Morbidity burden of disease and injury in the Northern Territory 2014–2018

NORTHERN TERRITORY GOVERNMENT

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Acronyms	Full form
ABS	Australian Bureau of Statistics
Age-std	Age-standardised
AIHW	Australian Institute of Health and Welfare
BOD	Burden of disease and injury
CI	Confidence interval
DALY	Disability adjusted life years
ERP	Estimated resident population
HALE	Health adjusted life expectancy
LE	Life expectancy
NT	Northern Territory
QALY	Quality adjusted life years
RR	Rate ratio
SEIFA	Socio-Economic Indexes for Areas in Australia
YLD	Years lived with disability
YLL	Years of life lost

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Acknowledgements

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Summary

The burden of disease and injury (BOD) is an important measure of health care needs developed by the World Health Organisation and the Australian Institute of Health and Welfare to inform health policy, distribution of resources, and service planning. The loss of healthy life due to disease, injury, or premature death is called the BOD. The BOD is also used to monitor health outcomes by combining information on both mortality and morbidity. The BOD method collates information for 223 causes by 18 categories that, when added together, form the total BOD in terms of disability adjusted life years (DALY). DALY incorporates premature mortality in years of life lost (YLL) and morbidity in years lived with disability (YLD). This method represents substantial improvements in measuring health care needs and health outcomes, changing from counting numbers of deaths, diseases, and injuries to measuring years of healthy life lost as a result of ill-health. This method can be used to compare different populations and assess the influence of various risk factors on population health. This report describes the morbidity and total BOD for the Northern Territory (NT) Aboriginal and non-Aboriginal populations between 2014 and 2018 and updates three previous NT BOD studies (1994–1998, 1999–2003 and 2004–2013).

Key findings

- The total BOD in the NT was 346,044 DALY in 2014-2018, of which 157,134 was YLL (dying prematurely), and 188,910 was YLD (living with illness).
- The NT population suffered more YLD (non-fatal BOD - 55% of the total burden) than YLL (fatal BOD - 45%). Over the four NT BOD studies, there has been a shift from fatal to non-fatal burden. In the 2004-2013 study, YLD and YLL accounted for 52% and 48% of the total BOD respectively. The NT population is living longer but sicker.
- The age-standardised DALY rate was greater for males (339 per 1000 population) than females (303 per 1000). Males also had higher age-standardised YLL rate than females.
- Males experienced a higher BOD rate than females from unintentional injury (Male/Female rate ratio 2.3), intentional injury (1.9), and cardiovascular disease (1.5).
- Females had a higher BOD rate for reproductive conditions (Male/Female rate ratio 0.04), musculoskeletal conditions (0.8), and blood conditions (0.7).
- The NT population experienced 70% to 80% higher BOD per male and female respectively, compared to the age-standardised DALY rate of the Australian population. Poor health outcomes for the NT Aboriginal population largely drove this disparity.
- The NT Aboriginal population experienced 3.6 times more total BOD than the NT non-Aboriginal population.
- The Aboriginal and non-Aboriginal BOD gap was greater in the NT than in Australia as a whole.
- Cardiovascular diseases, cancer and mental disorders were the leading BOD categories causing the highest numbers (12.2%, 11.6% and 10.5% respectively) of DALY in the NT, followed by musculoskeletal conditions (10%), intentional (9%) and unintentional injuries (8%).
- The leading BOD categories for the Aboriginal population were cardiovascular diseases (14%), mental disorders (10%), and intentional Injuries (9%).
- The leading BOD categories for the non-Aboriginal population were cancers (17%), musculoskeletal conditions (12%), and mental disorders (11%).
- Among the Aboriginal population, the DALY rates were higher across all categories when compared with the non-Aboriginal population. The greatest gaps were for endocrine disorders (13.5 times higher), kidney diseases (11.4 times), and hearing disorders (8.5 times).

- Aboriginal young adults and children experienced a greater disease burden in DALY rates compared to non-Aboriginal population. The BOD gap was higher in the age groups 25-69 years (rate ratio RR range from 3.7-5.8) and in the age groups of 0-9 years (RR range from 3.2-3.3).
- For non-fatal YLD, the leading BOD categories in the Aboriginal population were endocrine disorders (60 DALY per 1000), musculoskeletal conditions (54), and mental disorder (51).
- The leading non-fatal BOD categories in the non-Aboriginal population were musculoskeletal conditions (21 DALY per 1000), mental disorders (19), and intentional injuries (9).
- As a single cause, assault or interpersonal violence was the largest contributor to the YLD non-fatal burden in the NT (8.7%), more pronounced in males (11.6%). Diabetes and alcohol use disorders were among the leading causes in Aboriginal people, whereas violence and musculoskeletal conditions contributed most to the non-Aboriginal population.
- The gap in age-standardised YLD rates between Aboriginal and non-Aboriginal populations was largely due to a greater discrepancy in endocrine disorders (21%), mental disorders (12%), and musculoskeletal conditions (12%).
- In the NT, the leading categories of age-standardised YLL rate were cardiovascular diseases (78 YLL per 1000), cancers (66) and kidney diseases (33) for Aboriginal population, and cancers (32 YLL per 1000), cardiovascular diseases (18) and unintentional injuries (12) for non-Aboriginal population.
- The difference in total YLL rates between Aboriginal and non-Aboriginal populations was largely due to greater mortality from cardiovascular diseases (25%), cancers (14%), and kidney diseases (13%).
- Life expectancy (LE) at birth was shorter in Aboriginal compared with non-Aboriginal population in the NT, by 14 years for males and 16.6 years for females during 2014-2018.
- Health adjusted life expectancy (HALE), a measure of years lived in good health, demonstrated that NT Aboriginal males and females had 26.5 and 33.5 fewer years of good health respectively, compared to their non-Aboriginal counterparts.
- Compared with the HALE in the NT non-Aboriginal population, Aboriginal males and females lived with ill-health for an additional 12.5 and 17.9 years respectively, pointing to greater needs for health services.
- Aboriginal Territorians also had a much lower LE and HALE than the average Indigenous Australian. This resulted in a much greater gap for both LE and HALE in the NT than in Australia on average.
- At age 65, Aboriginal peoples would expect to live shorter lives than non-Aboriginal people and live more of their lives in ill-health.
- The population living in remote areas of NT had a high BOD, largely due to a greater proportion of Aboriginal and socio-economically disadvantaged people living in these areas.
- The higher BOD in the NT population arises as a consequence of socio-economic disadvantage (explaining 22.3%), high body mass (9.1%), alcohol (8.4%), physical inactivity (8.1%), and tobacco smoking (7.6%). By reducing or avoiding exposure to these top five modifiable risk factors, 55.5% of the BOD could be mitigated.
- The total BOD was projected to increase at a rate of 2.6% annually for the next 15 years, which outpaced the population growth.

Introduction

Background

Burden of disease and injury (BOD) studies measure health care needs and the population level of ill-health using a summary metric called disability adjusted life years (DALY). DALYs capture health loss in terms of both morbidity and mortality. The mortality component, ascertained using the years of life lost (YLL), has been investigated and reported in the first part of this BOD series.[1] The second component of DALY is morbidity, gauged using the years lived with disability (YLD). This report focuses on YLD, together with the total DALY.

BOD assessment is an important initiative, first pioneered by the World Health Organisation in the 1990s.[2] BOD methodology constitutes an important advancement in the measurement of ill-health by measuring YLL and estimating YLD, which covers both the duration and severity of a disability. By adding YLL and YLD together, one DALY represents the loss of one year of healthy life due to a combination of premature death and illness or disability. DALY quantifies the gap between the actual and the ideal population health level in a given population.

This report presents the results of DALY for the Northern Territory (NT) between 2014 and 2018 by key demographics such as age, sex, Aboriginality and health regions. We also present sub-analyses by BOD categories and causes. This study also measures the contribution of risk factors to BOD. We followed the standard classifications for BOD categories and causes used in the 2015 Australian BOD study,[3] with three minor adjustments tailored to the current situation in the NT:

1. Separation of the injury category in the national BOD study into intentional and unintentional injury categories;
2. Addition of melioidosis and scabies to the NT BOD cause list;
3. Addition of COVID-19 to the BOD list of causes.

The measurement of BOD provides a consistent mechanism to quantify both the fatal and non-fatal aspects of ill-health in a consistent manner, in order to inform health policy, program and service delivery. It can assist with the identification of the most significant health challenges facing a population, prioritisation of health interventions and resource allocations, and evaluation of the effectiveness of health care programs and policies. The list of the NT BOD causes is provided in the Appendix.

Previous burden of disease and injury studies

Previous NT and Australian BOD studies have provided clear evidence that the NT has the highest BOD per capita among Australian jurisdictions.[4-8] Between 2004 and 2013, the NT total DALY rate was 70-90% higher than the national average.[8] In 2011, the NT Aboriginal DALY rate was 760.1 per 1000, 3.8 times the Australian overall rate of 201 DALY per 1000.[9] The NT non-Aboriginal DALY rate was 222.2 per 1000, 11% higher than the overall Australian rate.[8,9] It is important to update and keep a close eye on BOD estimates and other health outcome measures in a timely manner to inform NT health care policy and support regional healthcare service planning and delivery.

This is the second report from the fourth NT BOD study. Previously, three BOD studies were undertaken in the NT for the periods 1994–1998, 1999–2003, and 2004–2013 to align with census years and the national BOD studies for comparison.[6-8] We compared BOD results between the Aboriginal and non-Aboriginal populations within the NT and with the national average.

Purpose of this report

The current project aims to update the previous NT BOD studies, incorporating improvements to BOD methods published in the academic literature.

The purpose of the current report is to:

- Provide updated YLD, YLL and DALY estimates for the NT between 2014 and 2018, along with important details for 223 causes of death, disease, injury, and 16 risk factors;
- Provide updated DALY summary estimates by age, sex, Indigenous status and health regions in comparison with national and interstate estimates;
- Provide BOD background information and projections for future health care policy and decision-making; and
- Update life expectancy (LE) and Health adjusted life expectancy (HALE) estimates for the NT.

Methods

Measuring burden of disease and injury

The BOD can be quantified using DALY, which combines YLL due to premature mortality with YLD due to disability:

DALY=YLL+YLD.

The level of disability in YLD estimation is measured by disability weight ranging from 0 (perfect health) to 1 (death). This study follows exactly the methodologies used in the national and global BOD studies including disability weights for consistency and comparability.[3] The disability weights are multiplied by the number of years spent living with a condition to obtain the YLD.

Routine data sources used for YLL and YLD estimation include death registrations, health survey data, hospitalisation, emergency department and primary care data, and statutory surveillance data, including communicable disease notifications, and perinatal and cancer registry records.

Australian and international BOD estimates provided important reference points and external validation for the current NT BOD study (this is especially useful for rare health conditions). The Australian BOD study provides national and NT annual YLL, YLD, and DALY estimates.[10,11] The latest estimates of the national BOD available were for 2018. The project team reviewed and vigorously validated the top 30 leading causes of DALY, plus all cancers and infectious diseases. Where there was a lack of NT specific data sources, the national cause-specific average by age and sex has been assumed to be consistent with the NT non-Aboriginal rate. The reason for this assumption was that the NT non-Aboriginal population is transient with a high population turnover (5-year turnover of 33%), the highest of all Australian jurisdictions.[12] Where the NT annual average estimate was available from the 2018 national BOD study, the hospital morbidity rate ratio (RR) was applied to derive the NT Aboriginal and non-Aboriginal estimates, as illustrated below (Box 1).

Box 1. Estimation of the NT Aboriginal and non-Aboriginal rate

Assume the NT total average rate is

$$\bar{R} = \frac{C_A + C_{NA}}{P_A + P_{NA}} = C/P$$

$$\bar{R}_A = C_A/P_A$$

$$\bar{R}_{NA} = C_{NA}/P_{NA}$$

$$RR = \bar{R}_A/\bar{R}_{NA}$$

$$P\bar{R} = RR \cdot \bar{R}_{NA}P_A + \bar{R}_{NA}P_{NA} = \bar{R}_{NA}(RR \cdot P_A + P_{NA})$$

$$\bar{R}_{NA} = P\bar{R}/(RR \cdot P_A + P_{NA})$$

$$\bar{R}_A = (P\bar{R} - \bar{R}_{NA}P_{NA})/P_A$$

where C_A and C_{NA} represent cases, P_A and P_{NA} represent population for Aboriginal and non-Aboriginal people respectively.

Relative risk for each cause is estimated by the hospital morbidity RR after the removal of annual repeated hospitalisations for the same cause and same individuals.

Data sources

Death data

The cause of death unit record files from the Australian Coordinating Registry included all deaths of NT residents registered in Australia, together with the underlying and nine multiple causes of death coded in the International Classifications of Diseases (ICD-10) and demographic information. Deaths of NT residents, regardless of whether the death occurred in the NT or elsewhere in Australia, were extracted to derive YLL based on age at death. The BOD classification for fatal burden was generally based on the underlying cause of death. A death with an ill-defined underlying cause was redistributed to the BOD group of the next classifiable cause in the causal sequence. If no classifiable sequential cause was available, the redistribution was based on the proportions of classifiable deaths for the same ICD-10 chapter.

Morbidity data

For non-fatal burden, the prevalence and incidence of diseases or injuries were sourced from various datasets, depending on the nature of the condition, data availability and quality. The data sources included disease registries, survey results, healthcare administrative records, and epidemiological research data. Hospitalisation rates by BOD classification and Aboriginality between 2009-2013 and 2014-2018 are compared in the Appendix. If multiple data sources were available for analysis, the checklist below was followed to prioritise the application of data sources. The checklist included six questions in descending order of preference:

1. Is there an NT specific disease register or surveillance system?
2. Is there an NT specific epidemiological survey or other study?
3. Is there a national or interstate disease register or surveillance system?
4. Is there a national or interstate epidemiological survey or other study?
5. Are there NT service activity data?
6. Is there an international epidemiological study?

If the answer to a specific question is yes, the corresponding data source was used for the analysis. Other sources of data were used for validation with two additional questions:

- Is the trend consistent with previous years?
- Are the YLL and YLD proportions and trends plausible?

Population and projection data

The estimated resident population (ERP) data of the NT, stratified by age, sex, Aboriginality, and health region from 2014 to 2018 were sourced from the Australian Bureau of Statistics.[13,14] The total of the five-year population was used for the denominators in calculating DALY, YLL, and YLD rates. The Australian 2001 standard population was used to direct age-standardisation of rates to improve rate comparability. Population projection was taken from Treasury 2017 data rebased on 2021 ERP.[15]

Calculation of health adjusted life expectancy

Life expectancy (LE) at birth was generated from an abridged life table that used 5-year age groups, capped at age 85 and older. Health adjusted life expectancy (HALE) estimates were calculated using the Sullivan method.[16] HALE at birth and age 65 are presented to compare with the national results.

Contribution of risk factors

In this study, we applied the same method as in the previous NT BOD studies in the selection of risk factors, linked diseases, and relative risks.[8] The risk factors in this study include:

- Socio-economic disadvantage,
- High body mass,
- Alcohol,
- Physical inactivity,
- Tobacco,
- High blood pressure,
- Low fruit and vegetable intake,
- High blood cholesterol,
- Intimate partner violence,
- Occupational exposures,
- Illicit drugs,
- Child sexual abuse,
- Unsafe sex,
- Air pollution - long term,
- Osteoporosis,
- Ozone - short term.

Socio-Economic Indexes for Areas (SEIFA) are used for estimating the absolute risk of social-economic disadvantage at a Statistical Area 2 level.[17] The socio-economic disadvantage has been listed and compared with other risk factors because it is seen as an important risk factor of BOD. The burden attributable to risk factors is generally estimated using population attributable fractions applied to the disease burden with consistent RR assumed for the Aboriginal and non-Aboriginal populations. The Gini index was used to assess socio-economic inequality.[18] Socio-economic inequality was calculated using four components of SEIFA: Index of Relative Socio-Economic Disadvantage (SEIFA1), Index of Relative Socio-Economic Advantage and Disadvantage (SEIFA2), Index of Economic Resources (SEIFA3) and Index of Education and Occupation (SEIFA4). These were calculated at individual levels and then combined. Socio-economic inequality contributed to BOD differently using different types of SEIFA.

The total number of DALYs was projected for three 5-year periods from 2019 to 2033. Projections assumed that the age-sex-cause specific DALY rates for 2014-2018 would remain stable until 2033 and that the NT population would increase as projected by the NT Department of Treasury and Finance.[15] The 2014-2018 cause-specific DALY rates were applied to Treasury's population projections by age group, sex and Aboriginality.

Results

Total burden of disease and injury

From 2014 to 2018, a total of 346,044 DALYs were lost due to premature death and disability in the NT (Table 1). This means 281.8 years were lost per 1000 population annually due to ill-health (Table 2), about 41% higher than the national 2018 average. The number of DALYs was markedly higher for the Aboriginal population, compared with the non-Aboriginal population, despite Aboriginal population comprising only 30% of the NT total. In 2014-18, the NT Aboriginal population accounted for 56% of the total DALY (Table 1), with 44% of the total DALY experienced by the NT non-Aboriginal population. As expected, DALY contributions were different for different age groups. Numbers of DALY were relatively higher for the 0-4 year age group, then declined in the 5-9 age group and gradually increased up to the 50-54 age group before gradually declining in older age groups (Table 3). For the NT population, 55% of the total DALYs were due to living with a disability, and 45% due to premature death.

Table 1. Years of life lost, years lived with disability, and disability adjusted life years, by age, sex, and Aboriginality, Northern Territory, 2014-2018

Age	Aboriginal				Non-Aboriginal				
	Female		Male		Female		Male		Total
(years)	YLL	YLD	YLL	YLD	YLL	YLD	YLL	YLD	DALY
0-	4884	1827	4541	1727	2318	910	2486	1026	19719
5-	79	1727	549	1974	160	712	0	961	6161
10-	294	1884	666	2211	295	961	520	1181	8011
15-	1320	2389	1786	2471	550	1428	899	1963	12806
20-	968	3245	2568	3052	641	2108	2442	2755	17778
25-	1822	4170	3255	4185	774	3100	2019	3601	22926
30-	2162	4757	2879	4437	602	3196	2011	3758	23803
35-	2235	5126	4083	4834	549	2811	1638	3295	24571
40-	3301	5750	4001	4850	1065	2642	2121	3390	27120
45-	4168	6116	4714	4629	1295	2724	2616	3504	29766
50-	4498	5646	5193	4391	1568	2822	3434	3817	31369
55-	3781	4866	4189	3652	2111	2825	4874	3662	29961
60-	3847	4192	3796	2918	2175	2754	5270	3744	28696
65-	2835	2717	2020	1560	2236	2330	5376	3703	22776
70-	1354	1580	1532	1129	2052	1793	4743	2697	16881
75-	1409	874	848	486	1386	1171	3465	1564	11202
80-	865	618	413	323	1279	785	2016	834	7134
85+	424	417	223	198	1316	843	1332	613	5366
Total	40247	57902	47253	49025	22371	35915	47264	46068	346044

Note: DALY = disability adjusted life years; YLD = years lived with disability; YLL = years of life lost

Table 2 shows YLL, YLD, and DALY numbers, rates, and rate ratio (RR) by Aboriginality and type of BOD, NT 2014-2018 vs Australia 2018. The age-standardised NT Aboriginal DALY rate (also YLL and YLD rates per 1000 population) was more than three times (RR 3.56) higher than the non-Aboriginal DALY rate (Table 2). The RR between the NT age-standardised total DALY rate and the Australian total DALY rate was 1.77 (Table 2), indicating that the total NT average BOD level in 2014-2018 was 77% higher than the

national average in 2018. The NT Aboriginal population had a higher BOD level than the Australian Indigenous population (RR 1.79). The non-fatal BOD rate in the NT was 70% higher than the Australian rate, and the fatal BOD rate in the NT was 84% higher than the Australian fatal BOD rate (Table 2) after age-standardisation.

Table 2. Years of life lost, years lived with disability, and disability adjusted life years, numbers, rates, and rate ratio by Aboriginality, Northern Territory 2014-2018 vs Australia 2018

Number (years)	YLL	YLD	DALY	Total population (person-years)		
Aboriginal	87500	106927	194427			369531
Non-Aboriginal	69635	81983	151618			858308
NT	157134	188910	346044			1227839
Rate per 1000 population				Age-standardised rate per 1000		
	YLL	YLD	DALY	YLL	YLD	DALY
NT Aboriginal	236.8	289.4	526.1	342.0	374.9	717.0
NT non-Aboriginal	81.1	95.5	176.6	98.8	102.3	201.1
Rate ratio (NT Abor : Non-Abor)	2.92	3.03	2.98	3.46	3.66	3.56
Australian Indigenous (2018)	136.6	152.3	288.9	201.1	198.5	399.6
Rate ratio (NT Abor : Aus Ind)	1.73	1.90	1.82	1.70	1.89	1.79
NT	128.0	153.9	281.8	154.5	167.1	321.5
Australia (2018)	94.9	104.6	199.5	83.7	98.2	182.0
Rate ratio (NT : Aus)	1.35	1.47	1.41	1.84	1.70	1.77

Note: Abor = Aboriginal; Aus = Australia; DALY = Disability adjusted life years; Ind = Indigenous; NT = Northern Territory; YLD = Years lived with disability; YLL = Years of life lost

Table 3. Disability adjusted life years per 1000 population by age and sex, Northern Territory 2014-2018 vs Australia 2018

Age group	Northern Territory		Australia		Rate ratio (NT vs Aus)	
(years)	Female	Male	Female	Male	Female	Male
0-	213.6	199.6	70.4	87.9	3.0	2.3
5-	60.7	74.7	30.2	38.5	2.0	1.9
10-	87.5	109.3	44.0	50.7	2.0	2.2
15-	160.0	178.5	81.3	90.8	2.0	2.0
20-	161.4	217.4	89.7	104.4	1.8	2.1
25-	169.4	207.4	97.4	113.1	1.7	1.8
30-	189.8	219.2	105.2	124.6	1.8	1.8
35-	229.7	279.7	120.7	148.1	1.9	1.9
40-	301.0	309.6	137.4	161.0	2.2	1.9
45-	349.2	352.6	158.2	183.8	2.2	1.9
50-	388.7	415.7	187.3	220.3	2.1	1.9
55-	413.1	464.7	221.1	268.0	1.9	1.7
60-	513.6	550.8	267.9	342.4	1.9	1.6
65-	590.7	605.4	308.0	411.0	1.9	1.5
70-	652.5	802.6	388.6	504.9	1.7	1.6
75-	798.8	927.3	510.6	644.2	1.6	1.4
80-	1018.2	1186.9	662.5	815.8	1.5	1.5
85+	1079.5	1205.1	1002.6	1120.4	1.1	1.1
Total	265.8	296.6	187.3	211.9	1.4	1.4
Age-std rate	303.0	338.8	164.9	200.1	1.8	1.7

Note: Age-std = Age-standardised on 2001 Australian estimated resident population; Aus = Australia; NT = Northern Territory

The DALY rate was higher in the NT than the national rate in both females and males, more pronounced in females than males after age-standardisation (Table 3). The RR was higher in the 0-4 year age group compared to all other age groups. The sex-specific DALY crude rate was much higher in the NT than in Australia, regardless of sex (both 40% higher on average). The age-standardised DALY rate was 338.8 per 1000 population in males and 303.0 DALY per 1000 females (see Table 3), 70-80% higher than the Australian averages. The NT sex-specific DALY rate for all age groups was higher than the Australian averages.

Figure 1 shows the age distribution of DALY rates per 1000 population by sex and BOD type. There was little difference in the age-specific DALY rates between NT males and females, except YLL dominance in the 0-4 and 60+ year age groups, and male dominance in the older age groups. The contribution of YLL was higher in males than females, and YLD was higher in females than males. The DALY rate was higher in the 0-4 year age group, then fell in ages 5-9 years and increased for both males and females after age 5-9 years. The rates then increased gradually to the 55-59 year age group and more rapidly through older age groups (60+ years). Males had marginally higher age-specific DALY rates than females in all age groups except for ages 0-4 years.

Figure 2 depicts the age distribution of DALY rate per 1000 population by Aboriginality and type of BOD. There was a general pattern of a higher burden of DALY rate for the Aboriginal population compared with the non-Aboriginal population. Aboriginal peoples disproportionally suffered higher fatal and non-fatal BOD rates than non-Aboriginal counterparts (Figure 2). The DALY rate disparity between Aboriginal and non-Aboriginal populations was highest in age groups 0-4 years and 25-64 years. The age-standardised NT Aboriginal DALY rate was approximately 3.5 times the NT non-Aboriginal rate for both fatal and non-fatal BOD (Table 2). Figure 3 compares the Aboriginal and non-Aboriginal age-standardised DALY rates by BOD type.

Figure 1. Disability adjusted life year rate by type, age, and sex, Northern Territory, 2014-2018

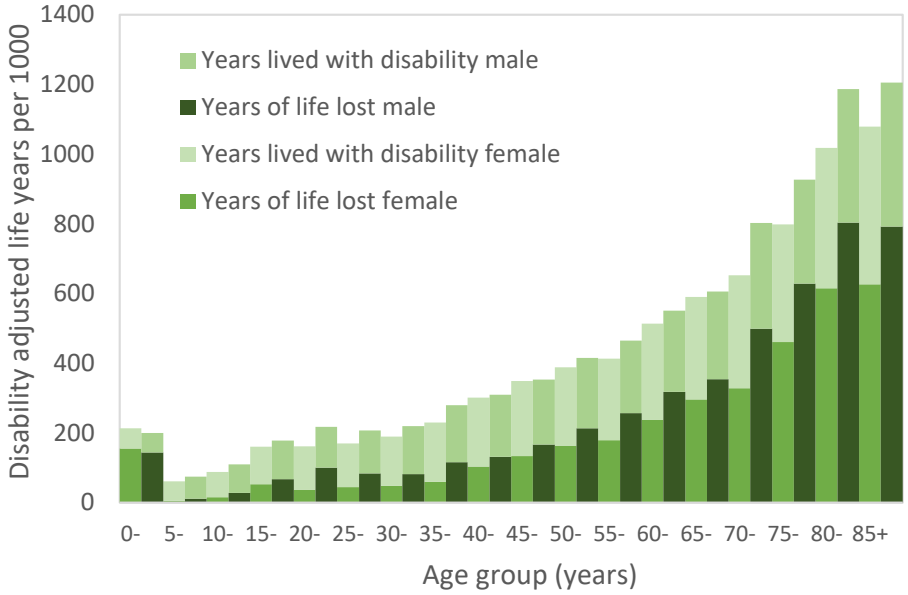


Figure 2. Disability adjusted life year rate by type, age and Aboriginality, Northern Territory, 2014-2018

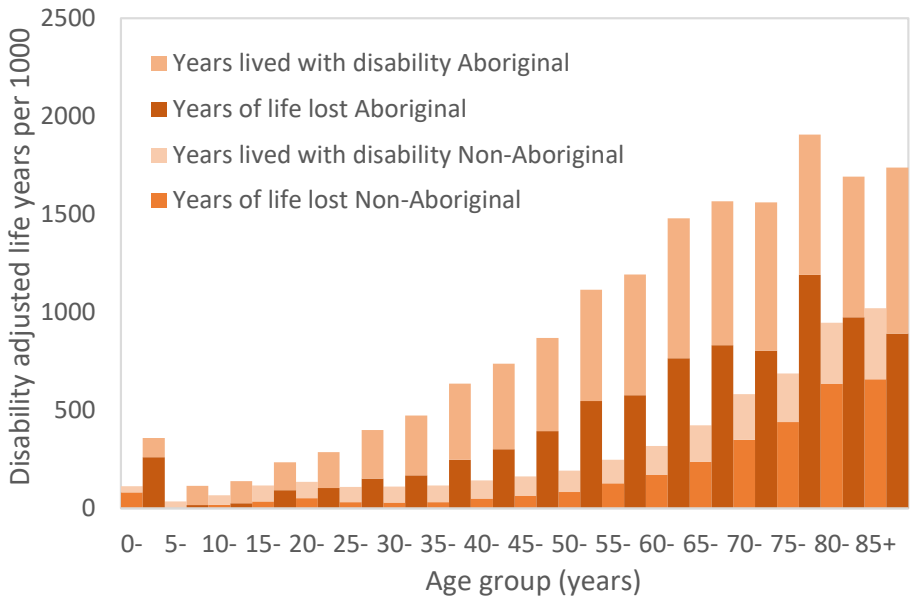


Figure 3. Age-standardised disability adjusted life years by type and Aboriginality, Northern Territory, 2014-2018

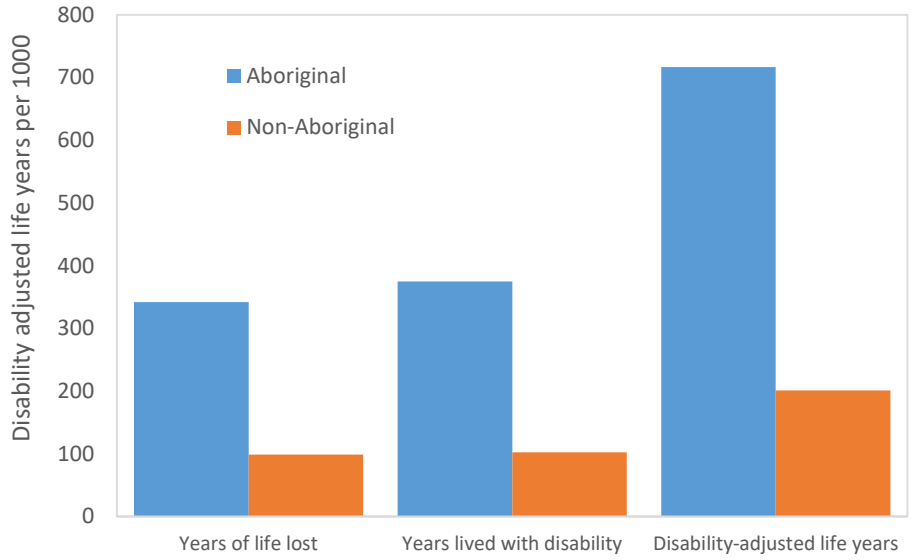
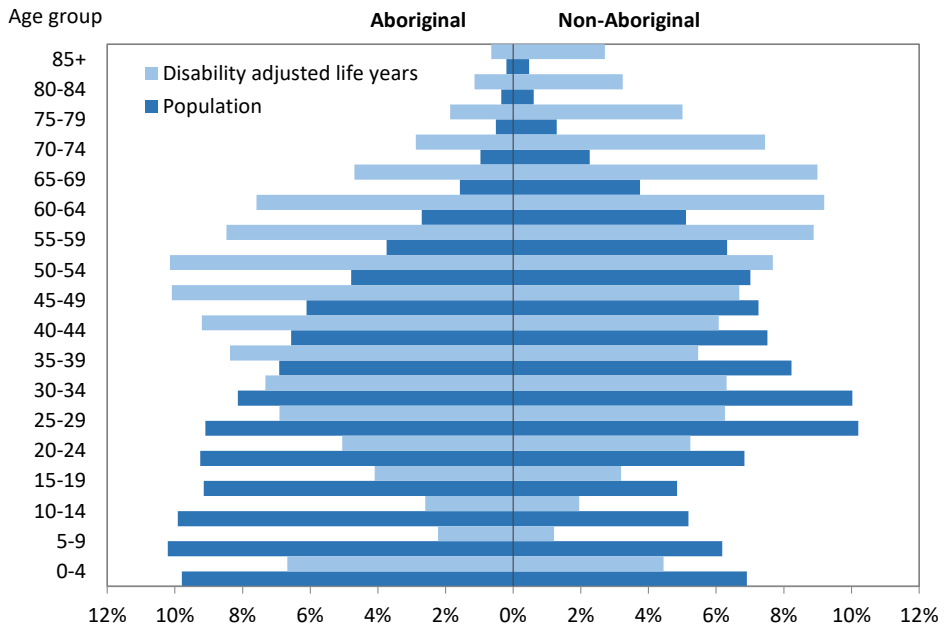


Figure 4 is a population pyramid compared with DALYs by Aboriginal status. The pyramid displays the distinct population age structures and demonstrates the contrasting DALY burden between Aboriginal and non-Aboriginal populations in the NT 2014-2018. The age structure of the non-Aboriginal population differed substantially from the Aboriginal population. Among Aboriginal people, population proportions were higher in younger age groups (0-24 years) compared to the non-Aboriginal population. In the non-Aboriginal population, the highest proportion was aged 25-29 years, with the relatively low proportion being 5-24 years of age (young children and young adults) compared with the Aboriginal population.

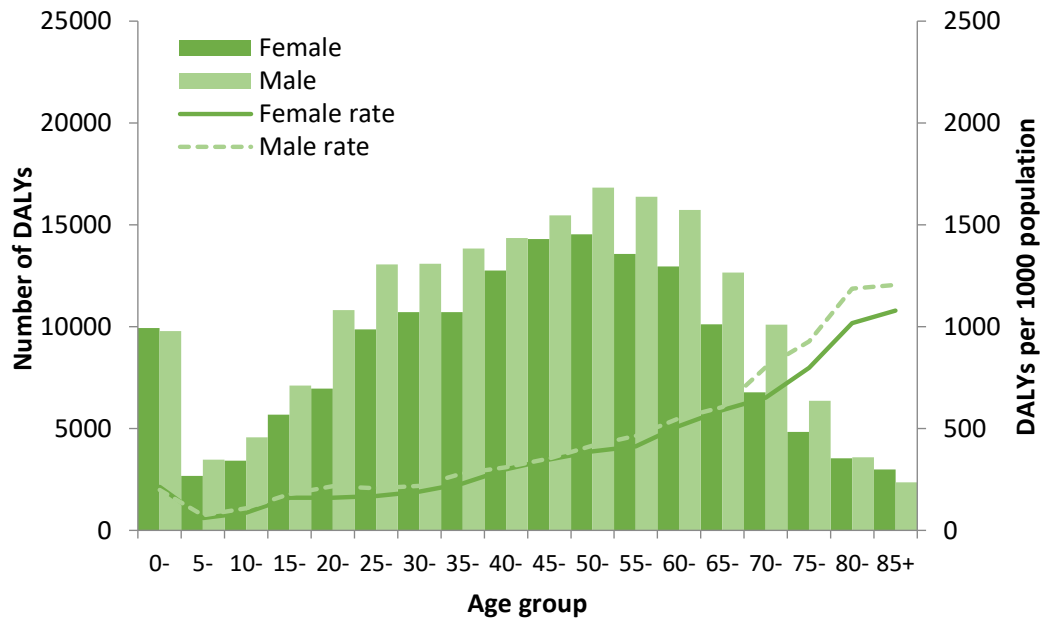
Regarding DALY, the Aboriginal population was over-represented in 0-4 years of age and again in mid-life, peaking in the 45-54 years age range. For the non-Aboriginal population, the DALYs peaked around 60-64 years of age. After the peaks, a decrease in DALYs can be seen in both populations with ageing.

Figure 4. Proportions of disability adjusted life years and population by age and Aboriginal status, Northern Territory, 2014-2018



The age-specific number and rate of DALYs varied considerably across the life course (Figures 5 and 6). Figure 5 shows age-specific DALYs and rates by sex in NT 2014-2018. Male DALY and rate were higher in almost all age groups, with the exception of the youngest (0-4 years) and oldest (85+ years) age groups.

