



NORTHERN NEW SOUTH WALES INTEGRATED
ABORIGINAL HEALTH AND WELLBEING PLAN 2015-2020

VOLUME II

HEALTH PROFILE

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Throughout this document when we use the term Aboriginal we are referring to Aboriginal Australians and Torres Strait Islander People.

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Northern New South Wales Local Health District (NNSW LHD) would like to acknowledge that this planning process relates to the country for which the members and elders of the Bundjalung, Yaegl, Gumbaynggirr and Githabul Nations and their forebears have been custodians for many centuries, and on which the people of the Bundjalung, Yaegl Gumbaynggirr and Githabul Nations¹ have performed age old ceremonies of celebration, initiation and renewal. We acknowledge their living culture and unique role in the life of this region.

We acknowledge and pay our respects to the Ancestors and Elders, both men and women of those nations, and to all Aboriginal people past, present and future.

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1 EXECUTIVE SUMMARY

The traditional custodians of the land covered by NNSW LHD² are the Bundjalung, Yaegl, Gumbaynggirr and Githabul Nations.³ In 2011, 4.7% of the total population of NNSW LHD or 13,660 persons identified as Aboriginal.⁴ This Aboriginal Needs Analysis provides a profile of the Aboriginal population of Northern NSW; the mortality and morbidity of the population and the burden of disease.

The Aboriginal Needs Analysis has been developed as a companion document to the Northern NSW Integrated Health and Wellbeing Plan. The purpose of the Needs Analysis is to document the current health and wellbeing needs of the Aboriginal population of Northern NSW with sufficient detail to inform the development of clear and effective strategies for addressing these needs in the Integrated Health and Wellbeing Plan.

The focus of the Needs Analysis is on the health of the Aboriginal population living in Northern NSW rather than on health services and facilities which are the focus of the Integrated Health and Wellbeing Plan. It has been designed as a stand-alone report which provides a summary profile of health needs and is intended to be a useful resource document.

At the 2011 Census there were 13,660 Aboriginal people in Northern NSW and one third (34%) were aged 0-14 years. The population aged over 65 years was just 3.8%

of the Aboriginal population. Aboriginal people comprised 4.7% of the total Northern NSW population in 2011.

There are large disparities in estimated life expectancy and health outcomes between Aboriginal people and non-Aboriginal people in Northern NSW. This epidemiological profile has highlighted a number of health aspects where Northern NSW Aboriginal residents have poorer health outcomes compared to non-Aboriginal residents of Northern NSW. In particular, compared to the non-Aboriginal population, Aboriginal residents of Northern NSW:

- Have three times the rate of low birth weight babies, with 14% of all Aboriginal babies being low birth weight
- Have more than twice the rate of premature babies, with 13% of all babies born to Aboriginal women in Northern NSW being premature compared to 6% for non-Aboriginal women.

Aboriginal health means not just the physical wellbeing of an individual but refers to the social, emotional and cultural wellbeing of the whole community in which each individual is able to achieve their full potential as a human being, thereby bringing about the total wellbeing of their community⁵...



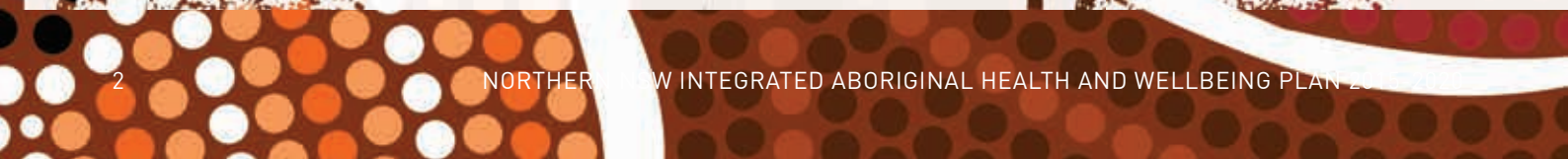
In 2011/12 the hospital admission rate for Northern NSW Aboriginal residents was nearly three times (182%) higher than for non-Aboriginal residents. By comparison, for all NSW Aboriginal residents, the hospital admission rate was 82% higher than the rate for non-Aboriginal residents. In particular, compared to the non-Aboriginal population, Aboriginal residents of Northern NSW:

- Have four times the rate of hospitalisation for diabetes
- Have 2.6 times the rate of hospitalisation for respiratory disease, including six times the rate of hospitalisation for chronic obstructive pulmonary disease and twice the rate of hospitalisation for asthma
- Have twice the rate of hospitalisation for cardiovascular disease
- Have almost twice (1.9 times) the rate of hospitalisation for injury and poisoning

- Have 2.5 times the rate of hospitalisation for acute mental health
- Have three times the rate of hospitalisation for preventable dental conditions.

This epidemiological profile has highlighted a number of health aspects where Northern NSW Aboriginal residents have poorer health-related behaviours which are contributing to these poor health outcomes. This information may assist in developing health improvement strategies over the next 5 to 10 years. These areas of concern include:

- 54% of mothers smoking in the second half of pregnancy
- 36% of Aboriginal adults are regular or occasional smokers compared to 16% of the non-Aboriginal population (NSW)
- Being 3.3 times more likely to be hospitalised as a result of smoking





The Northern NSW Aboriginal Health Profile also describes some broader indicators of determinants of health in recognition of the impact that these can have in either improving health or contributing to poorer health outcomes. These indicators include protective factors such as school achievement and completion data and risk factors such as family and domestic violence, child abuse and neglect and sexual assault.

Aboriginal Health Data

The relatively small Aboriginal population compared to the total Australian population (2.6% of total Australian population), combined with the unreliability of Aboriginal identification in most Australian Bureau of Statistics (ABS) socio-demographic data and health data, make it difficult to accurately estimate a range of important Aboriginal health and socio-demographic indicators.

These uncertainties may affect the Northern NSW and NSW rates for various health and population indicators included in this document. Options to reduce uncertainties include aggregating data for extended time periods (e.g. several years) and /or over large geographic areas (e.g. States, Nationally).

Nomenclature

In this report, the 'Aboriginal person' is the preferred term in reference to local Indigenous persons of the Northern NSW region. Where data has been sourced from national reports that use the term 'Indigenous', this term has been used. Data presented for the total Northern NSW population includes all persons and data presented as the "Non-Aboriginal" population includes all persons excluding the Aboriginal population.

- Being 3.1 times more likely to be hospitalised as a result of alcohol
- Being 2.8 times more likely to be hospitalised as a result of high body mass.

In reviewing the health outcomes and access to health services for the Aboriginal population of Northern NSW it is not all bad news and there are areas where Aboriginal people have significantly better outcomes or access than in other parts of NSW. Some examples include:

- High rates of child vaccination at 2 years
- Higher rates of myringotomy ("glue ear") for Aboriginal children than in the remainder of NSW
- Despite having a lower rate (82.7%) of engagement in antenatal care before the 20th week of pregnancy than non-Aboriginal mothers (90.6%) in Northern NSW, the rate for Aboriginal mothers in Northern NSW is significantly higher than the NSW average for Aboriginal mothers (76.5%).

2 PROFILE OF NORTHERN NSW LOCAL HEALTH DISTRICT

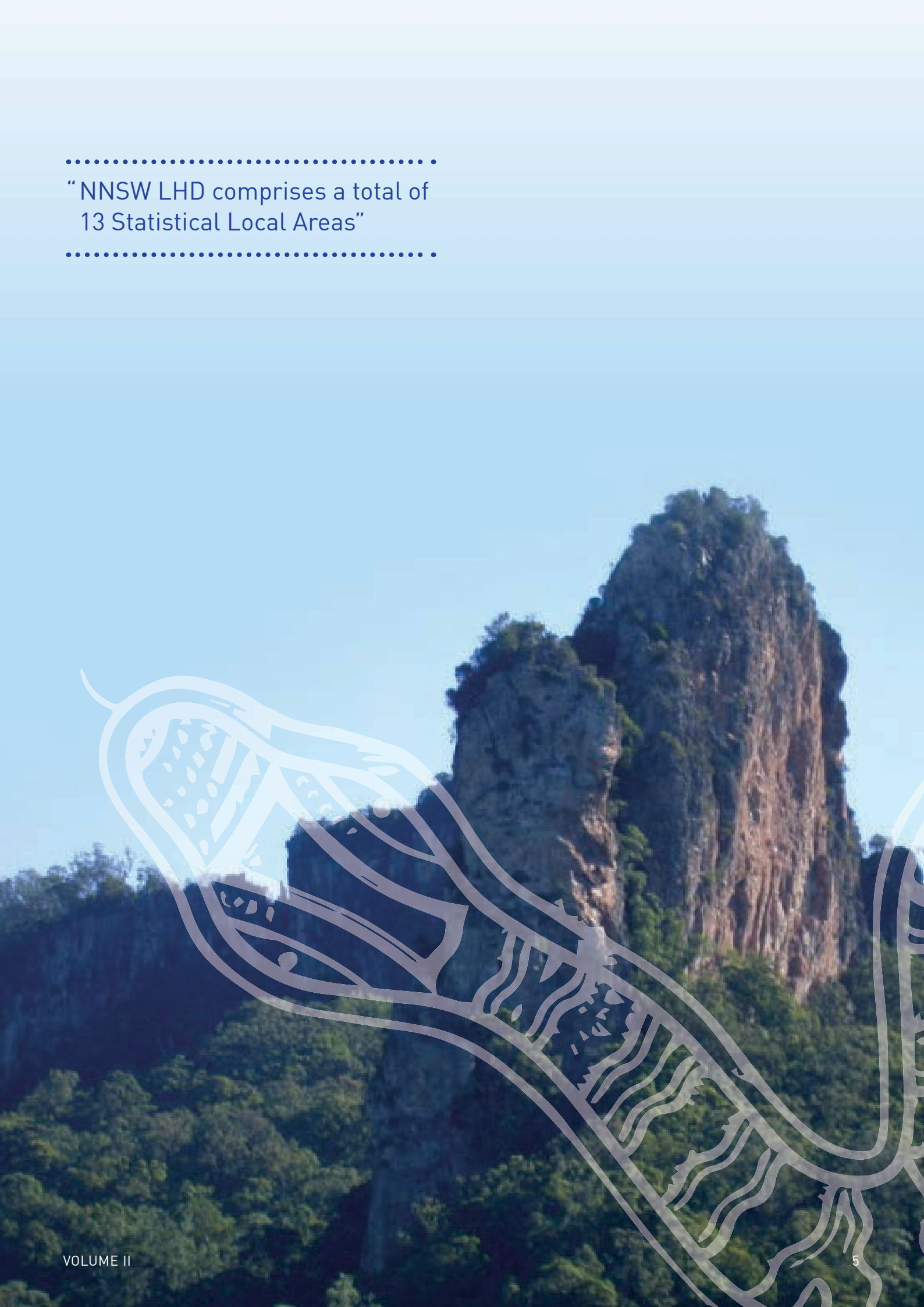
NNSW LHD comprises a total of 13 Statistical Local Areas (SLAs), seven Local Government Areas (LGAs) and the Urbenville part of Tenterfield LGA. The District is divided into two Health Service Groups and in 2011 had an estimated population of 288,384. The Tweed Byron Health Service Group consists of the two LGAs of Tweed and Byron on the northernmost coastal strip of NNSW LHD. The Richmond Clarence Health Service Group comprises the remaining LGAs. It should be recognised that a substantial number of Queensland residents access services in the Tweed Valley, however, for the purposes of this document, this population is not included in the Tweed Byron Health Service Group population. When planning for specific services for the District however, consideration is given to this population and its utilisation of services at Tweed.

