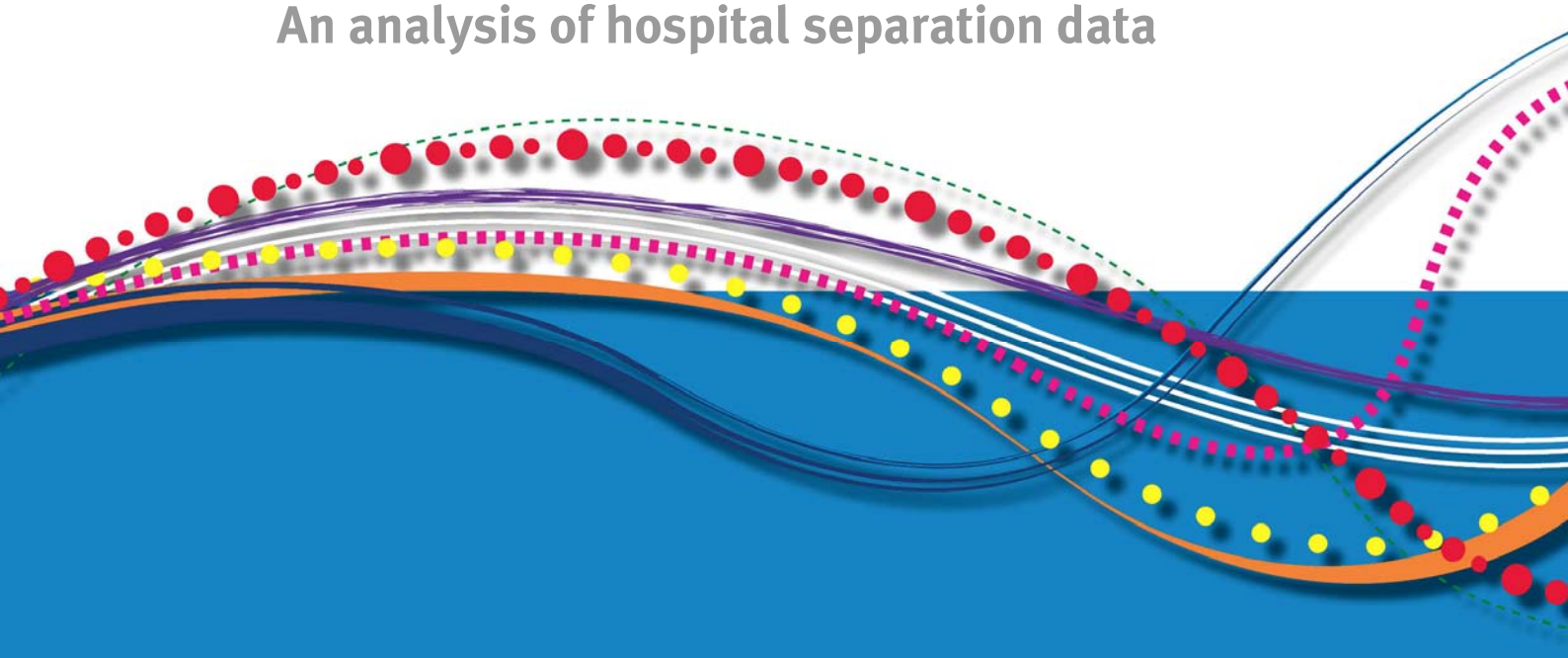
Queensland Health

The health of Australian South Sea Islander people in Queensland

An analysis of hospital separation data



Queensland Government

The health of Australian South Sea Islander people in Queensland—an analysis of hospital separation data

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Summary

Australian South Sea Islander people are the descendants of predominantly Melanesian people who were brought to Queensland in the mid to late 19th century to work primarily in the sugar industry.

There is limited information available to ascertain the health status of the Australian South Sea Islander community although this community has been identified as a disadvantaged priority group. A literature review and consultation with community members and organisations found only one health specific publication relating to the Australian South Sea Islander population.

The Queensland Hospital Admitted Patient Data Collection (QHAPDC) gathers Australian South Sea Islander identification but it is not routinely collected in other Queensland health databases. From the QHAPDC, age standardised hospital separations rates for all causes, coronary heart disease, stroke, chronic obstructive pulmonary disease, diabetes, external causes, musculoskeletal diseases, asthma, total avoidable and preventable diabetes complications from 2004–05 to 2008–09 were calculated and compared with the total Queensland population.

The analysis of the data was complicated by difficulties in ascertaining the size of the Australian South Sea Islander population. Estimates of the Australian South Sea Islander population varied from approximately 4,000 to 20,000. Given the wide variation, the data was analysed using both the lower and the upper population estimates.

The hospital separation rates were higher in the Australian South Sea Islander population compared to the Queensland population for all health conditions. This was statistically significant using both population estimates.

There are several data quality issues. Firstly, the actual size of the South Sea Islander population is not known. This will substantially influence the hospital separation rates and the interpretability of such rates. Secondly, information about the number of Australian South Sea Islander hospital separations is dependent on the accuracy with which they have been identified in hospital records.

The following factors contribute towards underestimating the Australian South Sea Islander hospital separation rates: lack of self identification, ancestry information being asked inconsistently, common ancestry, lack of benefits with identification and stigma.

In addition, there are several limitations to the application of hospital separation rates as a health status indicator. Hospital separations are episodes of care and thus are counts of events rather than people. This is of greater importance in the treatment of chronic disease compared with communicable disease, and in small populations. Furthermore, the criteria and practices for admission to hospital varies between facilities across the state dependent upon the clinical requirements and access to health care services.

On the basis of this broad set of limitations, caution must be used when interpreting hospital separation data as a health status indicator for Australian South Sea Islander people. However, hospital separation data is of value in health service planning.

In 2010–11 Queensland Health implemented a project to improve the identification of Aboriginal and Torres Strait Islander peoples in health information systems. The project educated health care staff and administration officers on the need for improved data collection. The project also targeted community members, encouraging them to identify their ancestry whenever possible. The project included specific reference to Australian South Sea Islander people.

The data shows Australian South Sea Islander people have higher separation rates for selected health conditions in comparison to the total Queensland population. The findings should be interpreted with caution given data quality issues and lack of other research to support these findings. Further research to accurately establish the health status of the Australian South Sea Islander community and its determinants is required to understand the health needs of this community.

About the document

Queensland has a culturally diverse population and this trend is increasing. Thirty–three per cent of Queenslanders were born overseas, or have a parent who was born overseas. More than 270 languages are spoken in Queensland and almost eight per cent of Queenslanders speak a language other than English at home. Almost 50 000 people, or 1.2 per cent of the population, are either unable to speak English well, or not at all. This equates to, on average, one in three people being born overseas, or having a parent born overseas; one in five people being from a culturally and linguistically diverse background; and one in 10 being from a non–English speaking background.

This document profiles the health of Australian South Sea Islander people living in Queensland through an analysis of hospital separation data. It is one in a series of documents profiling the health status of Queensland's culturally and linguistically diverse communities.

Document structure

This document has five sections.