Figure 5. Number and rate of disability adjusted life years (DALY) by age and sex, Northern Territory, 2014-2018



The age-specific DALYs and rates compared between Aboriginal and non-Aboriginal populations in Figure 6 demonstrate that Aboriginal DALYs were higher than non-Aboriginal DALYs up to 60-64 years of age. In ages less than 65 years, Aboriginal peoples experienced a greater number of DALY, despite having a smaller share of the population, resulting in markedly higher DALY rates than non-Aboriginal people of these age groups. In the older age groups (>=65 years), non-Aboriginal DALYs were higher. The Aboriginal population had a higher age-specific DALY rate than the non-Aboriginal population in all age groups (as displayed by the lines and the right vertical axis in Figure 6).

Figure 6. Number and rate of disability adjusted life years (DALY) by age and Aboriginality, Northern Territory, 2014-2018

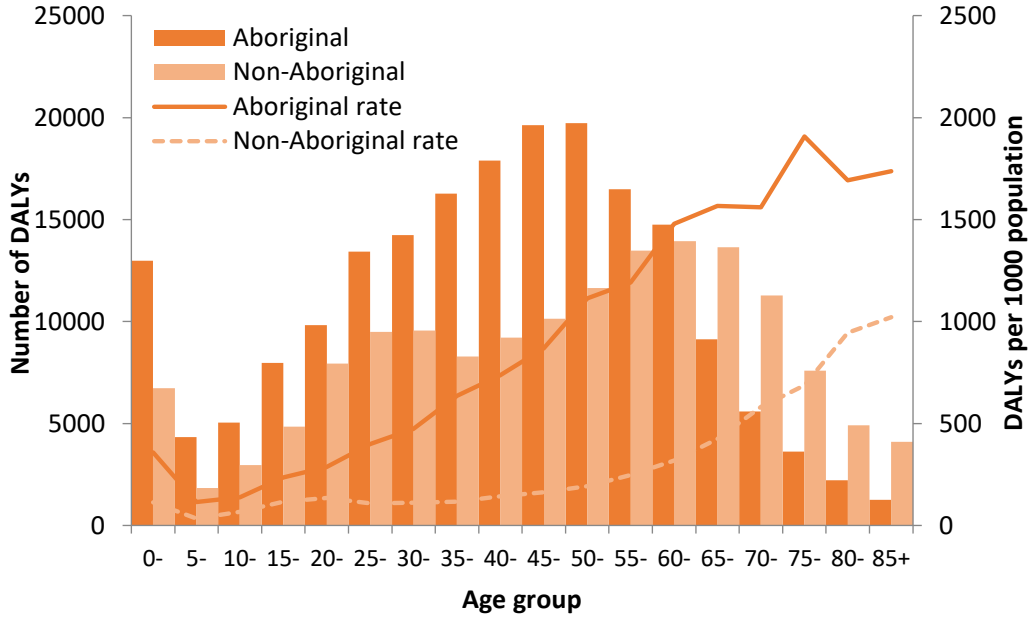
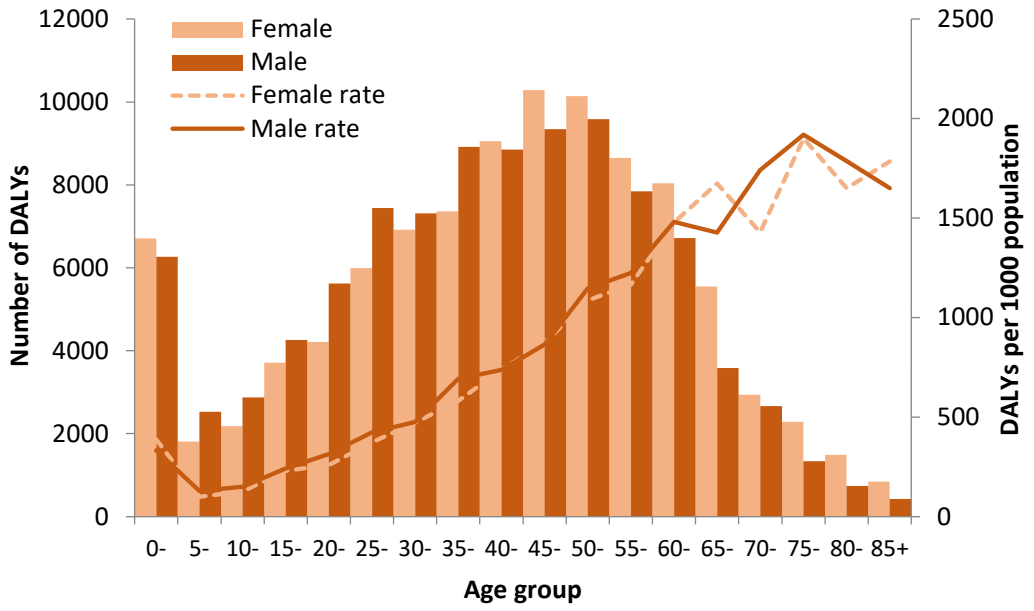


Figure 7. Number and rate of disability adjusted life years (DALY) by age and sex, Northern Territory Aboriginal population, 2014-2018



Age-specific DALYs and rates compared between females and males are displayed in Figures 7 and 8 for the NT Aboriginal and non-Aboriginal populations respectively. In the NT Aboriginal population (Figure 7), males had a slight excess of DALYs from the age of 5 years up until the age of 40 years. For the other age groups, females had an excess of DALYs compared to males. Figure 8 indicates that age-specific DALYs and rates were consistently higher in males than females among the non-Aboriginal population, except for the oldest age group (85+ years).

Figure 8. Number and rate of disability adjusted life years (DALY) by age and sex, Northern Territory non-Aboriginal population, 2014-2018

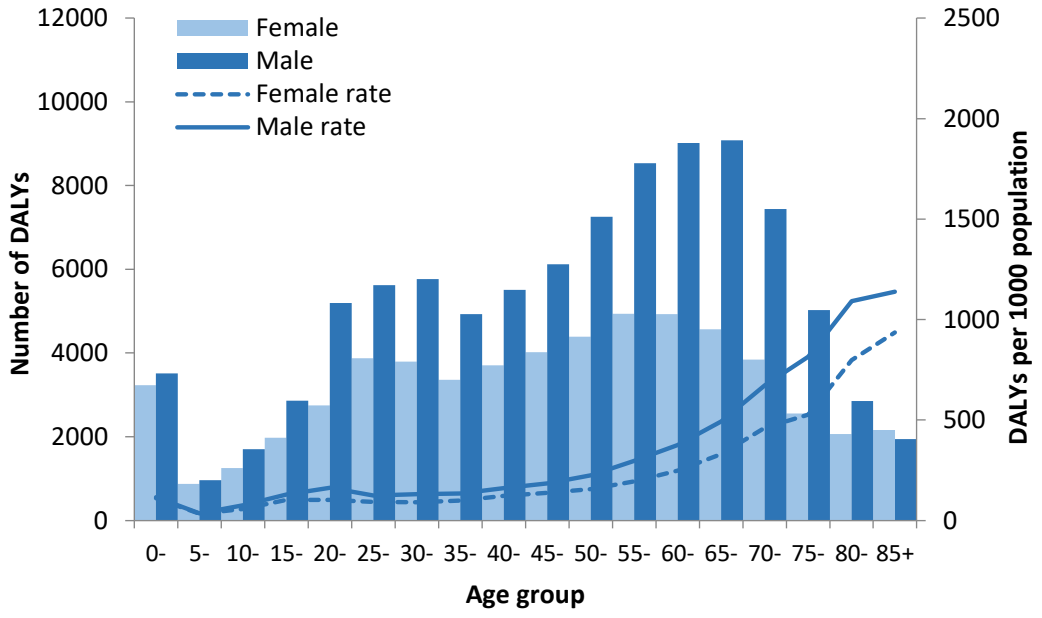


Table 4 shows the DALY rate and RR by BOD type, age group and Aboriginality in the NT for 2014-2018. DALY rates generally increased with age, except for the youngest and oldest age groups. The age-specific DALY rate was higher for Aboriginal people than non-Aboriginal people by 1.7-5.8 times (see the rightmost column in Table 4). Overall, the total crude rate was three times higher in the Aboriginal population than the non-Aboriginal population, and the age-standardised rate was 3.6 times higher in the Aboriginal group than the non-Aboriginal group. The YLL and YLD rates among Aboriginal people were also much higher than the non-Aboriginal rates. The DALY rate varied with age. The DALY rate was comparably higher in the 0-4 age group and declined to a low level in the 5-9 age group, and then increased gradually with age regardless of Aboriginal status. The most significant disparity in DALY rates between Aboriginal and non-Aboriginal peoples occurred in age groups of 35-54 years (DALY RR>5). YLL RRs show the greatest mortality disparity in the 5-9 and 30-54 years age groups. YLD RRs show that the greatest morbidity disparity was in the 50-59 years age groups.

The DALY rate was consistently higher in males than females for every age group among non-Aboriginal people, but this was not the case in the Aboriginal group (Table 5). Aboriginal females had a higher DALY rate in the youngest age group (0-4 years) and were more likely to have a lower DALY rate in age groups between 5 and 39 years. Both Aboriginal males and females had higher age-specific DALY rates when compared to the non-Aboriginal male and female rates. The age-specific DALY rate was higher in the Aboriginal than non-Aboriginal population across all age and sex groups, as measured by the Aboriginal / non-Aboriginal RRs (see the three rightmost columns in Table 5).

Table 4. Age-specific and age-standardised burden of disease and injury rate per 1000 population and rate ratio by type and Aboriginality, Northern Territory, 2014-2018

	Aboriginal			Non-Aboriginal			Northern Territory			Abor:Non-Abor Rate Ratio		
Age (years)	YLL	YLD	DALY	YLL	YLD	DALY	YLL	YLD	DALY	YLL	YLD	DALY
0-	260.3	98.1	358.5	81.0	32.6	113.6	149.0	57.5	206.4	3.2	3.0	3.2
5-	16.7	98.1	114.8	3.0	31.5	34.5	8.7	59.2	67.9	5.5	3.1	3.3
10-	26.2	111.8	138.0	18.3	48.2	66.5	21.9	76.9	98.8	1.4	2.3	2.1
15-	91.9	143.7	235.6	34.8	81.5	116.3	60.4	109.4	169.8	2.6	1.8	2.0
20-	103.4	184.2	287.6	52.5	82.9	135.4	71.3	120.2	191.4	2.0	2.2	2.1
25-	151.0	248.5	399.5	31.9	76.5	108.4	64.9	124.2	189.2	4.7	3.2	3.7
30-	167.6	305.7	473.2	30.4	80.8	111.1	65.9	139.0	204.9	5.5	3.8	4.3
35-	247.2	389.7	636.9	31.0	86.4	117.4	88.4	167.0	255.4	8.0	4.5	5.4
40-	300.9	436.8	737.7	49.4	93.5	142.9	118.1	187.3	305.5	6.1	4.7	5.2
45-	393.3	475.8	869.0	62.9	100.1	162.9	150.8	200.1	351.0	6.3	4.8	5.3
50-	547.6	567.1	1114.7	83.1	110.3	193.4	188.6	214.1	402.8	6.6	5.1	5.8
55-	576.4	616.0	1192.3	128.7	119.5	248.1	219.5	220.3	439.8	4.5	5.2	4.8
60-	766.2	712.8	1479.0	169.9	148.2	318.1	280.4	252.9	533.3	4.5	4.8	4.6
65-	833.1	733.9	1567.1	236.3	187.3	423.6	327.7	271.1	598.8	3.5	3.9	3.7
70-	805.3	755.9	1561.2	350.4	231.6	582.0	421.4	313.4	734.7	2.3	3.3	2.7
75-	1190.2	717.2	1907.5	440.0	248.1	688.1	550.1	316.9	867.0	2.7	2.9	2.8
80-	974.8	717.8	1692.6	634.4	311.7	946.1	703.0	393.6	1096.6	1.5	2.3	1.8
85+	891.2	847.0	1738.1	659.4	362.4	1021.8	694.9	436.6	1131.5	1.4	2.3	1.7
Crude rate	236.8	289.4	526.1	81.1	95.5	176.6	128.0	153.9	281.8	2.9	3.0	3.0
Age-standardised rate	342.0	374.9	717.0	98.8	102.3	201.1	154.5	167.1	321.5	3.5	3.7	3.6

Note: Abor = Aboriginal; Age- standardised rate = Age-standardised on 2001 Australian estimated resident population; DALY = disability adjusted life years; YLD = years lived with disability; YLL = years of life lost

Table 5. Disability adjusted life years per 1000 population by age and sex, Aboriginal vs non-Aboriginal, Northern Territory 2014-2018

	Aboriginal			Non-Aboriginal			Rate ratio*		
	Female	Male	Abor	Female	Male	Non-Abor	Female	Male	NT
0-	387.0	332.2	358.5	110.6	116.6	113.6	3.5	2.8	3.2
5-	98.8	129.7	114.8	33.7	35.3	34.5	2.9	3.7	3.3
10-	126.0	148.6	138.0	57.2	75.5	66.5	2.2	2.0	2.1
15-	229.3	241.4	235.6	102.2	128.6	116.3	2.2	1.9	2.0
20-	258.2	314.4	287.6	102.5	163.0	135.4	2.5	1.9	2.1
25-	373.2	423.5	399.5	91.9	123.8	108.4	4.1	3.4	3.7
30-	471.7	474.7	473.2	90.9	130.3	111.1	5.2	3.6	4.3
35-	580.6	692.3	636.9	98.8	134.6	117.4	5.9	5.1	5.4
40-	738.1	737.3	737.7	123.1	160.3	142.9	6.0	4.6	5.2
45-	873.6	864.1	869.0	137.7	185.2	162.9	6.3	4.7	5.3
50-	1085.8	1147.1	1114.7	156.5	225.6	193.4	6.9	5.1	5.8
55-	1165.4	1223.6	1192.3	193.9	296.1	248.1	6.0	4.1	4.8
60-	1477.8	1480.4	1479.0	248.8	375.3	318.1	5.9	3.9	4.6
65-	1673.3	1426.5	1567.1	330.6	493.4	423.6	5.1	2.9	3.7
70-	1428.0	1740.3	1561.2	461.3	673.0	582.0	3.1	2.6	2.7
75-	1900.7	1919.2	1907.5	526.3	815.5	688.1	3.6	2.4	2.8
80-	1649.6	1786.5	1692.6	798.7	1092.2	946.1	2.1	1.6	1.8
85+	1785.4	1650.8	1738.1	935.4	1138.6	1021.8	1.9	1.4	1.7
Total rate	536.4	516.1	526.1	143.7	206.2	176.6	3.7	2.5	3.0
Age-std rate	704.2	730.5	717.0	166.1	231.5	201.1	4.2	3.2	3.6

* Aboriginal vs non-Aboriginal rate ratio; Age-std = Age-standardised on 2001 Australian estimated resident population; NT = Northern Territory

Table 6 compares the age-standard DALY rates, RRs, and rate differences by Indigenous status between the NT and total Australia. Comparing with the non-Indigenous average in Australia, the NT non-Aboriginal population had a marginally higher level of DALY (RR 1.1). The disparity in age-standardised DALY rate between Indigenous and non-Indigenous populations was higher in the NT (RR 3.6) than the whole of Australia (RR 2.3).

Table 6. Age-standardised disability adjusted life year rates by Indigenous status, Northern Territory 2014-2018 and Australia 2018

	Rate*		Indigenous vs non-Indigenous	
	Indigenous	Non-Indigenous	Rate ratio	Rate difference
NT	717.0	201.1	3.6	515.8
Australia	399.6	177.4	2.3	222.2
NT vs Australia rate ratio	1.8	1.1		

* Age-standardised rate of disability adjusted life years per 1000 population; NT= Northern Territory

Disability adjusted life years by category

In the NT, the total age-standardised DALY rate was higher in males than females, and the difference was statistically significant (Table 7). After adjusting for age, the total DALY rate was only moderately higher in males than females (see Table 3), but there were large sex differences for particular BOD categories. Males had higher DALY rates for injury (both unintentional and intentional injury, explaining 48.6% and 44.8% of the total difference, respectively), cardiovascular diseases (45.8%), and cancers (31.2%), followed by mental disorders (14.8%). Females had higher rates for musculoskeletal conditions (21.9%), endocrine disorders (20.4%), and respiratory disease (11.4%), besides reproductive conditions (11.4%).

Table 7. Age-standardised rate of disability adjusted life years per 1000 population by category and sex, Northern Territory, 2014-2018

Category	Female	Male	M/F Ratio	Difference	Contribution
Infectious	9.6	8.9	0.92	-0.7	-2.0%
Infant	8.2	8.7	1.06	0.5	1.3%
Cancer	37.5	48.7	1.30	11.2	31.2%
Endocrine	23.7	16.4	0.69	-7.3	-20.4%
Cardiovascular	35.1	51.6	1.47	16.4	45.8%
Mental	25.7	31.0	1.21	5.3	14.8%
Neurological	17.3	15.7	0.91	-1.5	-4.3%
Hearing	10.2	9.6	0.95	-0.6	-1.5%
Respiratory	25.4	21.3	0.84	-4.1	-11.4%
Gastrointestinal	8.8	9.4	1.06	0.6	1.6%
Kidney	18.4	14.6	0.79	-3.8	-10.7%
Reproductive	4.3	0.2	0.04	-4.1	-11.4%
Skin	4.9	4.6	0.94	-0.3	-0.9%
Musculoskeletal	34.3	26.5	0.77	-7.8	-21.9%
Oral	3.6	3.8	1.07	0.2	0.7%
Blood	5.5	4.0	0.73	-1.5	-4.2%
Intentional inj	16.9	33.0	1.95	16.1	44.8%
Unintentional inj	13.4	30.9	2.29	17.4	48.6%
Total rate*	303.0	338.8	1.12	35.9	100.0%
95% CI	301.8-304.2	337.7-340.0	1.11-1.13		

* Age-standardised on 2001 Australian estimated resident population; CI = Confidence interval; inj = Injuries; M/F = Males over females

Table 8 compares the DALY rates between the NT and Australian populations by BOD category and sex. Comparing male to female age-standardised DALY rates between 2014-2018 NT results and 2018 national results, the highest DALY were kidney disease and endocrine disorder, followed by infectious diseases for females and injuries for males.

Among Australian females, cancer, musculoskeletal condition and mental disorder were leading categories in age-standardised DALY rate in 2018. The age-standardised DALY rate of cancer, cardiovascular disease and mental disorder were leading among Australian males in 2018. After age standardisation, the total NT age-standardised DALY rate was more than double the Australian DALY rate (RR 2.17 and 2.28 in females and males).

Table 8. Comparison of age-standardised disability adjusted life year rates by category and sex, Northern Territory 2014-2018 vs Australia 2018

	NT 2014-2018		Australia 2018		Rate ratio†	
Category*	Female	Male	Female	Male	Female	Male
Injuries#	30.4	63.9	9.7	23.6	3.13	2.71
Cardiovascular	35.1	51.6	15.9	28.3	2.22	1.82
Cancer	37.5	48.7	26.1	35.5	1.44	1.37
Musculoskeletal	34.3	26.5	25.7	22.1	1.33	1.20
Mental	25.7	31.0	25.1	26.8	1.02	1.16
Respiratory	25.4	21.3	13.1	13.0	1.93	1.64
Endocrine	23.7	16.4	3.9	5.8	6.04	2.82
Kidney	18.4	14.6	1.6	3.0	11.83	4.84
Neurological	17.3	15.7	14.4	12.2	1.20	1.28
Hearing	10.2	9.6	3.4	4.0	2.99	2.39
Infectious	9.6	8.9	3.0	3.6	3.19	2.47
Gastrointestinal	8.8	9.4	5.2	6.8	1.71	1.39
Infant	8.2	8.7	3.8	5.2	2.14	1.67
Skin	4.9	4.6	3.6	3.5	1.38	1.34
Blood	5.5	4.0	2.5	1.9	2.21	2.12
Oral	3.6	3.8	4.1	4.8	0.86	0.79
Reproductive	4.3	0.2	4.1	0.2	1.05	1.12
Total	303.0	338.8	139.6	148.4	2.17	2.28

* Sorted by total Northern Territory rate. # Intentional and unintentional injuries are combined for comparison with national data, † Northern Territory vs Australia rate ratio

The age-standardised DALY rate in the NT Aboriginal population was 3.6 times greater than the non-Aboriginal population (Table 9) and 3.9 times greater than the national rate (Table 2). The NT Aboriginal population experienced 515.8 more DALY per capita than their non-Aboriginal counterpart. The age-standardised DALY rate for every category was higher among Aboriginal than non-Aboriginal people. There were also major differences in the leading categories of DALY between Aboriginal and non-Aboriginal populations (Table 9). The category with the highest DALY rate in Aboriginal population was cardiovascular disease, whereas in the non-Aboriginal population, the highest DALY category was cancer. The age-standardised Aboriginal / non-Aboriginal DALY RR was highest in endocrine disorders and kidney diseases (Table 9). In Aboriginal people, the rate for endocrine disorders was 13.5 times higher than for non-Aboriginal people, 11.4 times higher for kidney diseases, and 8.5 times higher for hearing disorders. However, the difference in DALY rate between Aboriginal and non-Aboriginal people was largest in cardiovascular diseases, contributing 16.7% of the total difference. Other major contributors to the total difference in DALY rate were endocrine disorder (13.7%), kidney disease (10.5%), and respiratory disease (7.6%). Intentional and unintentional injuries combined contributed 10.2% of the total difference in the DALY rate.

The five leading categories for DALY for the NT population in 2014-2018 were cardiovascular disease (12%), cancer (12%), mental disorder (11%), musculoskeletal condition (10%), and intentional injury (9%)

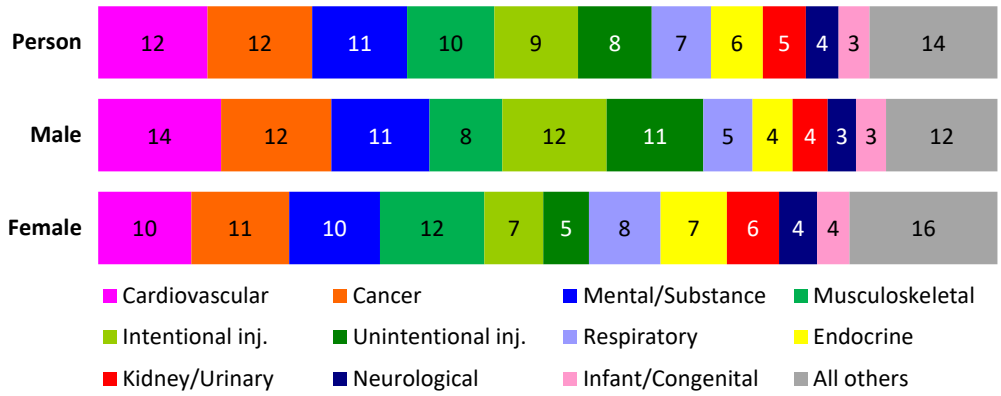
(Figure 9). These top five categories accounted for 54% of the total DALY. Among males, cardiovascular disease (14%), cancer (12%), and intentional injury (11%) were the three leading categories, and for females, they were musculoskeletal condition (12%), cancer (11%) and cardiovascular disease (10%).

Table 9. Age-standardised rate of disability adjusted life years by category and Aboriginality, Northern Territory, 2014-2018

	Aboriginal	Non-Aboriginal	A/N RR	Difference	Contribution
Infectious	21.5	5.2	4.11	16.3	3.2%
Infant	13.7	5.4	2.56	8.3	1.6%
Cancer	69.1	36.6	1.89	32.5	6.3%
Endocrine	76.3	5.7	13.45	70.6	13.7%
Cardiovascular	110.1	23.9	4.61	86.2	16.7%
Mental	53.2	19.2	2.77	34.0	6.6%
Neurological	37.4	11.1	3.36	26.3	5.1%
Hearing	28.7	3.4	8.51	25.3	4.9%
Respiratory	54.3	15.0	3.62	39.3	7.6%
Gastrointestinal	20.1	5.8	3.44	14.2	2.8%
Kidney	59.3	5.2	11.43	54.2	10.5%
Reproductive	2.8	1.9	1.42	0.8	0.2%
Skin	7.1	3.7	1.95	3.5	0.7%
Musculoskeletal	58.4	21.9	2.67	36.6	7.1%
Oral	7.8	2.0	3.98	5.8	1.1%
Blood	11.6	2.2	5.19	9.4	1.8%
Intentional inj	46.3	16.3	2.83	30.0	5.8%
Unintentional inj	39.2	16.5	2.37	22.6	4.4%
Total rate*	717.0	201.1	3.56	515.8	100.0%
95% CI	715.5-718.4	200.2-202.0	3.54-3.59		

* Age-standardised on 2001 Australian estimated resident population; A/N= Aboriginal compared to non-Aboriginal; CI = Confidence interval; inj = Injuries; RR = Rate ratio

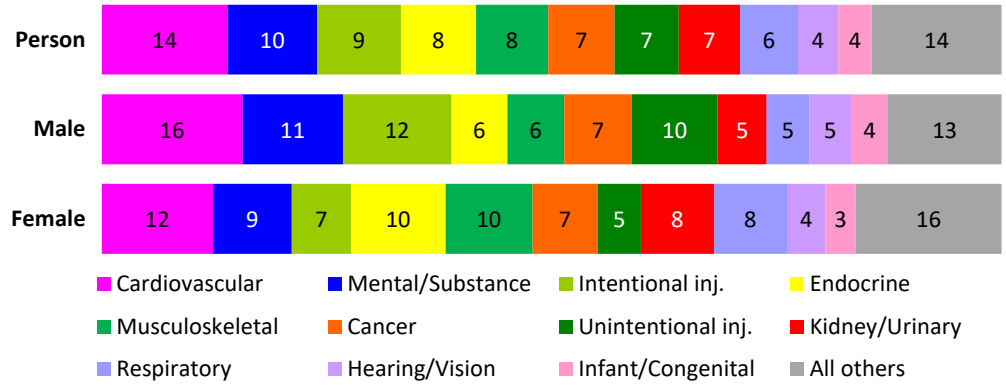
Figure 9. Proportion (%) of disability adjusted life years by leading categories and sex, Northern Territory, 2014-2018



Note: inj=Injuries

Figure 10 further analyses the BOD categories for Aboriginal peoples by sex. The top five DALY categories among Aboriginal people were cardiovascular disease (14%), mental disorder (10%), intentional injury (9%), endocrine disorder (8%), and musculoskeletal condition (8%). Cardiovascular disease (16%), intentional injury (12%), and mental disorder (11%) were the top three leading BOD categories among Aboriginal males, and cardiovascular disease (12%), endocrine disorder (10%), and musculoskeletal condition (10%) were highest among Aboriginal females.

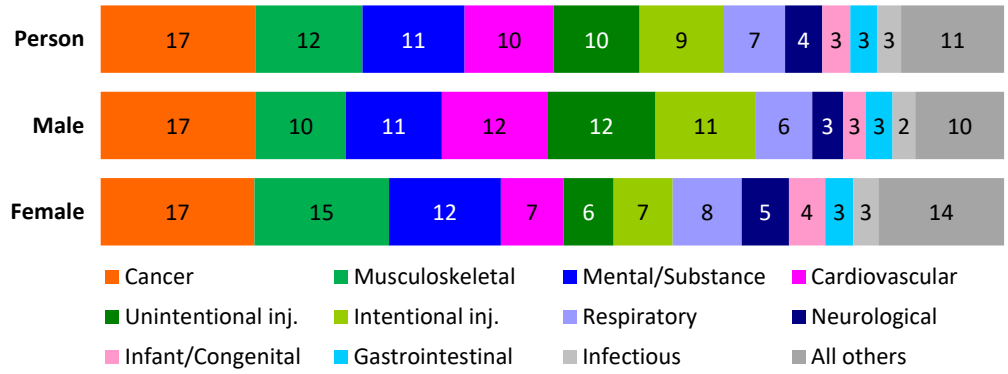
Figure 10. Proportion (%) of disability adjusted life years by leading categories and sex, Aboriginal population, Northern Territory, 2014-2018



Note: inj=Injuries

The top five DALY categories among non-Aboriginal people were cancer (17%), musculoskeletal condition (12%), mental disorder (11%), cardiovascular disease, and unintentional injury (both 10%) (Figure 11). Cancer (17%), cardiovascular disease and unintentional injury (both 12%) were the top three BOD categories among non-Aboriginal males, and cancer (17%), musculoskeletal condition (15%), and mental disorder (12%) were among the top three DALY in non-Aboriginal females.

Figure 11. Proportion (%) of disability adjusted life years by leading categories and sex, non-Aboriginal population, Northern Territory, 2014-2018

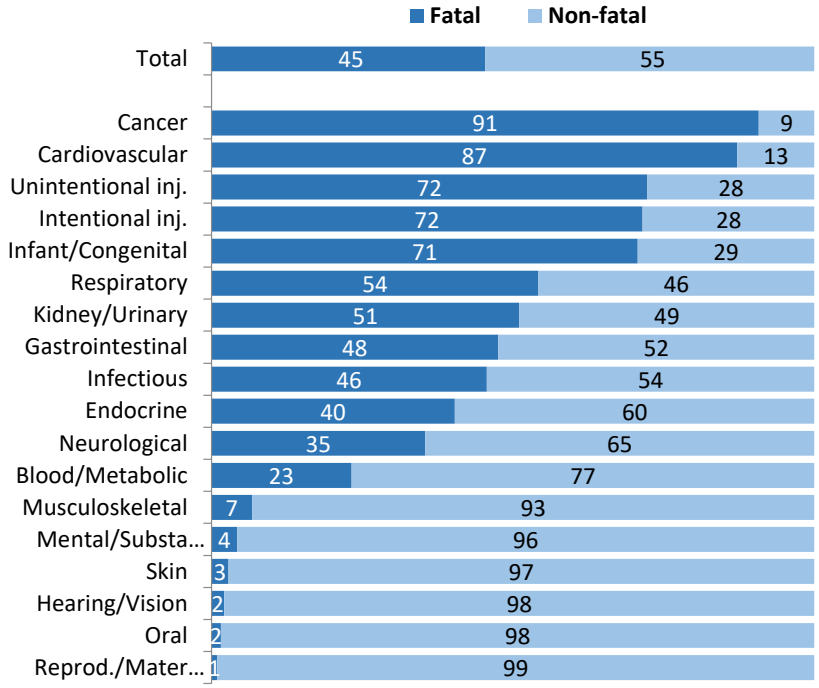


Note: inj=Injuries

Figure 12 shows the proportion of DALY by fatal and non-fatal type of BOD for each BOD category, resulting from mortality and morbidity. Overall, 45% of DALY were fatal YLL, and 55% were non-fatal YLD. Fatal and non-fatal proportions of DALY were different for different categories. Cancer was the top fatal contributor, followed by cardiovascular disease. For the non-fatal conditions, the order was reversed. The

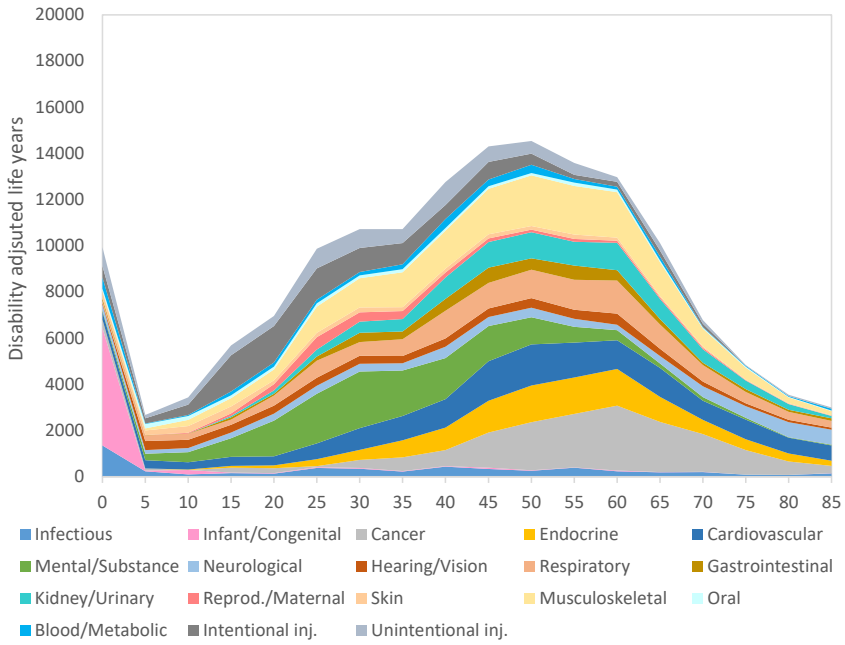
largest contributor to non-fatal ill-health was reproductive conditions, followed by oral conditions. Interestingly, nearly half of kidney disease BOD was due to mortality, and the other half was due to morbidity. The fatal component was dominant across cancer (91% fatal), cardiovascular disease (87% fatal), and unintentional injury (72% fatal), and the non-fatal component was more important for reproductive (99% non-fatal), oral and hearing conditions (both 98% non-fatal).

Figure 12. Fatal and non-fatal proportion (%) of disability adjusted life years by categories, Northern Territory, 2014-2018



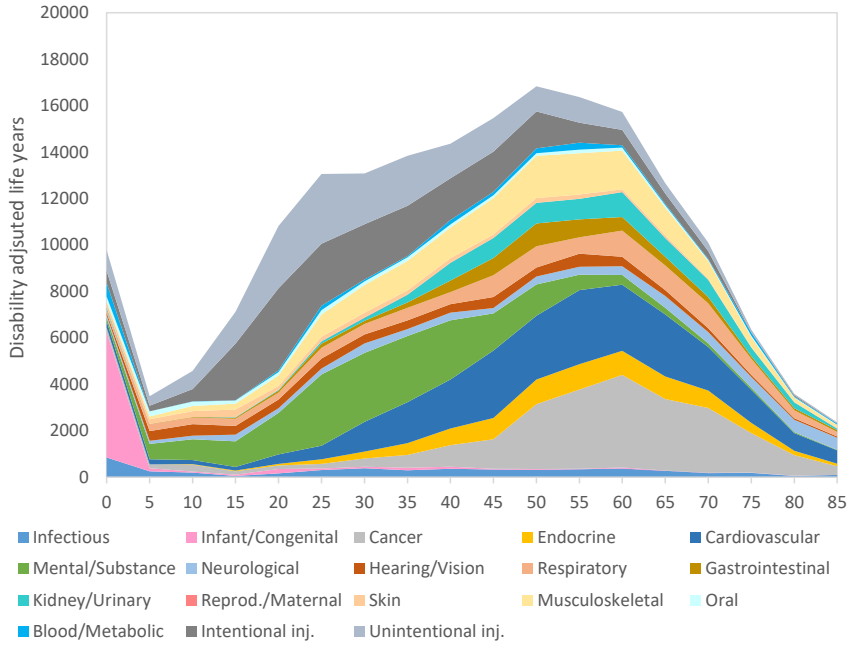
Note: inj = Injury; Mater. = Maternal; Reprod. = Reproductive; Substa. = Substance abuse

Figure 13. Disability adjusted life years by category and age, females, Northern Territory, 2014-2018



Note: inj = Injuries; Reprod = Reproductive

Figure 14. Disability adjusted life years by category and age, males, Northern Territory, 2014-2018

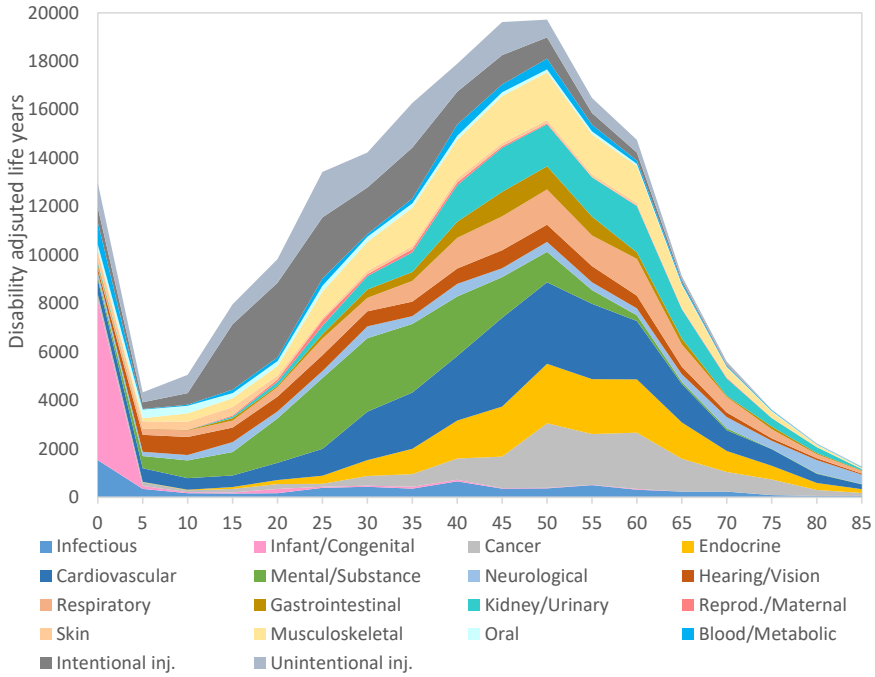


Note: inj = Injuries; Reprod = Reproductive

Figures 13 and 14 show that DALY for different BOD categories varied with age for females and males. Of note, Figures 13-16 have identical axis scales for comparability. In females (Figure 13), infant or congenital conditions and infectious diseases were more common among the 0-4 age group. Mental disorders and intentional injury were higher during the twenties and thirties. Musculoskeletal conditions, cardiovascular, kidney diseases, cancer, endocrine and respiratory diseases were higher for females during the middle age period. DALY for males was higher in infant or congenital conditions and infectious diseases, similar in patterns to females in the 0-4 age group (Figure 14). DALY during the twenties and thirties was much higher in males than females, arising from a higher number of DALY in mental disorders and intentional and unintentional injuries. Cardiovascular disease, cancer, musculoskeletal condition, and injuries were higher among the middle age males.

