



**Queensland
Government**

Death and hospitalisation rates by country of birth in Queensland #6: discussion and summary of report series

Andrew Jardine¹, Taku Endo², Melanie Watson², Margaret Bright¹, Sue-Lynne MacLeod²

¹Population Epidemiology Unit, Preventative Health Directorate, Queensland Health

²Health Statistics Centre, Queensland Health

Key Findings

- Queenslanders born overseas generally had lower all-cause, avoidable/potentially preventable, and chronic disease death and hospitalisation rates compared to the Australian born population.
- This finding is consistent with reports from other jurisdictions and nationally.
- Oceania and Antarctica country of birth region (excluding Australia and external territories, and New Zealand) had higher rates of deaths or hospitalisations in several aspects analysed in this series.
- Other country of birth regions with more than one rate of death or hospitalisation higher than the Australian born population included Southern and Eastern Europe, the Middle East and North Africa.
- This investigation was limited to populations based on country of birth only.
- Both broad overseas born categories and disaggregated country of birth region level data should be used to inform health policy for culturally and linguistically diverse populations. However, there are statistical limitations when disaggregating data to individual countries of birth.

Discussion and Summary of this Series of Country of Birth Data Analysis Reports

This series of reports shows that in the recent reporting period, Queenslanders born overseas generally had lower rates of death and hospitalisation compared to the Australian born population. Similar findings have been demonstrated in Victoria for all-cause and potentially preventable hospitalisations (PPHs)^{1,2} for overseas-born refugee populations, and nationally for all-cause death and morbidity rates^{3,4}. These findings are consistent with what has been described as 'the healthy immigrant effect', which largely results from the fact that immigrants must be in good health in order to migrate to Australia and are more likely to be from relatively good material circumstances⁵. While low hospitalisation rates may reflect barriers to access to services, given the generally lower death rates among overseas born Queenslanders, it is unlikely this is a major factor among these populations. A comprehensive assessment of the health status of overseas born populations should also consider disease prevalence and incidence, self-assessed health, life expectancy and risk factor prevalence. Unfortunately not all data collections, which are often based on population surveys, contain usable country of birth information, or are not able to support assessments for the relatively small overseas individual country of birth populations.

While Queenslanders born overseas generally had lower death and hospitalisation rates, three overseas country of birth regions had relatively high rates compared to the Australian born population based on the data shown in this series of reports. Those born in the Other Oceania and Antarctica region (excluding Australia and external territories, and New Zealand) had a higher rate of avoidable death compared to the Australian born population⁶. In addition, for this population the rate of deaths due to diabetes in males was three times (300%) higher than Australian born males⁷. This group also had higher hospitalisation rates than the Australian born population for all-causes⁸, PPHs⁹, asthma and diabetes and heart failure⁷. Hospitalisation rates for all-causes among females⁸, PPHs⁹, CHD and heart failure for those born in the Middle East were higher than in the Australian born population⁷. Similarly, rates of all-cause hospitalisations in females⁸, vaccine preventable PPHs⁹ and diabetes were higher in those born in North Africa⁷. Comparisons of death and hospitalisation rates to the Australian born population by country of birth category and region are summarised in Tables 1 to 4.

One of the limitations of this investigation was the 6.9% of the Queensland population who were excluded from the population denominator data because they could not be classified into a country of birth region or category. Some (<0.1%) had partial country of birth information but were not able to be assigned to a single

country of birth region; however, the majority did not state or adequately describe their country of birth in the 2006 census¹⁰. While this may have limited the power of the analyses, there was no evidence to suggest those who did not provide country of birth information are any different to those who did, and therefore it is unlikely that the exclusion of these individuals impacted on the results.

It should also be noted that investigating broad country of birth categories only may mask differences at regional and individual country of birth levels. For example, higher rates of hospitalisations and deaths compared to the Australian born population were observed in several country of birth regions, while the broad MESB and NESB categories had similar or lower rates. Therefore from a policy perspective, it is informative to consider differences in both broad categorical and disaggregated data. However, when disaggregating data it is very important to consider statistical limitations. In the current analysis it was not possible to investigate death or hospitalisation rates for individual countries of birth due to small numbers of cases, particularly for deaths, and the potential for identifying false significant differences when undertaking a large number of comparisons. Furthermore, caution should be exercised when comparing individual death and hospitalisation rates as summarised in Tables 1 to 4. All the available rates for each country of birth region should be considered together to formulate a meaningful understanding of the health status of that population.

