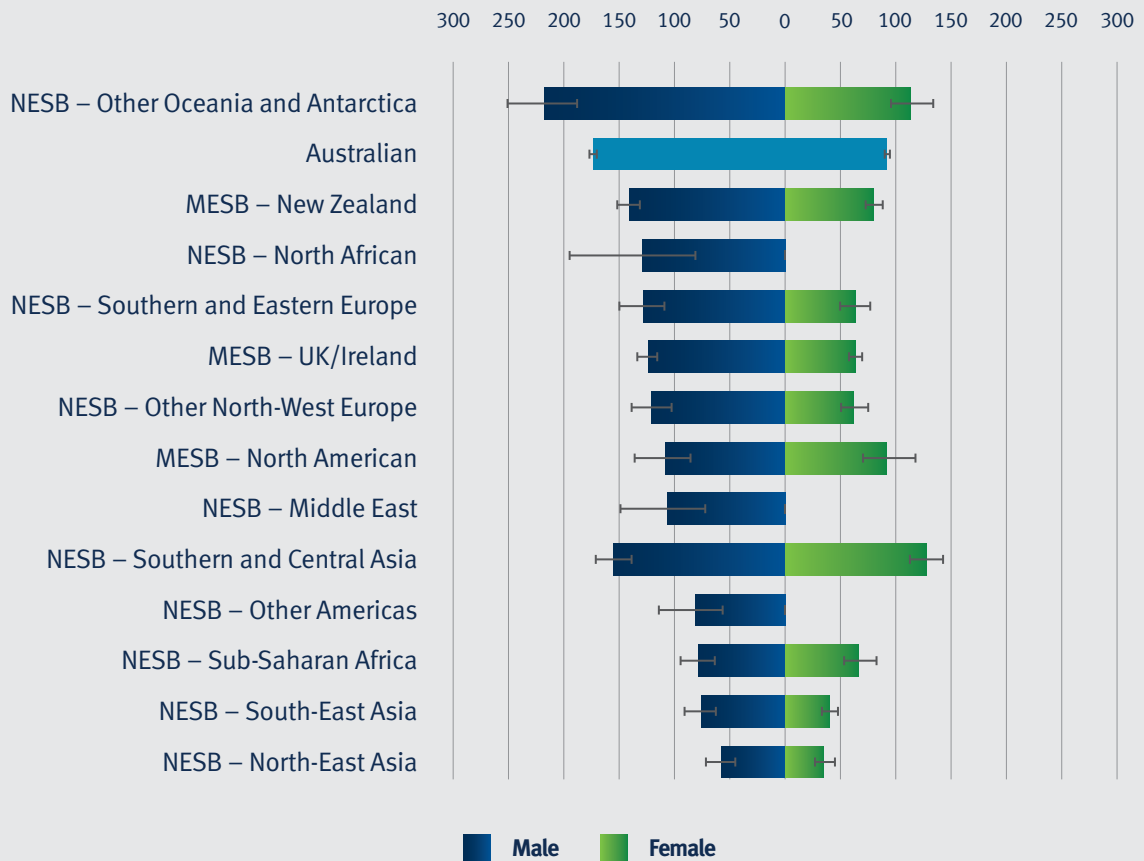
⁶³ Australian Institute of Health and Welfare. National Healthcare Agreement: P20-Potentially avoidable deaths. 2010. Canberra: AIHW.

⁶⁴ Australian Institute of Health and Welfare. Deaths in Australia. June 2022 [cited 08 March 2023]. Canberra: AIHW.

Available from: <https://www.aihw.gov.au/reports/life-expectancy-death/deaths-in-australia/contents/variations-between-population-groups>

Further analysis at the level of region of birth showed that people from the Other Oceania and Antarctica region had significantly higher rates of potentially avoidable deaths when compared to the Australian-born population (Figure 33).

Figure 33: Age-standardised rates for potentially avoidable deaths (PAD) by region of birth and sex, Queensland, 2016–17 to 2019–20



Age-standardised rates are omitted for male population where cell counts are insufficient. See Appendix C for details.

Analysis of potentially avoidable death rates at the level of country of birth showed that people born in Cook Islands and Tonga had significantly higher rates when compared to the Australian-born population (Table 26).

Table 26: Age-standardised rates for potentially avoidable deaths (PAD) by country of birth, Queensland, 2016–17 to 2019–20

Country of birth	Count	ASR	(95% CI)		Rate ratio
Australian					
Australia	18,705	132.6	130.7	134.5	1.00
NESB – Other Oceania and Antarctica					
Cook Islands*	29	318.4	210.7	460.7	2.40
Tonga*	25	231.0	149.4	341.2	1.74
Samoa	80	169.3	134.0	211.1	1.28
Papua New Guinea	127	159.2	131.9	190.4	1.20
NESB – Southern and Eastern Europe					
Romania	20	147.0	89.7	227.1	1.11
Hungary	31	137.2	88.7	200.7	1.04

* Statistically significant difference from the Australian population based on non-overlap of 95% confidence intervals