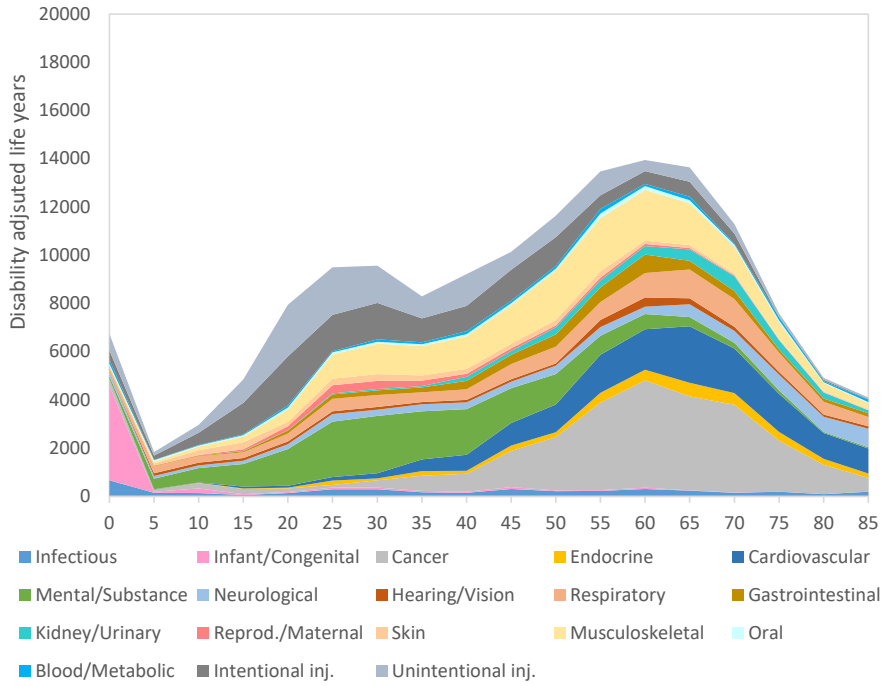
By comparison (Figures 15 and 16), Aboriginal people experienced a much higher number of DALY than non-Aboriginal people, despite a smaller population. Among the Aboriginal population (Figure 15), infant or congenital conditions and infectious diseases were higher in the 0-4 age group relative to the non-Aboriginal population (Figure 16). Mental disorders and intentional injury were higher among the 10-29 year age groups in the Aboriginal population (Figure 15). Although of a lower impact compared to the Aboriginal population, musculoskeletal conditions and unintentional injury were relatively high in the non-Aboriginal population's 10-29 year age groups (Figure 16). Musculoskeletal conditions, cardiovascular, kidney, respiratory diseases, endocrine disorders and cancers contributed more DALY in middle-aged Aboriginal people. In contrast, cancer and musculoskeletal DALY were relatively high in the middle-aged non-Aboriginal population. DALY numbers peaked at 45-54 years of age in Aboriginal and 60-69 years of age in non-Aboriginal populations (Figures 15 and 16).

Figure 15. Disability adjusted life years by category and age, Aboriginal population, Northern Territory, 2014-2018



Note: inj = Injuries; Reprod = Reproductive

Figure 16. Disability adjusted life years by category and age, non-Aboriginal population, Northern Territory, 2014-2018



Note: inj = Injuries; Reprod = Reproductive

Disability adjusted life years by cause

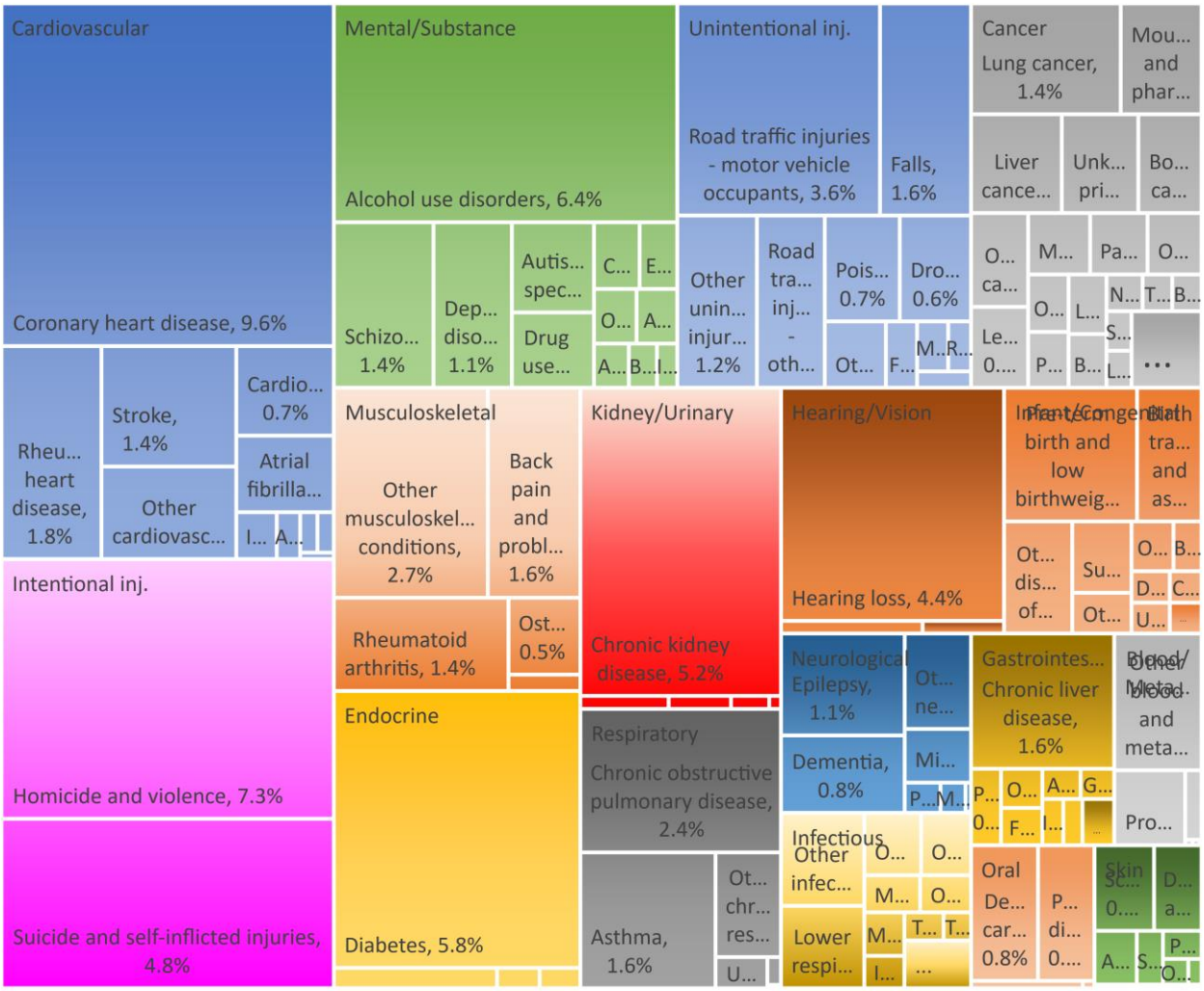
Table 10 shows that the top 20 leading causes of BOD accounted for 72.6% of the total DALY difference between the Aboriginal and non-Aboriginal populations in the NT. For Aboriginal peoples, the top three causes contributing to the higher DALY were type 2 diabetes, chronic kidney disease, and coronary heart disease. The top three causes of DALY for non-Aboriginal people were coronary heart disease, homicide or violence, and back pain.

Table 10. The twenty leading causes contributing to the gap in disability adjusted life year rates between Aboriginal and non-Aboriginal populations, Northern Territory, 2014-2018

Age-standardised rate per 1000*	Aboriginal	Non-Aboriginal	Ratio	Difference	Contribution
Type 2 diabetes	75.17	5.44	13.8	69.73	13.5%
Chronic kidney disease	57.81	4.36	13.3	53.45	10.4%
Coronary heart disease	55.38	11.09	5.0	44.29	8.6%
Alcohol use disorders	29.21	2.96	9.9	26.24	5.1%
Chronic obstructive pulmonary disease	33.65	8.14	4.1	25.51	4.9%
Hearing loss	26.94	2.35	11.4	24.59	4.8%
Homicide and violence	30.35	8.88	3.4	21.47	4.2%
Other musculoskeletal conditions	24.21	7.64	3.2	16.58	3.2%
Rheumatic heart disease	15.55	0.54	28.7	15.01	2.9%
Rheumatoid arthritis	14.25	1.69	8.4	12.56	2.4%
Chronic liver disease	12.77	2.35	5.4	10.41	2.0%
Stroke	14.28	3.92	3.6	10.36	2.0%
Asthma	14.29	4.94	2.9	9.35	1.8%
Road traffic injuries - motor vehicle	14.42	5.40	2.7	9.02	1.7%
Suicide and self-inflicted injuries	15.99	7.47	2.1	8.52	1.7%
Lung cancer	13.27	7.37	1.8	5.90	1.1%
Back pain and problems	13.38	8.17	1.6	5.21	1.0%
Falls	7.19	3.90	1.8	3.29	0.6%
Osteoarthritis	6.14	4.19	1.5	1.94	0.4%
Depressive disorders	7.17	5.87	1.2	1.30	0.3%
Others	235.54	94.45	2.5	141.09	27.4%
Total	716.95	201.11	3.6	515.84	100.0%

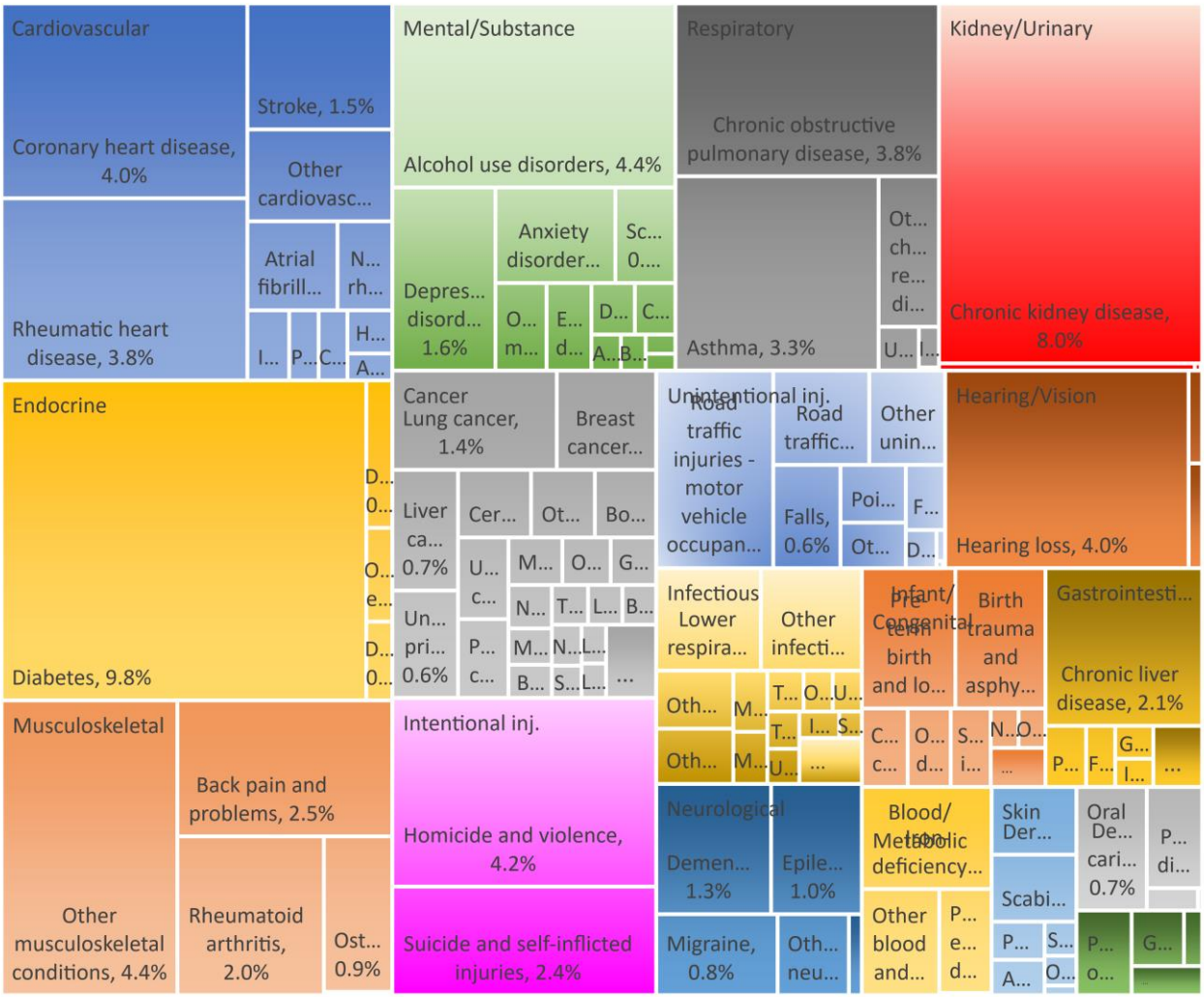
* Sorted by the difference in age-standardised rate in descending order

Figure 17. Treemap for causes of disability adjusted life years in Aboriginal males, Northern Territory, 2014-2018



Treemaps in Figures 17-20 provide BOD information about both categories and causes by sex and Aboriginality. Cardiovascular disease was the top category that contributed most to DALY among NT Aboriginal males (Figure 17). In this category, coronary heart disease had the highest contribution (9.6%), followed by rheumatic heart disease (1.8%) and stroke (1.4%). Intentional injury was the second leading category of DALY, and in this group, homicide or violence came first (7.3%), followed by suicide or self-inflicted injury (4.8%). The third category for DALY was mental or substance use disorders, which mainly consisted of alcohol use disorder. For Aboriginal females (Figure 18), the leading contributor to DALY was cardiovascular disease, and the main causes in this group were coronary heart disease (4.0%) and rheumatic heart disease (3.8%). The second categorical contributor to DALY was endocrine disorder, and the primary cause of this category was diabetes (9.8%). The third leading category contributing to DALY was musculoskeletal conditions, followed by mental or substance use disorders.

Figure 18. Treemap for causes of disability adjusted life years in Aboriginal females, Northern Territory, 2014-2018



Cancer was the leading category causing DALY among non-Aboriginal males, as shown in Figure 19. Among cancers, lung cancer had the highest proportion (3.3%), followed by bowel and prostate cancer (combined 2.5%). The second highest category causing DALY was unintentional injury, in which road traffic accident for occupants was the main contributor (4.4%), followed by falls (2.1%). The third category contributing to DALY was cardiovascular disease, in which coronary heart disease had the highest proportion (6.1%), with stroke second (1.7%). The top leading cause for DALY among non-Aboriginal females, as shown in Figure 20, was cancer, which included lung cancer as the top contributor (3.8%), followed by breast cancer (3.4%) and bowel cancer (2%). The second contributing category to DALY was musculoskeletal conditions, in which back pain had the largest proportion (5.7%), followed by osteoarthritis (3.3%). The third main category for DALY was mental disorders, in which depression contributed the most (4.9%), followed by eating disorders (2%) and anxiety (1.6%).

Figure 19. Treemap for causes of disability adjusted life years in non-Aboriginal males, Northern Territory, 2014-2018

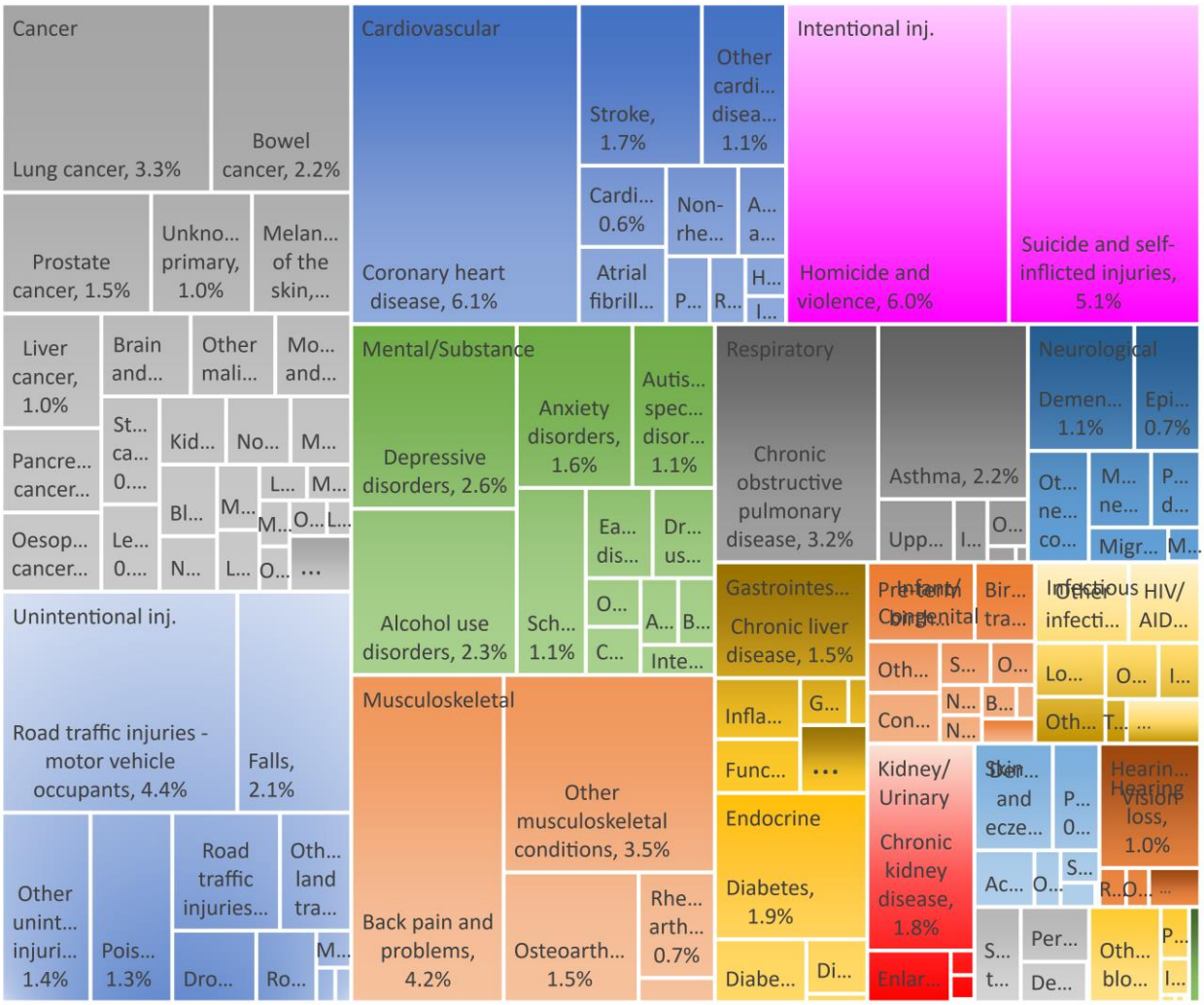


Table A1 in the Appendix displays the top 50 YLL, YLD, and DALY by BOD causes. The top 50 specific causes accounted for 82.4% of the total DALY in the NT population. Coronary heart disease, homicide or violence, and type 2 diabetes were the three leading causes in the overall population, followed by chronic kidney disease, suicide or self-inflicted injury, and alcohol use disorder. Coronary heart disease, suicide, and lung cancer were the three most fatal causes responsible for the highest number of YLL. Homicide or violence, type 2 diabetes, and alcohol use disorder were the top three most debilitating non-fatal causes, yielding the highest numbers of YLD.

Figures 21-24 present the five leading causes contributing to DALY by age groups for NT Aboriginal and non-Aboriginal populations and males and females. Among Aboriginal peoples, pre-term birth / low birthweight complication was the leading cause of DALY for the under-five age group. In contrast, diabetes was the primary leading cause of DALY for age groups 45-74 years (Figure 21). On the other hand, coronary heart disease was the primary leading cause for the same age groups among non-Aboriginal people (Figure 22). Diabetes was the primary leading cause of DALY in 45-74 year old females (Figure 23). By contrast, coronary heart disease was the leading cause for the 45+ years old males in the NT (Figure 24). Regardless of Aboriginal or non-Aboriginal status, dementia is highest amongst the 75 years and over age group with sex being the only differing factor. Dementia presented at higher rates among women, and coronary heart disease at higher rates among males.

Figure 20. Treemap for causes of disability adjusted life years in non-Aboriginal females, Northern Territory, 2014-2018

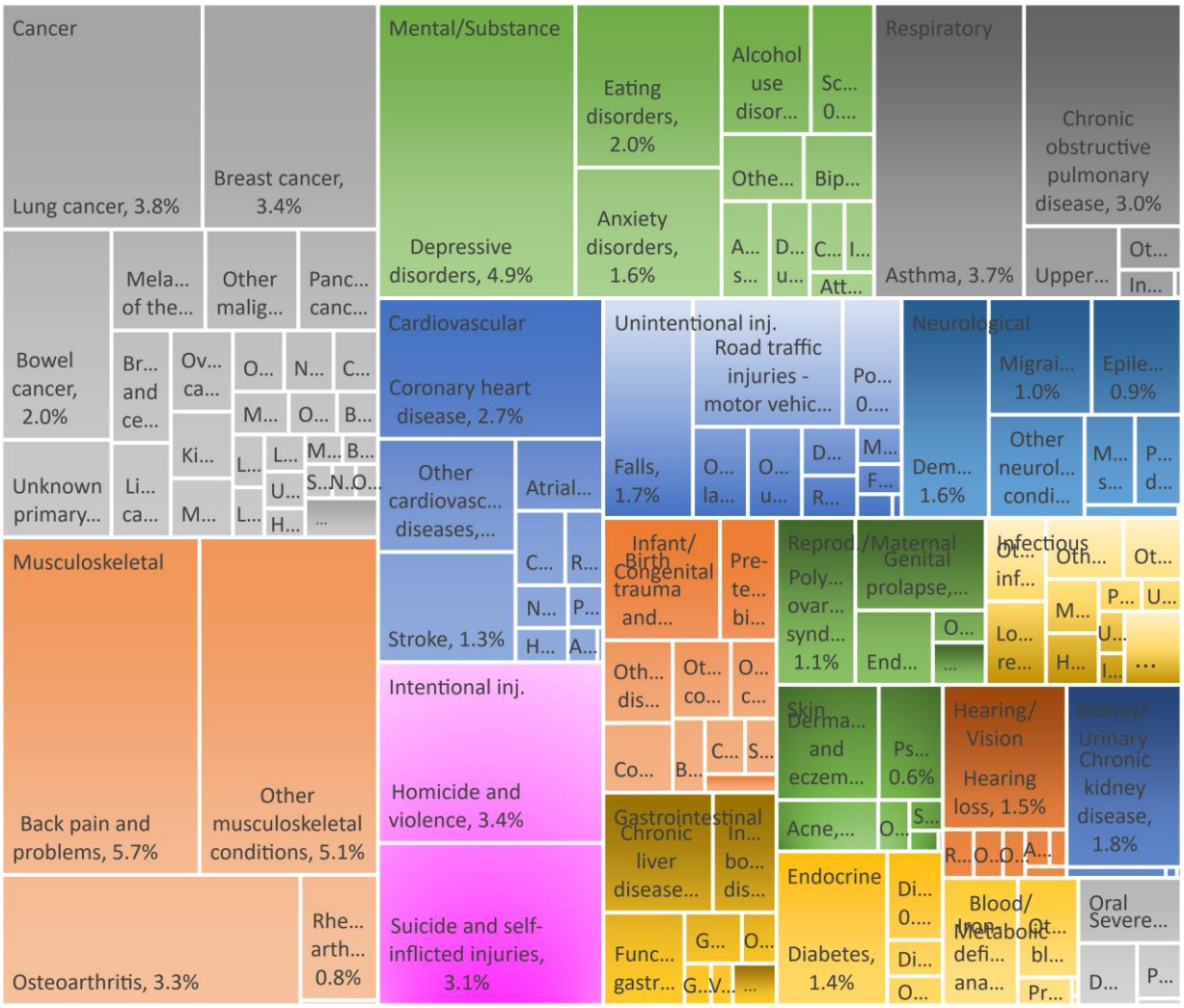


Figure 21. The five leading causes contributing to disability adjusted life years by age in years, Northern Territory Aboriginal population, 2014-2018

	Under 5	5-14	15-24	25-44	45-64	65-74	75+
1st	Pre-term birth and low birthweight complications (2442; 19%)	Hearing loss (1316; 14%)	Suicide and self-inflicted injuries (3370; 19%)	Alcohol use disorders (6852; 11%)	Diabetes (8842; 13%)	Diabetes (2357; 16%)	Dementia (1172; 17%)
2nd	Birth trauma and asphyxia (1722; 13%)	Rheumatic heart disease (998; 11%)	Homicide and violence (2421; 14%)	Homicide and violence (5192; 8%)	Coronary heart disease (7279; 10%)	Chronic kidney disease (1905; 13%)	Diabetes (993; 14%)
3rd	Other disorders of infancy (903; 7%)	Homicide and violence (592; 6%)	Alcohol use disorders (1396; 8%)	Coronary heart disease (4218; 7%)	Chronic kidney disease (6871; 10%)	Chronic obstructive pulmonary disease (1301; 9%)	Chronic kidney disease (623; 9%)
4th	Protein-energy deficiency (639; 5%)	Dental caries (478; 5%)	Hearing loss (1191; 7%)	Diabetes (3548; 6%)	Chronic obstructive pulmonary disease (3765; 5%)	Coronary heart disease (982; 7%)	Coronary heart disease (621; 9%)
5th	Sudden infant death syndrome (602; 5%)	Asthma (473; 5%)	Road traffic injuries - motor vehicle occupants (860; 5%)	Chronic kidney disease (3131; 5%)	Other musculoskeletal conditions (2949; 4%)	Lung cancer (577; 4%)	Chronic obstructive pulmonary disease (579; 8%)

Figure 22. The five leading causes contributing to disability adjusted life years by age in years, Northern Territory non-Aboriginal population, 2014-2018

	Under 5	5-14	15-24	25-44	45-64	65-74	75+
1st	Birth trauma and asphyxia (1035; 15%)	Homicide and violence (528; 11%)	Homicide and violence (1848; 14%)	Back pain and problems (2749; 8%)	Coronary heart disease (3140; 6%)	Coronary heart disease (2068; 8%)	Dementia (1597; 10%)
2nd	Pre-term birth and low birthweight complications (804; 12%)	Asthma (508; 11%)	Suicide and self-inflicted injuries (1483; 12%)	Suicide and self-inflicted injuries (2687; 7%)	Back pain and problems (2858; 6%)	Chronic obstructive pulmonary disease (1795; 7%)	Coronary heart disease (1496; 9%)
3rd	Other disorders of infancy (574; 9%)	Depressive disorders (283; 6%)	Road traffic injuries - motor vehicle occupants (1372; 11%)	Depressive disorders (2600; 7%)	Other musculoskeletal conditions (2837; 6%)	Lung cancer (1774; 7%)	Chronic obstructive pulmonary disease (1402; 8%)
4th	Congenital cardiovascular defects (476; 7%)	Conduct disorder (246; 5%)	Depressive disorders (627; 5%)	Homicide and violence (2363; 6%)	Lung cancer (2663; 5%)	Diabetes (1039; 4%)	Lung cancer (794; 5%)
5th	Other congenital conditions (286; 4%)	Falls (231; 5%)	Alcohol use disorders (529; 4%)	Road traffic injuries - motor vehicle occupants (2329; 6%)	Suicide and self-inflicted injuries (1802; 4%)	Other musculoskeletal conditions (1016; 4%)	Diabetes (728; 4%)

Figure 23. The five leading causes contributing to disability adjusted life years by age in years, Northern Territory females, 2014-2018

	Under 5	5-14	15-24	25-44	45-64	65-74	75+
1st	Birth trauma and asphyxia (1722; 17%)	Hearing loss (727; 12%)	Suicide and self-inflicted injuries (1789; 14%)	Alcohol use disorders (2784; 6%)	Diabetes (5993; 11%)	Diabetes (1682; 10%)	Dementia (1547; 14%)
2nd	Pre-term birth and low birthweight complications (1319; 13%)	Rheumatic heart disease (645; 11%)	Homicide and violence (1360; 11%)	Homicide and violence (2773; 6%)	Chronic kidney disease (4355; 8%)	Chronic kidney disease (1452; 9%)	Diabetes (984; 9%)
3rd	Other disorders of infancy (561; 6%)	Asthma (452; 7%)	Alcohol use disorders (782; 6%)	Diabetes (2422; 5%)	Other musculoskeletal conditions (3215; 6%)	Chronic obstructive pulmonary disease (1394; 8%)	Chronic obstructive pulmonary disease (920; 8%)
4th	Congenital cardiovascular defects (489; 5%)	Homicide and violence (440; 7%)	Hearing loss (660; 5%)	Asthma (2393; 5%)	Chronic obstructive pulmonary disease (2920; 5%)	Lung cancer (1016; 6%)	Coronary heart disease (863; 8%)
5th	Other infections (398; 4%)	Epilepsy (284; 5%)	Asthma (592; 5%)	Other musculoskeletal conditions (2360; 5%)	Coronary heart disease (2670; 5%)	Other musculoskeletal conditions (790; 5%)	Chronic kidney disease (708; 6%)

Figure 24. The five leading causes contributing to disability adjusted life years by age in years, Northern Territory males, 2014-2018

	Under 5	5-14	15-24	25-44	45-64	65-74	75+
1st	Pre-term birth and low birthweight complications (1926; 20%)	Hearing loss (808; 10%)	Suicide and self-inflicted injuries (3064; 17%)	Alcohol use disorders (5641; 10%)	Coronary heart disease (7749; 12%)	Coronary heart disease (2347; 10%)	Coronary heart disease (1254; 10%)
2nd	Birth trauma and asphyxia (1035; 11%)	Homicide and violence (680; 8%)	Homicide and violence (2909; 16%)	Homicide and violence (4782; 9%)	Diabetes (4094; 6%)	Diabetes (1715; 8%)	Dementia (1222; 10%)
3rd	Other disorders of infancy (915; 9%)	Asthma (528; 7%)	Road traffic injuries - motor vehicle occupants (1755; 10%)	Suicide and self-inflicted injuries (4239; 8%)	Chronic kidney disease (3480; 5%)	Chronic obstructive pulmonary disease (1702; 7%)	Chronic obstructive pulmonary disease (1061; 9%)
4th	Sudden infant death syndrome (516; 5%)	Other unintentional injuries (371; 5%)	Alcohol use disorders (1143; 6%)	Coronary heart disease (3497; 6%)	Homicide and violence (3303; 5%)	Chronic kidney disease (1374; 6%)	Diabetes (737; 6%)
5th	Homicide and violence (328; 3%)	Conduct disorder (356; 4%)	Hearing loss (731; 4%)	Road traffic injuries - motor vehicle occupants (3397; 6%)	Other musculoskeletal conditions (2571; 4%)	Lung cancer (1335; 6%)	Lung cancer (590; 5%)

Non-fatal burden of disease and injury

Non-fatal BOD is measured by YLD, reflecting morbidity and levels of disability. There were an estimated 188,910 YLD in the NT during the five years from 2014 to 2018 (Table 2), accounting for 55% of total BOD. Aboriginal peoples, comprising only 30% of the NT population, had 57% of YLD (Table 1). As a result, the crude YLD rate was three times higher for Aboriginal peoples than non-Aboriginal people (Table 11). The age-specific YLD rate was higher in the Aboriginal population than in the non-Aboriginal population for all age groups. Aboriginal female age-specific YLD rate was higher than the male counterparts in the majority of age groups. The reverse was true for the non-Aboriginal population. Aboriginal vs non-Aboriginal YLD RR was higher for females than males in almost all age groups (Table 11). Regardless of males and females, Aboriginal vs non-Aboriginal YLD RR was highest in the middle ages 35-64 years. The age-standardised YLD RR comparing Aboriginal with non-Aboriginal people was 3.7 indicating that, after age adjustment, the non-fatal BOD rate was 3.7 times higher in the Aboriginal population than in the non-Aboriginal population. Table 12 shows the actual YLD numbers and crude rates per 1000 population by Aboriginality and sex. The crude YLD rate in Aboriginal females was 3.57 times that of non-Aboriginal females. The crude YLD rate in Aboriginal males was 2.58 times the non-Aboriginal male rate.