NNSW LHD covers an area of 20,732 square kilometres, extending from the Clarence Valley LGA in the south to the Tweed LGA in the north. The western and southern borders of NNSW LHD join the Hunter New England (HNE) LHD and Mid North Coast (MNC) LHD.

The traditional custodians of the land covered by NNSW LHD are the Bundjalung, Yaegl, Gumbaynggirr and Githabul Nations. The map opposite indicates the general location of larger groupings of people, which may include smaller groups such as clans, dialect and individual languages in groups. Boundaries are not intended to be exact.



.....
“NNSW LHD comprises a total of
13 Statistical Local Areas”
.....



3 POPULATION PROFILE

3.1 CURRENT POPULATION

In 2011, 13,660 persons in Northern NSW identified as Aboriginal, representing 4.7% of the total population of Northern NSW. By comparison in 2011, 2.9% of the total NSW population identified as Aboriginal. The Northern NSW Aboriginal population as recorded in the Census has increased by 31% between 2006 and 2011.

Population information for Aboriginal people is considered an under estimate. Aboriginal population figures for Urbenville part of Tenterfield (A) are currently not available and as such could not be included. Note that the total LHD figure used to estimate the percentage of Aboriginal population includes the Urbenville population.

Table 3.1 below outlines the distribution of the Aboriginal population by LGA in Northern NSW in 2011. The LGAs with the highest proportion of Aboriginal people in Northern NSW in 2011 were Richmond Valley (7.6%), Clarence Valley (6.6%), Kyogle (6.1%) and followed by Lismore (5.2%) and Tweed and Ballina (4%).

3.2 AGE PROFILE

The NSW Aboriginal population is considerably younger, with around 40% of the population under 15 years of age, compared with 19% of the non-Aboriginal population. The proportion of the Aboriginal population over the age of 65 years is just over 3%, compared with just over 13% in the non-Aboriginal population.⁶

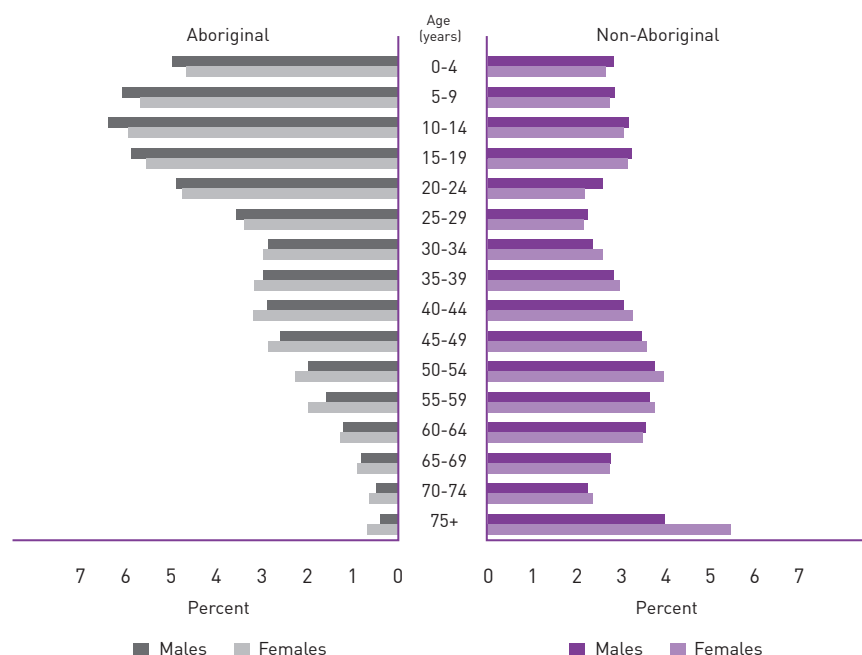
This population spread is similar in Northern NSW, as indicated in Figure 3.1 below. In 2011, 34% of the Aboriginal population in Northern NSW were aged 0-14 years compared to 17.6% of the non-Aboriginal population.⁷ In the older age group 3.8% of the Aboriginal population in Northern NSW were aged over 65 years in 2011 compared to 21.1% of the non-Aboriginal population.

Table 3.1: Northern NSW: Estimated Total Aboriginal Population by LGA 2013

LGA	LGA Aboriginal population 2011	Total LGA population 2011	Aboriginal population as % of total population	% of total Aboriginal population in NNSW LHD
Ballina	1,474	40,747	3.6%	10.8%
Byron	625	30,712	2.0%	4.6%
Clarence Valley	3,403	51,287	6.6%	24.9%
Kyogle	582	9,537	6.1%	4.3%
Lismore	2,287	44,348	5.2%	16.7%
Richmond Valley	1,735	22,717	7.6%	12.7%
Tweed	3,554	88,437	4.0%	26.0%
Urbenville part of Tenterfield (A)	*		*	
NNSW LHD	13,660	287,785	4.7%	100%

Source: ABS Estimates of Aboriginal and Torres Strait Islander Australians, June 2011, (ABS November 2013)

Table 3.1: NNSW LHD - Aboriginal Population by Age Group 2011



Source: www.healthstats.nsw.gov.au accessed 7 June 2014

Table 3.2: Northern NSW Aboriginal Population by Age Group 2012

Northern NSW Aboriginal Population by Age Group Estimated Residential Population 2012		
Age Group	Population	%
0-4 yrs	1,435	12.6%
5-9 yrs	1,381	12.1%
10-14 yrs	1,474	12.9%
15-19 yrs	1,321	11.6%
20-39 yrs	2,710	23.8%
40- 59 yrs	2,291	20.1%
60 -65 yrs	292	2.6%
65 yrs and over	481	4.2%
TOTAL	11,385	100.0%

Source: ABS (2014) URP via Northern NSW PHIDU Social Atlas

Note: Table 3.1 above presents ABS Estimates of Resident Population at June 2011 from the 2011 Census. This population data represents a revised estimate developed by the ABS in November 2013. Breakdowns of this population by age and LGA were not available at the time of developing the Northern NSW Aboriginal Health Profile.

By contrast, the population estimates presented in Table 3.2 above are for estimated Usual Resident Population in 2012. This data is estimated by ABS based on the Usual Place of Residence as indicated in the Census. Place of Usual Residence records the geographic area in which a person usually lives, as opposed to the place they may have been residing on Census night. This data is provided as it provides a breakdown of the Northern NSW Aboriginal population by age group, which is not available for the data in Table 3.1.

4 MORTALITY AND MORBIDITY

4.1 LIFE EXPECTANCY AND POTENTIALLY AVOIDABLE MORTALITY

While many non-Aboriginal people in NSW have experienced significant health gains in recent years, these improvements have not been equally shared by Aboriginal people who continue to experience greater health risks, poorer health and shorter life expectancies than non-Aboriginal people.⁴

Life expectancy is the average number of years a person could expect to live, assuming that the current rates of death for each age group will remain the same for the lifetime of that person. Life expectancy provides a key measure of the health of a population. It reflects the combined impact of socio-economic factors including employment, income, education, social capital including social inclusion and self-determination, access to high quality health care throughout life, health behaviours and environmental factors.

Aboriginal people generally have significantly more ill health than other Australians and die at younger ages.⁸ There are large disparities in estimated life expectancy and health outcomes between Aboriginal people and non-Aboriginal people in NSW, with the gap in life expectancy estimated to be 9 years.⁹

Life expectancy at birth for Aboriginal males in NSW in the period 2005 to 2007 was estimated to be 70.5 years, which is 9.3 years less than for the total NSW male population. Life expectancy at birth for Aboriginal females in the period 2010 to 2012 was estimated to be 74.6 years, 8.5 years less than for the total NSW female population.

For the period 2008-2012, about two-thirds (65%) of Aboriginal deaths occurred before the age of 65, compared with 19% of non-Aboriginal deaths. Data on life expectancy for Aboriginal people is not available by LHD.

Figure 4.1: Average Life Expectancy Aboriginal vs. Non-Aboriginal 2010-12



Source: AIHW (2014) Mortality and life expectancy of Indigenous Australians 2008 to 2012

In NSW, people aged less than 25 years make up around 10% of deaths of Aboriginal people, compared with 2% of deaths of non-Aboriginal people.¹⁰ In the 5 year period from 2004 to 2008, the age-standardised rate of avoidable deaths for Aboriginal people was 356 per 100,000 people, 2.4 times the rate of non-Aboriginal people (147 per 100,000).¹¹

The National Council of Australian Government's Closing the Gap strategy aims to close the life expectancy gap within a generation (2030) and to halve the gap in mortality rates for Indigenous children within a decade (by 2018). Key NSW "Closing the Gap" indicators for the health of Aboriginal people include:¹²

- Life expectancy (2006): Life expectancy at birth for Aboriginal males in NSW was estimated to be 69.6 years in 2006, 9.4 years less than for all NSW males. Life expectancy at birth for Aboriginal females in NSW was estimated to be 74.8 years in 2006, 9.2 years less than for all NSW males. The target is to close this gap by 2033

- Child mortality (2007): The child mortality rate for Aboriginal children in NSW aged 0-4 years was 234 per 100,000 children, more than twice the rate for non-Aboriginal children, which is 91 per 100,000 children. The target is to halve this gap by 2018.
- Infant mortality (2006-2008): The infant mortality rate for Aboriginal children in NSW aged under one year was 7.7 deaths per 1,000 live births, which is 1.6 times the rate for all NSW children, which is 4.5 deaths per 1,000 live births. The target is to halve this gap by 2018.