Section one—*Background* presents a summary of information about Australian South Sea Islander people in Queensland including the historic, legal and social circumstances of this Queensland population.

Section two—*Methodology* presents the methodology used to analyse the data including data sources, standardisation method and data limitations.

Section three—*A profile of Queensland's Australian South Sea Islander population* presents a brief demographic overview of the population.

Section four—*Hospitalisations* principally reports on the national health priority areas including: cancer, cardiovascular disease, diabetes, respiratory disease and musculoskeletal disease.

Section five—*Key implications for Queensland Health* outlines implications from the findings.

1 Background

1.1 Historical background

Australian South Sea Islander people are descendants of Melanesian people that were recruited to Queensland between 1863 and 1904 as indentured labourers*. It is estimated that there were 62 500 recruits from more than 80 islands, mostly from Vanuatu (about two thirds) and the Solomon Islands (about one third) (1). The first Australian South Sea Islander recruits were mostly males aged between 15 and 35—only six per cent were women (1).

Recruiting South Sea Islander labour was called 'blackbirding'. Around 25–30 per cent were, in varying degrees, illegally recruited, with a smaller percentage (five per cent) thought to be kidnapped. They were initially employed at cotton farms, pastoral stations and towns but later were restricted to the sugar plantations (2, 3). The largest Islander populations were based at the Mackay, Herbert and Johnson River, Cairns and Port Douglas districts (2).

Although many Australian South Sea Islander people remained in Australia for only a few years, several thousand stayed after their initial three year indentured contracts had expired. Most of the recruits were married to other South Sea Islander people while others were married to people from other cultural groups, particularly Aboriginal people.

1.2 Legal and policy background

Between 1904 and 1906, most Australian South Sea Islander people were deported under the *White Australia Policy*. In 1901, the new federal government ordered recruiting to cease from 1903 and as many Islander workers to be repatriated by 1907. There were approximately 10 000 Islander workers in Queensland and northern New South Wales in 1901 when the deportation order was made (1).

After a 1906 Royal Commission, certain categories of people were allowed to remain in Australia (1). Around 1400 people were exempted from being deported and approximately 1000 are reported to have evaded deportation and remained in the country illegally (2).

In 1903, the federal government introduced a sugar bounty which was paid to growers who only used white labour to grow and harvest their sugar cane. In 1913, the Queensland Government legislated to introduce certificates of exemption that had to be held by any non–European workers in the sugar cane industry.

Between 1919 and 1921, Queensland's Arbitration Court prohibited the employment of 'coloured' workers, except on farms owned by a countryman and gave preference in employment to Australian Workers' Union (AWU) members. Australian South Sea Islander people were debarred from membership of the AWU until the 1970s (1). Many Australian South Sea Islander people survived by leasing small farms from larger plantations.

Many Islander workers who remained in Australia were single men who died in the 1920s and 1930s. Among the survivors were married couples and their families from whom the present day Australian South Sea Islander community is descended (1).

In the 1940s, most aspects of people's lives and mobility were controlled through a number of legislative acts. There were restrictions on where they were allowed to work and they were continued to be excluded from jobs in the sugar industry. Racial discrimination in workplace legislation in the first quarter of the twentieth century was damaging to the community's socioeconomic status and life chances (4).

In 1977, the Royal Commission into Human Relationships highlighted the disadvantage and hardship endured by Australian South Sea Islander people and the report recommended they should receive the same benefits that were available to Aboriginal people. The recommendation

* Indentured labourers were bound in a contract binding them to work, normally for three years

was not implemented (3, 5). In 1991, the Evatt Foundation highlighted the economic and social disadvantage faced by the Australian South Sea Islander community and as a result, the government sought further enquiry from the Human Rights and Equal Opportunity Commission. In 1992, the Commission published a report, *The call for recognition: a report on the situation of the Australian South Sea Islanders*, which was based on a Census of 1184 Australian South Sea Islander households (3, 5). The report concluded that Australian South Sea Islander people had suffered a century of racial discrimination and harsh treatment, which were major contributing factors to their state of disadvantage and that they were a group of high need. The report noted there was a lack of recognition for Australian South Sea Islander people and that this community was denied access to Aboriginal and Torres Strait Islander programs. The report made a number of recommendations including:

- a call for recognition
- a need for identification of Australian South Sea Islander people as a high needs group in equal opportunity
- access and equity programs
- the requirement for allocation of funding for culturally appropriate programs
- the need for increased public awareness of the role of the Australian South Sea Islander people in Australia's history (3).

In 1994, the Commonwealth recognised Australian South Sea Islander people as a disadvantaged group and announced a package of funding, grants and programs for the community (5). In July 2000, the Queensland Government formally recognised Australian South Sea Islander people as a distinct community group acknowledging their contribution to the development of the state. An action plan was developed to address five main areas of need:

1. access to government services
2. greater whole of government awareness of the community's issues
3. community development initiatives in the areas of cultural maintenance, local protocols in relation to consultation, planning processes, infrastructure and training
4. strategies to combat prejudice
5. strategies to combat discrimination against the community's members and groups (6).

In addition to these general commitments, Queensland Government agencies agreed to implement specific actions which were outlined in the action plan. Queensland Health aimed to investigate illness and disease patterns within the community to target health strategies (6). To date, there have been no published investigations into the health status of the Australian South Sea Islander population in Queensland. The aim of this report is to present an analysis of hospital separation data of the Australian South Sea Islander population in Queensland from 2004—05 to 2008—09, as an indicator of the health status of the Australian South Sea Islander population living in Queensland.

1.3 Health background

Australian South Sea Islander people were brought to Australia under harsh conditions, reflected in early mortality rates. On average, 50 Australian South Sea Islander people in every 1000 died each year in Queensland. The Australian South Sea Islander mortality rate was highest in 1884 at 147 per 1000 in comparison with the European male mortality rate of approximately nine or 10 per 1000 (1). The primary causes of death were exposure to bacillary dysentery, pneumonia and tuberculosis, against which the new recruits had little immunity (1).

The health of the Australian South Sea Islander population has received little attention. Following the 1992 HREOC report, community consultation was conducted in Mackay in 1995 by Hill and Fa'foi which found high rates of diabetes, hypertension, heart disease, obesity and renal disease (7). The consultation also found that private general practitioners and the Mackay Base Hospital were more popular health care providers than the Aboriginal and Islander Community Health Service and there was a clear correlation between preferred provider and self–identity (7).

A report released in 1996 discussed health access and equity for Australian South Sea Islander people (8). The report concluded that Australian South Sea Islander people overwhelmingly preferred to use mainstream health services rather than the services established for them in conjunction with Aboriginal and Torres Strait Islander people, even though there was evidence of racism in the mainstream services (7).

There is limited data on the socioeconomic indicators of the Australian South Sea Islander population. The 1992 HREOC reported on some of the socioeconomic determinants of health. It found that Australian South Sea Islander people were disadvantaged across several areas including housing. Of those surveyed, 30.8 per cent were owners or buyers compared with an average of 68.3 per cent for Australia in 1986. Australian South Sea Islander dwellings were 50 per cent more crowded than the Australian national average. The Commission indicated Australian South Sea Islander people were disadvantaged in education. For those over 15 years, 20 per cent had a tertiary qualification compared to 30 per cent in the Australian population in 1986 (3). A more recent demographic profile of the Mackay Australian South Sea Islander population based on the 2006 Australian Bureau of Statistics Census data is currently in draft form and has not been published. An assessment of the socioeconomic determinants of health is outside the scope of this report.