Table 11. Rates and rate ratios of years lived with disability (YLD) per 1000 population by age, sex, and Aboriginality, Northern Territory, 2014-2018

Age group	Abor		Abor	Non-Abor		Non-Abor	Rate ratio*		
(years)	Female	Male		Female	Male		Female	Male	Total
0-	105.3	91.5	98.1	31.2	34.1	32.6	3.4	2.7	3.0
5-	94.5	101.5	98.1	27.6	35.3	31.5	3.4	2.9	3.1
10-	109.0	114.2	111.8	43.8	52.4	48.2	2.5	2.2	2.3
15-	147.7	140.1	143.7	73.8	88.2	81.5	2.0	1.6	1.8
20-	198.9	170.7	184.2	78.6	86.4	82.9	2.5	2.0	2.2
25-	259.7	238.2	248.5	73.5	79.3	76.5	3.5	3.0	3.2
30-	324.3	287.9	305.7	76.5	84.9	80.8	4.2	3.4	3.8
35-	404.3	375.3	389.7	82.7	89.9	86.4	4.9	4.2	4.5
40-	468.9	404.0	436.8	87.7	98.6	93.5	5.3	4.1	4.7
45-	519.5	428.1	475.8	93.3	106.0	100.1	5.6	4.0	4.8
50-	604.3	525.6	567.1	100.6	118.8	110.3	6.0	4.4	5.1
55-	655.8	569.9	616.0	110.9	127.0	119.5	5.9	4.5	5.2
60-	770.7	643.4	712.8	139.0	155.9	148.2	5.5	4.1	4.8
65-	818.9	621.6	733.9	168.7	201.3	187.3	4.9	3.1	3.9
70-	769.0	738.4	755.9	215.2	244.0	231.6	3.6	3.0	3.3
75-	727.5	699.5	717.2	241.1	253.6	248.1	3.0	2.8	2.9
80-	687.1	784.9	717.8	303.7	319.7	311.7	2.3	2.5	2.3
85+	884.5	777.7	847.0	365.2	358.7	362.4	2.4	2.2	2.3
Crude rate	316.4	262.8	289.4	88.5	101.8	95.5	3.6	2.6	3.0
Age-std rate	395.8	351.8	374.9	96.1	107.7	102.3	4.1	3.3	3.7

* Aboriginal vs non-Aboriginal; Abor=Aboriginal; Age-std = Age-standardised on 2001 Australian estimated resident population

Table 12. Years lived with disability and rates per 1000 population by sex and Aboriginality, Northern Territory, 2014-2018

	Female	Male	Person
			Number of YLD
Aboriginal	57902	49025	106927
Non-Aboriginal	35915	46068	81983
Total	93817	95094	188910
			Crude rate (YLD per 1000 population)
Aboriginal	316.4	262.8	289.4
Non-Aboriginal	88.5	101.8	95.5
Total	159.4	148.8	153.9
			YLD crude rate ratio
Aboriginal/Non-Aboriginal	3.57	2.58	3.03

Note: YLD = Years lived with disability

Figure 25 shows the age-Aboriginality pyramid for the population compared with YLD in the NT 2014-2018. The pyramid graph shows that YLD and population differed in age distribution from each other and between Aboriginal and non-Aboriginal people. Among Aboriginal people, YLD was higher in middle-aged groups relative to the population. YLD was proportionally higher in older ages of non-Aboriginal people compared to Aboriginal peoples. The lower distribution of YLD in younger age groups reflects better health of younger people compared to older people. The Aboriginal population had a younger age profile, with the highest population proportion in the 5-9 years age group. In the older age groups, the higher level of YLD compared to the population demonstrated a higher prevalence of diseases and injuries.

Figure 25. Proportions of population and years lived with disability by age and Aboriginality, Northern Territory, 2014-2018

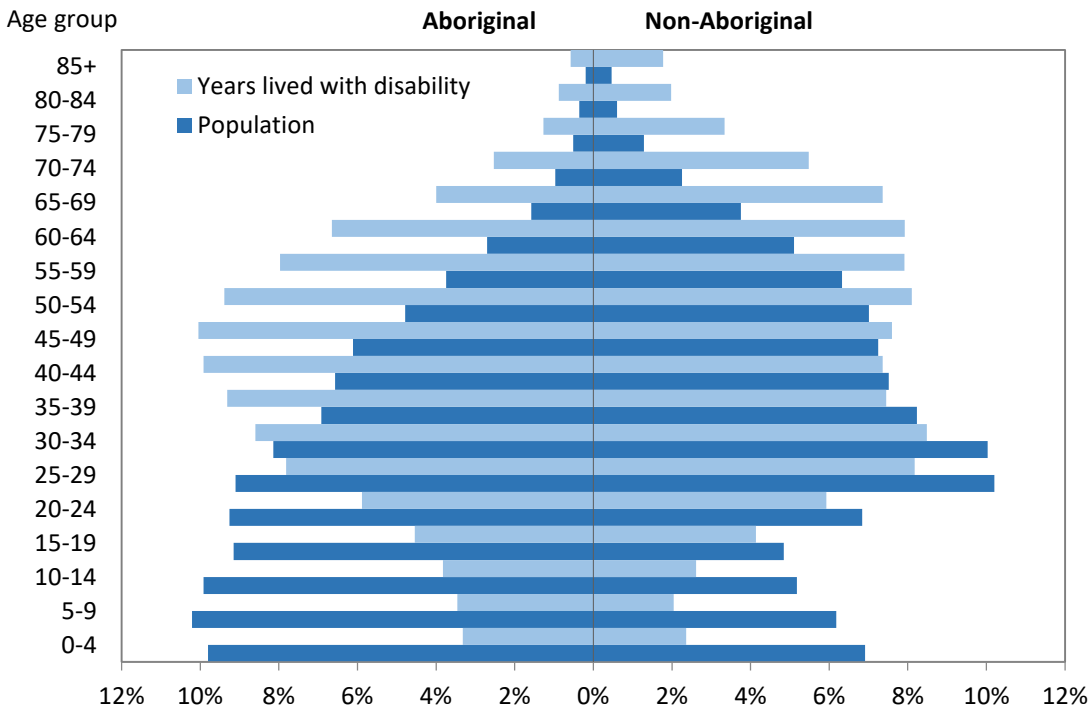


Figure 26 shows the YLD age distribution for males and females in the NT, along with the YLD rate per 1000 population. The YLD increased with age up to 40-49 years of age and then receded. The total YLD age pattern was similar between males and females. The age-specific YLD rate increased steadily with age.

The age-specific YLD rate was similar between males and females, with slightly higher rate in females than males over 40 years of age.

Figure 27 compares the YLD age distributions between Aboriginal and non-Aboriginal populations, along with the YLD rate per 1000 population. The YLD increased with age up to 45-49 years and then started to decline in the Aboriginal population. In the non-Aboriginal population, the YLD reached a high in the 30-34 age group and plateaued up until 65-69 years of age, followed by a decrease after the age of 65 years. The YLD numbers were higher for Aboriginal compared to non-Aboriginal people in all age groups younger than 60-64 years despite a smaller population. The Aboriginal age-specific rate was substantially higher than the non-Aboriginal age-specific rate. The age-specific YLD rates generally increased with age.

Figure 26. Number and rate of years lived with disability (YLD), by age and sex, Northern Territory, 2014-2018

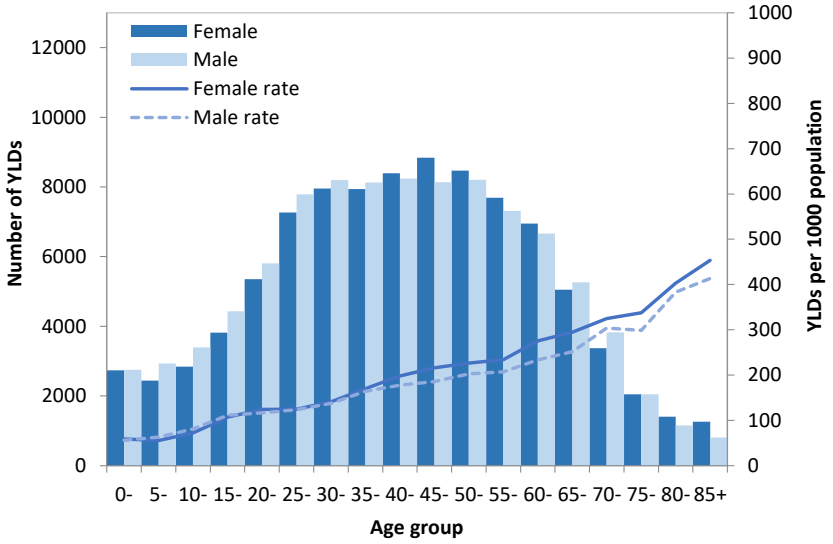


Figure 27. Number and rate of years lived with disability (YLD), by age and Aboriginality, Northern Territory, 2014-2018

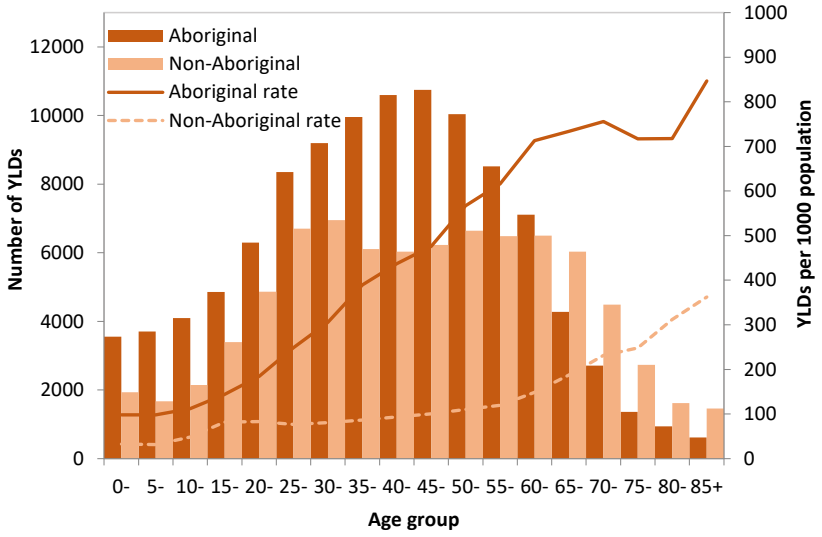


Figure 28 further analyses the YLD pattern and rate by sex and age for the Aboriginal population. The female YLD outnumbered the male YLD in the majority of age groups. The YLD rate was higher in females than males in almost all age groups among Aboriginal peoples (Figure 28). Age-specific rates trended up

with age regardless of sex. The age-specific YLD rate per 1000 population was generally higher for females than males in the Aboriginal population.

The YLD age pattern and YLD rate by sex are displayed in Figure 29 for the non-Aboriginal population. The YLD for male and female non-Aboriginal people was higher during middle age, and both follow similar age distribution. Females have a slightly lower YLD number and age-specific rate than males in the non-Aboriginal population.

Figure 28. Number and rate of years lived with disability (YLD), by age and sex, Northern Territory Aboriginal population, 2014-2018

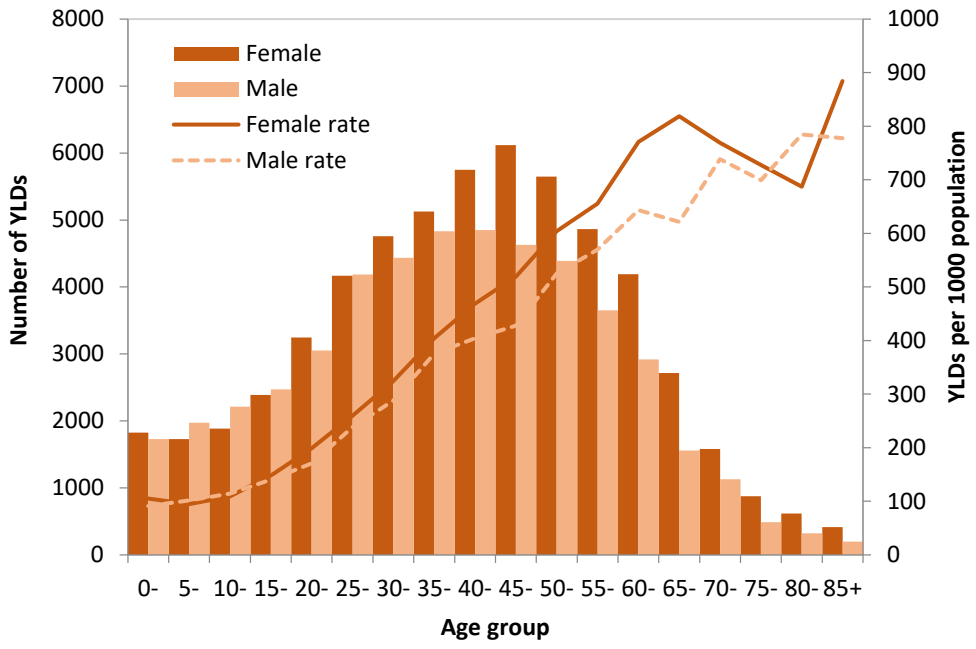
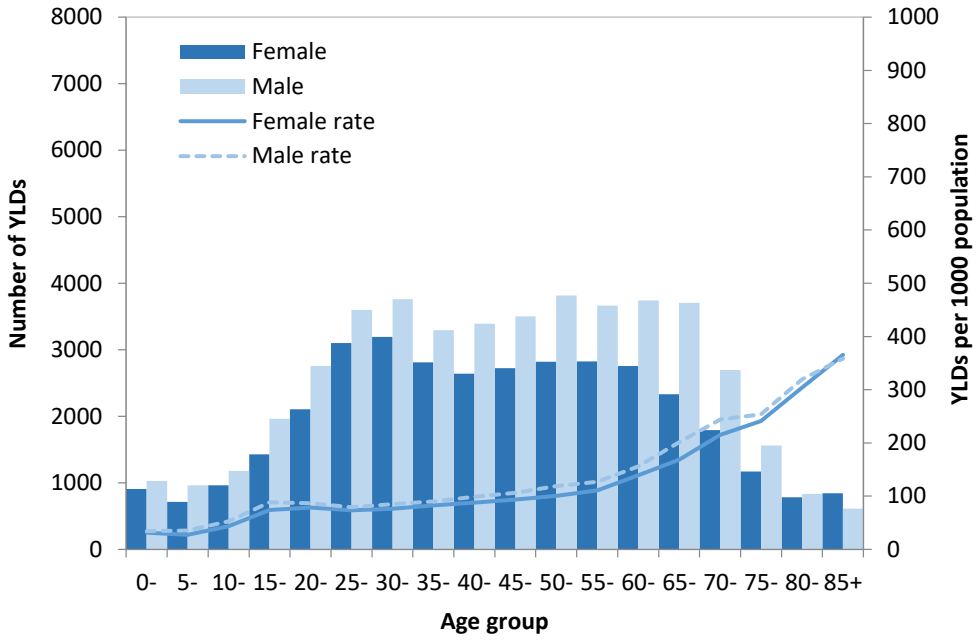


Figure 29. Number and rate of years lived with disability (YLD) by age and sex, Northern Territory non-Aboriginal population, 2014-2018



Years lived with disability by category

The total age-standardised YLD rate in the NT was higher for females than males (Table 13). The absolute difference in age-standardised YLD rate between females and males was largest in musculoskeletal conditions, intentional injury, and respiratory disease categories. The higher YLD rates among females were for musculoskeletal, mental conditions, and endocrine disorders. Males have a higher YLD rate than females for unintentional, intentional injury and mental disorders.

Table 13. Age-standardised years lived with disability per 1000 population and rate ratio by category and sex, Northern Territory, 2014-2018

Category*	Female	Male	M/F rate ratio	Difference	Contribution
Mental	36.0	42.0	1.17	6.0	-23%
Musculoskeletal	43.5	32.5	0.75	-11.0	43%
Intentional inj.	13.7	24.4	1.78	10.7	-42%
Endocrine	23.8	14.9	0.62	-8.9	35%
Respiratory	21.6	12.5	0.58	-9.1	36%
Cardiovascular	16.6	14.7	0.89	-1.9	7%
Hearing	14.4	13.2	0.91	-1.2	5%
Kidney	12.2	9.9	0.81	-2.4	9%
Unintentional inj.	6.4	12.3	1.92	5.9	-23%
Neurological	14.3	10.5	0.73	-3.8	15%
Skin	7.0	6.0	0.86	-0.9	4%
Infectious	5.9	5.6	0.95	-0.3	1%
Oral	5.1	5.2	1.02	0.1	0%
Cancer	4.6	5.1	1.12	0.5	-2%
Gastrointestinal	3.5	3.1	0.89	-0.4	1%
Reproductive	5.9	0.2	0.04	-5.7	22%
Blood	5.1	1.5	0.28	-3.7	14%
Infant	1.5	2.0	1.37	0.6	-2%
Total	241.0	215.5	0.89	-25.6	100%
95% CI	239.9-242.2	214.5-216.5	0.88-0.90		

* Sorted by the total rates; CI = Confidence interval; inj = Injuries; M/F = Male compared to female

The age-standardised YLD rate for all BOD categories was substantially higher among the Aboriginal population than the non-Aboriginal population in the NT (by 3.66 times, see Table 14). However, after age standardisation Aboriginal peoples experienced a lower YLD rate of 37% for the cancer category. Aboriginal peoples experienced the highest age-standardised YLD rate in endocrine disorders, followed by musculoskeletal conditions and mental disorders. The differences in age-standardised YLD rate between Aboriginal and non-Aboriginal populations were also the highest in endocrine disorders (57.1, 21% of the total difference), followed by musculoskeletal conditions (33.3, 12%) and mental disorders (32.5, 12%). The age-standardised Aboriginal/non-Aboriginal YLD RR was the highest for endocrine disorders (RR 18.01), ahead of hearing conditions (RR 8.43) and kidney disease (RR 7.40). Non-Aboriginal people experienced higher YLD rates in musculoskeletal conditions, mental disorders, and intentional injury than in other categories.

Table 14. Age-standardised years lived with disability per 1000 population and rate ratio by category and Aboriginality, Northern Territory, 2014-2018

Category*	Abor	Non-Abor	A/N rate ratio	Difference	Contribution
Mental	51.1	18.6	2.75	32.5	12%
Musculoskeletal	54.4	21.1	2.57	33.3	12%
Intentional inj.	25.9	9.0	2.89	16.9	6%
Endocrine	60.4	3.4	18.01	57.1	21%
Respiratory	26.8	8.4	3.19	18.4	7%
Cardiovascular	31.9	5.6	5.70	26.3	10%
Hearing	28.4	3.4	8.43	25.1	9%
Kidney	26.5	3.6	7.40	22.9	8%
Unintentional inj.	11.8	4.7	2.49	7.0	3%
Neurological	22.1	6.1	3.60	16.0	6%
Skin	6.3	3.3	1.87	2.9	1%
Infectious	7.3	2.6	2.77	4.6	2%
Oral	7.6	1.9	3.95	5.7	2%
Cancer	2.7	4.2	0.63	-1.5	-1%
Gastrointestinal	2.7	2.4	1.11	0.3	0%
Reproductive	2.6	1.9	1.35	0.7	0%
Blood	5.0	1.0	5.09	4.1	1%
Infant	1.4	1.0	1.44	0.4	0%
Total	374.9	102.3	3.66	272.6	100%
95% CI	373.3-376.5	101.7-103.0	3.63-3.70		

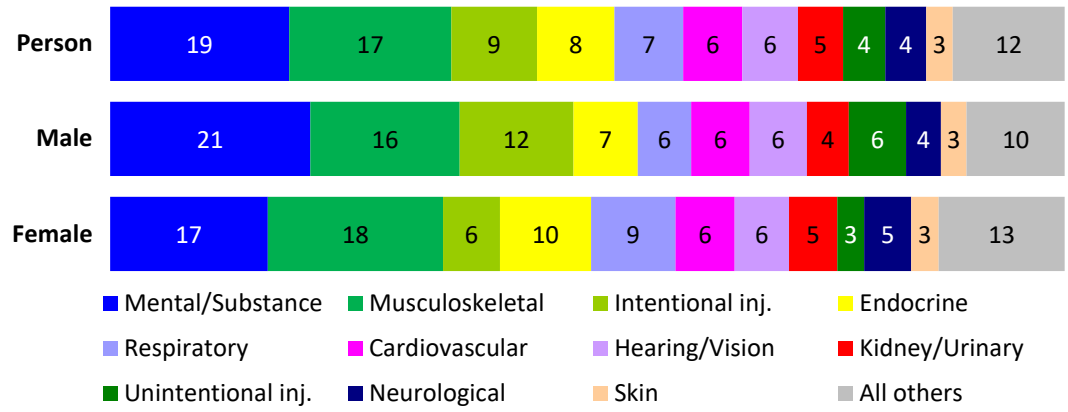
* Sorted by the total rates; Abor = Aboriginal; A/N = Aboriginal compared to non-Aboriginal; CI = Confidence interval; inj = Injuries

Figure 30 shows that the five leading categories for YLD in the NT population were mental disorders, musculoskeletal conditions, intentional injury, endocrine disorders, and respiratory diseases. The three leading categories among females were musculoskeletal conditions, mental disorders, and endocrine disorders. Mental disorders, musculoskeletal conditions, and intentional injury were the three leading categories for males.

Figure 31 shows NT Aboriginal YLD by sex and BOD category. The five leading BOD categories for YLD in the NT Aboriginal population were mental disorders, musculoskeletal conditions, endocrine disorders, intentional injury, and hearing conditions. Among NT Aboriginal females, the top three categories were mental disorders, musculoskeletal conditions, and endocrine disorders, and for NT Aboriginal males, mental disorders, musculoskeletal conditions, and intentional injury.

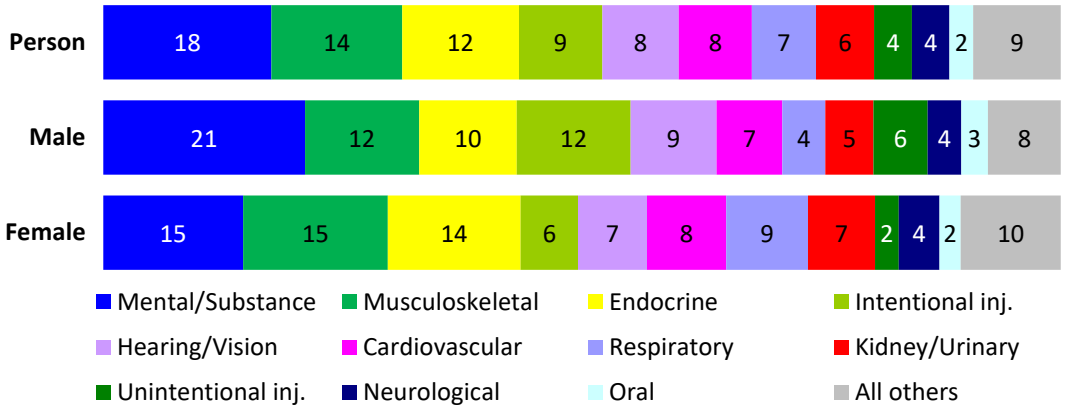
For the NT non-Aboriginal population, the five leading YLD categories were musculoskeletal conditions, mental disorders, intentional injury, respiratory diseases, and unintentional injury (Figure 32). Among NT non-Aboriginal females, musculoskeletal conditions were the leading YLD category, followed by mental disorders and respiratory disease. For NT non-Aboriginal males, they were mental disorders, ahead of musculoskeletal conditions and intentional injury.

Figure 30. Proportion (%) of years lived with disability by leading categories and sex, Northern Territory, 2014-2018



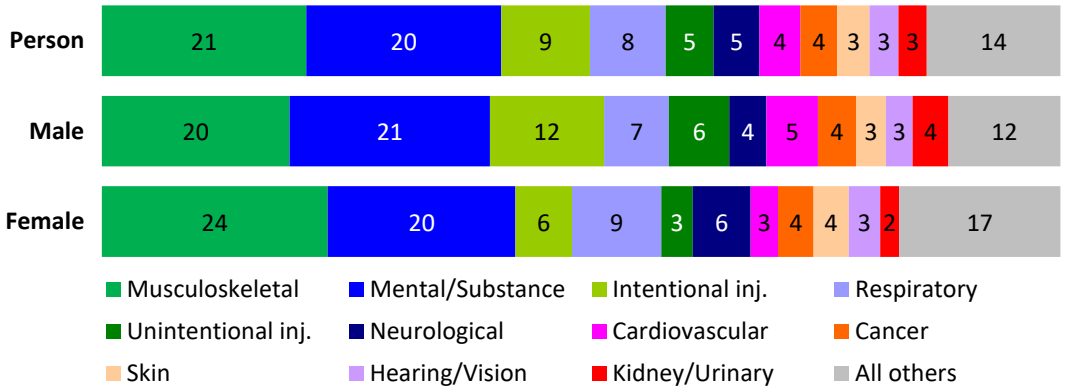
Note: inj = Injuries

Figure 31. Proportion (%) of years lived with disability by leading categories and sex, Aboriginal population, Northern Territory, 2014-2018



Note: inj = Injuries

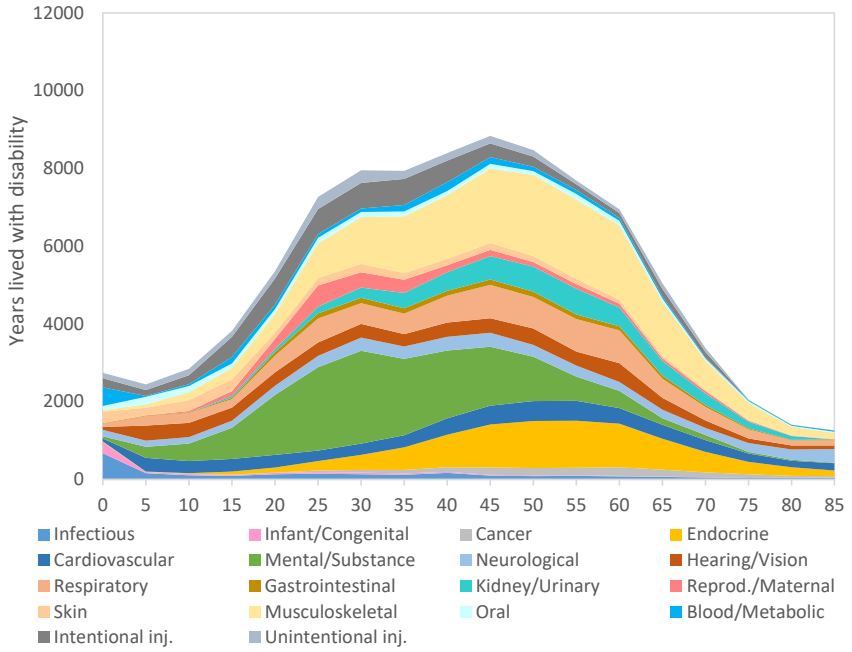
Figure 32. Proportion (%) of years lived with disability by leading categories and sex, non-Aboriginal population, Northern Territory, 2014-2018



Note: inj = Injuries

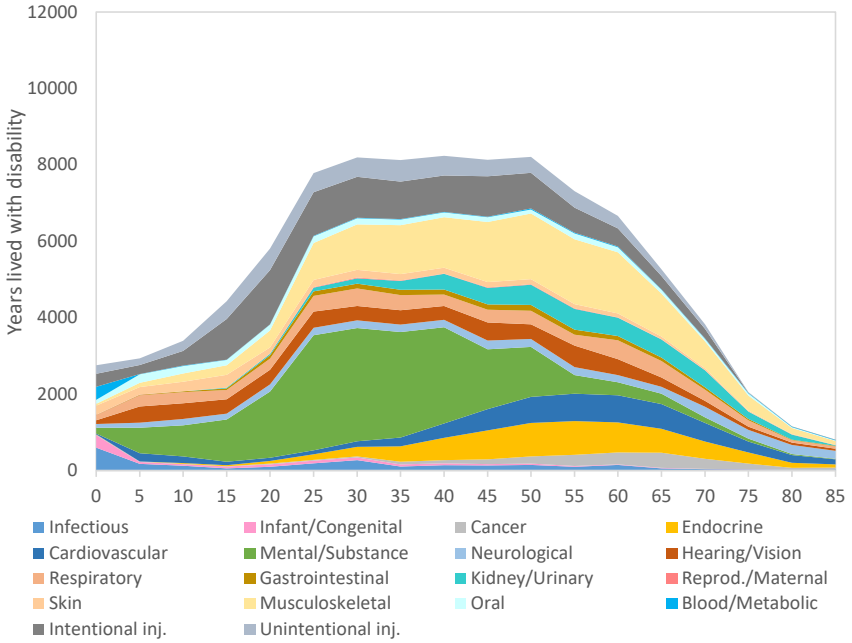
YLD for different categories varied across ages. Figures 33 and 34 show many similarities in YLD age patterns by categories between females and males. Regardless of sex, musculoskeletal conditions, mental and endocrine disorders, and cardiovascular, kidney, and respiratory diseases were higher during middle age.

Figure 33. **Years lived with disability by category and age group in years, females, Northern Territory, 2014-2018**



Note: inj = Injuries; Reprod = Reproductive

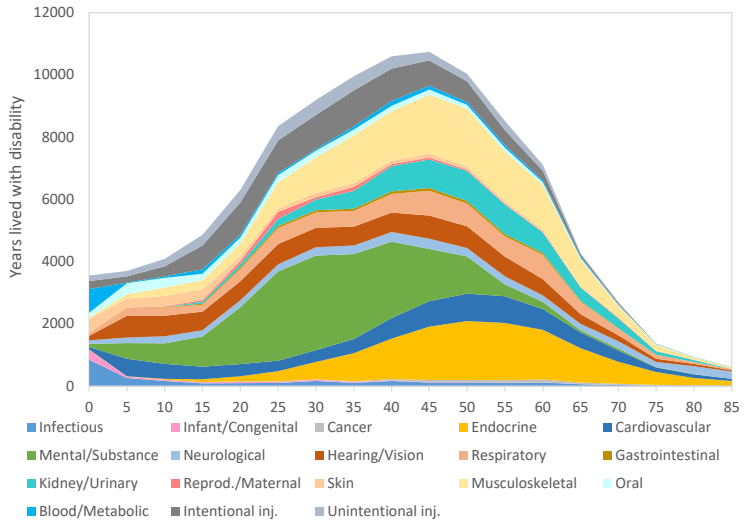
Figure 34. **Years lived with disability by category and age group in years, males, Northern Territory, 2014-2018**



Note: inj = Injuries; Reprod = Reproductive

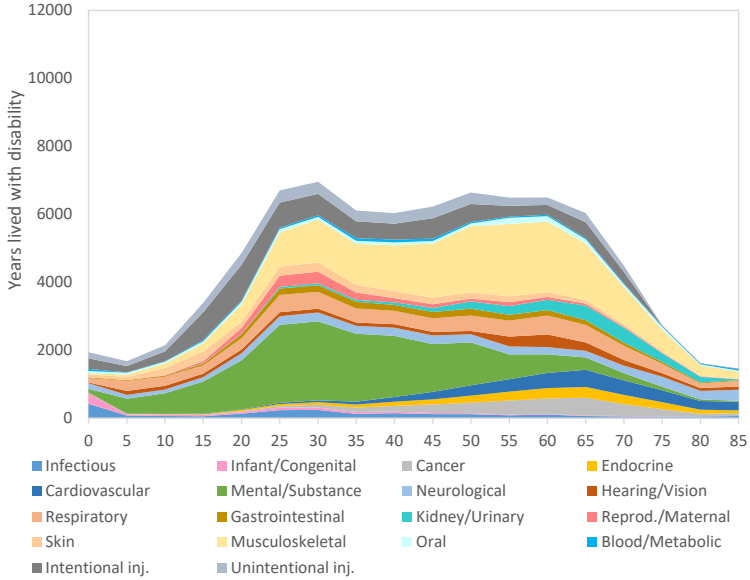
Figures 35 and 36 present YLD patterns by age group and BOD category separately for NT Aboriginal and non-Aboriginal populations. Figures 35 and 36 use an identical scale in the x and y-axis for comparison. The total numbers of YLD were substantially higher among the Aboriginal population compared to the non-Aboriginal population. Endocrine disorders, hearing conditions, cardiovascular and kidney diseases, musculoskeletal conditions, and intentional injury were higher for Aboriginal people during middle age. Mental disorders, hearing conditions, and cardiovascular disease were higher for Aboriginal peoples during the third and fourth decades of life. Musculoskeletal conditions were the most prominent category among the non-Aboriginal population. Compared to non-Aboriginal people, endocrine and mental disorders were more pronounced in Aboriginal peoples. YLD between 25 and 59 years of age were much higher in Aboriginal than non-Aboriginal population.

Figure 35. Years lived with disability by category and age group in years, Aboriginal population, Northern Territory, 2014-2018



Note: inj = Injuries; Reprod = Reproductive

Figure 36. Years lived with disability by category and age group in years, non-Aboriginal population, Northern Territory, 2014-2018



Note: inj = Injuries; Reprod = Reproductive

Years lived with disability by cause

Figures 37 - 40 present the top five leading causes contributing to YLD by age group for NT Aboriginal and non-Aboriginal populations and males and females. Among Aboriginal peoples, diabetes was the primary leading cause of YLD for age groups 45 years and over, with proportions increasing from 19% to 27% (Figure 37). On the other hand, back pain and other musculoskeletal conditions dominated YLD between 25 and 74 years of age among the non-Aboriginal population (Figure 38). Diabetes and dementia were the primary leading cause of YLD for 45+ year-olds. In contrast, homicide/violence, and alcohol use disorder contributed most to the YLD in 15-44 year-olds for both males and females (Figures 39 and 40).