In the period 2003 to 2007, the death rate for Aboriginal people in NSW was 950 deaths per 100 000 compared with 621 deaths per 100 000 for non-Aboriginal people. This difference is significant, with the rate for Aboriginal people being 1.5 times higher than for non-Aboriginal people. There has been no significant change over this time in death rates for Aboriginal people.¹³

In the period 2003 to 2007, the leading causes of death for Aboriginal adults were cardiovascular disease (30.8%), cancers (21.1%) and injury and poisoning (11.7%). In the same period, the leading causes of death for non-Aboriginal people were cardiovascular diseases (36.5%), cancers (28.6%) and respiratory diseases (8.7%). Aboriginal people had a higher proportion of deaths due to injury and poisoning, digestive system diseases, endocrine diseases, ill-defined and unknown causes, maternal, neonatal and congenital causes and certain infectious and parasitic diseases.¹⁴

In NSW in 2010, the median age at death was 58 years for Aboriginal males and 79 years for non-Aboriginal males, a difference of 21 years. During the same period, the median age at death for Aboriginal females was 67 years, 17 years less than non-Aboriginal females.¹⁵

Potentially avoidable mortality refers to premature deaths (persons aged under 75 years) that theoretically could have been avoided given current understanding of causation and available disease prevention and health care.

In NSW in 2007, the rate of potentially avoidable deaths in Aboriginal males was 479 per 100,000, compared with 192 per 100,000 for non-Aboriginal males.¹⁶ The rate for Aboriginal males has decreased significantly in the 10 years 1998 to 2007, and the gap between Aboriginal and non-Aboriginal males has narrowed. In 2007 the rate of premature deaths in Aboriginal males was 670 per 100 000 compared with 289 per 100,000 for non-Aboriginal males.

In NSW in 2007, the rate of potentially avoidable deaths in Aboriginal females was 327 per 100,000, compared with 110 per 100,000 for non-Aboriginal females. The rate for non-Aboriginal females did not change significantly in the 10 years to 2007.¹⁷ In 2007 the rate of premature deaths in Aboriginal females was 458 per 100,000, compared with 169 per 100,000 for non-Aboriginal females.



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.....

4.2 HOSPITALISATION RATES FOR ABORIGINAL PEOPLE

From 2001/02 to 2010/11 there was a steady increase in hospital admissions for non-Aboriginal NSW residents (14%) while the increase for Aboriginal NSW residents was substantially larger (50%). In 2010/11 the admission rate for NSW Aboriginal residents was 70% higher than for non-Aboriginal NSW residents.

From 2001/02 to 2010/11 there was a 23% increase in hospital admissions for Northern NSW non-Aboriginal residents while the increase for Northern NSW Aboriginal residents was substantially larger at 38%. The increase in Aboriginal admissions during this 10 year period was primarily driven by a threefold increase in admissions amongst males (200% increase) while admissions for Aboriginal females decreased by 14%. In 2010/11 the admission rate for Northern NSW Aboriginal residents was nearly three times (184%) higher than for non-Aboriginal residents.

In 2011/12 the admission rate for Northern NSW Aboriginal residents was nearly three times (182%) higher than for non-Aboriginal residents.¹⁸ This 2011/12 difference was larger than the 82% higher rate for all NSW Aboriginal residents compared to non-Aboriginal residents. The 2011/12 Northern NSW hospitalisation rate from all causes for both male (96,265/100,000) and female Aboriginal residents (97,128/100,000) was significantly larger than for non-Aboriginal male (33,052/100,000) and female residents (34,304/100,000).

Figure 4.2: All Cause Hospitalisations by Aboriginality Northern NSW 2011/12



The Northern NSW rates for Aboriginal males and females were also significantly larger compared to those for all NSW Aboriginal males (59,941/100,000) and females (67,361/100,000) (refer Figure 4.2). From 2001/02 to 2011/12 there was a 16% increase in hospital admissions for non-Aboriginal NSW residents, while the increase for Aboriginal NSW residents was substantially larger (62%). From 2001/02 to 2011/12 there was a 26% increase in hospital admissions for Northern NSW non-Aboriginal residents while the increase for Aboriginal residents was substantially larger at 41%. The increase in Northern NSW Aboriginal admissions during this 10 year period was primarily driven by a threefold increase in admissions amongst males (173% increase), while admissions for Aboriginal females remained relatively stable.

5 HEALTH OF MOTHERS, BABIES AND CHILDREN

The health of Aboriginal mothers, babies and children is important for reducing mortality early in life, and increasing life expectancy. There are strong links between the health of mothers during pregnancy and early child developmental outcomes, school readiness and educational achievement, and incidence of chronic disease later in life (Carson et al. 2007). The health of mothers is affected by the social determinants of health, protective and risk factors and access to quality antenatal care (Panaretto et al. 2007). Targeted programs for pregnant Aboriginal women and their families delivered by LHDs and Aboriginal Community Controlled Health Services (ACCHSs) in NSW can be effective in improving attendance at antenatal care, with an emphasis on early presentation, and regular visits throughout pregnancy.

Reducing maternal smoking in Aboriginal mothers will positively influence health outcomes for Aboriginal mothers and babies in NSW.

This chapter reports on key indicators of the health of Aboriginal mothers, babies and children. It includes indicators of access to antenatal care, incidence of prematurity and low birth-weight in babies born to Aboriginal mothers and smoking during pregnancy.

5.1 ANTENATAL

Attendance at Antenatal Care

Attendance at antenatal care before the 20th week of pregnancy is an important indicator of good birth outcomes. In the past across NSW there has been a wide gap between Aboriginal and non-Aboriginal women for this indicator. In NSW in 2011, 76.5% of Aboriginal women had attended antenatal care before the 20th week compared to 87.1% of non-Aboriginal women. Women in Northern NSW have one of the highest rates of timely initiation of antenatal care with 90.6% of mothers having their first antenatal

visit before 20 weeks gestation in 2011.¹⁹ The rate for Aboriginal mothers was 82.7% in 2011.

This indicator is one of the key indicators of the Aboriginal Maternal and Infant Health Program. Northern NSW data on the first antenatal visit before 20 weeks gestation by Aboriginality from 1996-2011 indicates significant improvement (closing of the gap) in this indicator in Northern NSW, with attendance at antenatal care before the 20th week of pregnancy for Aboriginal women rising from 65% in 2000 to 77% in 2011 (refer Figure 5.1 below). This upward trend for Aboriginal women has continued since 2002 soon after the commencement of the Aboriginal Maternal and Infant Health Strategy in the Northern NSW region.

Maternal Smoking in Pregnancy

In 2011, over half (54.2%) of Aboriginal mothers in Northern NSW reported smoking in the second half of pregnancy.²⁰ This compares with 14.1% for non-Aboriginal mothers. The rate for Northern NSW Aboriginal mothers is similar to the NSW rate for Aboriginal mothers (52%). The overall rate in NSW for non-Aboriginal mothers was 9.7% in 2011.

5.2 MATERNAL AND INFANT HEALTH OUTCOMES

The reported number of Aboriginal mothers giving birth in NSW increased from 2,611 in 2006 to 3,090 in 2010, an increase from 2.9% to 3.3% of all mothers.²¹ In 2010, 216 births representing 7.6% of the total 2,848 births for Northern NSW women were for women identifying as Aboriginal. This compares with the NSW rate of 3.2% for Aboriginal mothers.²²

In Northern NSW, 22% of these 216 births for Aboriginal mothers were mothers aged less than 20 years of age.

Infant Mortality

In 2010, the perinatal death rate for infants of Aboriginal mothers was 13.4 per 1,000 births and 8.0 per 1,000 births of non-Aboriginal mothers.²³ This difference is significant, with the perinatal death rate for Aboriginal children being 1.7 times the rate for non-Aboriginal children. There was no significant change in the perinatal death rate for Aboriginal mothers between 2001 and 2010. This data is not available at LHD level.

Maternal Mortality

In 2003-2005, maternal mortality ratios were 2.7 times higher for Aboriginal women than for non-Aboriginal women. Between 2003 and 2005 the maternal mortality rate, at 21.5 deaths per 100,000 confinements, was almost three times the rate of 7.9 deaths per 100,000 for non-Aboriginal women in Australia.²⁴ Note: This data is not available at LHD level.

Prematurity

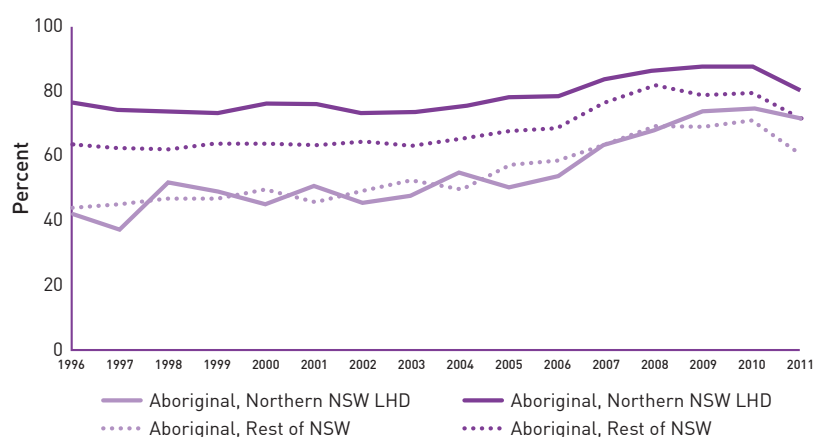
Preterm babies are babies born before 37 weeks' gestation. Preterm birth, along with infection and low birth-weight, is an important determinant of perinatal mortality. Preterm births and low birth-weight can have long-term impacts on child health, development, education attainment and employment and chronic disease later in life.