There is no Australian South Sea Islander data available for other risk factors and behaviours that have a direct impact on health including tobacco use, alcohol use, physical activity, nutrition and vaccination uptake.

2 Methodology

2.1 Sources of information

A literature search was conducted for 'Australian South Sea Islander' as individual and combined term searches in Medline and Pubmed databases. Internet (Google and Bing) searches were conducted for 'Australian South Sea Islander' and 'health'. Library databases were searched to identify books and/or reports relating to the health of Australian South Sea Islander people. There were no health related publications found in these searches.

Government agencies working with Australian South Sea Islander communities were contacted to identify whether there were any research or publications relating to the health status of this community. These agencies included Multicultural Affairs Queensland, Mackay Regional Council and the Office of Economic and Statistical Research (OESR). No health related publications relating to Australian South Sea Islander people were identified.

A number of Australian South Sea Islander community groups and key community members were contacted for consultation and to identify any health related work undertaken. A number of contacts including Australian South Sea Islander community groups and community leaders were identified using a register of contacts developed by Multicultural Affairs Queensland, and through referrals during discussions with key contacts. One health publication was identified through these consultations (7).

2.2 Data sources

There is very limited routinely collected data available to determine the health of Australian South Sea Islander people. Australian South Sea Islander identification is included in the Queensland Hospital Admitted Patient Data Collection (QHAPDC). It is not routinely collected in other Queensland health databases.

Two data sources were used in this report:

1. Australian Bureau of Statistics (ABS), 2006 Census

The distribution of Australian South Sea Islander people by state and the Queensland population breakdown by age and sex of the respondents who had identified their ancestry as Australian South Sea Islander were provided by the Office of Economic and Statistical Research (OESR). This data was used for age standardisation.

The 2006 ABS Census records the number of Australian South Sea Islander people in Australia as 4101 with 74.3 per cent living in Queensland. Census data is considered to underestimate the actual population by Australian South Sea Islander community workers and organisations. The last survey of the Australian South Sea Islander community was in 1992 as part of the HREOC report. The Australian South Sea Islander population is estimated to be as high as 12 000. Estimates of 20 000 have also been quoted. HREOC acknowledged difficulties in data collection and accurately estimating the Australian South Sea Islander population (3).

2. Queensland Hospital Admitted Patient Data Collection

Australian South Sea Islander data is collected in the Queensland Hospital Admitted Patient Data Collection (QHAPDC). Australian South Sea Islander status is not currently recorded in other health databases. Procedures for data entry relating to the Australian South Sea Islander field are set out in QHAPDC manual (9).

Identification as an Australian South Sea Islander person is not exclusive and those identifying as Australian South Sea Islander can also identify as Aboriginal and/or Torres Strait Islander. As Queensland Health states, 'Some patients will have Indigenous as well as Australian South Sea Islander ancestry. They may identify as either or both' (9).

2.3 Data items extracted

Hospital separations for the list of conditions in the table below were requested and provided by the Health Statistics Centre, Queensland Health. This list was chosen based on the important burden of disease contributed by each category and to be in line with other health reports produced by Queensland Health Multicultural Services. The list of conditions and corresponding ICD–10AM classification codes are presented in Table 1. For potentially preventable hospitalisations and preventable diabetes complications, standard Australian Institute of Health and Welfare (AIHW) and Health Statistics Centre Queensland (HSC) classifications were used.

Table 1 List of conditions and ICD–10AM codes responsible for hospitalisations extracted from the Queensland Hospital Admitted Patient Data Collection (QHAPDC).

Condition	ICD–10AM code
All causes	A00–Z99
Coronary heart disease	I20–I25
Stroke	G45, G46, I60–I69
Chronic obstructive pulmonary disease	J41–J44
Diabetes	E10–E14
External causes	If any record in external cause field
Musculoskeletal disease	M00–M99
Asthma	J45–J46
Potentially preventable hospitalisations	List of ICD codes in appendix 1
Preventable diabetes complications (excluding Z49)	List of ICD codes in appendix 2

Data were extracted for the five year time period from 2004–05 to 2008–09.

There were no patient identifying data requested or provided by the Health Statistics Centre. Only summary statistics from this routinely collected dataset were used in the analysis.

2.4 Age standardisation

Age standardisation is used to enable a valid comparison of groups that may have a different age distribution. In this report, indirect age standardisation is used for data analysis. This method is useful when the population in the study is small or the expected events are small.

The Queensland population is used to provide age–specific rates of hospital separations for each age group. Within each age group, this reference rate is multiplied by the number of people in the Australian South Sea Islander age group to determine the expected number of cases. This is then compared with the observed rate in the Australian South Sea Islander population. Values greater than one indicate a higher rate than what is expected.

2.5 Data analysis

Hospital separation data were extracted and age standardisation performed by the Health Statistics Centre, Queensland Health. Graphs were produced using Microsoft Excel.

Estimated population

According to the ABS 2006 Census, the Australian South Sea Islander population in Australia was 4101. However, the actual number of Australian South Sea Islander people in Australia is thought to be 20 000. Using a lower value for the population can artificially increase the hospital separation rates. To overcome this and for the purposes of this report, values using an 'estimated population' have also been presented when comparing the data and performing the age standardisation.

The estimated population size is based on the following sources:

- Queensland Government estimate of between 12 000 and 20 000 (10, 11)
- New South Wales Government estimate in 1995 of between 15 000 and 20 000 (12)
- academic publications that estimate the population to be around 20 000 (13, 14).

Three assumptions were made when determining the estimated population for Queensland:

1. The Australian South Sea Islander population in Australia was taken to be 20 000.
2. It is assumed that 74.3 per cent of the estimated population live in Queensland (based on 2006 ABS Census). As such the *estimated* Australian South Sea Islander population in Queensland was considered to be 14 860.
3. Given that there are no data about the population distribution for this estimated population, the age distribution based on the 2006 ABS population data was applied to this population estimate.

2.6 Data limitations and quality

There are several data limitations when using hospital separation data and also several issues specific to Australian South Sea Islander data. Some data issues are similar to those associated with Aboriginal and Torres Strait Islander data collection which are briefly outlined below. Australian South Sea Islander data is likely to have an additional set of issues which is specific to this community.

There are several data quality issues which impact on the strength of the analysis. These can affect the numerator and the denominator which may lead to incorrect determination of rates. Firstly, there are difficulties when calculating the Australian South Sea Islander population size (the denominator). Using the smaller estimate can increase rates and make it appear that the Australian South Sea Islander community experience higher hospitalisation rates compared to the total community. Conversely, using a larger estimated population can give the opposite effect.