Figure 37. The five leading causes contributing to years lived with disability by age, Northern Territory Aboriginal population, 2014-2018

	Under 5	5-14	15-24	25-44	45-64	65-74	75+
1st	Protein-energy deficiency (639; 18%)	Hearing loss (1316; 17%)	Homicide and violence (1770; 16%)	Alcohol use disorders (6756; 18%)	Diabetes (6999; 19%)	Diabetes (1804; 26%)	Diabetes (785; 27%)
2nd	Homicide and violence (261; 7%)	Rheumatic heart disease (998; 13%)	Alcohol use disorders (1396; 13%)	Homicide and violence (4237; 11%)	Chronic kidney disease (3455; 9%)	Chronic kidney disease (705; 10%)	Dementia (617; 21%)
3rd	Other meningitis and encephalitis (257; 7%)	Homicide and violence (512; 7%)	Hearing loss (1191; 11%)	Diabetes (3073; 8%)	Other musculoskeletal conditions (2663; 7%)	Chronic obstructive pulmonary disease (493; 7%)	Chronic obstructive pulmonary disease (196; 7%)
4th	Scabies (216; 6%)	Dental caries (478; 6%)	Rheumatic heart disease (714; 6%)	Hearing loss (2420; 6%)	Hearing loss (2474; 7%)	Hearing loss (467; 7%)	Hearing loss (195; 7%)
5th	Dermatitis and eczema (213; 6%)	Asthma (473; 6%)	Asthma (568; 5%)	Other musculoskeletal conditions (2304; 6%)	Homicide and violence (2211; 6%)	Other musculoskeletal conditions (455; 7%)	Chronic kidney disease (160; 6%)

Figure 38. The five leading causes contributing to years lived with disability by age, Northern Territory non-Aboriginal population, 2014-2018

	Under 5	5-14	15-24	25-44	45-64	65-74	75+
1st	Homicide and violence (282; 15%)	Asthma (508; 13%)	Homicide and violence (1848; 22%)	Back pain and problems (2749; 11%)	Back pain and problems (2858; 11%)	Other musculoskeletal conditions (959; 9%)	Dementia (676; 12%)
2nd	Other meningitis and encephalitis (225; 12%)	Homicide and violence (452; 12%)	Depressive disorders (627; 8%)	Depressive disorders (2545; 10%)	Other musculoskeletal conditions (2670; 10%)	Osteoarthritis (770; 7%)	Chronic obstructive pulmonary disease (444; 8%)
3rd	Falls (149; 8%)	Depressive disorders (283; 7%)	Alcohol use disorders (529; 6%)	Homicide and violence (2270; 9%)	Osteoarthritis (1763; 7%)	Homicide and violence (760; 7%)	Other musculoskeletal conditions (379; 7%)
4th	Other neurological conditions (117; 6%)	Conduct disorder (246; 6%)	Asthma (487; 6%)	Other musculoskeletal conditions (1556; 6%)	Homicide and violence (1652; 6%)	Chronic kidney disease (730; 7%)	Diabetes (375; 6%)
5th	Other congenital conditions (114; 6%)	Falls (231; 6%)	Back pain and problems (480; 6%)	Alcohol use disorders (1530; 6%)	Depressive disorders (1441; 6%)	Back pain and problems (720; 7%)	Chronic kidney disease (357; 6%)

Figure 39. The five leading causes contributing to years lived with disability by age, Northern Territory females, 2014-2018

	Under 5	5-14	15-24	25-44	45-64	65-74	75+
1st	Protein-energy deficiency (367; 13%)	Hearing loss (727; 14%)	Homicide and violence (1167; 13%)	Alcohol use disorders (2784; 9%)	Diabetes (4600; 14%)	Diabetes (1313; 16%)	Dementia (716; 15%)
2nd	Other meningitis and encephalitis (223; 8%)	Rheumatic heart disease (645; 12%)	Alcohol use disorders (782; 9%)	Homicide and violence (2454; 8%)	Other musculoskeletal conditions (2977; 9%)	Other musculoskeletal conditions (768; 9%)	Diabetes (661; 14%)
3rd	Homicide and violence (216; 8%)	Asthma (452; 9%)	Hearing loss (660; 7%)	Back pain and problems (2202; 7%)	Chronic kidney disease (2385; 7%)	Chronic kidney disease (664; 8%)	Chronic obstructive pulmonary disease (409; 9%)
4th	Dermatitis and eczema (166; 6%)	Homicide and violence (360; 7%)	Asthma (592; 6%)	Asthma (2150; 7%)	Back pain and problems (2268; 7%)	Chronic obstructive pulmonary disease (600; 7%)	Chronic kidney disease (255; 5%)
5th	Other infections (140; 5%)	Epilepsy (284; 5%)	Depressive disorders (586; 6%)	Depressive disorders (2125; 7%)	Asthma (1594; 5%)	Osteoarthritis (597; 7%)	Other musculoskeletal conditions (242; 5%)

Figure 40. The five leading causes contributing to years lived with disability by age, Northern Territory males, 2014-2018

	Under 5	5-14	15-24	25-44	45-64	65-74	75+
1st	Homicide and violence (328; 12%)	Hearing loss (808; 13%)	Homicide and violence (2451; 24%)	Alcohol use disorders (5502; 17%)	Diabetes (3287; 11%)	Diabetes (1069; 12%)	Dementia (576; 14%)
2nd	Protein-energy deficiency (319; 12%)	Homicide and violence (604; 10%)	Alcohol use disorders (1143; 11%)	Homicide and violence (4053; 13%)	Homicide and violence (3043; 10%)	Chronic kidney disease (771; 8%)	Diabetes (499; 12%)
3rd	Other meningitis and encephalitis (259; 9%)	Asthma (528; 8%)	Hearing loss (731; 7%)	Back pain and problems (2116; 7%)	Other musculoskeletal conditions (2356; 8%)	Other musculoskeletal conditions (646; 7%)	Chronic kidney disease (263; 7%)
4th	Falls (164; 6%)	Conduct disorder (356; 6%)	Asthma (463; 5%)	Depressive disorders (1819; 6%)	Back pain and problems (2184; 7%)	Homicide and violence (562; 6%)	Coronary heart disease (249; 6%)
5th	Other gastrointestinal infections (143; 5%)	Rheumatic heart disease (354; 6%)	Falls (445; 4%)	Other musculoskeletal conditions (1796; 6%)	Chronic kidney disease (1842; 6%)	Chronic obstructive pulmonary disease (505; 6%)	Chronic obstructive pulmonary disease (231; 6%)

In the NT, the top 20 specific causes accounted for 74.1% of the total YLD (Table 15). The leading cause of YLD in the NT was homicide or violence, followed by type 2 diabetes, alcohol use disorder, other musculoskeletal conditions, and back pain problems. Diabetes, other musculoskeletal conditions, and back pain were the top three YLDs for females. Homicide or violence, alcohol use disorder, and diabetes were the top three YLD for males. The top causes of YLD are contrasted between the Aboriginal and non-Aboriginal populations in Table 16. The three leading YLD causes for Aboriginal peoples were diabetes, alcohol use disorder, and homicide or violence. In contrast, for non-Aboriginal people, they were homicide or violence, back pain, and other musculoskeletal conditions.

To facilitate health service planning and identify trends, numbers of hospitalisations by age, sex, Aboriginality, and BOD causes between 2009-2013 and 2014-2018 are provided in Appendices Tables A 3-6. Repeated annual hospitalisations due to the same cause for individual patients have been excluded, as described in the method section.

Table 15. Leading 20 specific causes contributing to non-fatal burden by sex, Northern Territory, 2014-2018

	Female			Male			Person		
	Cause	YLD	%	Cause	YLD	%	Cause	YLD	%
1	Type 2 diabetes	8807	9.4	Homicide and violence	11042	11.6	Homicide and violence	16376	8.7
2	Other MSK conditions	6502	6.9	Alcohol use disorders	7864	8.3	Type 2 diabetes	15161	8.0
3	Back pain and problems	5654	6.0	Type 2 diabetes	6354	6.7	Alcohol use disorders	12628	6.7
4	Homicide and violence	5334	5.7	Other MSK conditions	5542	5.8	Other MSK conditions	12044	6.4
5	Asthma	5110	5.4	Back pain and problems	5456	5.7	Back pain and problems	11111	5.9
6	Hearing loss	4847	5.2	Hearing loss	5217	5.5	Hearing loss	10063	5.3
7	Alcohol use disorders	4764	5.1	Chronic kidney disease	3800	4.0	Chronic kidney disease	8540	4.5
8	Chronic kidney disease	4741	5.1	Depressive disorders	3431	3.6	Asthma	8412	4.5
9	Depressive disorders	4344	4.6	Asthma	3302	3.5	Depressive disorders	7775	4.1
10	Osteoarthritis	2761	2.9	Coronary heart disease	2406	2.5	Osteoarthritis	4555	2.4
11	COPD	2606	2.8	Schizophrenia	2321	2.4	Rheumatoid arthritis	4112	2.2
12	Rheumatic heart disease	2567	2.7	Falls	2276	2.4	COPD	4006	2.1
13	Rheumatoid arthritis	2260	2.4	RTA - motor vehicle occupants	2261	2.4	Coronary heart disease	3535	1.9
14	Anxiety disorders	1883	2.0	Rheumatoid arthritis	1851	1.9	Rheumatic heart disease	3522	1.9
15	Iron-deficiency anaemia	1523	1.6	Osteoarthritis	1794	1.9	Anxiety disorders	3483	1.8
16	Eating disorders	1463	1.6	Autism spectrum disorders	1658	1.7	Falls	3380	1.8
17	Migraine	1403	1.5	Anxiety disorders	1600	1.7	RTA - motor vehicle occupants	3286	1.7
18	Epilepsy	1263	1.3	COPD	1399	1.5	Schizophrenia	3196	1.7
19	Coronary heart disease	1129	1.2	Epilepsy	1357	1.4	Epilepsy	2620	1.4
20	Falls	1104	1.2	Dementia	1033	1.1	Eating disorders	2139	1.1
Top 20		70066	74.7		71964	75.7		139943	74.1
Others		23751	25.3		23130	24.3		48967	25.9
Total		93817	100.0		95094	100.0		188910	100.0

Note: COPD - Chronic obstructive pulmonary disease; MSK = Musculoskeletal; RTI = Road traffic injuries

Table 16. Leading 20 specific causes contributing to non-fatal burden by Aboriginality, Northern Territory, 2014-2018

	Aboriginal			Non-Aboriginal			Person		
	Cause	YLD	%	Cause	YLD	%	Cause	YLD	%
1	Type 2 diabetes	12924	12.1	Homicide and violence	7265	8.9	Homicide and violence	16376	8.7
2	Alcohol use disorders	10077	9.4	Back pain and problems	7171	8.7	Type 2 diabetes	15161	8.0
3	Homicide and violence	9111	8.5	Other conditions	5918	7.2	Alcohol use disorders	12628	6.7
4	Hearing loss	8202	7.7	Depressive disorders	5161	6.3	Other MSK conditions	12044	6.4
5	Chronic kidney disease	6433	6.0	Asthma	4041	4.9	Back pain and problems	11111	5.9
6	Other MSK conditions	6126	5.7	Osteoarthritis	3255	4.0	Hearing loss	10063	5.3
7	Asthma	4371	4.1	Alcohol use disorders	2551	3.1	Chronic kidney disease	8540	4.5
8	Back pain and problems	3939	3.7	Anxiety disorders	2416	2.9	Asthma	8412	4.5
9	Rheumatic heart disease	3427	3.2	Type 2 diabetes	2237	2.7	Depressive disorders	7775	4.1
10	Rheumatoid arthritis	3120	2.9	Chronic kidney disease	2108	2.6	Osteoarthritis	4555	2.4
11	Depressive disorders	2615	2.4	Hearing loss	1861	2.3	Rheumatoid arthritis	4112	2.2
12	COPD	2388	2.2	Falls	1784	2.2	COPD	4006	2.1
13	RTI- motor vehicle occupants	1957	1.8	COPD	1618	2.0	Coronary heart disease	3535	1.9
14	Coronary heart disease	1935	1.8	Eating disorders	1609	2.0	Rheumatic heart disease	3522	1.9
15	Schizophrenia	1815	1.7	Coronary heart disease	1600	2.0	Anxiety disorders	3483	1.8
16	Falls	1595	1.5	Schizophrenia	1382	1.7	Falls	3380	1.8
17	Epilepsy	1507	1.4	RTI- motor vehicle occupants	1330	1.6	RTI- motor vehicle occupants	3286	1.7
18	Dental caries	1455	1.4	Autism spectrum disorders	1283	1.6	Schizophrenia	3196	1.7
19	Osteoarthritis	1300	1.2	Dermatitis and eczema	1233	1.5	Epilepsy	2620	1.4
20	Stroke	1207	1.1	Epilepsy	1113	1.4	Eating disorders	2139	1.1
Top 20		85504	80.0		56935	69.4		139943	74.1
Others		21423	20.0		25048	30.6		48967	25.9
Total		106927	100.0		81983	100.0		188910	100.0

Note: COPD = Chronic obstructive pulmonary disease; MSK = Musculoskeletal; RTI = Road traffic injuries

Fatal burden of disease and injury

Fatal BOD is measured by YLL. Between 2014 and 2018, there were 157,134 YLL due to premature deaths (Table 17). In NT residents, males had 60% of YLL, despite comprising 52% of the population. Aboriginal peoples accounted for 56% of YLL in the NT, disproportionately overburdened considering their 30% proportion of the NT population.

Table 17. Years of life lost and rates per 1000 population by sex and Aboriginality, Northern Territory, 2014-2018

	Female	Male	Person
Number of YLL			
Aboriginal	40247	47253	87500
Non-Aboriginal	22371	47264	69635
Total	62618	94517	157134
Crude rate (YLL per 1000 population)			
Aboriginal	220.0	253.3	236.8
Non-Aboriginal	55.1	104.4	81.1
Total	106.4	147.9	128.0
Aboriginal/Non-Aboriginal rate ratio	3.99	2.43	2.92

Note: YLL = Years of life lost

Table 18. Rates and rate ratios of years of life lost by age, sex, and Aboriginality, Northern Territory, 2014-2018

Age group	Aboriginal		Abor	Non-Aboriginal		Non-Abor	Rate ratio		Total
(years)	Female	Male		Female	Male		Female	Male	
0-	281.7	240.7	260.3	79.4	82.6	81.0	3.5	2.9	3.2
5-	4.3	28.2	16.7	6.2	0.0	3.0	0.7	Inf	5.5
10-	17.0	34.4	26.2	13.4	23.1	18.3	1.3	1.5	1.4
15-	81.6	101.3	91.9	28.4	40.4	34.8	2.9	2.5	2.6
20-	59.3	143.6	103.4	23.9	76.6	52.5	2.5	1.9	2.0
25-	113.5	185.3	151.0	18.3	44.5	31.9	6.2	4.2	4.7
30-	147.4	186.8	167.6	14.4	45.4	30.4	10.2	4.1	5.5
35-	176.3	317.0	247.2	16.2	44.7	31.0	10.9	7.1	8.0
40-	269.1	333.3	300.9	35.4	61.7	49.4	7.6	5.4	6.1
45-	354.0	436.0	393.3	44.4	79.2	62.9	8.0	5.5	6.3
50-	481.4	621.6	547.6	55.9	106.8	83.1	8.6	5.8	6.6
55-	509.6	653.7	576.4	82.9	169.0	128.7	6.1	3.9	4.5
60-	707.2	837.0	766.2	109.8	219.4	169.9	6.4	3.8	4.5
65-	854.4	805.0	833.1	161.9	292.2	236.3	5.3	2.8	3.5
70-	659.0	1001.9	805.3	246.2	429.0	350.4	2.7	2.3	2.3
75-	1173.2	1219.7	1190.2	285.3	561.9	440.0	4.1	2.2	2.7
80-	962.5	1001.6	974.8	494.9	772.5	634.4	1.9	1.3	1.5
85+	900.9	873.1	891.2	570.2	779.9	659.4	1.6	1.1	1.4
Crude rate	220.0	253.3	236.8	55.1	104.4	81.1	4.0	2.4	2.9
Age-std rate	308.4	378.7	342.0	70.0	123.8	98.8	4.4	3.1	3.5

Note: Abor = Aboriginal; Age-std = Age-standardised on 2001 Australian estimated resident population; Inf = Infinity

The age-specific YLL rate was generally higher in males than females among both non-Aboriginal and Aboriginal populations (Table 18). Aboriginal males and females had a higher age and sex specific YLL rate and total crude rate compared to the corresponding non-Aboriginal rates. The age-standardised rate was 3.5 times higher for the Aboriginal than non-Aboriginal population (Table 18). More trend data on total deaths and YLL are provided in Appendix (Table A 2).

Years of life lost by category

The age-standardised rate of YLL per 1000 population was 1.37 times higher for males than females in the NT (Table 19). In both males and females, cancer was the leading category of YLL, followed by cardiovascular disease and injuries. The difference between the male and female age-standardised rate of YLL was accounted for by cardiovascular diseases (34.2%), unintentional injury (27.1%) and cancer (21.5%).

The age-standardised rate of YLL per 1000 population was 3.46 times higher in the Aboriginal than in the non-Aboriginal population (Table 20). The leading category of YLL among the Aboriginal population was cardiovascular disease compared with cancer in the non-Aboriginal population. The differences between the Aboriginal and non-Aboriginal age-standardised rate of YLL were mainly attributed to cardiovascular diseases (24.6%), cancer (14%) and kidney diseases (12.8%).

Table 19. Age-standardised years of life lost per 1000 population and rate ratio by category and sex, Northern Territory, 2014-2018

	Female	Male	M/F Ratio	Difference	Contribution
Cancer	34.0	44.4	1.31	10.4	21.5%
Cardiovascular	23.2	39.7	1.71	16.6	34.2%
Unintentional inj	9.0	22.2	2.45	13.1	27.1%
Intentional inj	7.6	15.8	2.08	8.2	16.9%
Respiratory	9.6	12.0	1.24	2.3	4.8%
Kidney	9.2	6.5	0.70	-2.7	-5.6%
Infant	7.2	7.3	1.01	0.1	0.2%
Neurological	6.8	7.5	1.11	0.7	1.5%
Gastrointestinal	6.3	7.0	1.12	0.7	1.5%
Infectious	5.6	5.0	0.89	-0.6	-1.3%
Endocrine	5.7	4.3	0.76	-1.4	-2.8%
Blood	2.0	3.0	1.48	1.0	2.0%
Musculoskeletal	2.0	1.1	0.55	-0.9	-1.8%
Mental	0.6	1.3	2.02	0.6	1.3%
Skin	0.3	0.6	1.71	0.2	0.5%
Hearing	0.0	0.1	2.71	0.1	0.2%
Oral	0.0	0.1	3.75	0.1	0.2%
Reproductive	0.1	0.0	0.00	-0.1	-0.2%
Total	129.3	177.8	1.37	48.5	100.0%
95% CI	128.5-130.2	176.9-178.8	1.36-1.39		

* Sorted by the total rate; CI = Confidence interval; M/F = Males compared to females; inj = Injuries

Table 20. Age-standardised rate of years of life lost per 1000 population by category and Aboriginality, Northern Territory, 2014-2018

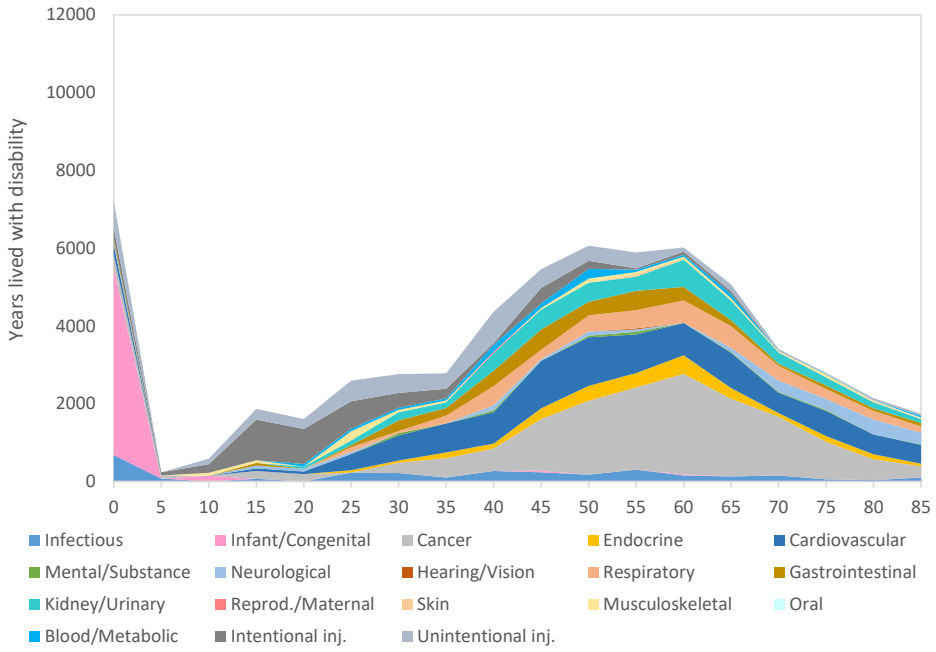
Rate per 1000*	Aboriginal	Non-Aboriginal	A/N rate ratio	Difference	Contribution
Cancer	66.4	32.4	2.05	34.0	14.0%
Cardiovascular	78.2	18.3	4.27	59.9	24.6%
Unintentional inj	27.4	11.8	2.32	15.6	6.4%
Respiratory	27.5	6.6	4.18	20.9	8.6%
Kidney	32.8	1.6	20.41	31.2	12.8%
Intentional inj	20.4	7.4	2.77	13.1	5.4%
Neurological	15.3	5.0	3.07	10.3	4.2%
Gastrointestinal	17.4	3.4	5.08	14.0	5.7%
Infant	12.2	4.4	2.81	7.9	3.2%
Endocrine	15.9	2.3	6.86	13.6	5.6%
Infectious	14.3	2.6	5.44	11.7	4.8%
Blood	6.5	1.2	5.26	5.3	2.2%
Musculoskeletal	4.0	0.8	5.34	3.3	1.4%
Mental	2.1	0.6	3.31	1.5	0.6%
Skin	0.9	0.3	2.74	0.6	0.2%
Hearing	0.3	0.0	Inf	0.3	0.1%
Oral	0.2	0.0	7.33	0.1	0.1%
Reproductive	0.1	0.0	Inf	0.1	0.1%
Total	342.0	98.8	3.46	243.2	100.0%
95% CI	340.5-343.6	98.1-99.4	3.43-3.50		

* Sorted by the total rate; A/N=Aboriginal compared to non-Aboriginal; CI = Confidence interval; Inf = Infinity; inj = Injuries

Figures 41 and 42 show that YLL patterns by BOD categories varied with age for females and males. The age-specific YLL were substantially higher among males than females, given that Figures 41 and 42 have identical scales of x and y-axis. YLL due to unintentional and intentional injury were higher for males than females in the 10 to 55 age groups. Endocrine disorders and kidney diseases appeared to cause more YLL in females than males. Cardiovascular diseases and cancers appeared to be life-shortening for both males and females.

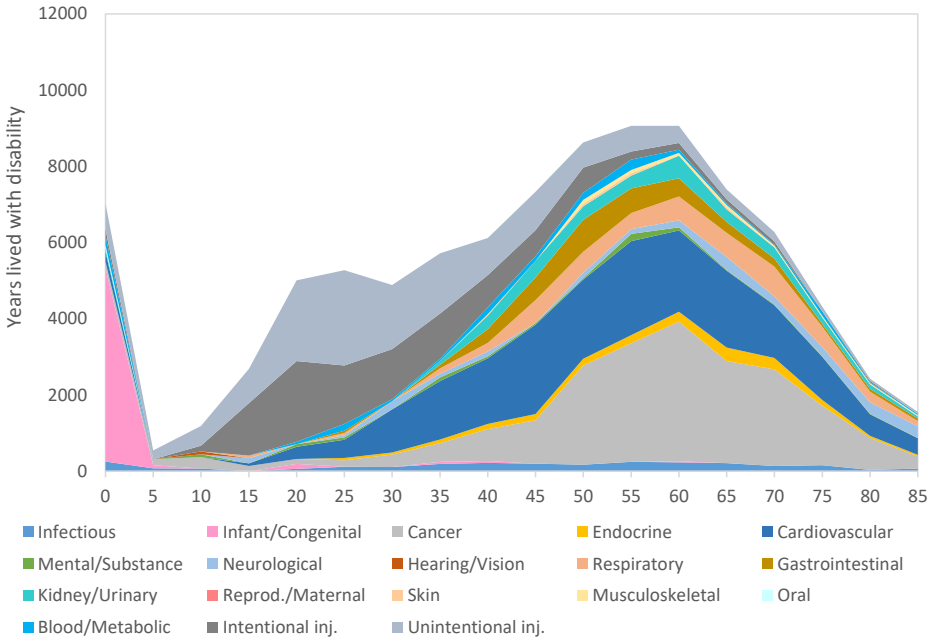
Figures 43 and 44 present the age distribution of fatal BOD caused by each category, respectively for NT Aboriginal and non-Aboriginal populations. The total numbers of YLL were substantially higher among Aboriginal people compared to non-Aboriginal people, especially in younger age groups. YLL in intentional injury for younger adults aged between 10 and 34 years was substantially higher in Aboriginal than non-Aboriginal people, whilst the reverse was true for unintentional injury. Cardiovascular, kidney and respiratory diseases were more life-shortening for older adults aged 35 years and over in Aboriginal than non-Aboriginal people. For Aboriginal and non-Aboriginal people, cancer YLL were considerably higher after age 45. YLL due to cardiovascular disease, respiratory disease, and neurological disorders was more pronounced in the non-Aboriginal population after 65 years of age.

Figure 41. Years of life lost by category and age, females, Northern Territory, 2014-2018



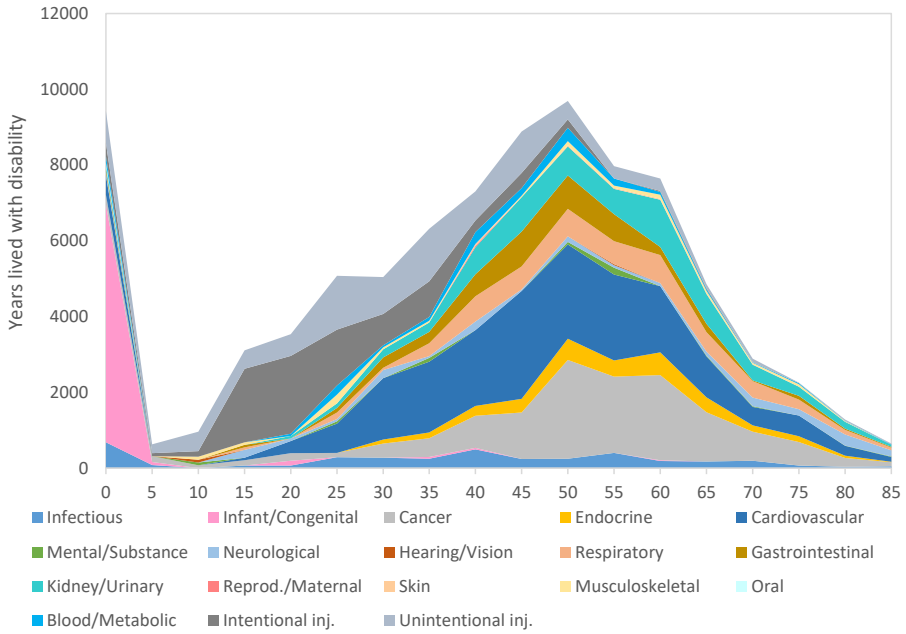
Note: Reprod = Reproductive; inj = injuries

Figure 42. Years of life lost by category and age, males, Northern Territory, 2014-2018



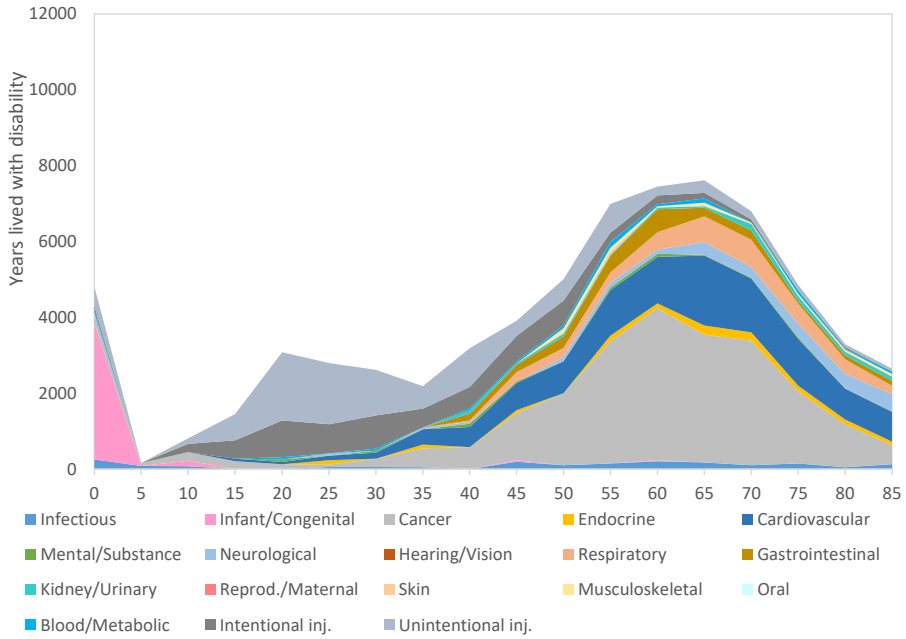
Note: Reprod = Reproductive; inj = injuries

Figure 43. Years of life lost by category and age, Aboriginal population, Northern Territory, 2014-2018



Note: Reprod = Reproductive; inj = injuries

Figure 44. Years of life lost by category and age, non-Aboriginal population, Northern Territory, 2014-2018



Note: Reprod = Reproductive; inj = injuries

Years of life lost by cause

In the NT, 65% of the total YLL was contributed to by the top 20 causes (Table 21). Coronary heart disease, suicide or self-inflicted injury and lung cancer were the top three leading causes for YLL in the NT. Coronary heart disease, chronic kidney disease, and suicide or self-inflicted injury were the top three causes of fatal BOD for females, and coronary heart disease, suicide or self-inflicted and road traffic injury were the top three for males.

Coronary heart disease, suicide or self-inflicted injury and chronic kidney disease were the top three causes of YLL among Aboriginal peoples (Table 22). In contrast, suicide or self-inflicted injury, coronary heart disease and lung cancer were the top three leading causes of YLL in non-Aboriginal people.

Figures 45 and 46 represent the five leading causes contributing to YLL by age groups for Aboriginal and non-Aboriginal people respectively. Among Aboriginal people (Figure 45), pre-term birth was the leading cause of YLL in ages under five years (causing 26% of YLL). Suicide or self-inflicted injury was the primary leading cause of YLL for age groups 15-24 years (32%). By contrast, coronary heart disease was the largest contributor for age groups 25-44 (16%) and 45-64 (18%). On the other hand, among non-Aboriginal people (Figure 46), suicide or self-inflicted injury was the primary leading cause for the 5-14 (15%), 15-23 (32%) and 25-44 (24%) year age groups, and in age groups 45-74, lung cancer was the leading causes for YLL (11-12%).

Figure 45. The five leading causes contributing to years of life lost by age, Northern Territory Aboriginal population, 2014-2018

	Under 5	5-14	15-24	25-44	45-64	65-74	75+
1st	Pre-term birth and low birthweight complications (2409; 26%)	Road traffic injuries - motor vehicle occupants (297; 19%)	Suicide and self-inflicted injuries (1454; 32%)	Coronary heart disease (3857; 16%)	Coronary heart disease (6138; 18%)	Chronic kidney disease (1200; 16%)	Dementia (556; 13%)
2nd	Birth trauma and asphyxia (1720; 18%)	Other unintentional injuries (227; 14%)	Road traffic injuries - motor vehicle occupants (1243; 27%)	Suicide and self-inflicted injuries (2596; 11%)	Chronic kidney disease (3416; 10%)	Chronic obstructive pulmonary disease (808; 10%)	Coronary heart disease (482; 12%)
3rd	Other disorders of infancy (860; 9%)	Leukaemia (150; 9%)	Road traffic injuries - motorcyclists (328; 7%)	Road traffic injuries - motor vehicle occupants (1701; 7%)	Chronic liver disease (2135; 6%)	Coronary heart disease (692; 9%)	Chronic kidney disease (462; 11%)
4th	Sudden infant death syndrome (602; 6%)	Suicide and self-inflicted injuries (147; 9%)	Road traffic injuries - other (207; 5%)	Chronic kidney disease (1185; 5%)	Chronic obstructive pulmonary disease (2113; 6%)	Lung cancer (565; 7%)	Chronic obstructive pulmonary disease (383; 9%)
5th	Other infections (342; 4%)	Lower respiratory infections (80; 5%)	Other malignant neoplasms (cancers) (200; 4%)	Road traffic injuries - other (1100; 5%)	Diabetes (1843; 5%)	Diabetes (553; 7%)	Diabetes (208; 5%)

Figure 46. The five leading causes contributing to years of life lost by age, Northern Territory non-Aboriginal population, 2014-2018

	Under 5	5-14	15-24	25-44	45-64	65-74	75+
1st	Birth trauma and asphyxia (1032; 21%)	Suicide and self-inflicted injuries (145; 15%)	Suicide and self-inflicted injuries (1454; 32%)	Suicide and self-inflicted injuries (2620; 24%)	Lung cancer (2602; 11%)	Lung cancer (1718; 12%)	Coronary heart disease (1200; 11%)
2nd	Pre-term birth and low birthweight complications (774; 16%)	Kidney cancer (80; 8%)	Road traffic injuries - motor vehicle occupants (1243; 27%)	Road traffic injuries - motor vehicle occupants (1814; 17%)	Coronary heart disease (2382; 10%)	Coronary heart disease (1653; 11%)	Chronic obstructive pulmonary disease (958; 9%)
3rd	Other disorders of infancy (516; 11%)	Other meningitis and encephalitis (79; 8%)	Road traffic injuries - motorcyclists (328; 7%)	Poisoning (928; 9%)	Suicide and self-inflicted injuries (1711; 7%)	Chronic obstructive pulmonary disease (1183; 8%)	Dementia (921; 9%)
4th	Congenital cardiovascular defects (430; 9%)	Cerebral palsy (76; 8%)	Road traffic injuries - other (207; 5%)	Other land transport injuries (428; 4%)	Chronic liver disease (1353; 6%)	Bowel cancer (864; 6%)	Lung cancer (778; 7%)
5th	Sudden infant death syndrome (258; 5%)	Other malignant neoplasms (cancers) (75; 8%)	Other malignant neoplasms (cancers) (200; 4%)	Coronary heart disease (427; 4%)	Bowel cancer (1221; 5%)	Diabetes (462; 3%)	Stroke (538; 5%)

Table 21. Leading 20 specific causes contributing to fatal burden by sex, Northern Territory, 2014-2018

	Female			Male			Person		
	Cause	YLL	%	Cause	YLL	%	Cause	YLL	%
1	Coronary heart disease	4,387	7.0	Coronary heart disease	12,574	13.3	Coronary heart disease	16,962	10.8
2	Chronic kidney disease	4,105	6.6	Suicide and self-inflicted injuries	9,099	9.6	Suicide and self-inflicted injuries	13,006	8.3
3	Suicide and self-inflicted injuries	3,907	6.2	RTI - motor vehicle occupants	5,315	5.6	Lung cancer	7,846	5.0
4	Lung cancer	3,503	5.6	Lung cancer	4,343	4.6	RTI - motor vehicle occupants	7,149	4.5
5	COPD	2,881	4.6	COPD	3,980	4.2	Chronic kidney disease	7,066	4.5
6	Chronic liver disease	2,567	4.1	Chronic kidney disease	2,961	3.1	COPD	6,860	4.4
7	Type 2 diabetes	2,477	4.0	Chronic liver disease	2,824	3.0	Chronic liver disease	5,390	3.4
8	Breast cancer	2,178	3.5	Bowel cancer	2,291	2.4	Type 2 diabetes	4,467	2.8
9	RTI - motor vehicle occupants	1,833	2.9	Type 2 diabetes	1,990	2.1	Bowel cancer	3,570	2.3
10	Birth trauma and asphyxia	1,720	2.7	Mouth and pharyngeal cancer	1,970	2.1	Stroke	3,396	2.2
11	Other cardiovascular diseases	1,477	2.4	Stroke	1,970	2.1	Other cardiovascular diseases	3,213	2.0
12	Stroke	1,427	2.3	Pre-term birth and LBW	1,892	2.0	Pre-term birth and LBW	3,183	2.0
13	Pre-term birth and LBW	1,290	2.1	Other unintentional injuries	1,840	1.9	Birth trauma and asphyxia	2,753	1.8
14	Bowel cancer	1,279	2.0	Poisoning	1,826	1.9	Unknown primary	2,639	1.7
15	Rheumatic heart disease	1,264	2.0	Other cardiovascular diseases	1,736	1.8	Poisoning	2,484	1.6
16	Dementia	1,134	1.8	Homicide and violence	1,563	1.7	Mouth and pharyngeal cancer	2,470	1.6
17	Unknown primary	1,099	1.8	Liver cancer	1,556	1.6	Liver cancer	2,462	1.6
18	Other blood & metabolic disorder	933	1.5	Unknown primary	1,541	1.6	Other unintentional injuries	2,425	1.5
19	Lower respiratory infections	912	1.5	Other blood & metabolic disorder	1,466	1.6	Other blood & metabolic disorder	2,399	1.5
20	Liver cancer	906	1.4	Road traffic injuries - other	1,330	1.4	Homicide and violence	2,336	1.5
Top		41,277	65.9		64,069	67.8		102,074	65.0
Others		21,340	34.1		30,447	32.2		55,060	35.0
Total		62,618	100.0		94,517	100.0		157,134	100.0

Note: COPD = Chronic obstructive pulmonary disease; LBW = Low birthweight complications; RTI = Road traffic injuries

Table 22. Leading 20 specific causes contributing to fatal burden by Aboriginality, Northern Territory, 2014-2018