In 2010/2011, the proportion of premature babies born to Aboriginal women in Northern NSW increased to 13% of all births. This compares with 6% for non-Aboriginal women in Northern NSW.²⁵

Birth Weight

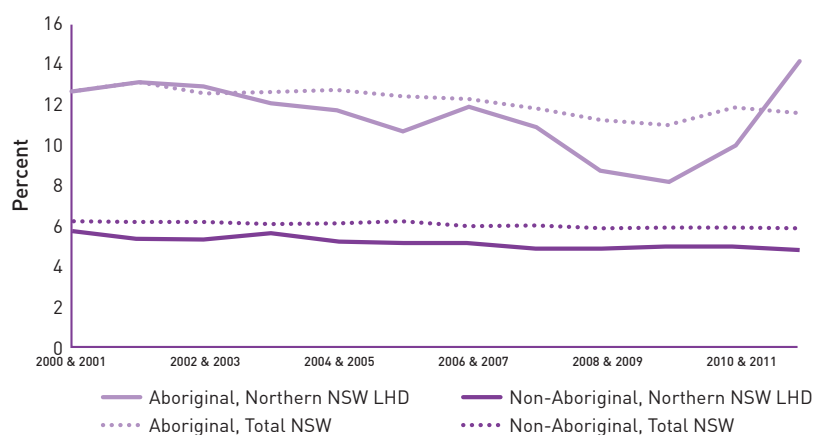
A baby's birth weight is an important outcome measure of the health of the mother and her care during pregnancy. Low birth weight is defined as less than 2,500 grams. In the 2 years 2011/2012 in Northern NSW the rate of low birth weight was 14% for Aboriginal mothers, which was three times the rate (4.8%) for non-Aboriginal mothers.²⁶

Figure 5.1: First Antenatal Visit before 14 and 20 weeks Gestation by Aboriginality Northern NSW 1997-2011



Source: www.healthstats.nsw.gov.au accessed 11 June 2014

Figure 5.2: Low Birth Weight by Mother's Aboriginality Northern NSW 2000/01 to 2011/12



Source: www.healthstats.nsw.gov.au accessed 19 July 2014

The rate of low birth weight babies for Aboriginal mothers in Northern NSW fell from 13% in 2001/2002 to 8.2% in 2009/2010, but has since increased in the 2 years since then to 14.2% (refer Figure 5.2 above).

5.3 CHILD HEALTH

In 2011, there were 1,063 Aboriginal children aged 0-4 years in Northern NSW. They comprised 6.3% of the total Northern NSW population aged 0-4 years. There were 3,722 Aboriginal children aged 0-14 years. Children in this 0-14 years age group comprised one-third (33.7%) of the total Aboriginal population of Northern NSW, and 7% of the total Northern NSW population aged 0-14 years.

Immunisation²⁷

Immunisation against childhood diseases is important in preventing childhood illness and mortality, and over the last decade immunisation coverage has increased considerably. Coverage needs to exceed 90% of the population in order to interrupt the spread of vaccine-preventable diseases.²⁸

In 2010, 85% of Northern NSW children younger than 7 years were fully immunised, lower than the NSW average of 92%. Overall, childhood vaccination rates for Northern NSW children at each of the three major vaccination milestones (12 months, 24 months and 5 years) are well below NSW average levels and levels required for herd immunity.

At 12 months and at 5 years of age vaccination rates of Aboriginal children are similar to those of other Northern NSW children but at 2 years of age Aboriginal children have consistently higher rates, frequently exceeding 90%.

Low immunisation rates place communities and individuals living in Northern NSW at significant risk of extensive outbreaks of vaccine-preventable diseases such as pertussis (two infant deaths - 2009 and 2011 and incidence rates significantly above State average) and measles (19 of the 20 cases of measles reported in Northern NSW since 2004 were not age-appropriately vaccinated).

Otitis Media

Myringotomy is a surgical procedure in which a tiny incision is created in the eardrum to relieve pressure caused by excessive build-up of fluid in the middle ear ("glue ear"), or to drain pus. The procedure often includes the placement of tiny tubes (grommets) to keep the eardrum open, ventilate the middle ear and allow fluid caught behind the eardrum to drain out. Myringotomy and insertion of grommets is commonly used to improve the hearing of children with otitis media with effusion (OME). OME is a common condition in childhood, following an upper respiratory tract infection and for most, it is a transient problem.

Repetitive unresolved episodes of otitis media can lead to perforations of the eardrum and conductive hearing loss. The latter can have a life-long impact, as it may affect speech and language development, which can negatively impact on educational attainment. Often Aboriginal children experience a vicious cycle that may persist throughout childhood, of early exposure, persistent bacterial colonisation and chronic mucosal disease.

For the period 2005-2009, the myringotomy rate per 100,000 population aged less than 15 years was 456.7 for Aboriginal people in Northern NSW, a rate 1.8 times higher than that for the non-Aboriginal population (259 per 100,000).²⁸ This is significantly different from the trend for NSW as a whole, whereby for the same period, the rate for Aboriginal children was 388 per 100,000, three-quarters of the rate (518 per 100,000) for the non-Aboriginal population. This suggests that access to myringotomy in Northern NSW for Aboriginal children is better than in other parts of the State.



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.....



6 BURDEN OF DISEASE

Chronic Conditions

Aboriginal people aged 45 years and over are considered to be at greater risk of developing a chronic disease and are therefore the target population for the Aboriginal Chronic Disease Management Program. The recommended age for chronic disease management focus in the general population is 65 years and over.²⁹ It is interesting to note that 20% of the projected Aboriginal population for Northern NSW in 2011 were aged 45 years and over. The significant health disadvantage of Aboriginal communities continues, with life expectancy estimated to be 60.0 years for NSW Aboriginal males and 65.1 years for NSW Aboriginal females for the period 1996 to 2001. For both males and females the life expectancy for Aboriginal people is estimated to be almost 17 years less than for the general population.³⁰

Chronic diseases are the main contributors to the mortality 'gap' between Aboriginal and non-Aboriginal people in Australia. Four groups of chronic conditions account for two-thirds of the gap in mortality between Aboriginal and non-Aboriginal people: circulatory diseases (24% of the gap), endocrine, metabolic, and nutritional disorders (21%), cancer (12%) and respiratory diseases (12%).³¹

The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples 2010 report estimated that in 2008, 22% of Aboriginal people considered their health as fair/poor, and that Aboriginal people were twice as likely as non-Aboriginal people to report fair/poor health. This gap has remained unchanged since 2002. The National Aboriginal and Torres Strait Islander Health Survey 2004/05 reported that almost half the Aboriginal respondents (47%) reported having three or more long term conditions (such as kidney disease, asthma, bronchitis, migraine, diabetes, high cholesterol, cancers and infectious diseases) compared with 36.5% of non-Aboriginal people. Using BMI


calculated from self-reported height and weight, the rate of overweight and obesity among Aboriginal people was 25% higher than among non-Aboriginal people.

In 2010, 11% of the NSW Aboriginal population aged 16 years and over had diabetes or high blood glucose compared to 8% of the non-Aboriginal population. In 2010/11 hospitalisation rates for diabetes among Aboriginal persons in NSW was 3.5 times higher than the rate of non-Aboriginal persons and this difference increased to 4.4 times higher in the Northern NSW. In 2004/05 Aboriginal people died from diabetes at almost seven times the rate of the non-Aboriginal population. During the period 2006–2010 in NSW, Queensland, Western Australia, South Australia and the Northern Territory combined, approximately 8% of Indigenous deaths were due to diabetes, and death rates from diabetes were seven times the rate of the non-Aboriginal population. The asthma rate among Aboriginal people in NSW has risen from 15% in 2002 to 18% in 2010 compared to the non-Aboriginal rate of 10% in 2002 to 11% in 2010.

6.1 RESPIRATORY DISEASE

Respiratory diseases were responsible for 8.4% of all deaths (around 14% of all deaths) in NSW in the period 2006/07 (and about 5% of hospital separations in 2008/09).³² The major respiratory diseases resulting in the majority of these hospital separations are chronic obstructive pulmonary disease (COPD) and asthma. Tobacco smoking is overwhelmingly the strongest risk factor for COPD (AIHW, 2010) leading to chronic bronchitis, airway narrowing and emphysema.³³

In 2011/12 Aboriginal persons in NSW had a rate of 4,209 hospitalisations per 100,000 people compared to 1,654 hospitalisations per 100,000 people for the non-Aboriginal population.³⁴ This difference is significant,



with Aboriginal people being 2.6 times more likely to be hospitalised for respiratory disease. The rate of hospitalisation for Aboriginal people has increased by 24% since 2001/02.

Chronic Obstructive Pulmonary Disease (COPD)

Chronic Obstructive Pulmonary Disease (COPD), a type of chronic respiratory disease, is a major health problem for Aboriginal people. It is a progressive syndrome, caused by chronic inflammation of the airways and lungs, usually due to smoking.

Chronic respiratory diseases accounted for 8.9 per cent of the total burden of disease, measured in disability-adjusted life years for the Aboriginal population in Australia (ABS, 2008). In 2010/11 in NSW, the rate of COPD hospitalisations for Aboriginal people was 17,120 per 100,000 and 4,413 per 100,000 for non-Aboriginal people. This difference is significant, with Aboriginal people 3.9 times more likely to be hospitalised for COPD than non-Aboriginal people. In the past 10 years there has been a significant increase in COPD hospitalisation rates for Aboriginal people, from 12,743 per 100,000 in 2001/02, with a significant widening in the difference between Aboriginal and non-Aboriginal people.

The 2004/05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) found that half of the Aboriginal adult population in Australia were daily cigarette smokers (AIHW, 2008b). A similar proportion of males (51 per cent) and females (49 per cent) were smokers, with the highest rates reported by those in the 25-44 years age group. Smoking is much more prevalent in the Aboriginal population, with Aboriginal adults more than twice as likely to be current smokers, after adjusting for age differences, than the general population.

The rate of hospitalisations for COPD for Aboriginal people is not available at LHD level; however in the 5 year period 2005-2009, the rate of hospitalisation for COPD was 657.5 per 100,000 Aboriginal people in Northern NSW compared to 107.8 per 100,000 people for the non-Aboriginal population.³⁵ This difference is significant with Aboriginal people in Northern NSW being over six times more likely to be hospitalised for COPD than non-Aboriginal people.

Asthma

Asthma is a chronic inflammatory disorder of the airways that results in obstruction of airflow in response to specific triggers. Reported asthma prevalence was higher in Aboriginal people than in the general population across all age groups, but this difference was most marked in the 16-24 age group and those aged 45 and over. In 2010 in NSW, using smoothed estimates from the NSW Population Health Survey, 17% of Aboriginal people self-reported having asthma, compared with 11% for non-Aboriginal people. Using these estimates, Aboriginal people were 1.6 times more likely to self-report having current asthma than non-Aboriginal people. In the past 10 years rates have remained constant for both Aboriginal and non-Aboriginal people, and the difference between Aboriginal and non-Aboriginal people has also remained constant.