Studies have suggested that the better health status of the immigrant population (healthy immigrant effect) weakens the longer a person resides in the new country¹¹. This could not be assessed as the length of residence in Australia is not available in death or hospitalisation data. Furthermore, country of birth is not always a reliable indicator of the culture to which one identifies. For example, an individual may have been born in one country but lived in another for a substantial period of time before migrating to Australia. Ancestry data may therefore be more accurate in determining cultural influences on health in Australia, but again this was not available in the datasets analysed. This is particularly relevant to the Pacific Islander population in Queensland, many of whom migrate from or through New Zealand¹².

Conclusion

In conclusion, death and hospitalisation rates of broad overseas born population categories (MESB and NESB) in Queensland were lower compared to the Australian born population. However, there were variations among the country of birth regions and despite the limitations mentioned above, those born in the Oceania and Antarctica region (excluding Australia and New Zealand) appear to be the population of most concern.

Table 1. Summary of differences in death and hospitalisation rates in overseas born broad categories compared to the Australian born population in Queensland

	Deaths (2003-2007)		Hospitalisations (2003/2004-2007/2008)		
	MESB	NESB		MESB	NESB
All cause	similar/lower	similar/lower	All cause	similar/lower	similar/lower
Total avoidable deaths	similar/lower	similar/lower	Total potentially preventable hospitalisations (PPH)	similar/lower	similar/lower
Avoidable deaths – preventable conditions	similar/lower	similar/lower	Chronic PPH	similar/lower	similar/lower
Avoidable deaths – health care amenable	similar/lower	similar/lower	Acute PPH	similar/lower	similar/lower
			Vaccine Preventable PPH	similar/lower	20% higher
CHD	similar/lower	similar/lower	CHD	similar/lower	similar/lower
Stroke	similar/lower	similar/lower	Stroke	similar/lower	similar/lower
Diabetes	similar/lower	25% higher	Diabetes	similar/lower	similar/lower
			Heart Failure	similar/lower	similar/lower
			Asthma	similar/lower	similar/lower
			COPD	similar/lower	similar/lower

Table 2. Summary of differences in death rates in overseas born regions compared to Australian born population, Queensland 2003-2007

	Male	Female	Total
All cause	All regions similar or lower	All regions similar or lower	All regions similar or lower
Total avoidable deaths	All regions similar or lower	Other Oceania and Antarctica 24% higher	Other Oceania and Antarctica 15% higher
		All other regions similar or lower	All other regions similar or lower
Avoidable deaths – preventable conditions	All regions similar or lower	All regions similar or lower	All regions similar or lower
Avoidable deaths – health care amenable	All regions similar or lower	All regions similar or lower	All regions similar or lower
CHD	All regions similar or lower	All regions similar or lower	All regions similar or lower
Diabetes	Other Oceania and Antarctica 3x (300%) higher	Other Oceania and Antarctica 76% higher	Other Oceania and Antarctica 2.3x (230%) higher
	Southern and Eastern Europe 43% higher	Southern and Eastern Europe 57% higher	Southern and Eastern Europe 52% higher
	All other regions similar or lower	All other regions similar or lower	All other regions similar or lower
Stroke	All regions similar or lower	All regions similar or lower	All regions similar or lower

Table 3. Summary of differences in hospitalisation rates in overseas born regions compared to Australian born population, Queensland 2003/2004-2007/2008

	Male	Female	Total
All cause	Other Oceania and Antarctica 21% higher	Other Oceania and Antarctica 8% higher	Other Oceania and Antarctica 14% higher
	All other regions similar or lower	North Africa 13% higher All other regions similar or lower	All other regions similar or lower
Total potentially preventable hospitalisations (PPH)	Other Oceania and Antarctica 13% higher	Other Oceania and Antarctica 4% higher	Other Oceania and Antarctica 9% higher
	All other regions similar or lower	All other regions similar or lower	All other regions similar or lower
Chronic PPH	Other Oceania and Antarctica 32% higher	Other Oceania and Antarctica 31% higher	Other Oceania and Antarctica 32% higher
	Middle East 15% higher	Middle East 24% higher	Middle East 22% higher
	North Africa 13% higher	All other regions similar or lower	All other regions similar or lower
	All other regions similar or lower		
Acute PPH	All other regions lower	North Africa 17% higher	All regions similar or lower
		All other regions similar or lower	
Vaccine Preventable PPH	North Africa 3.4x (340%) higher	North Africa 2.8x (280%) higher	North Africa 3.5x (350%) higher
	North East Asia 2.3x (230%) higher	Other Oceania and Antarctica 70% higher	Other Oceania and Antarctica 91% higher
	South-East Asia 2.2x (220%) higher	South-East Asia 50% higher	South-East Asia 79% higher
	Other Oceania and Antarctica 2.1x (210%) higher	All other regions similar or lower	North East Asia 76% higher
	All other regions similar or lower		All other regions similar or lower
Asthma	Other Oceania and Antarctica 77% higher	All regions similar or lower	Other Oceania and Antarctica 41% higher
	New Zealand 29% higher		New Zealand 12% higher
	All other regions similar or lower		All other regions similar or lower
COPD	All regions similar or lower	All regions similar or lower	All regions similar or lower
CHD	Southern and Central Asia 9% higher	Other Oceania and Antarctica 12% higher	Middle East 15% higher
	All other regions similar or lower	All other regions similar or lower	All other regions similar or lower
Diabetes	Other Oceania and Antarctica 53% higher	Other Oceania and Antarctica 40% higher	Other Oceania and Antarctica 46% higher
	North Africa 28% higher	Middle East 40% higher	North Africa 27% higher
	All other regions similar or lower	All other regions similar or lower	All other regions similar or lower
Heart Failure	Middle East 2.1x (210%) higher	Middle East 2.0x (200%) higher	Middle East 2.1x (210%) higher
	Other Oceania and Antarctica 30% higher	Southern and Eastern Europe 29% higher	Other Oceania and Antarctica 31% higher
	Southern and Eastern Europe 16% higher	Other Oceania and Antarctica 27% higher	Southern and Eastern Europe 24% higher
	All other regions similar or lower	All other regions similar or lower	All other regions similar or lower
Stroke	All regions similar or lower	All regions similar or lower	All regions similar or lower