	Aboriginal			Non-Aboriginal			Person		
	Cause	YLL	%	Cause	YLL	%	Cause	YLL	%
1	Coronary heart disease	11299	12.9	Suicide and self-inflicted injuries	6254	9.0	Coronary heart disease	16962	10.8
2	Suicide and self-inflicted injuries	6752	7.7	Coronary heart disease	5662	8.1	Suicide and self-inflicted injuries	13006	8.3
3	Chronic kidney disease	6414	7.3	Lung cancer	5197	7.5	Lung cancer	7846	5.0
4	COPD	3714	4.2	RTI- motor vehicle occupants	3692	5.3	RTI- motor vehicle occupants	7149	4.5
5	Chronic liver disease	3461	4.0	COPD	3146	4.5	Chronic kidney disease	7066	4.5
6	RTI- motor vehicle occupants	3457	4.0	Bowel cancer	2768	4.0	COPD	6860	4.4
7	Type 2 diabetes	3078	3.5	Chronic liver disease	1929	2.8	Chronic liver disease	5390	3.4
8	Lung cancer	2649	3.0	Stroke	1778	2.6	Type 2 diabetes	4467	2.8
9	Pre-term birth and LBW	2409	2.8	Poisoning	1547	2.2	Bowel cancer	3570	2.3
10	Homicide and violence	2025	2.3	Other cardiovascular diseases	1534	2.2	Stroke	3396	2.2
11	Rheumatic heart disease	2004	2.3	Breast cancer	1462	2.1	Other cardiovascular diseases	3213	2.0
12	RTI - other	1746	2.0	Unknown primary	1450	2.1	Pre-term birth and LBW	3183	2.0
13	Birth trauma and asphyxia	1720	2.0	Type 2 diabetes	1389	2.0	Birth trauma and asphyxia	2753	1.8
14	Other cardiovascular diseases	1680	1.9	Falls	1149	1.6	Unknown primary	2639	1.7
15	Stroke	1618	1.8	Liver cancer	1129	1.6	Poisoning	2484	1.6
16	Other blood & metabolic disorder	1606	1.8	Other unintentional injuries	1124	1.6	Mouth and pharyngeal cancer	2470	1.6
17	Mouth and pharyngeal cancer	1400	1.6	Mouth and pharyngeal cancer	1070	1.5	Liver cancer	2462	1.6
18	Liver cancer	1333	1.5	Dementia	1069	1.5	Other unintentional injuries	2425	1.5
19	Other unintentional injuries	1301	1.5	Pancreatic cancer	1036	1.5	Other blood & metabolic disorders	2399	1.5
20	Other chronic respiratory diseases	1238	1.4	Birth trauma and asphyxia	1032	1.5	Homicide and violence	2336	1.5
Top 20		60904	69.6		45416	65.2		102074	65.0
Others		26596	30.4		24218	34.8		55060	35.0
Total		87500	100.0		69635	100.0		157134	100.0

Note: COPD = Chronic obstructive pulmonary disease; LBW = Low birthweight complications; RTI = Road traffic injuries

Figures 47 and 48 show the five leading causes contributing to YLL by age groups for females and males respectively. Birth trauma and pre-term birth were the top leading causes of YLL for ages under five years for females (24%) and males (27%). Suicide or self-inflicted injury was the leading cause for age groups 5-24 years, accounting for 26-51% of YLL in females (Figure 47). Suicide or self-inflicted injury was the leading cause for age groups 15-44 years in males, accounting for 19-39% of YLL (Figure 48). Coronary heart disease became a major contributing cause of YLL in females and males after 25 years of age. More details of YLL analysis have been provided elsewhere.[1,19]

Figure 47. The five leading causes contributing to years of life lost by age, Northern Territory females, 2014-2018

	Under 5	5-14	15-24	25-44	45-64	65-74	75+
1st	Birth trauma and asphyxia (1720; 24%)	Suicide and self-inflicted injuries (219; 26%)	Suicide and self-inflicted injuries (1761; 51%)	Coronary heart disease (1140; 9%)	Coronary heart disease (2092; 9%)	Lung cancer (988; 12%)	Dementia (831; 12%)
2nd	Pre-term birth and low birthweight complications (1290; 18%)	Kidney cancer (80; 10%)	Road traffic injuries - motor vehicle occupants (328; 9%)	Suicide and self-inflicted injuries (1063; 8%)	Chronic kidney disease (1970; 8%)	Chronic obstructive pulmonary disease (794; 9%)	Coronary heart disease (677; 10%)
3rd	Other disorders of infancy (516; 7%)	Homicide and violence (79; 10%)	Homicide and violence (192; 6%)	Chronic liver disease (828; 7%)	Lung cancer (1968; 8%)	Chronic kidney disease (789; 9%)	Chronic obstructive pulmonary disease (511; 8%)
4th	Congenital cardiovascular defects (428; 6%)	Other meningitis and encephalitis (79; 10%)	Other malignant neoplasms (cancers) (130; 4%)	Chronic kidney disease (827; 7%)	Chronic liver disease (1420; 6%)	Coronary heart disease (479; 6%)	Chronic kidney disease (454; 7%)
5th	Sudden infant death syndrome (344; 5%)	Cerebral palsy (76; 9%)	Epilepsy (70; 2%)	Road traffic injuries - motor vehicle occupants (802; 6%)	Diabetes (1393; 6%)	Diabetes (369; 4%)	Stroke (394; 6%)

Figure 48. The five leading causes contributing to years of life lost by age, Northern Territory males, 2014-2018

	Under 5	5-14	15-24	25-44	45-64	65-74	75+
1st	Pre-term birth and low birthweight complications (1892; 27%)	Other unintentional injuries (302; 17%)	Suicide and self-inflicted injuries (3034; 39%)	Suicide and self-inflicted injuries (4153; 19%)	Coronary heart disease (6428; 19%)	Coronary heart disease (1866; 14%)	Coronary heart disease (1005; 12%)
2nd	Birth trauma and asphyxia (1032; 15%)	Road traffic injuries - motor vehicle occupants (225; 13%)	Road traffic injuries - motor vehicle occupants (1384; 18%)	Coronary heart disease (3145; 14%)	Lung cancer (2370; 7%)	Lung cancer (1295; 9%)	Chronic obstructive pulmonary disease (830; 10%)
3rd	Other disorders of infancy (860; 12%)	Leukaemia (223; 13%)	Homicide and violence (459; 6%)	Road traffic injuries - motor vehicle occupants (2714; 12%)	Chronic liver disease (2069; 6%)	Chronic obstructive pulmonary disease (1197; 9%)	Dementia (645; 8%)
4th	Sudden infant death syndrome (516; 7%)	Brain and central nervous system cancer (153; 9%)	Other unintentional injuries (386; 5%)	Poisoning (945; 4%)	Chronic obstructive pulmonary disease (1770; 5%)	Diabetes (646; 5%)	Lung cancer (576; 7%)
5th	Congenital cardiovascular defects (258; 4%)	Lower respiratory infections (80; 5%)	Road traffic injuries - motorcyclists (328; 4%)	Homicide and violence (729; 3%)	Chronic kidney disease (1638; 5%)	Chronic kidney disease (603; 4%)	Prostate cancer (424; 5%)

Life expectancy and health adjusted life expectancy

LE and HALE refer to the average number of years of life and healthy life respectively, which a person at a given age in a particular year can expect to live if age-specific mortality and morbidity rates (of that particular year) remained through their lives. The difference between LE and HALE represents the average number of years a person can expect to live in ill-health. These measures are typically reported at birth (the average LE for a baby born that year) and at age 65 for describing health in an aged population.

LE and HALE at birth

For the NT non-Aboriginal population (Table 23), boys born during 2014-2018 were expected to live for 79.9 years with 69.9 years of healthy life, and girls born during the same period to live for 85.4 years with 74.8 years in full health. The NT non-Aboriginal population had a very similar LE to the non-Indigenous Australian population (lower panel in Table 23).

There was a substantial difference in LE and HALE by Indigenous status (Table 23). The NT Aboriginal populations had substantially shorter LE at birth compared to their non-Aboriginal counterparts, by 14.0 years for males and 16.6 years for females (Table 23 and Figure 49). Besides from the shorter LE, Aboriginal males and females enjoyed only 43.3 and 41.4 years of healthy life, respectively. NT Aboriginal males and females experienced significant disease and disability for 22.6 and 27.4 years respectively. This resulted in fewer years living in full health (60-66% compared with non-Aboriginal 87-88%). The NT non-Aboriginal males and females enjoyed 69.9 and 74.8 years of a healthy life, with 10.1 and 9.1 years of ill-health. Together, these caused an even more remarked deficit of HALE in the Aboriginal population, which was 26.6 years for males and 33.5 years for females.

The difference between LE and HALE was greater for Aboriginal Territorians than non-Aboriginal Territorians, who also had much lower LE and HALE than the average Indigenous Australian in the country (lower panel in Table 23). This illustrates the large gap between the NT Aboriginal population LE and HALE and the average Australian Indigenous LE and HALE.

Regardless of Aboriginal status, females had lived slightly longer LE than males. In the NT non-Aboriginal population, females also had longer HALE than males (Table 23). However, this was not the case for HALE in the NT Aboriginal population. The NT Aboriginal females had shorter HALE (41.4 years at birth) than males (43.3). Figures 49 and 50 compare LE, HALE and their differences by sex and Aboriginality between NT in 2014-2018 and Australia in 2018.

LE and HALE at age 65

For non-Aboriginal people in the NT, men at age 65 could expect to live 19.2 more years of life with 14.1 years (73%) in full health, and women could expect to live another 23 years of life with 17 years (i.e. 74%) in full health (Table 23 and Figure 50). NT Aboriginal males at age 65 were expected to live 13.8 more years and females 14.4 more years, both shorter than expected for non-Aboriginal counterparts by 5.4 and 8.6 years respectively. Further, the Aboriginal males and females at age 65 would only enjoy 4.1 and 3.2 years in good health compared to 14.1 and 17 years for their non-Aboriginal counterparts. In other words, at age 65, the NT Aboriginal population experienced worse health outcomes than the Australian Indigenous or general Australian population (the lower right panel in Table 23).

At 65 years of age, the NT Aboriginal population experienced worse health outcomes than either the Australian Indigenous population or the general Australian population (the lower right panel in Table 23).

At age 65, non-Aboriginal females lived longer and stayed healthier for longer compared to non-Aboriginal males (right panel in Table 23). However, in the Aboriginal population, males stayed healthy longer than females. The difference in LE and HALE by Aboriginality, seen at birth, sustained into older ages.

Table 23. Health adjusted life expectancy at birth and age 65 years and gap with life expectancy by sex and Aboriginality, Northern Territory 2014-2018 vs Australia 2018

	At birth (years)				At age 65 (years)			
Northern Territory	LE	HALE	Diff	HALE(%)	LE	HALE	Diff	HALE(%)
Aboriginal males	65.9	43.3	22.6	65.7	13.8	4.1	9.7	29.8
Non-Aboriginal males	79.9	69.9	10.1	87.4	19.2	14.1	5.1	73.3
Male gap	14.0	26.5	-12.5		5.4	10.0	-4.6	
Aboriginal females	68.8	41.4	27.4	60.1	14.4	3.2	11.2	22.0
Non-Aboriginal females	85.4	74.8	9.5	87.6	23.0	17.0	6.0	73.9
Female gap	16.6	33.5	-17.9		8.6	13.8	-5.2	
Australia								
Indigenous males	70.0	56.0	14.0	80.0	14.9	9.1	5.8	61.1
Non-Indigenous males	80.2	71.1	9.1	88.7	19.0	14.6	4.4	76.8
Male gap	10.2	15.1	-4.9		4.1	5.5	-1.4	
Indigenous females	74.4	58.8	15.6	79.0	16.3	9.5	6.8	58.3
Non-Indigenous females	83.5	72.7	10.8	87.1	20.5	15.7	4.8	76.6
Female gap	9.1	13.9	-4.8		4.2	6.2	-2.0	

Note: HALE = Health adjusted life expectancy; LE = Life expectancy; Gap = Non-Aboriginal minus Aboriginal; Diff = LE-HALE

Figure 49. Life expectancy at birth, lived in full health and ill-health by sex and Aboriginality, Northern Territory (NT) 2014-2018 vs Australia 2018

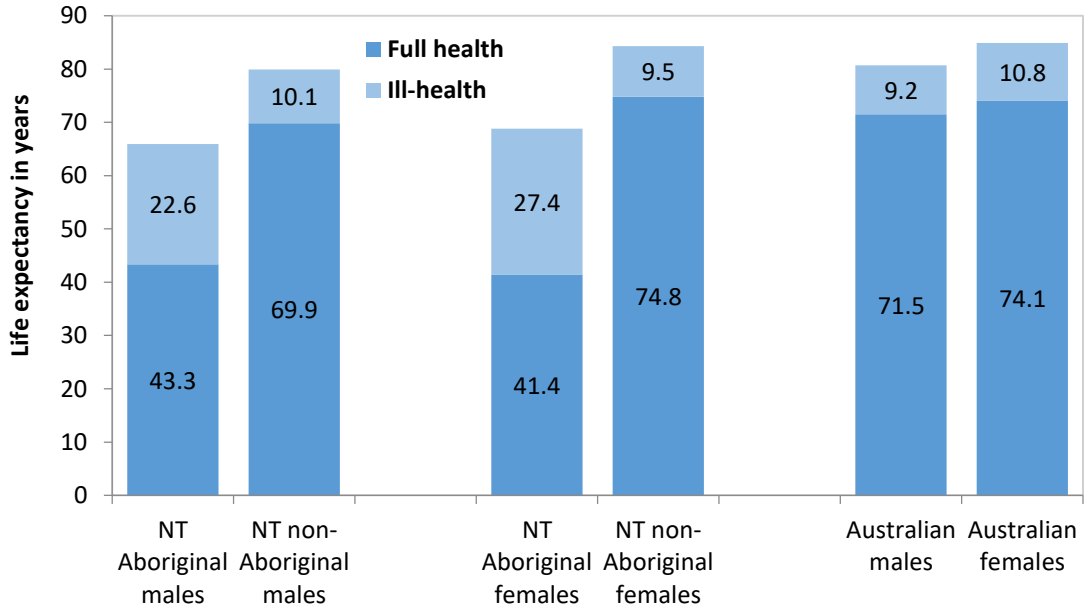


Figure 50. Life expectancy at age 65 years, lived in full health and ill-health by sex and Aboriginality, Northern Territory (NT) 2014-2018 vs Australia 2018

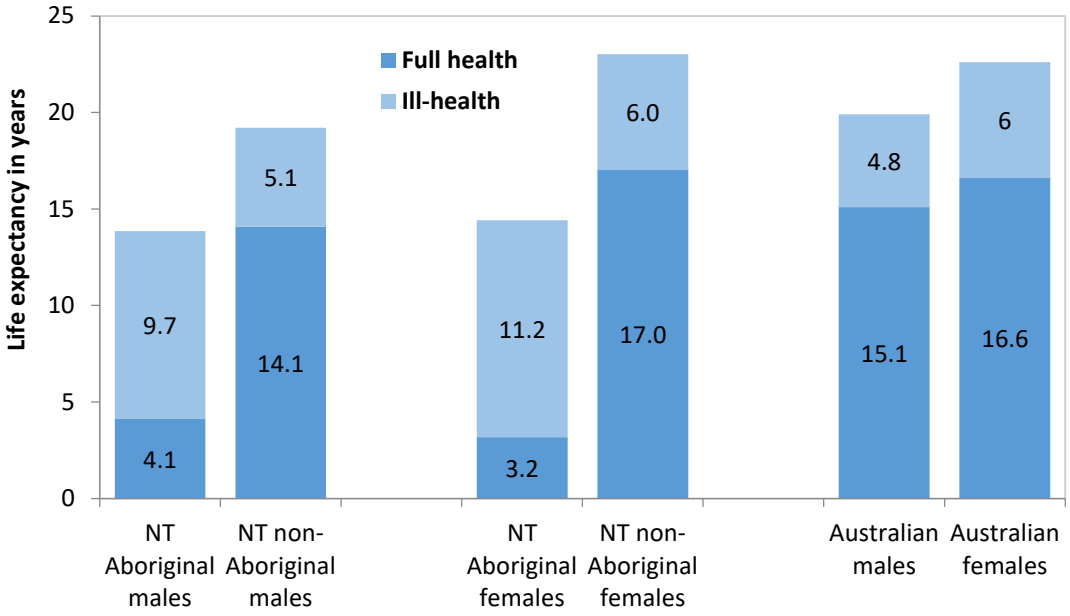


Table 24. Disability adjusted life years attributed to selected risk factors, Aboriginal and non-Aboriginal populations, Northern Territory, 2014-2018

	Abor		Non-Abor		Total	
	DALY	%	DALY	%	DALY	%
Socio-economic disadvantage*					77264	22.3
High body mass	22883	11.8	8606	5.7	31460	9.1
Alcohol	18947	9.7	10016	6.6	28948	8.4
Physical inactivity	20001	10.3	8116	5.4	28093	8.1
Tobacco	15751	8.1	10566	7.0	26311	7.6
High blood pressure	7115	3.7	5077	3.3	12190	3.5
Low fruit and vegetable intake	7785	4.0	2865	1.9	10639	3.1
High blood cholesterol	5541	2.8	4671	3.1	10213	3.0
Intimate partner violence	4736	2.4	2113	1.4	6844	2.0
Occupational exposures	0	0.0	5042	3.3	5058	1.5
Illicit drugs	1749	0.9	1906	1.3	3656	1.1
Child sexual abuse	1163	0.6	975	0.6	2138	0.6
Unsafe sex	645	0.3	804	0.5	1449	0.4
Air pollution - long term	0	0.0	693	0.5	695	0.2
Osteoporosis	0	0.0	351	0.2	352	0.1
Ozone - short term	0	0.0	157	0.1	158	0.0
Particulates - short term	0	0.0	116	0.1	116	0.0
Total	194427	100.0	151618	100.0	346044	100.0

* Combined socio-economic indices for areas;[17] Abor = Aboriginal; DALY=Disability adjusted life years

Contribution of risk factors to burden

The top five risk factors contributing to total BOD among Aboriginal and non-Aboriginal populations were socio-economic disadvantage, high body mass, alcohol, physical inactivity, and tobacco (Table 24). 22.3% of DALY was attributable to socio-economic disadvantage or poverty, followed by overweight/high body mass (9.1%), alcohol abuse (8.4%), physical inactivity (8.1%) and tobacco (7.6%). The contribution to the total burden by most of the risk factors was higher in the Aboriginal population compared to the non-Aboriginal population.

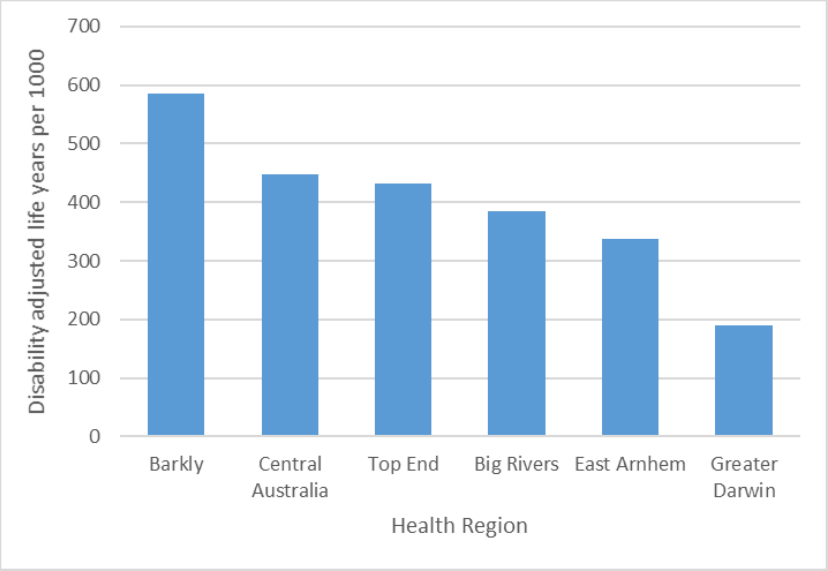
A combination of four SEIFA components contributed 22.3% of the health inequality (Table 25). A Gini index of 0.96 indicates profound socio-economic inequality in the NT in terms of DALY geographic distribution.

Table 25. Contributions to total burden by socio-economic inequality

		Socio-economic status contributions				
	Gini index	SEIFA1	SEIFA2	SEIFA3	SEIFA4	SEIFAC
YLL	0.360	58.5%	56.2%	52.7%	43.3%	57.6%
YLD	0.707	37.2%	37.0%	37.9%	31.5%	37.8%
DALY	0.960	22.6%	21.8%	20.7%	17.1%	22.3%

Note: DALY=Disability adjusted life years; SEIFA = Socio-economic indices for areas in Australia;[17] SEIFA1=Index of Relative Socio-economic Disadvantage; SEIFA2=Index of Relative Socio-economic Advantage and Disadvantage; SEIFA3=Index of Economic Resources; SEIFA4=Index of Education and Occupation; SEIFAC=Combined SEIFA; YLD=Years lived with disability; YLL=Years of life lost

Figure 51. Disability adjusted life years per 1000 population by health regions, Northern Territory 2014-2018



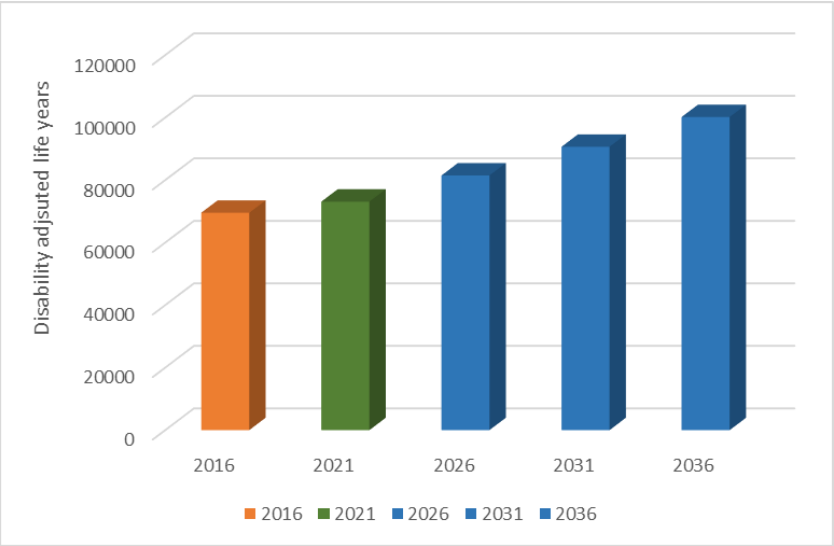
Variation across geographic areas

Variation of BOD between health regions was calculated using DALY rates. The DALY rate was highest in Barkly region and lowest in Greater Darwin region (Figure 51). DALY rate appears to be associated with regional remoteness and a higher proportion of the population being Aboriginal.

Future projection

The total number of DALY was projected to increase at a rate of 2.6% annually for the next three 5-year periods until 2033, which outpaced the projected annual population growth of 1.7%. Further details of BOD projections are available for the next phase of this BOD study on workforce planning, including benchmarking against the national average per BOD and professional area assessment of workforce needs and requirements.

Figure 52. Projected disability adjusted life years, Northern Territory 2016-2036



Discussion

This report describes the results of DALY for the NT between 2014 and 2018 by key demographics such as age, sex, Aboriginality and health region by offering important details by BOD category and underlying causes. The NT BOD estimates (including DALY, YLL, YLD, LE and HALE) presented within this study, are fundamental to the development of both data driven health policy and health service planning for the NT. This report collates data from various sources by 18 categories and 223 causes, which when added together form the total BOD in terms of DALY. One DALY is one year of healthy life lost due to premature death or debilitating illness. For any disease or injury, a higher number of DALY signifies a greater BOD.

This 2014-2018 report follows on from the previous NT BOD studies (1994–1998, 1999–2003 and 2004–2013). It incorporates information over a longer period (5 years) than the NT estimates of annual national study. This study followed the methodology and classification of both the national and global BOD studies.[3,20] It uses the most up-to-date mortality and morbidity data and applies the standard classifications for BOD categories and causes taken from the Australian BOD study. In this study, YLD was calculated using the global BOD disability weights.[21] The disability weight is essential for the estimation of ill-health due to a certain cause. Although we have not validated the disability weights, they are regarded as gold standard and are used by AIHW and global BOD studies.

We have also included additional disease entities relevant to the NT, including melioidosis, scabies and COVID-19. These additions are required for healthcare service planning and future BOD projections. Comparison was made between Aboriginal and non-Aboriginal results, as well as between NT results and the national estimates. In this report, injuries were divided into intentional and unintentional injury categories. The results of this study are broadly comparable to the previous studies (2004-2013 NT BOD study, and 2015 and 2018 national BOD studies) as they were all prevalence based estimates.

The key findings from this study are outlined below:

- The NT Aboriginal population experienced a greater BOD than the NT non-Aboriginal population. Aboriginal males and females have a higher DALY rate compared to the non-Aboriginal male (3.2 times) and female (4.2 times) rates after age standardisation.
- The age-standardised DALY rate for the NT Aboriginal population was 3.6 times the non-Aboriginal rate between 2014 and 2018. This was 3.9 times the national average in 2018.
- In the NT population, fatal BOD decreased slightly from 48% in 2004-2013 to 45% in 2014-2018, and non-fatal BOD increased slightly from 52% in 2004-2013 to 55% in 2014-2018.
- The age-standardised DALY rate of the NT population was higher than the Australian DALY rate by 1.8 times in females and 1.7 times in males.
- Compared to their non-Aboriginal counterparts in the NT, the Aboriginal population had a substantially shorter LE at birth, by 14.0 years for males and 16.6 years for females. In addition to the shorter LE, Aboriginal peoples enjoyed fewer years living in full health. The deficit of healthy life years in the Aboriginal population was 26.6 years for males and 33.5 years for females. Aboriginal Territorians also had a much lower LE and HALE than the Indigenous Australian national average. The NT non-Aboriginal results are similar to the Australian non-Indigenous population.
- The BOD rate was higher in remote areas than in urban areas.
- The top five BOD categories that accounted for 54% of the total DALY for the NT population in 2014-2018 were cardiovascular disease (12%), cancer (12%), mental disorder (11%), musculoskeletal condition (10%) and intentional injury (9%).
- The three leading BOD categories among males were cardiovascular disease, cancer and intentional injury, and among females were musculoskeletal condition, cancer and cardiovascular disease.
- The combined grouping of intentional with unintentional injury accounted for 17% of the total DALY, which surpassed the leading category cardiovascular disease (12%).

- Among the Aboriginal population, the top three BOD causes, in terms of a higher proportion of the DALY, were diabetes, chronic kidney disease and coronary heart disease, and for non-Aboriginal people, the causes with the highest proportion of DALY were coronary heart disease, homicide /violence and back pain.
- In the NT population, cancer was the top fatal contributor to YLL. This was also true for the non-Aboriginal population. However, among Aboriginal people, cardiovascular disease was the largest fatal contributor to YLL.
- Endocrine disorders were the largest non-fatal category contributing to YLD in the Aboriginal population. For the non-Aboriginal population, it was musculoskeletal conditions.

Caution should be taken with the interpretation of age-standardised BOD rates that are based on the 2001 Australian ERP, as direct age-standardisation increases the weights on causes related to older ages in the relatively young NT population. These might be useful for comparison purposes but crude rates should be used for planning and service delivery. When calculating the YLL, the BOD classification is generally based on the underlying causes of death. The accuracy of YLL estimates depends on the quality of mortality data in terms of accuracy around the underlying cause of death. The quality of YLD estimates depends on the prevalence of causes (sourced from an extensive range of data sources), the nature of the condition, data availability and quality. NT prevalence data was unavailable for some BOD causes. YLD can be overestimated due to comorbidities.

The NT BOD study 2014-2018 aims to quantify healthy life years lost due to premature deaths and disability specific to the NT population. It uses an extensive range of data sets to assess diseases, injuries and risk factors that cause BOD, and thereby illuminate the size, severity and impact of BOD on the NT population. BOD analysis is important, both as a measure of current population health and health care need, as well as a tool to measure the impact of health interventions in the longer term. An understanding of the BOD within the NT population, in terms of the contribution of different diseases, injuries and risk factors, is essential for the development of NT specific health economic evaluations, health policy, health planning and health care service delivery (primordial prevention, primary, secondary and tertiary care). Our results on major diseases, injuries and risk factors, together with the information on future projected growth in BOD, highlights the importance of ongoing work to reduce the persistent disparities in health status between Aboriginal and non-Aboriginal populations in the NT.

In conclusion, this current BOD study closely follows Australian and global BOD studies by accumulating data on the mortality and morbidity of the NT population between 2014 and 2018. The magnitude and impact of health problems were predominantly ascertained by using NT data collected during provision of health care services for the NT population.

Appendix

Table A 1. Top 50 disability adjusted life years by causes and type, Northern Territory, 2014-2018

Cause	Descript	YLL	YLD	DALY	%
E01	Coronary heart disease	16962	3535	20497	5.9%
S10	Homicide and violence	2336	16376	18712	5.4%
D01b	Type 2 diabetes	3257	14499	17756	5.1%
K01	Chronic kidney disease	7066	8540	15606	4.5%
S09	Suicide and self-inflicted injuries	13006	530	13536	3.9%
F04	Alcohol use disorders	520	12628	13148	3.8%
N05	Other musculoskeletal conditions	1083	12044	13126	3.8%
N04	Back pain and problems	59	11111	11169	3.2%
I02	Chronic obstructive pulmonary disease	6860	4006	10866	3.1%
T02	Road traffic injuries - motor vehicle occupants	7149	3286	10435	3.0%
H06	Hearing loss	0	10063	10063	2.9%
I01	Asthma	551	8412	8963	2.6%
C09	Lung cancer	7846	185	8031	2.3%
F01	Depressive disorders	89	7775	7865	2.3%
E03	Rheumatic heart disease	2237	3522	5758	1.7%
J08	Chronic liver disease	5390	245	5635	1.6%
E02	Stroke	3396	1729	5125	1.5%
T06	Falls	1705	3380	5085	1.5%
N01	Osteoarthritis	61	4555	4616	1.3%
N03	Rheumatoid arthritis	231	4112	4343	1.3%
C05	Bowel cancer	3570	485	4055	1.2%
G02	Dementia	1935	2078	4013	1.2%
E11	Other cardiovascular diseases	3213	736	3949	1.1%
B01	Pre-term birth, low birthweight complications	3183	343	3526	1.0%
F02	Anxiety disorders	0	3483	3483	1.0%
T11	Other unintentional injuries	2425	839	3263	0.9%
F06	Schizophrenia	32	3196	3229	0.9%
G01	Epilepsy	544	2620	3165	0.9%
B02	Birth trauma and asphyxia	2753	65	2818	0.8%
C13	Breast cancer	2178	585	2763	0.8%
C28	Unknown primary	2639	42	2681	0.8%
C06	Liver cancer	2462	92	2554	0.7%
T05	Poisoning	2484	54	2538	0.7%
R06	Other blood and metabolic disorders	2399	78	2477	0.7%
A33b	Other infections	1907	409	2316	0.7%
F07	Eating disorders	45	2139	2184	0.6%
T03b	Road traffic injuries - other	2090	60	2150	0.6%
E06	Atrial fibrillation and flutter	448	1657	2105	0.6%

M01	Dermatitis and eczema	0	2040	2040	0.6%
G08	Other neurological conditions	1176	834	2010	0.6%
A16	Lower respiratory infections	1570	415	1985	0.6%
F08	Autism spectrum disorders	0	1975	1975	0.6%
G05	Migraine	0	1911	1911	0.6%
O01	Dental caries	0	1844	1844	0.5%
R04	Iron-deficiency anaemia	47	1688	1734	0.5%
C08	Pancreatic cancer	1646	22	1668	0.5%
C31	Other malignant neoplasms (cancers)	1566	68	1634	0.5%
E08	Cardiomyopathy	1518	97	1615	0.5%
C17	Prostate cancer	1077	519	1596	0.5%
I07	Other chronic respiratory diseases	1467	123	1590	0.5%
Others		32959	27878	60838	17.6%
Total		157134	188910	346044	100.0%

Table A 2. Comparison of total deaths and years of life lost, 1999-2018

	Deaths					Years of life lost				
Age	1999-2003	2004-2008	2009-2013	2014-2018	Total	1999-2003	2004-2008	2009-2013	2014-2018	Total
0-	247	194	188	166	795	21173	16637	16102	14229	68141
5-	12	22	18	10	62	947	1750	1428	788	4912
10-	20	29	33	24	106	1482	2137	2432	1775	7826
15-	103	90	70	66	329	7106	6204	4833	4555	22698
20-	127	145	129	103	504	8159	9329	8284	6618	32390
25-	162	136	134	133	565	9644	8066	7982	7870	33562
30-	211	186	133	141	671	11478	10100	7223	7654	36455
35-	244	259	216	172	891	12122	12817	10657	8505	44102
40-	277	301	255	236	1069	12407	13447	11366	10488	47707
45-	284	356	341	321	1302	11364	14210	13549	12793	51916
50-	313	376	433	419	1541	11027	13201	15249	14693	54169
55-	375	429	445	494	1743	11446	13104	13559	14956	53065
60-	345	426	456	579	1806	8933	11113	11848	15088	46981
65-	364	425	472	578	1839	7829	9149	10182	12466	39627
70-	358	409	488	556	1811	6181	7053	8452	9681	31366
75-	321	410	403	531	1665	4259	5419	5386	7107	22171
80-	277	316	361	470	1424	2708	3096	3474	4574	13851
85+	307	375	495	594	1771	1711	2091	2776	3295	9873
Total	4347	4884	5070	5593	19894	149974	158921	154782	157134	620812

Table A 3. Hospitalisations by cause and age, Aboriginal females, Northern Territory 2009-2013 vs 2014-2018

(Note: Repeated annual hospitalisations due to same cause for same patient eliminated)

		2009-2013							2014-2018						
BOD cause		0-	15-	30-	45-	60-	75+	Total	0-	15-	30-	45-	60-	75+	Total
A01	HIV/AIDS	0	0	0	0	0	0	0	0	0	5	1	0	0	6
A02	Tuberculosis	3	5	18	17	10	0	53	3	13	4	21	3	0	44
A03	Hepatitis A	0	0	2	1	0	0	3	0	1	1	1	0	0	3
A04	Hepatitis B (acute)	1	16	10	6	7	0	40	0	0	1	0	1	0	2
A05	Hepatitis C (acute)	1	1	4	5	5	0	16	1	7	3	1	1	0	13
A06	Syphilis	11	33	45	24	9	9	131	20	65	54	21	20	6	186
A07	Gonorrhoea	43	355	147	9	0	0	554	53	248	159	18	0	0	478
A08	Chlamydia	16	191	47	3	0	0	257	24	117	40	1	0	0	182
A09	Other sexually transmitted infections	24	418	242	61	10	1	756	49	419	256	81	6	1	812
A10	Campylobacteriosis	50	1	3	2	2	0	58	22	4	2	3	1	1	33
A11	Salmonellosis	119	12	16	25	15	2	189	59	13	15	35	17	5	144
A12	Rotavirus	214	0	1	0	2	1	218	135	0	2	2	2	1	142
A13	Other gastrointestinal infections	1094	169	250	300	179	67	2059	1068	345	459	539	304	78	2793
A14	Upper respiratory infections	693	195	180	132	39	11	1250	809	308	358	245	75	19	1814
A15	Otitis media	1147	158	124	66	10	2	1507	1006	150	110	90	18	3	1377
A16	Lower respiratory infections	1599	566	1145	1205	509	195	5219	1430	596	1200	1548	786	246	5806
A17	Influenza	145	76	108	123	37	16	505	121	81	124	198	135	32	691
A18	Diphtheria	1	2	4	0	1	0	8	1	0	1	0	0	0	2
A19	Pertussis	18	1	0	0	1	0	20	13	0	1	1	0	0	15
A21	Measles	0	0	0	0	0	0	0	0	0	2	0	0	0	2
A22	Rubella	1	0	1	0	0	0	2	0	0	0	0	0	0	0
A24	Haemophilus influenzae type b	3	0	0	0	0	0	3	1	0	0	0	0	0	1
A25	Pneumococcal disease	25	31	95	64	27	4	246	16	19	89	114	43	14	295