The rate of asthma hospitalisations is significantly higher in rural areas and in Northern NSW the rate was 25% greater than the NSW average in 2010 for the population aged 5 to 34 years. The good news is that the rate of asthma hospitalisations for this age group in Northern NSW has decreased by 27% since 2006. The asthma rate among Aboriginal people in NSW has risen from 15% in 2002 to 18% in 2010 compared to the non-Aboriginal rate of 10% in 2002 to 11% in 2010.

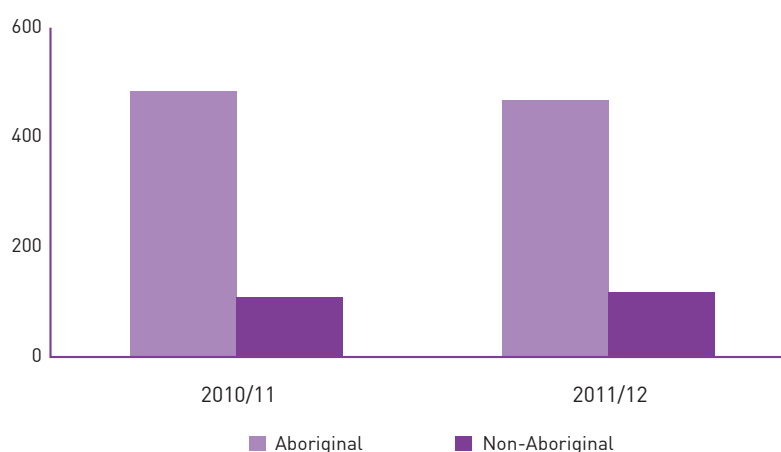
The rate of hospitalisations for asthma for Aboriginal people is not available at LHD level; however in the 5 year period 2005-2009, the age-sex adjusted rate of hospitalisation for people aged 5 to 34 years for asthma, was 328.6 per 100,000 Aboriginal people in Northern NSW compared to 153.3 per 100,000 people for the non-Aboriginal population.³⁶ This difference is significant with Aboriginal people in Northern NSW being twice more likely to be hospitalised for asthma than non-Aboriginal people. The asthma hospitalisation rate for Aboriginal people in Northern NSW was the highest in NSW over this period and almost double the NSW rate of 173.3 hospitalisations per 100,000 Aboriginal people.

6.2 DIABETES

In 2006, diabetes was the principal cause of 952 deaths in NSW (12.5 deaths per 100,000 population). Diabetes often plays an indirect role as a significant risk factor for heart and kidney disease and stroke. Diabetes, particularly Type 2 diabetes, is a major contributor to excess burden of disease among Aboriginal people and to the health gap between Aboriginal and non-Aboriginal people. The onset of diabetes occurs earlier among Aboriginal people, which leads to a greater burden of illness associated with the complications of diabetes, including kidney damage, loss of vision, peripheral nerve damage and peripheral vascular diseases.³⁷ Self-reported information on prevalence and incidence, and hospitalisation rates, were available for reporting on diabetes.

In 2010, the NSW Adult Population Health Survey estimated 10% of Aboriginal people self-reported having diabetes or high blood glucose levels, compared with 8% of non-Aboriginal people.³⁸ This means that Aboriginal people were 1.2 times more likely to have diabetes or high levels of blood glucose than non-Aboriginal people. In the

Figure 6.1: Rate of Diabetes Hospitalisations for Aboriginal and Non-Aboriginal Population Northern NSW



Source: www.healthstats.nsw.gov.au accessed 6 June 2014

past 10 years self-reported levels of diabetes or high blood glucose levels have increased, with the gap between Aboriginal and non-Aboriginal people narrowing slightly.

In Northern NSW in 2011/12, hospitalisation rates for diabetes were 472 per 100,000 for Aboriginal people and 120 per 100,000 for non-Aboriginal people (refer Figure 6.1 above). This difference is significant. In 2011/12, Aboriginal people were four times more likely to be hospitalised for diabetes than non-Aboriginal people.

In the past 10 years there has been a significant increase in hospitalisation rates for diabetes for Aboriginal people, from 591 per 100,000 in 2001/02, to 936 per 100,000 in 2009/10 and no significant change in the difference in rates between Aboriginal and non-Aboriginal people. Increases in hospitalisations may represent an increase in the occurrence or incidence of disease, or may reflect improvements in access to hospitals services relative to need, or improvements in the reporting of Aboriginal people in NSW health data collections. It should also be noted that a change in the coding of diabetes as a principal diagnosis is responsible for a substantial decrease in recorded diabetes hospitalisations between 2009/10 and 2010/11.

6.3 CANCER

Aboriginal people in NSW have a higher incidence of cancer, higher mortality rates due to cancer, and significantly lower rates of cancer survival (Morrell et al. 2012; Cancer Institute NSW 2012). Key contributing factors to higher cancer incidence and lower survival rates in Aboriginal people may include health risk behaviours including high prevalence of tobacco smoking and alcohol misuse, poorer diet, lower participation in cancer screening programs, delayed diagnoses, and cultural competency of services to support completion of treatment.

While there were improvements in mortality from cancer in the non-Aboriginal population in Australia between 2001 and 2012, this did not occur in the Aboriginal population, leading to a significant increase in the mortality gap due to cancer for both males and females.³⁹

For the NSW population over the period 1999-2007, prostate and breast cancers were the most commonly diagnosed cancers in Aboriginal males and females respectively, followed by lung cancer. Lung cancer was the most commonly diagnosed cancer overall.

Aboriginal females had significantly higher rates of lung, cervix and head and neck cancers than non-Aboriginal females, with rates that were double or more for Aboriginal females compared to all NSW females for these cancers.

Likewise Aboriginal males had significantly higher rates of lung and head and neck cancers, plus stomach cancer. Aboriginal males incidence was 70% or higher than all NSW males for cancers of the head and neck, lung and stomach.

When combined into all persons, Aboriginal people had significantly higher rates of lung, all upper GI cancers (stomach, oesophageal, liver and pancreas) and kidney and significantly lower rates of Non-Hodgkin's Lymphoma.

As stage at diagnosis is a key prognostic indicator for cancer,⁴⁰ some of the excess mortality seen in Aboriginal people can be explained by differences in the stage at presentation of disease. Aboriginal people have lower rates of localised cancer and correspondingly higher rates of regional and distant cancers. However, not all the excess Aboriginal cancer mortality is due to higher incidence, nor is all of it explained by higher proportions of late-stage cancers. This is highlighted by lower Aboriginal incidence of localised cancers overall, yet significantly higher mortality from localised cancer.

In addition to this, preventable cancers make a large proportion of incidence and mortality in Aboriginal people. This includes tobacco related cancers such as lung cancer and head and neck cancers, and in females, cancers of the breast and cervix; both of which have well established screening programs in place to detect early disease, and in the case of cervical cancer, pre-cancerous lesions.

In 2011/12 the rate of hospitalisations for malignant neoplasms in Northern NSW was 1,193 per 100,000 population for Aboriginal people and 1,121 per 100,000 people for non-Aboriginal people.⁴¹

The rate of hospitalisation for cancer for Aboriginal people is not as significantly higher than for the non-Aboriginal population in Northern NSW, but as the state-wide data on incidence and mortality indicates, these rates are significantly higher for Aboriginal people. Incidence and mortality data for Aboriginal people is not available at LHD level.

The reasons why Aboriginal people are more likely to present with regional or advanced disease or why those with localised disease have poorer outcomes than their non-Aboriginal counterparts are unclear, but may in part relate to access to services. Aboriginal people do not access primary care services to the same level that non-Aboriginal people do, resulting in less opportunity for early detection of a cancer by a general practitioner.⁴²

6.4 CARDIOVASCULAR

Cardiovascular disease includes coronary heart disease and stroke. Despite steady improvement over the last four decades, cardiovascular disease remains the leading cause of death in Australia and continues to generate a considerable burden on the population in terms of illness and disability. Circulatory disease occurs much more frequently in Aboriginal people and at much younger ages. Circulatory disease accounts for 17% of the burden of disease in Aboriginal people and 27% of mortality.⁴³ Smoking levels are high among Aboriginal adults with evidence of a small reduction in the most recent period, while levels of physical inactivity and obesity, diabetes and high blood pressure are much higher than for non-Aboriginal people. Additionally, low socio-economic status is associated both with greater risk of developing circulatory disease and with lower chance of receiving appropriate treatment.⁴⁴ (Beard et al. 2008; Cunningham 2010). In 2004/05, approximately 12% of Aboriginal people reported having a circulatory condition. After adjusting for differences in the age structure of the two populations, Aboriginal people were 1.2 times as likely to have circulatory disease as non-Aboriginal people—twice as likely for coronary heart disease.⁴⁵


The rate of hospital admissions for acute myocardial infarction (AMI) for Northern NSW residents was close to the NSW average rate of around 220 admissions per 100,000 population in 2005 and 2009 with a 28% spike in 2007 (refer Figure 3). It should be noted that admission rates for AMI in the most disadvantaged population quintile are double those in the least disadvantaged quintile.⁴⁶

In 2011/12 the rate of hospitalisations for cardiovascular disease in Northern NSW was 3,312 per 100,000 population for Aboriginal people and 1,637 per 100,000 people for non-Aboriginal people.⁴⁷ The difference is significant, with Aboriginal people twice as likely to be hospitalised for cardiovascular disease in Northern NSW.

6.5 RENAL DISEASE

Chronic kidney disease is one of the major and fastest growing diseases affecting the Australian population. End stage chronic kidney disease results in renal failure where reduction of kidney function is irreversible to the point where the patient cannot survive without dialysis or a transplant.

The optimal treatment for patients with end stage renal failure is a successful kidney transplant. However, the shortage of donors (living and deceased) means this is only an option for less than one third of new patients. 191 NSW residents underwent renal transplantation in 2005⁴⁸ (ANZDATA 2006). For the rest of the population suffering from end stage renal failure, dialysis provides a way to prolong life and improve quality of life by providing some greater levels of independence.