Secondly, there are difficulties with the numerator. Australian South Sea Islander hospital separation information is limited by the accuracy with which they are identified in hospital records. There are several reasons that may contribute to under identification as explained below. In this report, when the estimated population is used, an adjustment for the numerator is not made. This is because there are no estimates of the amount or proportion of Australian South Sea Islander people that are not captured in hospital separation data. This substantially underestimates the standardised hospitalisation ratios for hospital separations in the analysis.

Finally, as an indicator of ill health, hospital separation data has its limitations (15). Hospital separation data represent episodes of care only. They do not reflect person–data. For example, one person being admitted 10 times cannot be distinguished from 10 people admitted once each. The impact of this is more pronounced when dealing with small populations and also when considering chronic disease. Those who attend hospital but are not admitted are not counted in the separation data. Hospital data is also affected by variations in hospital admission practices and the availability and access of health care services (15).

On the basis of this broad set of limitations, caution must be used in the interpretation of hospital separation data as a health status indicator for Australian South Sea Islander people. However, hospital separation data is of value in health service planning.

Identification as being of Australian South Sea Islander origin

Australian South Sea Islander data is fraught with additional difficulties and limitations. These include common ancestry with Aboriginal people, the question about heritage being inconsistently asked, lack of knowledge about the difference between Pacific Islander people and South Sea Islander people, stigma and lack of benefits associated with identifying as an Australian South Sea Islander.

A barrier to self identification of Australian South Sea Islander ancestry could be the stigma due to past associations with slavery. In addition, consultations with Australian South Sea Islander community members suggest that the lack of benefits when identified as Australian South Sea Islander (compared to being identified as being of Aboriginal and/or Torres Strait Islander origin) could be a barrier to self identification.

The HREOC report found that 38 per cent of those surveyed had Australian South Sea Islander ancestry from both parents and 47 per cent from one parent only (3). The survey also asked how important the Australian South Sea Islander heritage was for them with 67.5 per cent answering it was very important, 18 per cent important and 13.4 per cent stated it was not very important (3).

The analysis of the hospital separation data also shows that of those that identified as Australian South Sea Islander, 51.9 per cent also identified as Indigenous. This is consistent with the HREOC finding that 50 per cent of the Census sampling had also reported Aboriginal ancestry (3).

Discussions with Australian South Sea Islander contacts confirmed that a large number of Australian South Sea Islander people can also identify as being of Aboriginal and/or Torres Strait Islander origin due to intermarriage. Therefore, unless specifically asked whether they were Australian South Sea Islander, it is possible that they would identify as Aboriginal and/or Torres Strait Islander. There was also a feeling that older Australian South Sea Islander people put more emphasis on ancestry and heritage than the younger population. This is possibly because of intermarriage being more common in the younger population.

Inconsistent enquiry about ancestry is another barrier to self identification of Australian South Sea Islander status. There is also a perceived confusion between Australian South Sea Islander people and Pacific Islander people.

3 A profile of Queensland's Australian South Sea Islander population

3.1 Demography

The 1992 HREOC report estimated that there were 12 000 to 20 000 descendants of the original South Sea Islander community with about half also having Aboriginal or Torres Strait Islander ancestry (3). There were no published estimates of the Australian South Sea Islander population found since the HREOC study besides data from the 2006 ABS Census. The 2006 Census included a question about Australian South Sea Islander ancestry. The 2006 Australian Census reports 3047 people in Queensland as having Australian South Sea Islander ancestry. The age distribution of the population shows a higher proportion of those who are younger and a lower proportion of those who are older when compared to the Queensland population (Figure 1). This is similar to the population distribution of the Aboriginal and Torres Strait Islander population. The sex distribution was 45.5 per cent male and 55.5 per cent female.

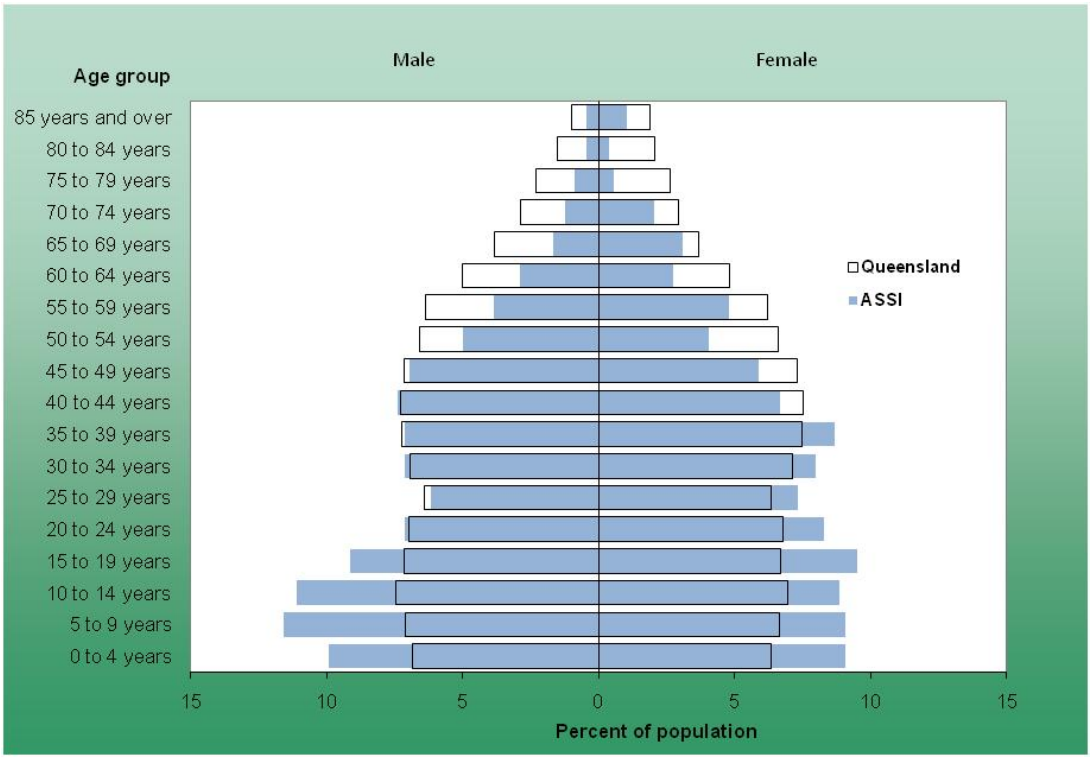

Figure 1 Age and sex distribution of Queensland Australian South Sea Islander population compared with total population, 2006 (Source: ABS Census 2006)

3.2 Geographic location

Data from the 2006 ABS Census shows that most Australian South Sea Islander people live in Queensland (74.3 per cent) followed by New South Wales (15.2 per cent) and Victoria (4.5 per cent).

Table 2 Geographic location of Australian South Sea Islander population, 2006

State/Territory	Total number	Percentage
New South Wales	624	15.2
Victoria	184	4.5
Queensland	3047	74.3
South Australia	74	1.8
Western Australia	74	1.8
Tasmania	19	0.5
Northern Territory	57	1.4
ACT	2 to	0.5
Total	**4101**	**100.0**

(Note that totals can be discordant due to rounding).