A26	Meningococcal disease	3	0	1	1	0	0	5	13	2	2	1	0	0	18
A27	Other meningitis and encephalitis	51	17	16	14	2	0	100	53	17	15	8	0	0	93
A28	Dengue	0	0	1	0	1	0	2	0	1	0	0	0	0	1
A29	Ross River virus	3	0	0	0	0	0	3	1	0	0	1	0	0	2
A30	Barmah Forest virus	0	0	0	1	0	0	1	0	0	0	0	0	0	0
A31	Malaria	1	0	0	0	0	0	1	0	0	0	0	0	0	0
A32	Trachoma	0	0	0	0	2	2	4	0	0	0	3	2	0	5
A33a	Mumps	2	1	0	0	1	0	4	2	8	2	1	1	0	14
A33b	Other infections	2628	2228	2520	2003	854	249	10482	2721	2360	3033	2664	1160	354	12292
A34	Melioidosis	5	9	37	38	16	1	106	0	8	28	45	14	2	97
A35	Urinary tract infections	382	450	610	688	387	166	2683	403	466	773	807	524	236	3209
B01	Pre-term birth and low birthweight complications	799	0	0	0	0	0	799	834	0	0	0	0	0	834
B02	Birth trauma and asphyxia	180	0	0	0	0	0	180	170	0	1	0	0	0	171
B03	Cerebral palsy	43	30	23	3	0	0	99	37	14	20	9	1	0	81
B04	Neonatal infections	279	0	0	0	0	0	279	301	0	0	0	0	0	301
B05	Sudden infant death syndrome	0	0	0	0	0	0	0	1	0	0	0	0	0	1
B06	Other disorders of infancy	847	0	0	0	0	0	847	947	0	0	0	0	0	947
B07	Neural tube defects	4	5	0	0	0	0	9	2	2	1	1	0	0	6
B08	Brain malformations	35	4	4	4	0	0	47	31	4	2	6	0	0	43
B09	Cardiovascular defects	110	15	8	4	2	0	139	153	15	6	13	3	0	190
B10	Cleft lip and/or palate	11	1	0	0	0	0	12	18	0	0	0	0	0	18
B11	Gastrointestinal malformations	48	2	2	2	1	0	55	142	0	3	0	1	0	146
B12	Urogenital malformations	24	12	4	5	2	0	47	22	19	10	4	1	0	56
B13	Down syndrome	5	7	4	0	0	0	16	3	4	0	0	0	0	7
B14	Other chromosomal abnormalities	4	0	0	0	0	0	4	5	0	1	0	0	0	6
B15	Other congenital conditions	254	18	11	5	3	1	292	265	26	23	6	2	0	322
C01a	Lip and oral cavity cancer	0	1	3	11	7	1	23	0	2	2	7	9	1	21

C01b	Nasopharyngeal cancer	0	0	0	0	0	0	0	0	0	0	2	1	0	3
C01c	Other oral cavity and pharynx cancers	0	0	2	6	1	0	9	0	1	0	2	6	0	9
C02	Laryngeal cancer	0	0	1	5	2	0	8	0	0	0	3	5	1	9
C03	Oesophageal cancer	0	0	0	6	0	0	6	0	0	0	3	3	1	7
C04	Stomach cancer	0	0	1	1	3	0	5	0	1	0	4	8	1	14
C05	Bowel cancer	0	3	0	8	8	1	20	0	4	4	19	13	7	47
C06	Liver cancer	2	0	2	8	6	2	20	0	0	2	19	10	2	33
C07	Gallbladder cancer	0	0	0	5	3	6	14	0	0	0	9	8	4	21
C08	Pancreatic cancer	0	0	0	2	4	1	7	0	2	2	5	6	5	20
C09	Lung cancer	0	0	4	32	48	3	87	0	1	6	31	28	3	69
C10	Mesothelioma	0	0	0	0	0	0	0	0	0	0	1	0	0	1
C11	Melanoma of the skin	0	0	0	1	2	0	3	0	0	1	0	0	0	1
C12	Non-melanoma skin cancers	0	2	11	13	3	0	29	0	0	6	14	12	5	37
C13	Breast cancer	0	3	42	73	32	15	165	0	3	22	67	64	17	173
C14	Cervical cancer	0	0	14	8	3	3	28	0	0	8	16	4	4	32
C15	Uterine cancer	0	1	6	19	9	2	37	0	1	15	19	16	4	55
C16	Ovarian cancer	0	2	1	1	6	0	10	0	1	1	9	9	2	22
C19	Bladder cancer	0	0	1	1	1	0	3	0	0	0	0	6	0	6
C20	Kidney cancer	0	0	0	2	1	0	3	0	0	2	4	7	1	14
C21	Brain and central nervous system cancer	5	1	1	1	2	1	11	0	0	4	3	0	0	7
C22	Thyroid cancer	0	1	6	12	18	3	40	0	5	10	7	4	2	28
C23	Non-Hodgkin lymphoma	2	0	0	4	5	1	12	0	0	0	0	7	1	8
C24	Hodgkin lymphoma	0	0	0	2	0	0	2	0	1	0	1	0	0	2
C25a	Acute myeloid leukaemia (AML)	0	0	0	7	1	1	9	0	1	2	6	2	1	12
C25b	Chronic myeloid leukaemia (CML)	1	4	6	2	3	0	16	0	0	0	6	0	0	6
C25c	Acute lymphoblastic leukaemia (ALL)	4	0	0	0	0	0	4	1	2	0	1	0	0	4
C25d	Chronic lymphocytic leukaemia (CLL)	0	0	0	0	2	0	2	0	0	0	0	0	0	0
C25e	Other leukaemias	0	1	0	2	0	0	3	1	0	1	1	0	0	3

C26	Myeloma	0	0	0	2	2	0	4	0	0	0	0	7	2	9
C27	Other lymphohaematopoietic (blood) cancers	1	3	2	4	4	3	17	2	0	3	7	14	3	29
C28	Unknown primary	5	9	39	137	77	19	286	2	13	42	126	113	22	318
C29	Benign and uncertain brain tumours	2	0	4	8	7	1	22	1	1	8	4	9	3	26
C30	Breast in situ	0	0	0	3	5	1	9	0	0	2	6	7	0	15
C31	Other malignant neoplasms (cancers)	6	8	12	29	5	3	63	0	4	12	21	12	3	52
C32	Other benign, in situ and uncertain neoplasms	19	159	186	148	48	4	564	39	114	200	204	101	13	671
D01a	Type 1 diabetes	10	22	27	12	1	0	72	6	29	34	10	5	0	84
D01b	Type 2 diabetes	26	457	1742	2163	1082	245	5715	49	771	3020	3779	1959	433	10011
D01c	Other diabetes mellitus	1	4	25	5	1	0	36	1	12	13	8	2	0	36
D02	Other endocrine disorders	51	76	155	163	91	41	577	65	133	191	205	124	38	756
E01	Coronary heart disease	1	30	276	559	289	49	1204	0	40	364	667	402	98	1571
E02	Stroke	10	23	72	146	104	46	401	7	29	54	170	128	51	439
E03	Rheumatic heart disease	161	328	221	154	52	4	920	251	457	358	228	92	23	1409
E04	Non-rheumatic heart disease	17	45	45	63	27	8	205	16	42	76	104	56	19	313
E05	Hypertensive heart disease	0	1	5	2	4	0	12	0	0	7	5	6	1	19
E06	Atrial fibrillation and flutter	1	22	94	210	169	54	550	0	30	100	299	293	123	845
E07	Inflammatory heart disease	12	27	36	38	4	0	117	7	35	55	53	22	2	174
E08	Cardiomyopathy	8	23	41	29	14	3	118	13	25	60	40	28	3	169
E09	Aortic aneurysm	0	0	1	4	4	1	10	0	1	0	4	5	1	11
E10	Peripheral vascular disease	2	6	34	92	41	5	180	0	6	32	42	32	4	116
E11	Other cardiovascular diseases	156	439	1471	2256	1215	327	5864	272	651	1604	2583	1432	391	6933
F01	Depressive disorders	2	106	119	45	6	0	278	7	149	114	64	20	1	355
F02	Anxiety disorders	15	224	162	57	10	2	470	29	253	184	110	27	6	609
F03	Bipolar affective disorder	0	30	22	18	0	0	70	0	14	29	14	3	0	60
F04	Alcohol use disorders	36	1443	2543	1301	178	5	5506	22	1710	3381	2102	293	10	7518

F05	Drug use disorders (excluding alcohol)	20	218	143	39	2	1	423	40	369	277	82	4	0	772
F06	Schizophrenia	1	132	184	43	7	1	368	3	161	172	88	21	1	446
F07	Eating disorders	0	0	2	2	0	0	4	2	7	3	2	0	0	14
F08	Autism spectrum disorders	1	2	1	0	0	0	4	2	4	0	0	0	0	6
F09	Attention deficit hyperactivity disorder	0	1	2	0	0	0	3	1	1	0	1	0	0	3
F10	Conduct disorder	3	12	7	2	0	1	25	10	24	8	7	1	1	51
F11	Intellectual disability	0	20	28	11	2	0	61	6	22	24	22	5	0	79
F12	Other mental and substance use disorders	39	89	145	162	98	40	573	58	150	269	347	255	123	1202
G01	Epilepsy	44	48	115	67	25	1	300	76	63	121	84	34	7	385
G02	Dementia	0	0	7	35	94	135	271	1	2	9	23	106	129	270
G03	Parkinson disease	0	0	0	4	10	3	17	0	0	0	3	5	5	13
G04	Multiple sclerosis	0	1	2	0	0	0	3	0	0	0	0	0	0	0
G05	Migraine	3	21	37	20	4	1	86	7	53	91	78	11	0	240
G06	Motor neurone disease	0	5	3	4	0	0	12	0	1	1	1	5	1	9
G07	Guillain-Barré syndrome	0	0	1	0	0	0	1	1	1	0	0	0	0	2
G08	Other neurological conditions	82	99	257	389	181	48	1056	101	183	349	491	259	67	1450
H01	Refractive errors	19	2	7	7	3	0	38	20	6	8	10	3	1	48
H02	Cataract and other lens disorders	5	6	31	172	282	76	572	2	10	37	212	408	97	766
H03	Glaucoma	0	2	4	13	11	2	32	0	4	13	12	8	1	38
H04	Age-related macular degeneration	0	0	0	5	0	1	6	0	1	0	1	7	1	10
H05	Other vision disorders	38	46	93	183	86	31	477	54	76	115	129	72	22	468
H06	Hearing loss	96	36	44	25	9	15	225	110	34	40	43	21	10	258
H07	Other hearing and vestibular disorders	615	198	174	82	30	8	1107	537	214	184	146	48	10	1139
I01	Asthma	185	100	266	171	49	12	783	139	134	244	239	49	10	815
I02	Chronic obstructive pulmonary disease	8	21	216	542	365	97	1249	9	22	317	829	587	179	1943
I03	Interstitial lung disease	0	5	7	6	5	0	23	2	3	9	5	6	0	25
I04	Sarcoidosis	0	0	1	1	2	0	4	0	0	0	8	1	0	9

I06	Upper respiratory conditions	154	80	69	44	14	5	366	207	101	80	58	28	5	479
I07	Other respiratory disease	323	129	305	346	145	29	1277	260	142	373	509	296	66	1646
J01	Gastroduodenal disorders	5	137	392	290	80	12	916	8	225	556	554	200	32	1575
J02	Appendicitis	86	138	72	29	10	2	337	68	155	97	54	9	1	384
J03	Abdominal wall hernia	20	24	64	64	43	2	217	18	21	62	93	32	6	232
J04	Vascular disorders of intestine	2	5	4	7	7	2	27	0	1	4	16	14	9	44
J05	Intestinal obstruction (without hernia)	15	13	38	40	17	1	124	15	19	44	55	42	12	187
J06	Inflammatory bowel disease	10	13	20	37	27	4	111	11	25	35	54	38	12	175
J07	Diverticulitis	0	1	12	26	18	11	68	0	4	16	62	45	15	142
J08	Chronic liver disease	22	100	303	354	90	15	884	18	199	776	855	302	48	2198
J09	Gallbladder and bile duct disease	7	209	356	212	87	21	892	4	227	406	269	113	28	1047
J10	Pancreatitis	1	57	199	164	49	8	478	6	65	209	234	54	8	576
J11	Gastro-oesophageal reflux disease	9	35	87	89	33	10	263	13	60	137	183	85	11	489
J13	Other gastrointestinal disorders	110	196	265	282	161	41	1055	129	258	401	501	313	93	1695
K01	Chronic kidney disease	107	188	803	1665	926	230	3919	124	362	1557	2994	1910	478	7425
K03	Kidney stones	4	20	25	26	10	0	85	2	19	36	36	11	2	106
K04	Other kidney and urinary diseases	32	42	76	106	43	9	308	47	46	76	116	54	5	344
K05	Interstitial nephritis	39	207	190	136	34	8	614	55	319	287	240	78	12	991
L01	Maternal haemorrhage	18	1157	334	1	0	0	1510	12	1327	449	2	0	0	1790
L02	Maternal infections	12	683	175	0	0	0	870	13	586	186	0	1	0	786
L03	Hypertensive disorders of pregnancy	11	505	196	1	0	0	713	4	507	212	2	0	0	725
L04	Obstructed labour	6	471	136	0	0	0	613	10	528	140	1	0	0	679
L05	Early pregnancy loss	40	1214	519	6	0	0	1779	28	931	462	3	0	0	1424
L06	Gestational diabetes	4	376	281	0	0	0	661	3	578	388	0	0	0	969
L07	Other maternal conditions	69	5534	1692	2	0	0	7297	50	5200	1812	6	1	0	7069
L08	Endometriosis	0	20	20	16	1	0	57	0	20	23	20	1	0	64
L09	Uterine fibroids	0	2	94	82	3	0	181	0	2	71	101	10	2	186
L10	Genital prolapse	0	8	19	29	22	4	82	0	6	25	43	20	6	100

L11	Polycystic ovarian syndrome	1	25	15	0	0	0	41	0	17	8	0	0	0	25
L12	Infertility	0	57	53	1	0	0	111	0	49	48	0	0	0	97
L13	Other reproductive conditions	97	1191	1096	495	86	19	2984	104	1275	1234	672	153	25	3463
M01	Dermatitis and eczema	276	17	16	12	8	5	334	247	34	33	42	23	8	387
M02	Psoriasis	1	1	5	2	1	0	10	0	3	2	5	1	0	11
M03	Acne	0	0	0	0	0	0	0	1	0	1	0	0	0	2
M04	Ulcers	24	51	150	167	99	36	527	37	54	150	186	108	41	576
M05	Skin infections (including cellulitis)	1471	904	1282	856	285	53	4851	1669	1142	1757	1345	466	100	6479
M06	Other skin disorders	246	185	187	129	51	10	808	255	274	285	249	105	21	1189
M07	Scabies	651	183	183	172	53	10	1252	702	212	239	260	101	38	1552
N01	Osteoarthritis	3	6	38	74	52	16	189	2	6	34	66	83	26	217
N02	Gout	0	1	7	26	25	7	66	0	7	16	55	41	14	133
N03	Rheumatoid arthritis	1	1	8	21	11	0	42	6	8	20	34	9	1	78
N04	Back pain and problems	7	134	153	127	51	14	486	15	208	278	274	148	22	945
N05	Other musculoskeletal conditions	293	492	750	580	225	66	2406	316	573	1005	923	432	120	3369
O01	Dental caries	826	135	143	74	23	4	1205	692	183	197	91	31	15	1209
O03	Periodontal disease	9	11	16	22	7	2	67	19	17	39	21	22	4	122
O04	Other oral disorders	112	109	143	108	36	12	520	154	173	169	157	66	15	734
R01	Cystic fibrosis	1	0	0	0	0	0	1	3	0	0	0	0	0	3
R02	Haemophilia	0	0	0	0	0	0	0	0	0	0	0	0	1	1
R03	Haemolytic anaemia	2	5	4	1	0	0	12	1	3	2	1	1	0	8
R04	Iron-deficiency anaemia	674	485	420	328	145	50	2102	645	764	496	412	182	56	2555
R05	Protein-energy deficiency	286	33	70	52	50	20	511	213	56	100	149	158	80	756
R06	Other blood and metabolic disorders	1328	959	1530	1884	910	259	6870	1529	1491	2185	2686	1424	393	9708
S09	Suicide and self-inflicted injuries	20	223	222	77	2	0	544	39	344	260	100	6	2	751
S10	Homicide and violence	141	1580	1763	519	54	6	4063	159	1789	2443	900	73	11	5375
T01	Road traffic injuries: motorcyclists	0	3	0	1	0	0	4	1	2	1	1	0	0	5
T02	Road traffic injury: vehicle occupants	23	99	98	33	14	0	267	44	156	162	98	16	5	481

T03a	Road traffic injuries: pedal cyclists	9	2	2	1	0	0	14	11	8	3	0	0	0	22
T03b	Road traffic injuries: pedestrians	1	20	25	12	1	0	59	5	33	39	34	4	1	116
T04	Other land transport injuries	29	18	20	6	3	0	76	26	33	25	12	5	0	101
T05	Poisoning	53	12	18	17	14	3	117	34	34	29	33	18	5	153
T06	Falls	423	340	451	343	158	83	1798	407	443	659	570	310	157	2546
T07	Fire, burns and scalds	119	32	53	33	15	4	256	95	26	60	54	16	1	252
T08	Drowning	7	0	0	1	0	0	8	6	3	1	3	0	0	13
T11	Other unintentional injuries	455	462	528	277	79	27	1828	529	591	715	383	94	32	2344
T12	All other external causes of injury	203	427	752	755	354	79	2570	229	596	993	1204	611	133	3766
Grand Total	Total	21539	29364	31842	25936	11641	3260	123582	22227	33961	41736	38547	18821	5153	160445

Table A 4. Hospitalisations by cause and age, Aboriginal males, Northern Territory 2009-2013 vs 2014-2018

(Note: Repeated annual hospitalisations due to same cause for same patient eliminated)

		2009-2013							2014-2018						
BOD Cause		0-	15-	30-	45-	60-	75+	Total	0-	15-	30-	45-	60-	75+	Total
A01	HIV/AIDS	0	2	1	1	0	0	4	0	0	3	2	0	0	5
A02	Tuberculosis	7	3	16	31	12	0	69	1	2	8	19	5	2	37
A03	Hepatitis A	0	0	0	1	0	0	1	0	0	1	2	0	0	3
A04	Hepatitis B (acute)	0	4	11	5	3	1	24	1	3	3	0	1	0	8
A05	Hepatitis C (acute)	0	0	1	2	0	0	3	1	3	3	0	0	0	7
A06	Syphilis	4	4	18	34	12	5	77	14	9	28	43	10	8	112
A07	Gonorrhoea	8	52	25	7	0	0	92	10	45	26	11	4	0	96
A08	Chlamydia	0	22	4	2	0	0	28	0	16	5	3	1	0	25
A09	Other sexually transmitted infections	5	9	16	15	2	1	48	1	20	26	19	1	0	67
A10	Campylobacteriosis	61	1	4	1	0	0	67	30	0	1	1	1	0	33

A11	Salmonellosis	145	2	14	16	3	1	181	86	3	16	23	6	2	136
A12	Rotavirus	256	0	1	0	1	0	258	152	0	2	2	0	1	157
A13	Other gastrointestinal infections	1260	58	157	164	85	17	1741	1165	111	214	261	129	32	1912
A14	Upper respiratory infections	871	54	93	56	22	3	1099	1043	115	110	107	25	7	1407
A15	Otitis media	1283	87	70	44	6	0	1490	1189	76	67	60	20	0	1412
A16	Lower respiratory infections	2048	338	924	1031	383	117	4841	1841	311	808	1233	484	172	4849
A17	Influenza	178	33	76	93	29	9	418	132	30	74	138	69	10	453
A18	Diphtheria	2	1	7	2	0	0	12	1	0	0	1	0	0	2
A19	Pertussis	14	1	0	2	0	0	17	12	0	1	0	0	0	13
A21	Measles	0	0	0	0	0	0	0	1	0	1	0	0	0	2
A24	Haemophilus influenzae type b	2	0	0	0	0	0	2	4	0	0	0	0	0	4
A25	Pneumococcal disease	51	14	73	74	21	3	236	36	19	61	80	36	11	243
A26	Meningococcal disease	3	0	1	0	0	0	4	19	1	1	0	0	0	21
A27	Other meningitis and encephalitis	65	12	9	13	1	0	100	60	20	14	11	10	0	115
A28	Dengue	0	1	0	0	0	0	1	0	0	0	0	0	0	0
A29	Ross River virus	3	0	1	0	0	0	4	0	0	0	1	0	0	1
A32	Trachoma	1	0	0	5	0	0	6	2	0	0	1	0	0	3
A33a	Mumps	1	0	0	0	0	0	1	3	7	2	1	0	0	13
A33b	Other infections	3015	1142	1646	1488	546	126	7963	3056	1134	1788	1859	760	157	8754
A34	Melioidosis	5	5	41	35	6	2	94	2	9	28	38	11	3	91
A35	Urinary tract infections	258	50	119	171	127	57	782	197	51	106	209	150	62	775
B01	Pre-term birth and low birthweight	910	0	0	0	0	0	910	969	0	0	0	0	0	969
B02	Birth trauma and asphyxia	250	0	0	0	0	0	250	219	0	0	0	0	0	219
B03	Cerebral palsy	52	28	20	5	1	0	106	32	27	13	8	4	0	84
B04	Neonatal infections	341	0	0	0	0	0	341	402	0	0	0	0	0	402
B06	Other disorders of infancy	949	0	0	0	0	0	949	1148	0	1	0	0	0	1149
B07	Neural tube defects	4	9	0	0	0	0	13	7	5	0	0	0	0	12
B08	Brain malformations	37	10	1	3	0	0	51	42	8	4	6	0	0	60

B09	Cardiovascular defects	109	6	5	3	1	0	124	152	11	9	8	1	0	181
B10	Cleft lip and/or palate	30	1	1	0	0	0	32	18	1	1	0	0	0	20
B11	Gastrointestinal malformations	69	1	1	2	1	0	74	206	4	2	0	2	0	214
B12	Urogenital malformations	259	4	5	1	0	0	269	234	4	5	4	1	0	248
B13	Down syndrome	10	1	0	1	0	0	12	10	0	0	0	0	0	10
B14	Other chromosomal abnormalities	12	0	1	0	0	0	13	8	1	0	1	0	0	10
B15	Other congenital conditions	258	16	9	6	1	0	290	324	22	11	8	0	1	366
C01a	Lip and oral cavity cancer	0	1	9	22	17	0	49	0	0	3	34	7	1	45
C01b	Nasopharyngeal cancer	0	0	0	7	0	0	7	0	0	2	5	1	0	8
C01c	Other oral cavity and pharynx cancers	0	0	1	26	7	2	36	0	0	1	42	23	3	69
C02	Laryngeal cancer	0	0	1	5	4	1	11	0	0	0	26	11	1	38
C03	Oesophageal cancer	0	0	0	19	2	1	22	0	0	3	7	22	0	32
C04	Stomach cancer	0	0	2	7	3	1	13	0	0	2	4	5	0	11
C05	Bowel cancer	1	3	7	8	16	1	36	0	5	4	30	17	2	58
C06	Liver cancer	0	0	1	15	15	2	33	0	0	2	26	14	11	53
C07	Gallbladder cancer	0	0	0	1	3	2	6	0	0	0	2	3	1	6
C08	Pancreatic cancer	0	0	1	4	8	2	15	0	0	1	10	7	1	19
C09	Lung cancer	0	1	4	27	33	7	72	0	0	4	36	47	16	103
C10	Mesothelioma	0	0	0	0	1	0	1	0	0	0	0	2	0	2
C11	Melanoma of the skin	0	0	0	0	2	0	2	1	0	1	0	1	0	3
C12	Non-melanoma skin cancers	0	1	8	13	3	1	26	0	1	0	17	17	1	36
C13	Breast cancer	0	0	1	2	0	0	3	0	0	1	0	0	0	1
C19	Bladder cancer	0	0	5	5	5	0	15	0	0	8	8	12	3	31
C20	Kidney cancer	0	0	1	0	2	0	3	0	0	0	13	4	0	17
C21	Brain & central nervous system cancer	1	1	5	1	1	0	9	7	1	3	2	3	0	16
C22	Thyroid cancer	0	0	0	8	3	3	14	0	1	3	8	1	3	16
C23	Non-Hodgkin lymphoma	2	1	6	8	3	0	20	0	0	2	3	2	0	7
C24	Hodgkin lymphoma	3	8	0	4	0	0	15	1	1	0	1	0	0	3

C25a	Acute myeloid leukaemia (AML)	2	2	0	5	2	1	12	2	6	2	1	0	0	11
C25b	Chronic myeloid leukaemia (CML)	1	3	0	0	1	0	5	0	1	2	1	0	0	4
C25c	Acute lymphoblastic leukaemia (ALL)	8	0	0	0	0	0	8	5	1	0	0	1	0	7
C25d	Chronic lymphocytic leukaemia (CLL)	0	0	0	0	0	0	0	0	0	0	0	2	0	2
C25e	Other leukaemias	0	0	1	2	2	2	7	2	1	1	1	1	0	6
C26	Myeloma	0	0	0	0	2	0	2	0	0	0	2	4	0	6
C27	Other blood cancers	1	2	1	5	4	6	19	3	0	8	5	5	0	21
C28	Unknown primary	0	8	25	77	76	20	206	0	5	20	108	93	24	250
C29	Benign and uncertain brain tumours	0	4	4	1	1	0	10	0	1	1	2	4	0	8
C31	Other malignant neoplasms (cancers)	0	6	12	17	4	0	39	0	1	8	10	4	1	24
C32	Other benign & in situ neoplasms	27	18	52	78	52	7	234	25	19	57	143	106	16	366
D01a	Type 1 diabetes	13	24	21	17	2	0	77	9	38	47	17	4	1	116
D01b	Type 2 diabetes	7	129	978	1421	639	116	3290	11	216	1559	2485	1138	199	5608
D01c	Other diabetes mellitus	1	10	22	5	1	0	39	0	9	31	9	2	2	53
D02	Other endocrine disorders	37	24	53	105	40	8	267	77	23	82	136	69	17	404
E01	Coronary heart disease	0	33	391	697	264	47	1432	0	44	418	779	365	73	1679
E02	Stroke	7	15	68	148	88	37	363	8	10	70	161	116	35	400
E03	Rheumatic heart disease	151	155	106	74	28	2	516	304	158	147	108	67	5	789
E04	Non-rheumatic heart disease	32	11	36	53	24	5	161	23	16	57	84	33	9	222
E05	Hypertensive heart disease	0	1	9	2	2	0	14	0	0	3	7	2	1	13
E06	Atrial fibrillation and flutter	0	19	140	245	160	36	600	0	24	177	375	204	59	839
E07	Inflammatory heart disease	4	25	51	36	15	0	131	6	39	48	61	20	2	176
E08	Cardiomyopathy	0	35	74	91	31	2	233	11	13	57	98	20	2	201
E09	Aortic aneurysm	0	1	5	6	5	1	18	1	2	8	15	9	4	39
E10	Peripheral vascular disease	1	7	33	76	54	2	173	1	3	28	48	31	9	120
E11	Other cardiovascular diseases	149	301	1289	1866	787	170	4562	296	290	1056	1913	931	229	4715
F01	Depressive disorders	2	67	70	25	5	1	170	6	69	72	42	6	3	198
F02	Anxiety disorders	14	161	101	36	10	0	322	10	152	116	79	18	6	381

F03	Bipolar affective disorder	0	25	17	9	3	0	54	0	20	22	10	2	1	55
F04	Alcohol use disorders	14	1381	2695	1757	281	14	6142	20	1510	3034	2720	547	24	7855
F05	Drug use disorders (excluding alcohol)	12	408	282	53	3	0	758	41	657	462	164	12	0	1336
F06	Schizophrenia	2	327	262	51	11	2	655	3	395	329	110	18	1	856
F07	Eating disorders	0	2	0	2	0	0	4	0	1	1	1	1	0	4
F08	Autism spectrum disorders	7	7	0	0	0	0	14	21	9	0	1	0	0	31
F09	Attention deficit hyperactivity disorder	6	2	0	0	0	0	8	9	4	0	0	0	0	13
F10	Conduct disorder	18	14	14	4	1	1	52	13	18	19	11	0	4	65
F11	Intellectual disability	6	14	22	10	2	0	54	8	32	28	15	4	0	87
F12	Other mental disorders	53	93	204	196	84	31	661	114	133	259	366	237	73	1182
G01	Epilepsy	67	67	132	122	23	8	419	56	93	138	195	27	7	516
G02	Dementia	0	4	25	33	92	86	240	0	0	15	41	77	85	218
G03	Parkinson disease	0	0	2	7	11	6	26	0	0	0	7	12	6	25
G04	Multiple sclerosis	0	0	0	0	0	0	0	0	3	0	0	0	0	3
G05	Migraine	4	4	7	1	0	0	16	11	19	15	12	2	0	59
G06	Motor neurone disease	0	1	2	4	5	0	12	0	1	3	0	5	1	10
G07	Guillain-Barré syndrome	1	0	1	0	1	0	3	0	0	0	0	0	0	0
G08	Other neurological conditions	108	132	263	393	194	34	1124	130	150	301	418	232	42	1273
H01	Refractive errors	21	5	9	4	1	0	40	20	6	7	12	2	0	47
H02	Cataract and other lens disorders	6	14	38	125	226	43	452	4	5	21	144	290	77	541
H03	Glaucoma	0	0	7	11	8	1	27	0	1	7	7	6	2	23
H04	Age-related macular degeneration	1	0	0	1	0	0	2	0	2	0	2	4	1	9
H05	Other vision disorders	48	35	81	117	49	13	343	65	30	87	123	49	20	374
H06	Hearing loss	109	16	25	28	7	6	191	133	21	26	50	18	12	260
H07	Other hearing and vestibular disorders	629	106	80	55	14	1	885	566	122	112	96	45	3	944
I01	Asthma	243	25	42	17	3	4	334	201	48	54	30	12	2	347
I02	Chronic obstructive pulmonary disease	9	14	187	395	281	82	968	9	14	188	582	439	132	1364
I03	Interstitial lung disease	5	0	2	4	3	2	16	5	2	4	7	6	1	25

I04	Sarcoidosis	0	0	0	0	0	0	0	0	0	0	1	0	0	1
I06	Upper respiratory conditions	203	39	45	44	18	2	351	191	55	75	61	33	3	418
I07	Other respiratory disease	318	99	315	435	139	24	1330	315	106	267	462	260	37	1447
J01	Gastroduodenal disorders	5	91	302	271	75	12	756	11	124	378	540	181	15	1249
J02	Appendicitis	66	104	57	26	8	1	262	95	141	59	31	12	0	338
J03	Abdominal wall hernia	79	22	72	67	39	6	285	57	26	66	122	50	15	336
J04	Vascular disorders of intestine	2	1	6	7	0	0	16	3	1	5	11	2	0	22
J05	Intestinal obstruction (without hernia)	20	20	38	36	37	8	159	23	30	28	52	37	5	175
J06	Inflammatory bowel disease	11	5	22	21	7	6	72	31	10	33	49	18	5	146
J07	Diverticulitis	0	1	14	19	19	2	55	0	8	12	33	40	6	99
J08	Chronic liver disease	12	63	362	348	97	17	899	17	93	681	887	321	40	2039
J09	Gallbladder and bile duct disease	3	19	91	134	47	19	313	2	20	83	125	58	16	304
J10	Pancreatitis	2	108	262	199	27	8	606	2	75	241	249	57	8	632
J11	Gastro-oesophageal reflux disease	19	16	65	52	22	4	178	6	32	101	133	75	6	353
J13	Other gastrointestinal disorders	134	109	234	262	143	44	926	186	142	347	481	264	66	1486
K01	Chronic kidney disease	140	112	544	1134	533	124	2587	146	136	884	1992	1063	264	4485
K03	Kidney stones	7	14	16	11	8	3	59	6	12	26	27	27	3	101
K04	Other kidney and urinary diseases	56	27	76	100	39	10	308	54	32	56	96	62	17	317
K05	Interstitial nephritis	12	15	20	17	8	2	74	17	16	26	39	13	3	114
L06	Gestational diabetes	0	0	0	0	0	0	0	0	0	1	0	0	0	1
L13	Other reproductive conditions	185	96	83	82	38	5	489	175	114	120	98	38	7	552
M01	Dermatitis and eczema	244	11	18	19	7	2	301	229	15	23	15	18	4	304
M02	Psoriasis	1	2	1	0	2	0	6	0	0	1	3	1	0	5
M03	Acne	0	0	1	0	0	0	1	0	1	0	1	0	0	2
M04	Ulcers	46	60	191	245	89	11	642	45	45	140	186	94	36	546
M05	Skin infections (including cellulitis)	1839	751	999	778	215	27	4609	1847	878	1301	991	332	47	5396
M06	Other skin disorders	293	114	120	102	40	5	674	324	119	159	178	79	16	875
M07	Scabies	771	52	128	133	44	6	1134	852	57	107	139	49	11	1215

N01	Osteoarthritis	1	3	39	52	27	10	132	1	11	25	65	52	12	166
N02	Gout	0	6	79	97	26	10	218	0	15	35	131	43	13	237
N03	Rheumatoid arthritis	8	5	0	7	4	0	24	3	3	1	9	8	0	24
N04	Back pain and problems	15	27	64	72	50	4	232	12	38	136	150	82	22	440
N05	Other musculoskeletal conditions	374	381	629	492	184	44	2104	451	448	696	746	299	67	2707
O01	Dental caries	782	100	102	76	12	2	1074	670	112	144	100	22	7	1055
O03	Periodontal disease	10	10	22	11	3	0	56	13	14	27	20	3	0	77
O04	Other oral disorders	119	92	111	92	21	7	442	135	132	145	141	45	12	610
R01	Cystic fibrosis	1	0	0	0	0	0	1	2	1	0	0	1	0	4
R02	Haemophilia	2	0	5	1	0	0	8	0	3	0	5	0	0	8
R03	Haemolytic anaemia	6	1	1	0	0	0	8	5	1	1	1	0	0	8
R04	Iron-deficiency anaemia	857	39	91	129	65	15	1196	769	44	79	167	97	27	1183
R05	Protein-energy deficiency	321	21	62	90	51	14	559	279	35	99	194	152	55	814
R06	Other blood and metabolic disorders	1447	377	1079	1430	579	136	5048	1770	472	1234	2001	865	190	6532
S09	Suicide and self-inflicted injuries	14	232	185	54	8	0	493	11	234	182	79	6	0	512
S10	Homicide and violence	115	1065	1183	473	52	3	2891	119	1103	1459	692	100	3	3476
T01	Road traffic injuries: motorcyclists	6	32	11	5	0	0	54	12	47	15	6	0	0	80
T02	Road traffic injuries: vehicle occupants	52	146	140	61	16	0	415	59	230	162	92	30	2	575
T03a	Road traffic injuries: pedal cyclists	29	13	7	5	0	0	54	27	19	10	1	1	0	58
T03b	Road traffic injuries: pedestrians	18	20	56	27	6	0	127	18	39	67	42	4	0	170
T04	Other land transport injuries	77	57	39	18	1	1	193	88	84	53	21	4	1	251
T05	Poisoning	65	14	31	23	13	5	151	71	39	26	34	14	6	190
T06	Falls	648	361	421	335	108	24	1897	617	447	617	648	236	61	2626
T07	Fire, burns and scalds	141	70	76	48	16	1	352	119	50	72	59	16	7	323
T08	Drowning	8	0	3	2	0	0	13	12	3	2	1	1	0	19
T11	Other unintentional injuries	752	909	772	427	103	20	2983	774	1145	997	515	126	16	3573
T12	All other external causes of injury	239	290	544	635	273	55	2036	321	392	700	917	434	74	2838
C17	Prostate cancer	0	0	1	7	17	11	36	0	0	0	9	18	11	38