The number of patients in NSW requiring dialysis over the last decade has grown significantly, and this increase in demand is projected to continue. It is estimated the demand for renal dialysis in NSW increased from 2,464 patients in 2001 to 4,274 patients in 2011 a growth rate of just over 5% per annum.⁴⁹

In planning for future demand for renal dialysis the relatively high incidence in the Aboriginal population should be taken into account. The incidence of new end stage renal failure requiring dialysis amongst Aboriginal people is 3%.⁵⁰

In 2012/13, there were 2,734 inpatient separations for renal dialysis for Aboriginal residents of Northern NSW. Renal dialysis separations for Aboriginal residents of Northern NSW represented 13.4% of the total Northern NSW resident separations for renal dialysis in 2012/13. Of the 2,734 renal dialysis separations for Northern NSW Aboriginal residents, 930 (34%) were provided at Ballina District Hospital, 741 (27%) at Grafton Base Hospital, 695 (25%) at Lismore Base Hospital and 310 (11.3%) at The Tweed Hospital.

6.6 MENTAL HEALTH

Mental illness contributes 10% of the disparity in the burden of disease between Aboriginal and non-Aboriginal people.⁵¹ Aboriginal people experience higher levels of mortality and morbidity from mental illness, and from related injury and suicide than the general population. Nationally the rate of suicide for Aboriginal people is 2.6 times the rate for non-Aboriginal people. In NSW the rate of suicide for Aboriginal people is 12.4 per 100,000 people, 1.4 times the rate for non-Aboriginal people.⁵² Nationally the highest age-specific rate of Aboriginal suicide was among males aged 25 and 29 years of age (90.8 deaths per 100,000), four times the rate for non-Aboriginal males. In 2010, Aboriginal people were estimated to be 2.2 times more likely to report high or very high levels of distress than non-Aboriginal people.⁵³

During the 3 years 2011 to 2013, there were over 4,500 separations at acute mental health units in Northern NSW, and 10% of these (444 separations) were for patients identifying as Aboriginal. Aboriginal people in Northern NSW were 2.5 times more likely to be admitted to an acute Mental Health Unit within Northern NSW than the non-Aboriginal population.

6.7 INJURIES

Injury and poisoning is the third leading cause of death for Aboriginal people in NSW. Burden of disease data attribute 15% of the difference in health between Aboriginal and non-Aboriginal people to injury, in particular road traffic accidents, suicide, homicide and violence.⁵⁴

Hospitalisations for injury reflect hospital attendances for the condition rather than the extent of injury in the community. Hospitalisations for injury and poisoning are the second most common reason for hospital admissions for Aboriginal people in NSW, after dialysis.

In Northern NSW in 2011/12, the rate of hospitalisations for injury and poisoning for Aboriginal people was 8,554 per 100,000 and 4,491 per 100,000 for non-Aboriginal people. This difference is significant, with Aboriginal people 1.9 times more likely to be hospitalised for injury and poisoning than non-Aboriginal people in Northern NSW.

6.8 COMMUNICABLE DISEASE

Communicable diseases remain a significant public health priority in Australia. Communicable diseases include foodborne diseases; sexually transmissible diseases and bloodborne viruses; vectorborne diseases; and vaccine-preventable diseases. Aboriginal people in NSW experience disadvantage in regard to all social determinants of health, in particular, poverty, disempowerment and social disadvantage, and these factors are compounded by poor access to relevant health information and health services. This disadvantage increases the risk of communicable diseases in Aboriginal communities.

Information on communicable diseases is collected in NSW via the NSW Ministry of Health's Notifiable Conditions Information System (NCIMS). Information is available for diagnosed conditions only, as the source data does not include those people who have a condition but have not yet been diagnosed. Information is not available for Aboriginal people at the LHD level.

At the NSW level, data from the NCIMS indicates that:

- The notification rates of human immunodeficiency virus (HIV) infection for Aboriginal and non-Aboriginal people in NSW are similar
- Over the past 10 years, Aboriginal people had higher notification rates of newly acquired hepatitis C and meningococcal disease than non-Aboriginal people
- There has been an increase in tuberculosis cases in Aboriginal people over the past 10 years
- The rate of hospitalisations for Aboriginal people has been consistently higher than for non-Aboriginal people for influenza and pneumonia over the past 10 years.⁵⁵

Reports of notifiable conditions over the past decade reflect Northern NSW residents' relatively high incidence rates for a number of conditions associated with current or past health behaviours (e.g. injecting drug use - Hepatitis C, unprotected sexual activity - chlamydia, low vaccination rates - pertussis) or associated with living in a warm sub-tropical rural environment (Barmah Forest Virus, Ross River Virus, Salmonellosis, Cryptosporidiosis, Q Fever, Leptospirosis).

The closely linked Aboriginal communities of Northern NSW and the Mid North Coast have experienced ongoing transmission of tuberculosis, with a chain of 22 genetically-indistinguishable cases diagnosed since 2000 across the two LHDs.

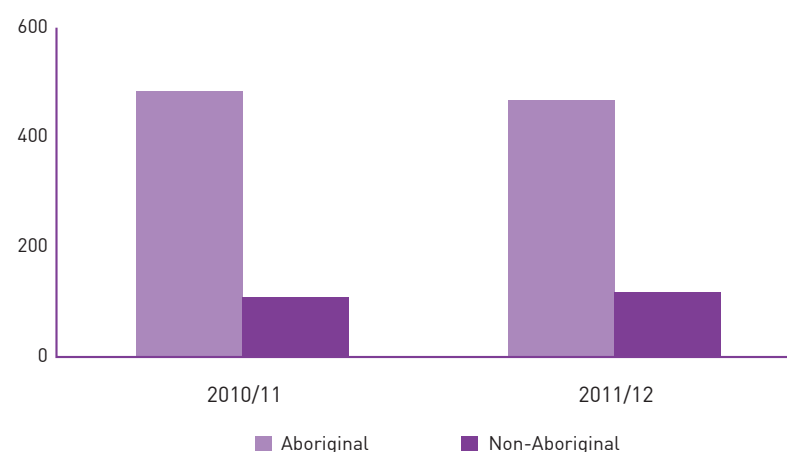
6.9 ORAL HEALTH

Good oral health is a critical issue for the Aboriginal population in Northern NSW. Local services report that education and prevention are limited in Aboriginal populations and this contributes to the situation, it has been reported State-wide, that Aboriginal children experience a higher burden of dental disease than non-Aboriginal children. For children aged 5-6 years, the average number of decayed, missing or filled teeth was 3.0 for Aboriginal children compared to 1.4 for non-Aboriginal children.⁵⁶

In Northern NSW in 2013/14 Aboriginal children accounted for 27% of all separations for Dentistry for children aged 0-14 years, a rate three times greater than the general community for this age group. Overall, Aboriginal people accounted for 20% of Separations for Dentistry in Northern NSW in 2013/14. Local services reported that Aboriginal families in Northern NSW rarely access private dentists under the Commonwealth Dental Scheme.

In 2012/13, there were 16,083 potentially preventable hospitalisations for dental conditions in NSW, and 784, or 5%, of these were for Aboriginal people. In Northern NSW, there were 677 potentially preventable hospitalisations for dental conditions, and 96 or 14%, were for Aboriginal people.

Table 6.2: Rate of Potentially Preventable Dental Hospitalisations per 1,000 population 2012/13



Source: Ministry of Health, healthstats, accessed 14 September 2014

7 DETERMINANTS OF HEALTH

The holistic view of health defined by Aboriginal people recognises the importance of the social, emotional and cultural wellbeing of the community, as well as the physical wellbeing of an individual. Multiple inter-related factors contribute to the poorer health status of Aboriginal people. An appreciation of the social determinants of Aboriginal health, including the contributions of historical factors, education, employment, housing, environmental factors, social and cultural capital, and racism, is critically important to closing the health gap between Aboriginal and non-Aboriginal people.

The evidence linking a range of risk factors and protective factors to long term population and community outcomes provides the base which may link some of the actions and strategies in the Northern NSW Integrated Aboriginal Health and Wellbeing Plan to the desired priorities or outcomes.

This chapter presents information on the social determinants of health, including social, capital, education and employment; environmental factors including functional housing and exposure to tobacco smoke; and risk and protective health factors including smoking, alcohol consumption, physical activity, overweight and obesity, diet and health-care seeking behaviour. These factors affect the health of individuals, families and communities, and how people access health care.

7.1 SOCIAL DETERMINANTS OF HEALTH

Economic status is closely associated with health and wellbeing. People who are economically disadvantaged experience poorer health than economically advantaged people. The socio-economic status (SES) of LGAs in Northern NSW (as measured by the 2011 Index of Relative Social Disadvantage) is below the NSW average.

Examples of risk factors are described below:

Individual Risk Factors:

Low birth weight, insecure attachment, poor problem solving and social skills, low self-esteem, school failure.

Family Risk Factors:

Depression, substance abuse, family violence, neglect, poor supervision of children, long term unemployment.

Community Risk Factors:

Mobility of population, social isolation, housing conditions and socioeconomic disadvantage.

Service Risk Factors:

Insufficient, poor access, poorly coordinated.

On the other hand, there are protective factors which can reduce risks, build family capacity and foster resilience so as to reduce the negative impact of events and reduce the likelihood of poor outcomes.

Individual Protective Factors:

Social competence and skills, school achievement, problem solving capacity, attachment to family, respect for the law.

Family Protective Factors:

Support and caring, family harmony and stability, strong family norms and morality.

Community Protective Factors:

Social networks, participation, cultural identity and pride.

A range of socio-economic indicators from the 2006 Census demonstrate the relative disadvantage of the Aboriginal population in NSW. In NSW larger proportions of Aboriginal people are: unemployed; have no post-school qualifications; no household internet connection; a weekly household income less than \$500; rent, live in multi-family households; and reside in dwellings with seven or more people than non- Aboriginal people.

The overall level of socio-economic disadvantage in Northern NSW contributes to higher than average levels of health problems and demand for services.