Table 4. Summary of overseas born regions with more than one higher death or hospitalisation rate compared to the Australian born population in Queensland

Country of Birth Region	Deaths (2003-2007)	Hospitalisations (2003/2004-2007/2008)
Other Oceania and Antarctica (excluding Australia and external territories, and New Zealand)	Total avoidable 15% higher Diabetes 2.3 times (230%) higher	All cause 14% higher Potentially preventable hospitalisations (PPH): Total 9% higher Chronic 32% higher Vaccine preventable 91% higher Asthma 41% higher Diabetes 46% higher Heart Failure 31% higher
Southern and Eastern Europe	Diabetes 52% higher	Heart Failure 24% higher
North Africa		Vaccine preventable PPH 3.5 times (350%) higher Diabetes 27% higher
Middle East		Chronic PPH 22% higher CHD 15% higher Heart Failure 2.1 times (210%) higher
South-East and North-East Asia		Vaccine preventable PPH 79% and 76% higher, respectively

References

1. Correa-Velez I, Sundararajan V, Brown K, Gifford SM. Hospital utilisation among people born in refugee-source countries: an analysis for hospital admissions, Victoria, 1998-2004. *Medical Journal of Australia*. 2007;186:577-580.
2. Correa-Velez I, Ansari Z, Sundararajan V, Brown K, Gifford SM. A six-year descriptive analysis of hospitalisations for ambulatory care sensitive conditions among people born in refugee-source countries. *Population Health Metrics*. 2007;5:9.
3. Australian Institute of Health and Welfare. Australian health inequalities: 1 Birthplace. Bulletin 2. AIHW: Canberra; 2002
4. Kennedy S, MacDonald JT, Biddle N. The Healthy Immigrant Effect and Immigrant Selection: Evidence from Four Countries. Social And Economic Dimensions Of An Aging Population Research Paper No. 164.
5. Australian Institute of Health and Welfare. Australia's Health 2010. AIHW: Canberra; 2010.
6. Jardine A, Endo T, Bright M, Watson M, Macleod S. Death and hospitalisation rates by country of birth in Queensland #3: Avoidable deaths. Queensland Health June 2011.
7. Jardine A, Endo T, Watson M, Bright M, Macleod S. Death and hospitalisation rates by country of birth in Queensland #5: Selected chronic conditions. Queensland Health June 2011.
8. Endo T, Watson M, Jardine A, Bright M, Macleod S. Death and hospitalisation rates by country of birth in Queensland #2: All-causes. Queensland Health June 2011.
9. Bright M, Endo T, Jardine A, Watson M, Macleod S. Death and hospitalisation rates by country of birth in Queensland #4: Potentially preventable hospitalisations. Queensland Health June 2011.
10. Endo T, Jardine A, Bright M, Watson M, Macleod S. Death and hospitalisation rates by country of birth in Queensland #1: introduction, data sources and definitions. Queensland Health June 2011.
11. Biddle N, Kennedy S, McDonald JT. Health assimilation patterns amongst Australian immigrants. *Economic Record* 2007;83:16-30
12. Queensland Health. Health status of Pacific Islander population in Queensland. Queensland Health Multicultural Program: Brisbane; 2009.