The HREOC report in 1992 found that 80 per cent of Australian South Sea Islander people lived in Queensland (3).

4 Hospitalisations

4.1 Health conditions

The age standardised separation ratios (SSRs) for selected conditions are presented below. The Queensland population is the reference population. The SSR of one appears as a horizontal dashed line. Two bars representing SSRs appear in the graphs below. The first uses population data from the Census and the other uses estimated population data, as outlined in the methodology section. A brief description of the conditions for which the data were extracted is also presented.

4.2 Total hospitalisations

A hospital separation is an episode of patient care from admission to discharge, transfer or death (16).Hospital separation rates were significantly higher in Queensland in areas of greater socioeconomic disadvantage, in remote and very remote areas and among Aboriginal and Torres Strait Islander people (16, 17).

From 2004–05 to 2008–09, there were 35 240 hospital separations in Queensland recorded for Australian South Sea Islander people. The age standardised ratio was 8.1 (95 per cent CI 8.0–8.2) using 2006 Census data for the denominator and 1.6 (95 per cent CI 1.6–1.7) using the estimated population.

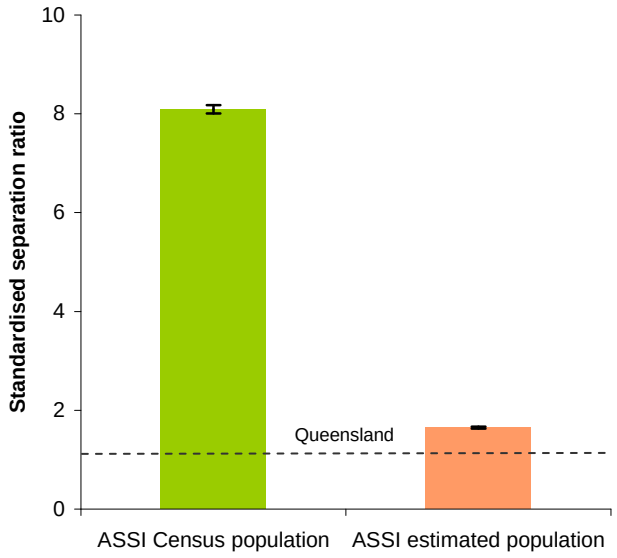

Figure 2 All cause hospital separation ratio, Australian South Sea Islander population compared to total Queensland population, 2004–05 to 2008–09

4.3 Total potentially preventable hospitalisation separations

Potentially preventable hospitalisations are hospital separations caused by a specified range of conditions where hospitalisation is considered to have been potentially preventable if timely and adequate care was provided by appropriate non hospital health services (for example: population health services, primary care and outpatient services). Hospital separations that are potentially preventable include:

- vaccine preventable diseases (for example influenza)
- acute conditions (for example gastroenteritis, ear nose and throat infections)
- chronic diseases (for example asthma, diabetes complications and rheumatic heart disease)

Refer to appendix 1 for a complete list of conditions.

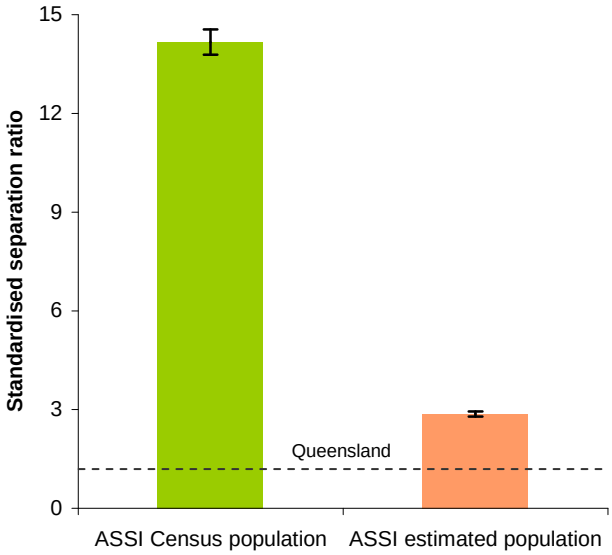

Figure 3 Potentially preventable hospital separation ratio, Australian South Sea Islander population compared to total Queensland population, 2004–05 to 2008–09

From 2004–05 to 2008–09, there were 5293 potentially preventable hospital separations recorded for Australian South Sea Islander people. The age standardised ratio for potential preventable admissions for the Australian South Sea Islander people was 14.2 (95 per cent CI 13.8–14.6) for denominator data using the 2006 Census and 2.9 (95 per cent CI 2.8–2.9) using the estimated population.

4.4 Coronary heart disease

Coronary heart disease (CHD) is used to describe disease due to blockages in arteries supplying the heart and can manifest as angina or a heart attack (15). CHD is the largest contributor to the burden of disease in Queensland (10.2 per cent). Risk factors such as high blood pressure, cholesterol, obesity, physical inactivity, poor nutrition, tobacco use, alcohol and inadequate fruit and vegetable intake contribute to most of this burden (17).

From 2004–05 to 2008–09, there were 546 hospital separations with CHD recorded for Australian South Sea Islander people. The age standardised ratio was 7.8 (95 per cent CI 7.2–8.5) using denominator data from the 2006 Census and 1.6 (95 per cent CI 1.5–1.7) using the estimated population.

In Queensland for 2005–06, CHD death rates were 29 per cent higher in socioeconomically disadvantaged areas and 46 per cent higher in very remote areas, compared to major cities. It was 39 per cent higher in areas of high Indigenous population(18).

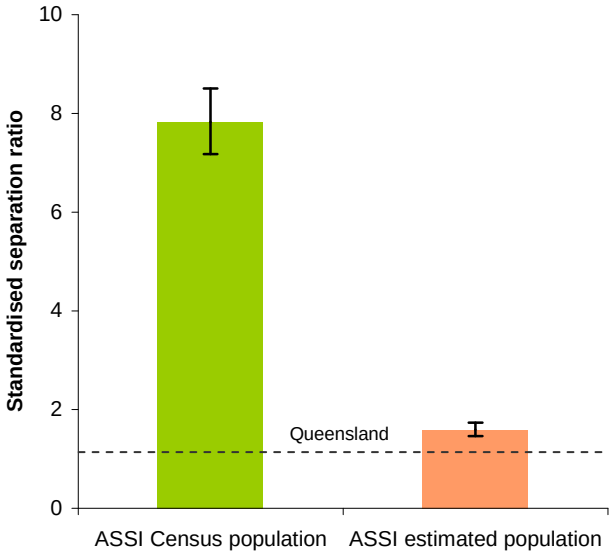

Figure 4 Coronary heart disease hospital separation ratio, Australian South Sea Islander population compared to total Queensland population, 2004–05 to 2008–09

4.5 Stroke

Cerebrovascular diseases are disorders of blood vessels supplying the brain and its covering membranes. Most cerebrovascular deaths are due to stroke (15). Stroke is a leading cause of premature death and disability in Queensland accounting for 4.4 per cent of the total burden of disease in 2003 (17). The prevalence of cerebrovascular disease is higher in the Indigenous population compared to the non Indigenous population (19).