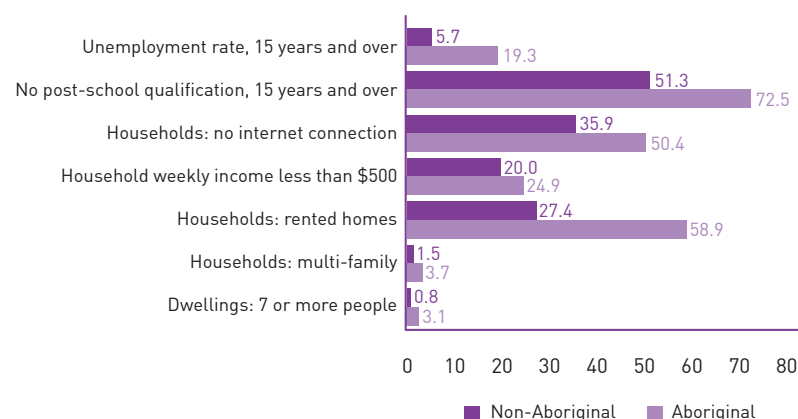
Employment and income are important for self-esteem, opportunities for self-development, participation in the community, living standards, and social and emotional wellbeing (AIHW 2011a). There is also a connection between physical and psychological health and employment status (Marmot and Wilkinson 2006):

- In 2011 in NSW, the labour force participation rate for the Aboriginal population aged 15–64 years was estimated to be 54% with 15% of the Aboriginal labour force unemployed. In comparison, the labour force participation rate for the non-Aboriginal population was 78%, with 5% of non-Aboriginal people unemployed (ABS, 2012)
- Youth (15 – 24 years) unemployment data show a third of Northern NSW Aboriginal men (32%) and women (31%) are unemployed. This is twice that of the non-Aboriginal youth
- In 2011 in NSW the median personal weekly income for people aged 15 years and over was \$375 for Aboriginal people and \$566 for non-Aboriginal people. The median weekly household income was \$941 for Aboriginal households compared with \$1,247 for non-Aboriginal households. The average number of people per household was 3.1 for Aboriginal households and 2.6 for non-Aboriginal households (ABS 2011)
- During 2009, 25% of Northern NSW Aboriginal women experienced food insecurity, almost twice the rate of Aboriginal women elsewhere in NSW.

7.2 ACCESS TO HEALTHCARE

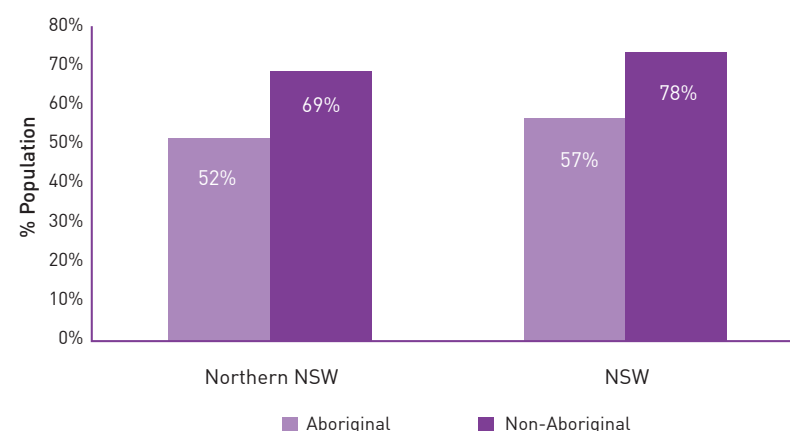
Providing equitable access to hospital-based services is a critical responsibility of the health system (Australian Government 2011). Aboriginal people often do not

Figure 7.1: Socio-Economic Factors by Aboriginality NSW 2006



Source: ABS NSW Census, 2006

Figure 7.2: Percentage Labour Force Participation



Source: ABS 2006

have equal access to medical services and procedures, despite having higher rates of hospitalisation and a higher burden of disease (Cunningham 2002; Coory and Walsh 2005; Yeates et al. 2009).

It has been identified that across NSW in 2010, Aboriginal people were 20% less likely to access high volume surgical procedures than non-Aboriginal people.⁵⁷ This section highlights comparisons for selected procedure rates for Northern NSW Aboriginal and non-Aboriginal residents.

In Northern NSW for the period 2006/07 to 2010/11 the rate of coronary revascularisation procedures as a proportion of all hospitalisations for coronary heart disease was 17.5% for Aboriginal people and 15.7% for non-Aboriginal people. The difference is not statistically significant. For the whole of NSW the rate was 20% for Aboriginal people and 28% for non-Aboriginal people.

The occurrence of cataracts is higher in Aboriginal people, with 11% of Aboriginal people aged over 55 years reporting a history of cataracts, compared with 7% for non-Aboriginal people (ABS 2006). Cataract causes 32% of blindness and 27% of low vision in Aboriginal adults (aged over 40 years), with only 65% of those with vision loss from cataract having received surgery (Taylor et al. 2010).

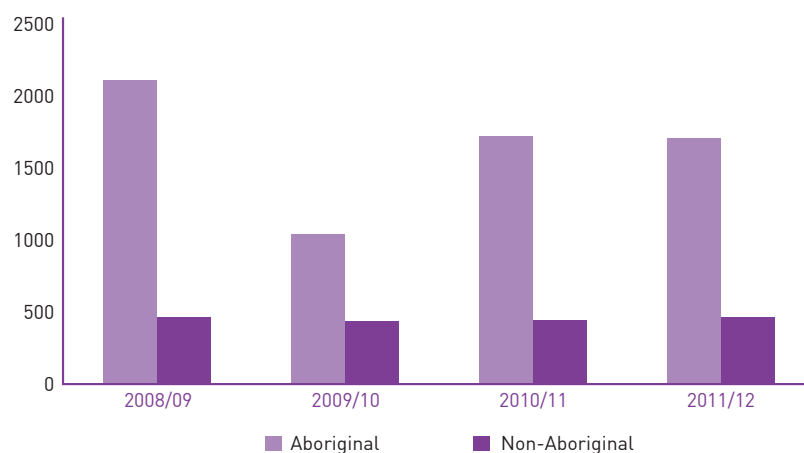
The cataract procedure rate for Northern NSW in 2010/11 was 971 per 100,000 Aboriginal people, which was 95% the rate of non-Aboriginal people (1,026 per 100,000).

In Northern NSW the rate of elective orthopaedic surgery (including hip and knee replacement) was 150 per 100,000 for Aboriginal people for the period 2006/07 to 2010/11. This is three-quarters (74.6%) of the rate for non-Aboriginal people (201 per 100,000).

7.3 RISK FACTORS

Risk factors contribute to the higher burden of disease and injury experienced by Aboriginal people. Chronic conditions such as cardiovascular disease and kidney disease share common risk factors, such as tobacco smoking, physical inactivity, poor diet and heavy alcohol consumption. Kidney damage is often caused by diabetes and risk factors for kidney failure include high blood pressure, infections, low birth weight and obesity. Family risk factors include domestic violence, sexual abuse, child abuse and neglect.

Figure 7.3: Smoking Attributable Hospitalisations, Northern NSW



Source: Ministry of Health: Healthstats, accessed 4 July, 2014

Smoking

Smoking is considered to be the largest preventable cause of premature death and morbidity. Smoking is a major risk factor for cardiovascular disease, chronic lung disease and some cancers. As a preventable risk factor, smoking contributes most to the higher mortality rate for many cancers among Aboriginal people, and is a risk factor for other diseases including cardiovascular disease and chronic lung disease.⁵⁸

From 2002-2010 the percentage of Aboriginal NSW residents 16 years and over who currently daily or occasionally smoke decreased from 40% in 2002 to 34% in 2010 which is in line with the decrease in non-Aboriginal NSW residents (decrease from 22% to 16%). While the small numbers in this survey limit any statements about particular age groups for Aboriginal residents, smoking amongst young (16-24 years) Aboriginal women in NSW may be higher than for males, while the rate is similar for non-Aboriginal women in this younger age group.

The rate of hospitalisations attributed to smoking amongst Northern NSW Aboriginal residents is significantly higher than for non-

Aboriginal residents (refer Figure 7.3 below). In 2011/12 the rate of hospitalisations for Aboriginal people was 1,800 per 100,000 residents, 3.3 times higher than the rate for Northern NSW non-Aboriginal residents. In the same period smoking attributable hospitalisations in non-Aboriginal NSW residents remained relatively stable at around 550 hospitalisations per 100,000 people.

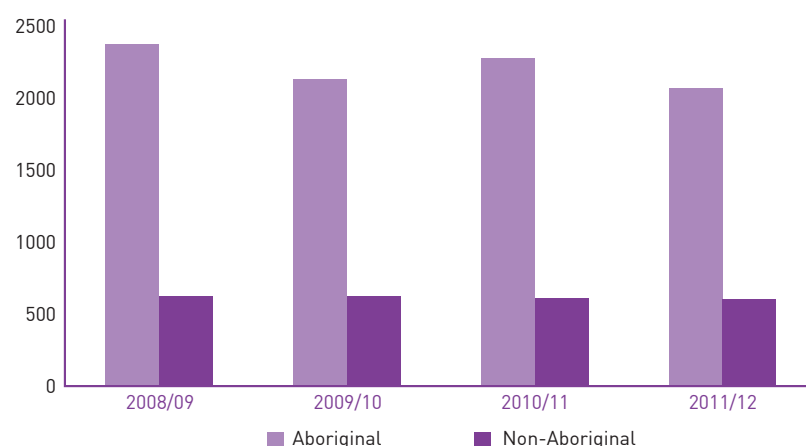
Alcohol

Alcohol misuse is a major risk factor for conditions such as liver disease, pancreatitis, diabetes and some types of cancer, and contributes to motor vehicle accidents, falls, burns and suicide (Australian Government 2011). Alcohol misuse has also been associated with social and emotional harms such as family violence, and can lead to community dysfunction and incarceration (Wilson et al. 2010). Fetal alcohol spectrum disorders may occur when mothers have consumed alcohol during pregnancy. Burden of disease data attribute 4% of the difference in health outcomes between Aboriginal and non-Aboriginal people to alcohol misuse.⁵⁹

Alcohol attributable hospitalisations were 12% higher in Northern NSW (737 admissions per 100,000 population in 2010/11) compared to the NSW average (655 admissions per 100,000 population).⁶⁰ In 2011/12 Aboriginal residents of Northern NSW were 3.1 times more likely than non-Aboriginal residents to have an alcohol attributed hospitalisation. From 1998/99 to 2011/12 alcohol attributable hospitalisations in both non-Aboriginal and Aboriginal residents in Northern NSW increased by around 60%. This steady increase over time in Northern NSW is more than double the increase in alcohol attributable hospitalisations compared to all NSW for the same time period.

The proportion of Northern NSW population in 2011 (32.4%) that engaged in risk alcohol drinking (i.e. consumes more than two

Figure 7.4: Alcohol Attributable Hospitalisations Northern NSW



Source: Ministry of Health: Healthstats, accessed 4 July, 2014

standard drinks a day when drinking) is slightly higher than the NSW average (29%).⁶¹ The rate of risk alcohol drinking is twice as high for males as females (39% against 20%).