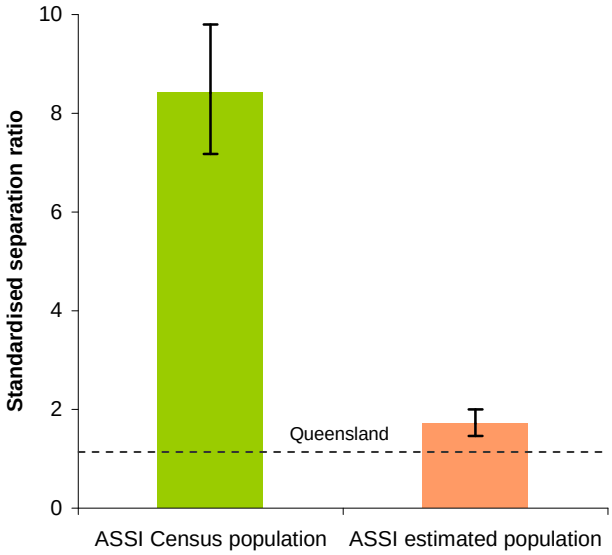

Figure 5 Stroke hospital separation ratio, Australian South Sea Islander population compared to total Queensland population, 2004–05 to 2008–09

From 2004–05 to 2008–09, there were 165 hospital separations with stroke recorded for Australian South Sea Islander people. The age standardised ratio was 8.4 (95 per cent CI 7.2–9.8) for denominator data using the 2006 Census and 1.7 (95 per cent CI 1.5–2.0) using the estimated population.

4.6 Chronic obstructive pulmonary disease

Chronic obstructive pulmonary disease (COPD) is a progressive and disabling respiratory disease in which destruction of lung tissue and narrowing of the air passages obstructs air exchange that can

cause chronic shortness of breath (15). The main cause of COPD is tobacco smoking. Other risk factors that might exacerbate symptoms are exposure to air pollution (including passive smoking), exposure to occupational dust and chemicals and other respiratory infections like influenza and pneumonia (17). In 2006, COPD was responsible for 2.9 per cent of the total burden of disease in Queensland (18).

Death rates due to COPD were higher in remote areas (70 per cent higher compared to major cities), areas of greater socioeconomic disadvantage (31 per cent higher than in advantaged areas) and in areas which had a greater proportion of Indigenous people (200 per cent higher). There were similar differences in hospitalisation rates in these population groups (17). In Australia, the hospitalisation rate for COPD in Indigenous Australians was five times higher than other Australians (15).

Smoking is an important risk factor for COPD. Indigenous Australians were twice as likely to be daily smokers compared to other Australians (15). Smoking rates among Australian South Sea Islander people are not known.

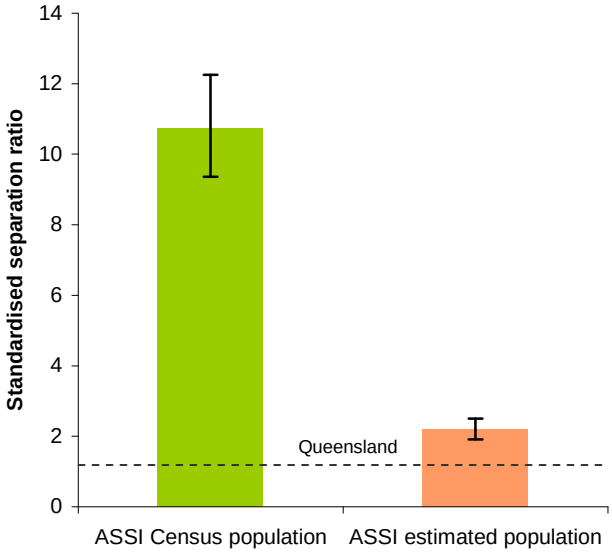

Figure 6 COPD hospital separation ratio, Australian South Sea Islander population compared to total Queensland population, 2004–05 to 2008–09

From 2004–05 to 2008–09, there were 220 hospital separations with COPD recorded for Australian South Sea Islander people. The age standardised ratio was 10.7 (95 per cent CI 9.4–12.3) using the 2006 Census denominator data and 2.2 (95 per cent CI 1.9–2.5) using the estimated population.

4.7 Diabetes including preventable diabetes complications

Diabetes mellitus (diabetes) is a chronic metabolic disease characterised by high levels of glucose in the blood. It is caused by the inability of the body to produce insulin, the insulin becoming less effective, or both (15).

Diabetes is a cause of early death and disability. Diabetes was identified as the second largest cause of years of life lost due to disability in 2007 (16). Rates of hospitalisation for diabetes are increasing dramatically with an overall increase of 93 per cent in the eight-year period between 2000–01 and 2007–08 (16).

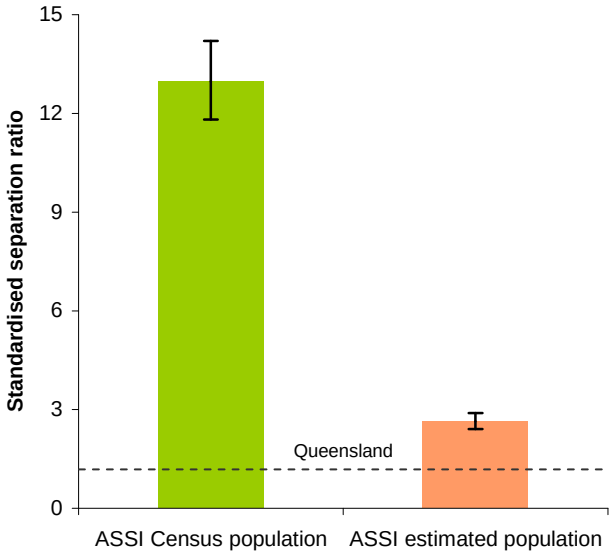

Figure 7 Diabetes hospital separation ratio, Australian South Sea Islander population compared to total Queensland population, 2004–05 to 2008–09

From 2004–05 to 2008–09, there were 465 hospital separations for diabetes recorded in Queensland for Australian South Sea Islander people. The age standardised ratio was 13 (95 per cent CI 11.8–14.2) using the 2006 Census data for the denominator and 2.6 (95 per cent CI 2.4–2.6) using the estimated population.

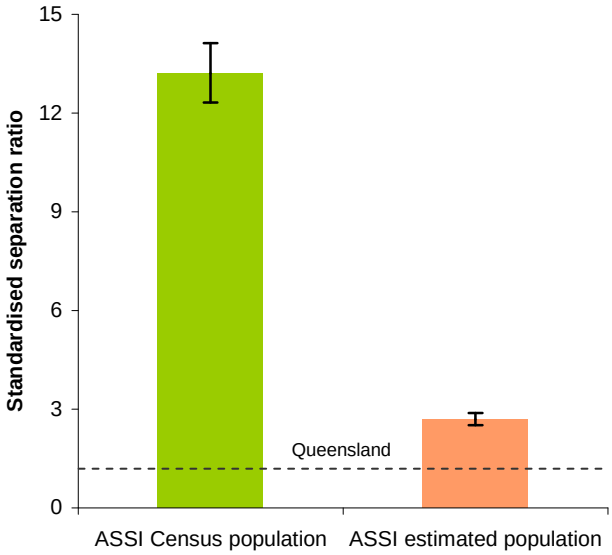

Figure 8 Preventable diabetes hospital separation ratio, Australian South Sea Islander population compared to total Queensland population, 2004–05 to 2008–09

From 2004–05 to 2008–09, the age standardised ratio for preventable diabetes complications (excluding renal dialysis) was 13.2 (95 per cent CI 12.3–14.1) for denominator data using the 2006 Census and 2.7 (95 per cent CI 2.5–2.9) using the estimated population.

4.8 External causes

This broad category refers to external causes that cause illness and include accidents, intentional self harm, assaults and the complications of medical and surgical care. Injury is the greatest cause of death in the first half of life leaving those affected with serious disability and long term conditions. It is estimated to account for 6.5 per cent of the disease burden in Australia. Injury accounted for 5 per cent of all hospital admissions in Australia in 2007–08 and is the main cause of hospitalisation (excluding dialysis for kidney disease) and the third leading cause of death of Indigenous Australians (15).

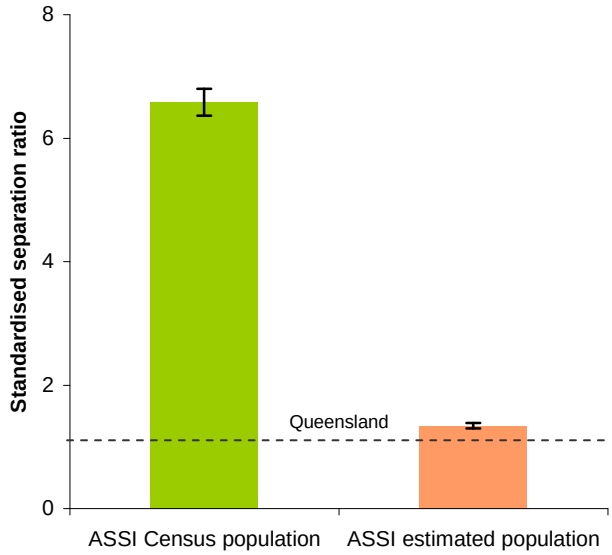

Figure 9 External causes hospital separation ratio, Australian South Sea Islander population compared to total Queensland population, 2004–05 to 2008–09

From 2004–05 to 2008–09, there were 3525 hospital separations recorded from external causes for Australian South Sea Islander people. The age standardised ratio for hospital separations from external causes was 6.6 (95 per cent CI 6.4–6.8) using the 2006 Census data for the denominator and 1.3 (95 per cent CI 1.3–1.4) using the estimated population.

4.9 Musculoskeletal diseases

Musculoskeletal diseases describe a range of joint, bone and muscle disorders and include osteoarthritis, rheumatoid arthritis and osteoporosis. Musculoskeletal diseases are a common cause of severe long term pain and physical disability and place significant burdens on the individual and the community through the need for hospital and primary care, disruptions to daily life and lost productivity (15).

In the 2007–08 National Health Survey, more than 6.3 million Australians (31 per cent) reported having arthritis or some other musculoskeletal condition (15). In 2004–05, one in three Queenslanders reported experiencing arthritis, back pain or another musculoskeletal disorder of at least six months duration (18).

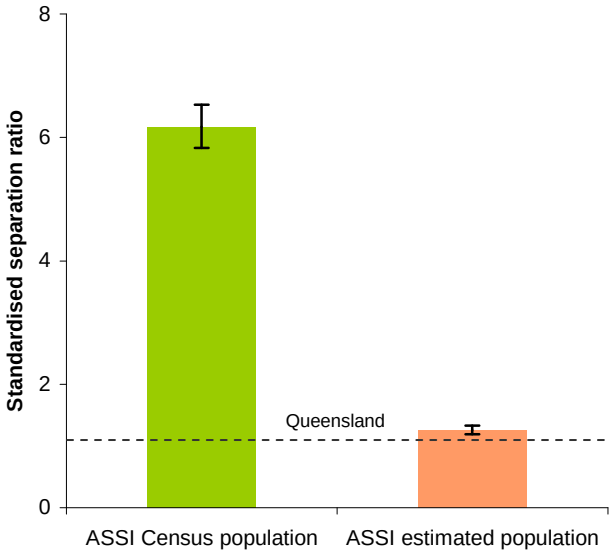

Figure 10 Musculoskeletal disease hospital separation ratio, Australian South Sea Islander population compared to total Queensland population, 2004-05 to 2008-09

From 2004–05 to 2008–09, there were 1205 hospital separations with musculoskeletal disease recorded for the Australian South Sea Islander population. The age standardised ratio was 6.2 (95 per cent CI 5.8–6.5) for denominator data using the 2006 Census and 1.3 (95 per cent CI 1.2–1.3) using the estimated population.

4.10 Asthma

Asthma is a chronic inflammatory respiratory disease that can cause episodes of wheezing, breathlessness and chest tightness due to narrowing of airways (15). Asthma is the leading cause of burden of disease among children aged 0–14 years and it is estimated that in 2010, it will be the tenth leading contributor to the burden of disease in Australia (15). The National Health Survey estimates a 10 per cent prevalence of current asthma in the Australian population (15).

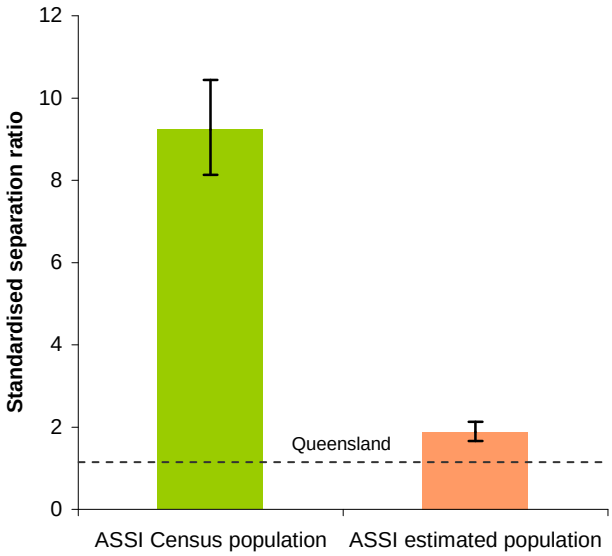

Figure 11 Asthma hospital separation ratio, Australian South Sea Islander population compared to total Queensland population, 2004–05 to 2008–09

From 2004–05 to 2008–09, there were 255 hospital separations recorded with asthma for Australian South Sea Islander people. The age standardised ratio was 9.2 (95 per cent CI 8.1–10.4) for denominator data using the 2006 Census and 1.9 (95 per cent CI 1.7–2.1) using the estimated population.

In Queensland, asthma was responsible for 2.5 per cent of the total disease burden in 2006 (18). The prevalence of asthma in Indigenous people was higher (16.5 per cent) than non Indigenous people (18). The rate of hospitalisation for asthma was at least 20 per cent higher in areas with a greater proportion of Indigenous people and 82 per cent higher in remote and very remote areas (compared to major cities) (18).