From 2006 to 2009 the percentage of Aboriginal NSW residents who consumed more than two standard drinks on a day when consuming alcohol (persons 44%) was significantly higher than the 2010 NSW average (persons 30%), although the percentages in the 16-24 years age group were similar for Aboriginal and non-Aboriginal NSW residents.

Overweight and Obesity

Excessive body weight is a risk factor for a number of chronic conditions including cardiovascular disease and diabetes. It may also be an indicator of inadequate physical activity. About 57% of 16 years and over males and 48% of females within Northern NSW are considered to be overweight or obese and these estimates are similar to the 2010 NSW average. In 2010, 32.3% of Northern NSW residents aged 16 years and over were overweight and a further 20% were obese. The combined total of 52.2% overweight or obese compared to the NSW average of 54.3%

Data from 1997 to 2010 indicate there has been a gradual increase in the proportion of Northern NSW males and females considered to be overweight or obese. In 1997 about 42% of Northern NSW residents were considered to be overweight or obese and by 2010 this had increased to 52%, in line with the NSW average. This statistically significant increase is consistent with the NSW state wide trend, as is the consistent gap between males and females.

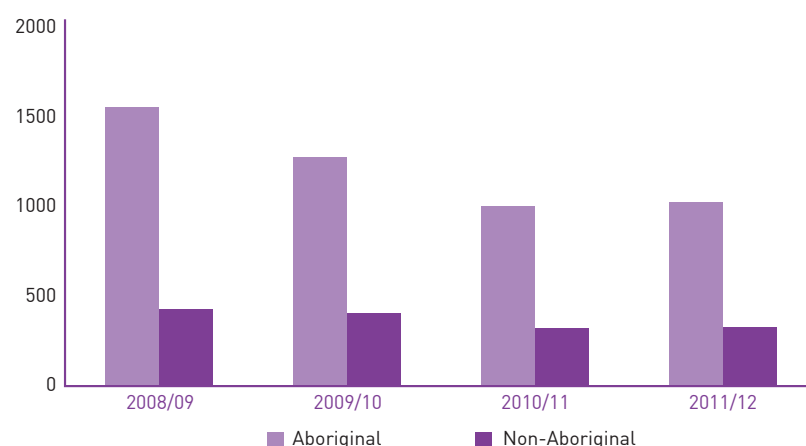
In 2013, data from the NSW Population Health Survey indicated that Aboriginal people had a higher rate of obesity than the non-Aboriginal population in NSW. For the non-Aboriginal population, 33% were overweight and 18% were obese, a combined 51% of the population being overweight or obese. In the Aboriginal population, 32% were overweight, 30% were obese, a combined 62% of the population being overweight or obese.

The rate of hospitalisations attributed to high body mass amongst Northern NSW Aboriginal residents is significantly higher than for non-Aboriginal residents (refer Figure 7.5 below). In 2011/12 the rate of hospitalisations for Aboriginal people was 1,075 per 100,000 residents, 2.8 times higher than the rate for Northern NSW non-Aboriginal residents.

Physical Activity

Over half (51.5%) the adult NSW non-Aboriginal population report adequate physical activity in 2013, and these estimates are similar for the Aboriginal population (50%).⁶² This data is not available at LHD level.

Figure 7.5: High Body Mass Hospitalisations Northern NSW



Source: Ministry of Health: Healthstats, accessed 4 July, 2014

Domestic and Family Violence

In NSW Aboriginal women remain significantly over-represented among reported victims of sexual assault and domestic violence related assault.⁶³ In 2008 the rates of reported victims of domestic violence were 6 times higher for Aboriginal females than non-Aboriginal females (3,148 per 100,000 and 511 per 100,000, respectively), and four times higher in Aboriginal males than non-Aboriginal males.⁶⁴

The number of child protection reports made to the NSW Department of Community Services for Aboriginal children and young people has increased by more than three times in the past 8 years, from 18,348 in 2001/02 to 59,375 in 2008/09. During the same period the increase for the non-Aboriginal population was 1.7 times, from 141,295 reports made in 2001/02 to 250,301 in 2008/09.⁶⁵

Data on domestic violence for the Aboriginal population is not available at LHD level.

Sexual Assault

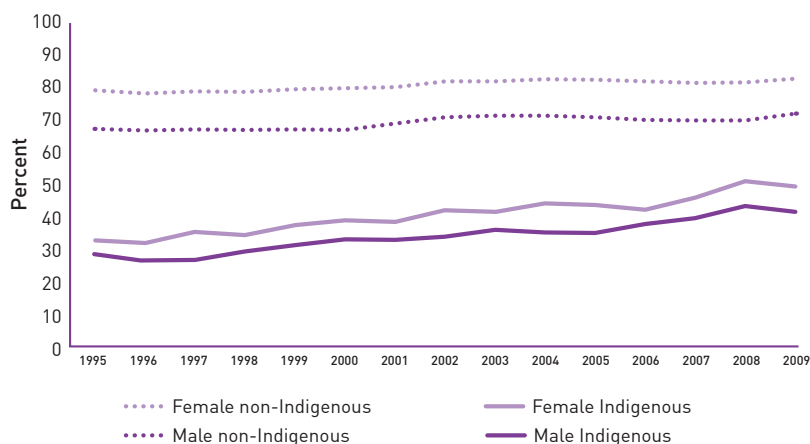
While there remains a paucity of reliable, comparative statistical data across States and Territories in Australia, various surveys and police statistics generally confirm higher rates of sexual violence committed against Aboriginal women compared to non-Aboriginal women. Data on sexual assault for the Aboriginal population is not available at LHD level. In NSW, victim's data indicated that Aboriginal women were victims of sexual assault 3.5 times the rate on non-Aboriginal women.⁶⁶

Across Australia, sexual abuse notifications against Aboriginal children are substantiated at a rate five times that of non-Aboriginal children.⁶⁷

Child Abuse and Neglect

Rates of child abuse and neglect are higher in the Aboriginal community. Data on child abuse and neglect for the Aboriginal population is not available at LHD level. NSW data based on child abuse and neglect which was notified (or reported) to the NSW Department of Community Services in 2011/12, indicated that 4,247 Aboriginal children under 17 years had some form of abuse substantiated (i.e. the statutory protection authority believed that physical abuse, psychological abuse, sexual abuse and/or neglect, had occurred). This rate of substantiation was 59.4 per 1,000 Aboriginal children is a rate disproportionately higher (nine times higher) in the Aboriginal population, than in the non-Aboriginal population.⁶⁸

Figure 7.6: Apparent retention from 7/8 to Year 12 by Indigenous status, 1995-2009, Australia



Source: Figures derived from *Schools Australia* (ABS 2009)

In 2011/12, 5,299 Aboriginal children in NSW were on care and protection orders, a rate of 73.8 per 1,000 Aboriginal children. This rate was 10.9 times the rate for non-Aboriginal children.⁶⁹

At 30 June, 2012 there were 5,991 Aboriginal children in NSW in out-of-home care. The Aboriginal rate of 83.4 children in out-of-home care per 1,000 children was 11.7 times higher than the rate of 7.1 children in out-of-home care for non-Aboriginal children.⁷⁰

Recent data from the NSW Department of Family and Community Services (Northern NSW) indicates that Aboriginal people are 9.5 times more likely to be living in a household where at least one person is subject to child abuse and/or neglect.

7.4 PROTECTIVE FACTORS

Evidence suggests that improving the educational outcomes of Aboriginal children will lead to positive benefits for lifetime health and wellbeing (Brown 2001). A number of initiatives exist to improve educational outcomes, including early engagement in education in pre-school, creation of a culturally-appropriate education system and tutorial support for students. However, there still remains a large gap in the education of Aboriginal children compared with non-Aboriginal children in NSW.

School Completion

School completion rates for Aboriginal children are well below the rates for the non-Aboriginal population in Australia. The target of halving the gap in Year 12 (or equivalent) attainment rates between Aboriginal and non-Aboriginal students by 2020, is a major national challenge.

Absenteeism among Aboriginal students is markedly higher than among non-Aboriginal students. Poorer access and absenteeism contribute to lower academic achievement, making it more difficult for many Aboriginal students to complete school. In seeking to improve retention rates for Aboriginal children, gains in education may be limited unless other aspects of socioeconomic advantage are improved, such as health, nutrition, housing and employment.

In 2009, the apparent retention rate from Year 7/8 to Year 12 across Australia was 41.5% for Aboriginal males compared to 72.1% for non-Aboriginal males, and 49.5% for Aboriginal females compared to 82.7% for non-Aboriginal females, a gap of almost 30 percentage points.⁷¹ While apparent retention rates are not an actual measure of attainment or completion, they do provide a measure of student survival to the final year of high school and are one of the few measures that can be used reliably over an extended period of years.

In NSW in 2011, 24% of Aboriginal people had completed Year 12 or equivalent, compared with 52% of non-Aboriginal people, and 32% of Aboriginal people had completed Year 10 or equivalent compared with 75% of non-Aboriginal people (ABS 2011). Data on school retention rates for the Aboriginal population are not available at LHD level.

School Attendance

Data on school attendance for the Aboriginal population are not available at LHD level. In NSW in 2013, the average school attendance rate in primary school was 89.7% for Aboriginal children. This compares with 94.1% for non-Aboriginal children. In 2013, the average school attendance rate in secondary school was 89.7% for Aboriginal children in NSW. This compares with 90.1% for non-Aboriginal children.⁷²



NAPLAN Results

Data on NAPLAN results for the Aboriginal population are not available at LHD level.

Key educational outcomes across NSW for Aboriginal children are presented below:

- Reading: in NSW in 2011, 78% of Aboriginal students achieved the Year 9 reading benchmark compared with 94% of non-Aboriginal students (ACARA 2011)
- Writing: in NSW in 2011, 56% of Aboriginal students achieved the Year 9 persuasive writing benchmark compared with 86% of non-Aboriginal students; 77% of Aboriginal students achieved the Year 9 spelling benchmark compared with 93% of non-Aboriginal students; and 67% of Aboriginal students achieved the Year 9 grammar and punctuation benchmark compared with 91% of non-Aboriginal students (ACARA 2011)
- Numeracy: in NSW in 2011, 75% of Aboriginal students achieved the Year 9 numeracy benchmark compared with 94% of non-Aboriginal students (ACARA 2011).

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