4.11 Summary of findings

This report presents an analysis of hospital separation data from the Queensland Hospital Admitted Patient Data Collection (QHAPDC) for selected health conditions from 2004–05 to 2008–09. Using both upper and lower population estimates the hospital separation rates are higher in the Australian South Sea Islander population for the health conditions selected. The results were statistically significant for both population estimates. Despite the limitations of this analysis, which have been discussed previously, this data suggests poorer health status of the Australian South Sea Islander population in Queensland compared to the total Queensland population.

Table 3 Standardised separation ratios for selected conditions 2004–05 to 2008–09 for the Australian South Sea Islander population of Queensland

Condition	SSR (95% CI) using Census data	SSR (95%) using estimated population
All causes	8.1 (8.0–8.2)	1.6 (1.6 – 1.7)
Coronary heart disease	7.8 (7.2–8.5)	1.6 (1.5–1.7)
Stroke	8.4 (7.2–9.8)	1.7 (1.5–2.0)
COPD	10.7 (9.4–12.3)	2.2 (1.9–2.5)
Diabetes	13.0 (11.8–14.2)	2.6 (2.4–2.9)
External causes	6.6 (6.4–6.8)	1.3 (1.3–1.4)
Musculoskeletal disease	6.2 (5.8–6.5)	1.3 (1.2–1.3)
Asthma	9.2 (8.1–10.4)	1.9 (1.7–2.1)
Total avoidable conditions	14.2 (13.8–14.6)	2.9 (2.8–2.9_
Preventable diabetes complications	13.2 (12.3–14.1)	2.7 (2.5–2.9)

5 Key implications for Queensland Health

There is limited data available to ascertain the health status of the Australian South Sea Islander population in Queensland. There is a lack of published literature on the health of this socially and economically disadvantaged population and the analysis in this report was limited by the difficulties with determining the size of the Australian South Sea Islander population.

A number of data quality issues were highlighted in this report, some of which are beyond the scope of Queensland Health's work. However improved identification of Australian South Sea Islander origin is an important step towards improving data quality. The 2010–11 Aboriginal and Torres Strait Islander identification project, which included Australian South Sea Islander people, could assist in improving identification and therefore data quality.

Queensland Health hospitalisation data found higher rates in the Australian South Sea Islander population compared to the total Queensland population for all causes, coronary heart disease, stroke, chronic obstructive pulmonary disease, diabetes, external causes, musculoskeletal diseases, asthma, total avoidable and preventable diabetes complications, using both the lower and upper population estimates. These were all statistically significant. However the quality of this finding is limited by the unreliability of the population data.

Although the data shows that for these health conditions Australian South Sea Islander people have higher separation rates compared to the Queensland population, the findings should be interpreted with caution given data quality issues and the lack of published research to corroborate these findings.

Improved Australian South Sea Islander identification and further research to accurately ascertain the health status of this population and its determinants is required to fully understand the health needs of the Queensland Australian South Sea Islander population.

Appendix 1 ICD–10–AM codes used for identifying potentially preventable hospitalisations

Category	ICD–10–AM codes
Vaccine preventable	
Influenza and pneumonia	J10, J11, J13, J14, J15.3, J15.4, J15.7, J15.9, J16.8, J18.1 J18.8 in any diagnosis field, excludes cases with additional diagnosis of D57 (sickle cell disorders), and people under two months
Other vaccine preventable conditions	A35, A36, A37, A80, B05, B06 ,B16.1, B16.9, B18.0, B18.1, B26, G00.0, M01.4 in any diagnosis field
Chronic	
Asthma	J45, J46 as principal diagnosis only
Congestive cardiac failure	I50, I11.0, J81 as principal diagnosis only, exclude cases with the following procedure codes: 33172–00, 35304–00, 35305–00, 35310–02, 35310–00, 38281–11, 38281–07, 38278–01, 38278–00, 38281–02, 38281–01, 38281–00, 38256–00, 38278–03, 38284–00, 38284–02
COPD	J20, J41, J42, J43, J44, J47 as principal diagnosis only, J20 only with additional diagnoses of J41, J42, J43, J44, J47
Angina	I20, I24.0, I24.8, I24.9 as principal diagnosis only, exclude cases with procedure codes not in blocks [1820] to [2016]
Iron deficiency anaemia	D50.1, D50.8, D50.9, as principal diagnosis only
Hypertension	I10, I11.9 as principal diagnosis only, exclude cases with procedure codes according to the list of procedures excluded from the congestive cardiac failure category above
Nutritional deficiencies	E40, E41, E42, E43, E55.0, E64.3 as principal diagnosis only
Rheumatic heart disease	I00 to I09 as principal diagnosis only (Note: includes acute rheumatic fever)
Acute	
Dehydration and gastroenteritis	E86, K52.2, K52.8, K52.9 as principal diagnosis only. A09.9 as principal diagnosis (aged ⇢15 years)
Pyelonephritis	N10, N11, N12, N13.6, N39.0 as principal diagnosis only
Perforated/bleeding ulcer	K25.0, K25.1, K25.2, K25.4, K25.5, K25.6, K26.0, K26.1, K26.2, K26.4, K26.5, K26.6, K27.0, K27.1, K27.2, K27.4, K27.5, K27.6, K28.0, K28.1, K28.2, K28.4, K28.5 as principal diagnosis only
Cellulitis	L03, L04, L08, L88, L98.0, L98.3 as principal diagnosis only, exclude cases with any procedure except those in blocks 1820 to 2016 or if procedure is 30216–02, 30676–00, 30223–02, 30064–00, 34527–01, 34527–00, 90661–00 and this is the only listed procedure
Pelvic inflammatory disease	N70, N73, N74 as principal diagnosis only
Ear, nose and throat infections	H66, H67, J02, J03, J06, J31.2 as principal diagnosis only
Dental conditions	K02, K03, K04, K05, K06, K08, K09.8, K09.0, K12, K13 as principal diagnosis only
Appendicitis with generalised peritonitis	K35.0 in any diagnosis field
Convulsions and epilepsy	G40, G41, O15, R56 as principal diagnosis only
Gangrene	R02 in any diagnosis field

Appendix 2 Principal diagnoses counted as diabetes complications when an additional diagnosis of diabetes is present

Condition	ICD–10–AM code
Hyperosmolarity	E87.0
Acidosis	E87.2
Transient ischaemic attack	G45
Nerve disorders and neuropathies	G50–G64
Cataracts and lens disorder	H25–H28
Retinal disorders	H30–H36
Glaucoma	H40–H42
Myocardial infarction	I21–I22
Other coronary heart disease	I20, I23–I25
Heart failure	I50
Stroke and sequelae	I60–I64, I69.0–I69.4
Peripheral vascular disease	I70–I74
Gingivitis and periodontal disease	K05
Kidney diseases (incl. end–stage renal disease)	N00–N29
Renal dialysis	Z49

Source: Wills R, Houweling H and Martin C(20)

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