C18	Testicular cancer	0	2	3	1	0	0	6	0	1	5	1	0	0	7
I05	Pneumoconiosis	0	0	0	1	0	0	1	0	0	0	0	0	0	0
K02	Enlarged prostate	0	0	5	35	55	18	113	0	0	4	32	51	23	110
Total		25244	11968	21207	21231	8384	1890	89924	26060	13964	24903	30129	13126	2941	111123

Table A 5. Hospitalisations by cause and age, non-Aboriginal females, Northern Territory 2009-2013 vs 2014-2018

(Note: Repeated annual hospitalisations due to same cause for same patient eliminated)

		2009-2013							2014-2018						
BOD Cause		0-	15-	30-	45-	60-	75+	Total	0-	15-	30-	45-	60-	75+	Total
A01	HIV/AIDS	0	0	5	3	0	0	8	0	4	5	2	0	0	11
A02	Tuberculosis	4	2	7	5	5	2	25	0	8	10	5	4	4	31
A03	Hepatitis A	0	1	1	0	0	0	2	0	2	1	5	1	0	9
A04	Hepatitis B (acute)	0	5	4	2	3	0	14	0	0	1	0	0	0	1
A05	Hepatitis C (acute)	0	3	4	4	1	0	12	1	3	8	3	2	1	18
A06	Syphilis	0	5	1	3	2	0	11	0	4	1	1	2	2	10
A07	Gonorrhoea	0	19	1	0	0	0	20	0	9	3	2	0	0	14
A08	Chlamydia	1	60	7	0	0	0	68	0	39	6	1	0	0	46
A09	Other sexually transmitted infections	0	41	16	13	2	0	72	1	43	24	10	1	2	81
A10	Campylobacteriosis	8	8	3	0	1	2	22	3	8	12	7	5	5	40
A11	Salmonellosis	48	5	5	5	2	4	69	69	20	15	19	8	8	139
A12	Rotavirus	29	1	0	1	0	0	31	17	3	0	2	1	4	27
A13	Other gastrointestinal infections	287	231	197	180	152	117	1164	313	579	452	350	302	198	2194
A14	Upper respiratory infections	398	165	94	54	39	12	762	464	302	230	113	64	33	1206
A15	Otitis media	180	14	25	20	11	1	251	194	20	35	18	15	3	285
A16	Lower respiratory infections	452	86	150	219	234	238	1379	497	115	187	293	375	412	1879
A17	Influenza	25	27	29	23	13	14	131	60	50	53	64	54	57	338

A18	Diphtheria	0	0	0	0	1	0	1	0	1	0	0	0	0	1
A19	Pertussis	6	2	2	3	2	0	15	3	0	0	1	0	0	4
A21	Measles	0	1	1	0	0	0	2	1	2	4	0	0	0	7
A24	Haemophilus influenzae type b	0	0	0	0	0	0	0	1	0	0	0	0	0	1
A25	Pneumococcal disease	4	3	4	9	8	6	34	8	2	4	14	11	5	44
A26	Meningococcal disease	4	2	1	2	0	0	9	0	1	0	1	0	1	3
A27	Other meningitis and encephalitis	30	23	19	15	2	0	89	32	29	30	10	14	2	117
A28	Dengue	2	4	4	4	1	0	15	0	3	4	3	1	0	11
A29	Ross River virus	0	0	0	1	0	0	1	0	0	1	1	2	0	4
A32	Trachoma	0	0	0	0	0	1	1	0	0	1	0	0	0	1
A33a	Mumps	0	1	0	1	0	0	2	0	1	0	0	0	0	1
A33b	Other infections	662	922	849	679	513	521	4146	868	1096	1116	923	807	846	5656
A34	Melioidosis	2	3	4	13	9	5	36	4	8	5	8	8	2	35
A35	Urinary tract infections	157	153	128	189	244	394	1265	205	248	201	262	375	668	1959
B01	Pre-term/low birthweight complication	531	0	0	0	0	0	531	701	0	0	0	0	0	701
B02	Birth trauma and asphyxia	194	0	0	0	0	0	194	231	0	0	0	0	0	231
B03	Cerebral palsy	17	5	7	2	1	0	32	13	6	7	0	1	0	27
B04	Neonatal infections	203	0	0	0	0	0	203	310	0	0	0	0	0	310
B06	Other disorders of infancy	924	0	0	1	0	0	925	1259	0	0	0	0	0	1259
B07	Neural tube defects	6	1	2	1	0	0	10	0	2	0	0	0	0	2
B08	Brain malformations	10	2	2	0	0	0	14	5	3	3	2	1	0	14
B09	Cardiovascular defects	52	5	14	6	3	0	80	84	10	8	6	3	1	112
B10	Cleft lip and/or palate	5	0	0	0	0	0	5	12	2	0	0	1	0	15
B11	Gastrointestinal malformations	91	7	4	5	6	0	113	273	10	18	8	5	4	318
B12	Urogenital malformations	27	22	28	8	1	2	88	41	32	34	10	3	3	123
B13	Down syndrome	13	1	1	4	0	0	19	10	0	2	1	0	0	13
B14	Other chromosomal abnormalities	7	2	0	1	0	0	10	13	2	0	1	0	0	16
B15	Other congenital conditions	246	32	21	8	1	0	308	315	27	31	13	8	5	399

C01a	Lip and oral cavity cancer	0	2	2	13	5	6	28	0	0	3	12	6	6	27
C01b	Nasopharyngeal cancer	0	0	0	1	0	0	1	0	0	0	0	0	0	0
C01c	Other oral cavity and pharynx cancers	0	0	0	3	9	2	14	0	0	0	2	3	1	6
C02	Laryngeal cancer	0	0	1	0	0	0	1	0	0	0	1	1	2	4
C03	Oesophageal cancer	0	0	1	3	5	2	11	0	0	0	1	5	5	11
C04	Stomach cancer	0	0	3	2	2	3	10	0	0	0	3	4	6	13
C05	Bowel cancer	0	0	12	50	40	37	139	1	5	19	82	89	53	249
C06	Liver cancer	0	0	0	5	3	4	12	0	0	0	2	8	8	18
C07	Gallbladder cancer	0	0	0	2	1	2	5	0	0	0	2	9	1	12
C08	Pancreatic cancer	0	0	2	3	11	6	22	0	1	0	7	18	10	36
C09	Lung cancer	0	1	2	32	62	26	123	0	0	9	47	127	34	217
C10	Mesothelioma	0	0	0	4	1	0	5	0	0	0	0	1	0	1
C11	Melanoma of the skin	0	2	11	12	4	3	32	1	1	10	25	17	9	63
C12	Non-melanoma skin cancers	1	6	32	79	77	66	261	0	4	43	94	113	112	366
C13	Breast cancer	0	2	47	157	97	22	325	0	3	100	228	164	50	545
C19	Bladder cancer	0	0	0	5	10	5	20	0	0	0	11	9	12	32
C20	Kidney cancer	0	0	1	6	6	2	15	3	0	4	1	7	6	21
C21	Brain & central nervous system cancer	0	4	2	9	5	1	21	0	4	7	10	13	1	35
C22	Thyroid cancer	0	2	3	1	1	1	8	0	3	11	7	7	1	29
C23	Non-Hodgkin lymphoma	1	1	11	25	32	8	78	0	2	6	21	29	10	68
C24	Hodgkin lymphoma	0	1	2	2	2	0	7	1	6	3	1	1	0	12
C25a	Acute myeloid leukaemia (AML)	0	3	2	2	7	1	15	0	0	1	7	3	4	15
C25b	Chronic myeloid leukaemia (CML)	0	0	1	0	1	0	2	0	0	1	3	3	1	8
C25c	Acute lymphoblastic leukaemia (ALL)	6	0	0	1	0	0	7	1	1	0	4	0	0	6
C25d	Chronic lymphocytic leukaemia (CLL)	0	0	0	5	4	3	12	0	0	4	1	15	8	28
C25e	Other leukaemias	0	0	1	2	5	5	13	2	0	2	3	5	5	17
C26	Myeloma	0	2	0	6	6	2	16	0	1	1	17	17	6	42
C27	Other blood cancers	0	2	7	18	10	9	46	1	2	6	17	19	19	64

C28	Unknown primary	0	12	48	177	166	92	495	0	9	93	273	306	133	814
C29	Benign and uncertain brain tumours	1	0	4	11	2	2	20	0	3	2	11	5	5	26
C31	Other malignant neoplasms (cancers)	1	8	3	9	17	5	43	6	3	9	22	19	17	76
C32	Other benign & in situ neoplasms	39	241	357	374	209	71	1291	42	210	445	472	397	105	1671
D01a	Type 1 diabetes	30	79	30	25	10	6	180	19	104	52	54	31	13	273
D01b	Type 2 diabetes	0	34	116	349	487	326	1312	3	50	309	801	1261	895	3319
D01c	Other diabetes mellitus	0	1	5	5	2	1	14	0	6	4	8	10	0	28
D02	Other endocrine disorders	29	42	96	131	91	50	439	46	80	151	127	105	86	595
E01	Coronary heart disease	0	4	51	188	300	285	828	0	0	38	258	358	341	995
E02	Stroke	2	10	35	82	134	133	396	4	8	42	96	147	190	487
E03	Rheumatic heart disease	1	4	4	15	18	20	62	4	3	11	22	34	44	118
E04	Non-rheumatic heart disease	4	2	12	22	34	45	119	5	7	22	33	57	79	203
E05	Hypertensive heart disease	0	1	0	1	1	4	7	0	0	0	0	1	2	3
E06	Atrial fibrillation and flutter	0	1	21	103	190	295	610	1	8	28	131	321	470	959
E07	Inflammatory heart disease	1	12	27	21	16	5	82	6	27	25	43	24	16	141
E08	Cardiomyopathy	0	2	7	17	14	6	46	3	3	8	25	32	25	96
E09	Aortic aneurysm	0	0	1	0	8	10	19	0	1	2	2	6	12	23
E10	Peripheral vascular disease	1	4	12	37	43	42	139	2	4	19	27	36	51	139
E11	Other cardiovascular diseases	62	255	524	941	987	902	3671	128	352	658	931	1289	1271	4629
F01	Depressive disorders	5	139	158	97	58	28	485	16	240	176	133	50	42	657
F02	Anxiety disorders	10	211	191	160	85	43	700	36	404	333	230	118	88	1209
F03	Bipolar affective disorder	0	37	67	43	17	1	165	1	34	80	44	12	6	177
F04	Alcohol use disorders	4	172	195	214	76	27	688	3	313	301	324	145	54	1140
F05	Drug use disorders (excluding alcohol)	2	110	93	39	10	3	257	4	223	161	81	34	9	512
F06	Schizophrenia	1	71	121	76	26	9	304	4	43	129	90	30	3	299
F07	Eating disorders	5	23	3	6	1	1	39	6	32	10	2	0	0	50
F08	Autism spectrum disorders	11	3	1	0	0	0	15	4	12	3	1	0	0	20
F09	Attention deficit hyperactivity disorder	0	0	0	0	0	0	0	2	3	1	0	0	0	6

F10	Conduct disorder	4	2	0	0	2	0	8	4	11	6	4	1	2	28
F11	Intellectual disability	1	4	8	1	0	0	14	0	5	4	3	2	0	14
F12	Other mental & substance use disorder	24	94	117	95	121	140	591	32	173	184	172	241	366	1168
G01	Epilepsy	33	34	41	23	12	6	149	38	37	56	32	17	8	188
G02	Dementia	0	0	4	17	42	256	319	0	1	3	4	72	306	386
G03	Parkinson disease	0	0	1	2	10	9	22	0	0	2	7	20	33	62
G04	Multiple sclerosis	0	8	27	24	4	0	63	0	12	29	27	20	1	89
G05	Migraine	8	54	85	66	19	3	235	14	235	303	204	54	13	823
G06	Motor neurone disease	0	0	0	0	2	2	4	0	0	3	4	2	0	9
G07	Guillain-Barré syndrome	1	2	2	1	1	0	7	3	2	2	4	2	1	14
G08	Other neurological conditions	100	103	241	313	238	175	1170	154	199	412	471	420	267	1923
H01	Refractive errors	33	14	11	10	10	4	82	27	10	16	16	11	5	85
H02	Cataract and other lens disorders	2	1	14	77	426	280	800	0	2	14	117	572	345	1050
H03	Glaucoma	0	1	2	2	10	8	23	0	0	3	4	16	11	34
H04	Age-related macular degeneration	0	0	0	0	8	13	21	0	0	0	2	15	19	36
H05	Other vision disorders	21	58	75	58	57	51	320	31	118	117	105	114	76	561
H06	Hearing loss	18	5	11	8	9	17	68	36	1	8	15	14	29	103
H07	Other hearing and vestibular disorders	63	42	77	69	67	40	358	67	58	120	149	119	67	580
I01	Asthma	208	71	79	91	50	15	514	184	96	127	122	94	35	658
I02	Chronic obstructive pulmonary disease	5	7	17	111	247	219	606	3	7	26	170	328	314	848
I03	Interstitial lung disease	0	0	3	6	4	13	26	1	2	1	8	17	9	38
I04	Sarcoidosis	0	0	2	3	0	0	5	0	1	3	2	1	0	7
I06	Upper respiratory conditions	226	192	103	96	34	15	666	281	237	193	122	71	27	931
I07	Other respiratory disease	69	43	64	146	158	103	583	71	58	112	201	267	196	905
J01	Gastroduodenal disorders	8	115	152	289	181	56	801	34	237	377	574	429	138	1789
J02	Appendicitis	100	269	144	77	19	4	613	94	323	195	107	36	3	758
J03	Abdominal wall hernia	30	25	74	77	69	36	311	26	24	92	95	82	42	361
J04	Vascular disorders of intestine	0	0	3	6	10	13	32	2	5	4	15	25	20	71

J05	Intestinal obstruction (without hernia)	8	20	43	79	76	49	275	15	23	62	83	124	92	399
J06	Inflammatory bowel disease	8	52	94	78	55	23	310	31	109	177	192	125	66	700
J07	Diverticulitis	0	7	31	197	191	66	492	0	5	67	356	444	149	1021
J08	Chronic liver disease	6	48	72	130	75	27	358	6	105	257	290	184	57	899
J09	Gallbladder and bile duct disease	2	184	288	233	99	49	855	4	227	351	296	155	88	1121
J10	Pancreatitis	5	59	55	89	44	15	267	3	67	76	84	74	29	333
J11	Gastro-oesophageal reflux disease	28	77	109	223	139	50	626	44	127	224	410	341	146	1292
J13	Other gastrointestinal disorders	98	324	457	562	451	285	2177	134	501	860	1072	1004	556	4127
K01	Chronic kidney disease	30	57	97	181	188	188	741	18	65	154	236	399	474	1346
K03	Kidney stones	1	13	34	35	19	4	106	0	30	51	68	50	26	225
K04	Other kidney and urinary diseases	9	31	32	56	23	16	167	14	36	62	64	64	44	284
K05	Interstitial nephritis	26	141	81	63	28	14	353	33	303	184	105	59	30	714
L13	Other reproductive conditions	52	1016	1192	841	162	51	3314	45	1173	1532	996	265	69	4080
M01	Dermatitis and eczema	89	47	31	26	29	27	249	74	54	73	53	54	60	368
M02	Psoriasis	0	7	4	6	12	1	30	0	7	9	10	4	7	37
M03	Acne	0	0	1	0	0	0	1	3	1	0	2	0	1	7
M04	Ulcers	3	7	22	44	63	121	260	6	17	18	61	73	181	356
M05	Skin infections (including cellulitis)	243	306	339	294	198	146	1526	263	403	449	410	306	255	2086
M06	Other skin disorders	92	230	211	184	100	48	865	84	262	309	260	177	120	1212
M07	Scabies	3	1	2	1	3	3	13	3	1	2	3	2	15	26
N01	Osteoarthritis	2	9	61	156	219	106	553	0	8	29	163	217	151	568
N02	Gout	0	1	1	8	8	9	27	0	1	1	8	18	25	53
N03	Rheumatoid arthritis	1	13	12	34	24	8	92	3	16	10	57	25	18	129
N04	Back pain and problems	9	145	183	159	116	98	710	12	278	396	339	264	206	1495
N05	Other musculoskeletal conditions	92	289	389	490	365	263	1888	110	380	501	692	538	491	2712
O01	Dental caries	215	31	35	28	9	4	322	192	38	56	50	18	4	358
O03	Periodontal disease	5	4	3	5	2	3	22	3	9	8	6	0	0	26
O04	Other oral disorders	58	90	62	77	33	18	338	75	229	108	102	62	42	618

R01	Cystic fibrosis	7	10	5	0	0	0	22	10	11	3	0	1	0	25
R02	Haemophilia	0	0	1	0	0	0	1	0	1	3	1	0	0	5
R03	Haemolytic anaemia	4	9	14	1	0	1	29	2	12	17	1	3	2	37
R04	Iron-deficiency anaemia	36	107	121	95	84	95	538	53	263	330	184	137	154	1121
R05	Protein-energy deficiency	20	8	8	39	53	69	197	29	27	33	72	123	224	508
R06	Other blood and metabolic disorders	423	547	643	712	754	649	3728	558	1145	1570	1242	1207	1169	6891
S09	Suicide and self-inflicted injuries	13	175	110	63	9	5	375	35	380	151	117	15	5	703
S10	Homicide and violence	10	83	61	27	7	2	190	10	108	88	53	12	5	276
T01	Road traffic injuries: motorcyclists	2	30	11	8	1	1	53	3	31	20	18	7	0	79
T02	Road traffic injuries: vehicle occupants	9	126	76	44	27	9	291	14	194	112	82	41	20	463
T03a	Road traffic injuries: pedal cyclists	20	16	8	6	2	0	52	8	19	16	22	4	1	70
T03b	Road traffic injuries: pedestrians	9	9	3	1	0	2	24	3	7	2	4	5	1	22
T04	Other land transport injuries	50	97	57	38	11	3	256	59	149	79	50	14	2	353
T05	Poisoning	39	25	25	22	15	14	140	34	57	56	38	21	29	235
T06	Falls	333	192	199	290	297	431	1742	393	280	288	406	583	809	2759
T07	Fire, burns and scalds	63	31	25	27	9	9	164	45	24	36	21	10	0	136
T08	Drowning	8	3	3	0	1	0	15	15	2	5	1	1	0	24
T11	Other unintentional injuries	282	306	314	288	136	80	1406	288	439	447	390	202	125	1891
T12	All other external causes of injury	135	405	586	635	532	343	2636	183	668	1011	921	883	592	4258
I05	Pneumoconiosis	0	0	0	0	0	0	0	0	0	0	0	1	0	1
A31	Malaria	7	7	6	3	1	0	24	7	6	2	4	2	0	21
L05	Early pregnancy loss	9	2358	1409	17	0	0	3793	2	1541	1271	14	0	0	2828
L12	Infertility	0	24	50	2	0	0	76	0	29	70	3	0	0	102
C14	Cervical cancer	0	1	10	19	8	6	44	0	2	13	16	5	2	38
C15	Uterine cancer	0	0	2	7	11	6	26	0	0	4	28	27	7	66
C16	Ovarian cancer	1	0	10	11	14	7	43	0	1	12	19	24	7	63
C30	Breast in situ	0	2	3	17	10	0	32	0	0	8	13	13	6	40
L01	Maternal haemorrhage	1	1041	914	5	0	0	1961	0	1393	1508	14	0	0	2915

L02	Maternal infections	0	252	177	0	0	0	429	0	292	293	3	0	0	588
L03	Hypertensive disorders of pregnancy	0	386	281	1	0	0	668	0	405	399	6	0	0	810
L04	Obstructed labour	0	504	483	2	0	0	989	1	653	702	3	0	0	1359
L06	Gestational diabetes	0	206	339	1	0	0	546	0	487	915	3	0	0	1405
L07	Other maternal conditions	3	5282	4419	10	0	0	9714	1	5539	6044	27	0	0	11611
L08	Endometriosis	0	84	109	39	1	0	233	1	118	159	51	9	1	339
L09	Uterine fibroids	0	7	92	132	8	2	241	0	12	131	157	14	4	318
L10	Genital prolapse	0	6	34	87	43	11	181	0	5	41	103	73	15	237
L11	Polycystic ovarian syndrome	0	19	10	0	0	0	29	0	24	18	0	0	0	42
Total		8365	20081	19881	13671	11240	8862	82100	10394	25562	30149	20320	19140	15508	121073

Table A 6. Hospitalisations by cause and age, non-Aboriginal males, Northern Territory 2009-2013 vs 2014-2018

(Note: Repeated annual hospitalisations due to same cause for same patient eliminated)

		2009-2013							2014-2018						
BOD Cause		0-	15-	30-	45-	60-	75+	Total	0-	15-	30-	45-	60-	75+	Total
A01	HIV/AIDS	0	3	5	16	7	0	31	0	3	7	17	15	0	42
A02	Tuberculosis	3	17	16	16	11	3	66	0	9	13	13	17	6	58
A03	Hepatitis A	0	2	2	1	0	0	5	0	2	2	2	1	0	7
A04	Hepatitis B (acute)	0	2	4	4	3	1	14	0	0	1	2	1	0	4
A05	Hepatitis C (acute)	0	5	6	18	2	1	32	1	5	4	5	4	1	20
A06	Syphilis	0	1	1	6	10	5	23	0	2	2	7	7	5	23
A07	Gonorrhoea	0	4	4	5	3	0	16	1	1	5	1	3	0	11
A08	Chlamydia	0	4	3	2	1	0	10	1	4	2	2	0	1	10
A09	Other sexually transmitted infections	0	7	3	10	3	1	24	0	6	5	3	6	0	20
A10	Campylobacteriosis	5	4	4	7	4	4	28	6	10	3	8	15	2	44
A11	Salmonellosis	51	7	5	7	12	5	87	80	14	17	13	14	5	143

A12	Rotavirus	46	0	2	1	1	2	52	17	1	1	1	3	2	25
A13	Other gastrointestinal infections	338	119	148	189	210	100	1104	387	308	287	327	374	174	1857
A14	Upper respiratory infections	588	110	97	61	42	20	918	697	178	142	97	88	34	1236
A15	Otitis media	352	22	20	22	18	6	440	322	18	29	20	19	9	417
A16	Lower respiratory infections	599	109	167	356	559	391	2181	708	112	187	437	754	612	2810
A17	Influenza	40	22	25	42	35	14	178	58	38	52	61	87	71	367
A18	Diphtheria	0	1	0	2	1	0	4	0	0	0	0	0	0	0
A19	Pertussis	10	1	1	2	2	0	16	0	0	1	2	1	0	4
A21	Measles	1	1	0	0	0	0	2	4	0	4	0	0	0	8
A24	Haemophilus influenzae type b	0	0	0	0	0	0	0	1	0	0	0	0	0	1
A25	Pneumococcal disease	7	2	6	18	12	9	54	3	3	11	25	19	14	75
A26	Meningococcal disease	2	2	0	0	0	0	4	1	4	0	0	0	0	5
A27	Other meningitis and encephalitis	58	23	29	19	7	1	137	49	27	37	22	10	6	151
A28	Dengue	1	2	5	0	3	0	11	1	2	3	0	2	0	8
A29	Ross River virus	0	1	1	0	0	0	2	0	0	1	1	1	0	3
A32	Trachoma	0	0	0	0	0	0	0	1	0	0	0	0	0	1
A33a	Mumps	2	1	0	1	0	0	4	1	0	1	0	0	0	2
A33b	Other infections	817	725	842	1144	1222	681	5431	1069	791	1060	1391	1621	915	6847
A34	Melioidosis	5	8	10	35	36	5	99	3	2	18	30	32	15	100
A35	Urinary tract infections	119	32	50	146	335	358	1040	151	25	70	173	449	487	1355
B01	Pre-term birth and low birthweight complications	656	0	0	0	0	0	656	887	0	0	0	0	0	887
B02	Birth trauma and asphyxia	270	0	0	0	0	0	270	411	0	0	0	0	0	411
B03	Cerebral palsy	61	1	9	1	2	0	74	55	9	5	3	2	0	74
B04	Neonatal infections	308	0	0	0	0	0	308	438	0	0	0	0	0	438
B06	Other disorders of infancy	1185	0	0	0	0	0	1185	1575	0	0	0	0	0	1575
B07	Neural tube defects	3	7	3	0	0	0	13	1	0	3	0	0	0	4
B08	Brain malformations	13	3	5	3	1	1	26	23	3	2	0	2	0	30

B09	Cardiovascular defects	56	13	12	10	5	2	98	99	9	16	9	12	1	146
B10	Cleft lip and/or palate	20	2	1	0	0	0	23	27	0	0	0	0	0	27
B11	Gastrointestinal malformations	158	5	5	3	8	6	185	440	9	5	9	17	6	486
B12	Urogenital malformations	257	6	3	7	7	3	283	281	8	9	8	8	0	314
B13	Down syndrome	19	5	1	2	1	0	28	9	2	0	3	1	0	15
B14	Other chromosomal abnormalities	5	2	0	2	0	0	9	6	1	0	1	0	0	8
B15	Other congenital conditions	242	30	18	8	6	2	306	285	19	13	13	5	1	336
C01a	Lip and oral cavity cancer	0	0	9	29	35	5	78	0	0	5	42	58	15	120
C01b	Nasopharyngeal cancer	0	0	4	2	8	0	14	0	0	2	2	3	0	7
C01c	Other oral cavity and pharynx cancers	0	0	0	30	27	7	64	0	0	1	39	47	4	91
C02	Laryngeal cancer	0	1	1	14	25	1	42	0	0	1	20	29	17	67
C03	Oesophageal cancer	0	0	1	11	20	13	45	0	0	0	16	41	9	66
C04	Stomach cancer	0	0	0	10	20	10	40	0	0	2	15	16	12	45
C05	Bowel cancer	0	2	9	83	147	48	289	0	6	16	109	167	61	359
C06	Liver cancer	1	0	0	37	25	8	71	0	2	2	25	31	13	73
C07	Gallbladder cancer	0	0	0	2	7	2	11	0	1	0	5	5	5	16
C08	Pancreatic cancer	0	0	4	10	24	6	44	0	0	2	20	45	18	85
C09	Lung cancer	0	0	1	75	150	64	290	0	1	4	47	190	78	320
C10	Mesothelioma	0	0	0	4	9	5	18	0	0	0	1	12	3	16
C11	Melanoma of the skin	0	3	9	21	29	10	72	0	3	11	38	75	25	152
C12	Non-melanoma skin cancers	0	2	59	241	260	115	677	0	2	37	251	453	195	938
C13	Breast cancer	0	0	0	0	2	0	2	0	0	0	5	4	0	9
C19	Bladder cancer	0	0	0	20	58	54	132	0	0	0	33	67	42	142
C20	Kidney cancer	1	1	1	10	25	12	50	0	2	2	23	38	14	79
C21	Brain, central nervous system cancer	4	3	3	13	21	0	44	5	3	9	15	13	5	50
C22	Thyroid cancer	0	0	2	2	6	0	10	0	1	3	4	9	0	17
C23	Non-Hodgkin lymphoma	0	4	9	44	45	15	117	1	0	4	31	68	22	126
C24	Hodgkin lymphoma	0	3	3	4	3	1	14	0	3	5	0	1	1	10

C25a	Acute myeloid leukaemia (AML)	4	1	3	1	15	4	28	0	1	0	8	23	7	39
C25b	Chronic myeloid leukaemia (CML)	1	2	3	2	3	1	12	0	1	1	2	4	2	10
C25c	Acute lymphoblastic leukaemia (ALL)	2	2	0	1	3	0	8	1	2	0	3	1	0	7
C25d	Chronic lymphocytic leukaemia (CLL)	0	0	2	15	13	13	43	0	0	0	19	34	7	60
C25e	Other leukaemias	0	0	2	3	8	2	15	0	2	1	10	22	2	37
C26	Myeloma	0	0	0	12	15	3	30	0	0	2	24	63	17	106
C27	Other blood cancers	2	2	3	9	44	30	90	0	0	16	29	47	42	134
C28	Unknown primary	2	7	27	204	359	157	756	1	9	29	256	559	226	1080
C29	Benign and uncertain brain tumours	2	4	1	6	4	1	18	2	2	4	7	10	3	28
C31	Other malignant neoplasms (cancers)	4	4	8	25	27	15	83	0	4	1	25	41	15	86
C32	Other benign & in situ neoplasms	53	38	149	491	490	104	1325	47	67	210	725	852	210	2111
D01a	Type 1 diabetes	17	56	77	64	24	2	240	24	62	100	94	39	15	334
D01b	Type 2 diabetes	0	15	138	691	1214	404	2462	1	15	276	1329	2478	1085	5184
D01c	Other diabetes mellitus	0	5	7	10	7	1	30	0	4	8	18	10	0	40
D02	Other endocrine disorders	35	20	25	63	74	43	260	45	26	45	105	106	54	381
E01	Coronary heart disease	0	6	165	660	967	388	2186	0	6	149	717	987	499	2358
E02	Stroke	0	7	39	166	309	178	699	2	16	38	175	360	244	835
E03	Rheumatic heart disease	2	6	9	13	33	18	81	2	12	15	26	72	51	178
E04	Non-rheumatic heart disease	5	6	15	54	82	60	222	7	10	20	63	172	118	390
E05	Hypertensive heart disease	0	0	0	1	4	3	8	0	0	0	0	1	1	2
E06	Atrial fibrillation and flutter	2	26	85	284	674	359	1430	0	23	81	332	837	541	1814
E07	Inflammatory heart disease	2	41	49	52	38	11	193	5	64	75	71	53	24	292
E08	Cardiomyopathy	2	8	12	51	72	21	166	4	9	23	62	96	17	211
E09	Aortic aneurysm	0	2	4	15	41	23	85	0	0	5	9	42	47	103
E10	Peripheral vascular disease	3	5	19	106	265	99	497	3	11	16	97	154	62	343
E11	Other cardiovascular diseases	86	215	610	1828	2412	1061	6212	164	233	541	1577	2574	1450	6539
F01	Depressive disorders	3	122	127	133	102	34	521	3	131	173	162	116	41	626
F02	Anxiety disorders	11	181	235	175	133	27	762	16	230	253	212	160	57	928

F03	Bipolar affective disorder	0	35	57	43	15	0	150	0	32	42	40	20	1	135
F04	Alcohol use disorders	4	465	666	814	539	98	2586	3	617	865	1087	758	154	3484
F05	Drug use disorders (excluding alcohol)	1	219	280	139	28	3	670	4	448	419	240	58	12	1181
F06	Schizophrenia	0	174	222	91	41	13	541	2	188	249	109	41	5	594
F07	Eating disorders	1	1	2	0	0	0	4	0	1	3	0	1	0	5
F08	Autism spectrum disorders	22	9	3	0	0	0	34	12	14	1	0	1	0	28
F09	Attention deficit hyperactivity	4	2	1	1	0	0	8	3	7	4	2	0	0	16
F10	Conduct disorder	8	15	6	3	1	1	34	6	12	8	6	7	7	46
F11	Intellectual disability	1	6	9	2	3	0	21	1	9	5	7	2	1	25
F12	Other mental & substance use	40	89	147	169	301	225	971	38	153	193	284	530	509	1707
G01	Epilepsy	31	28	50	39	29	10	187	35	44	64	70	24	11	248
G02	Dementia	0	0	3	21	142	316	482	0	0	0	30	132	327	489
G03	Parkinson disease	0	0	0	5	29	36	70	0	0	2	12	63	66	143
G04	Multiple sclerosis	0	1	4	5	1	0	11	0	5	7	23	2	0	37
G05	Migraine	6	15	33	24	7	3	88	8	58	84	75	23	5	253
G06	Motor neurone disease	0	0	1	1	8	6	16	0	0	1	4	15	7	27
G07	Guillain-Barré syndrome	1	1	3	2	4	2	13	2	1	3	5	1	0	12
G08	Other neurological conditions	138	97	231	512	574	235	1787	244	168	318	629	774	354	2487
H01	Refractive errors	27	12	11	20	19	4	93	31	6	13	15	25	7	97
H02	Cataract and other lens disorders	1	2	19	162	630	304	1118	0	3	22	166	688	343	1222
H03	Glaucoma	2	0	2	5	17	11	37	0	2	5	12	21	9	49
H04	Age-related macular degeneration	0	0	0	1	11	12	24	0	0	0	1	14	11	26
H05	Other vision disorders	23	37	61	84	140	57	402	40	50	92	144	193	99	618
H06	Hearing loss	30	6	13	16	28	38	131	35	9	12	19	33	39	147
H07	Other hearing & vestibular disorders	86	41	45	72	93	32	369	109	51	72	128	161	62	583
I01	Asthma	338	34	39	58	30	9	508	301	46	60	69	28	17	521
I02	Chronic obstructive pulmonary dis	8	10	23	166	595	386	1188	6	8	35	234	667	502	1452
I03	Interstitial lung disease	0	0	0	10	29	21	60	0	1	2	15	29	30	77

I04	Sarcoidosis	0	0	4	2	2	1	9	0	0	3	5	3	0	11
I06	Upper respiratory conditions	306	138	144	151	82	24	845	329	155	203	186	142	38	1053
I07	Other respiratory disease	102	90	94	227	363	163	1039	90	75	118	285	510	275	1353
J01	Gastroduodenal disorders	9	80	203	372	290	85	1039	22	173	412	675	634	164	2080
J02	Appendicitis	120	287	178	77	27	8	697	130	281	223	118	66	7	825
J03	Abdominal wall hernia	80	80	190	346	301	76	1073	86	62	186	411	406	108	1259
J04	Vascular disorders of intestine	1	2	2	11	29	14	59	0	4	7	22	40	24	97
J05	Intestinal obstruction (w/o hernia)	32	16	36	92	146	70	392	27	26	56	122	172	99	502
J06	Inflammatory bowel disease	16	66	76	83	71	18	330	46	93	175	178	157	51	700
J07	Diverticulitis	0	9	96	350	321	77	853	0	10	128	510	622	163	1433
J08	Chronic liver disease	5	18	119	406	194	35	777	9	61	302	723	502	108	1705
J09	Gallbladder and bile duct disease	1	30	89	156	154	53	483	4	40	100	196	222	93	655
J10	Pancreatitis	1	46	84	125	71	14	341	7	46	90	156	109	22	430
J11	Gastro-oesophageal reflux disease	28	78	170	298	239	52	865	39	91	273	507	416	116	1442
J13	Other gastrointestinal disorders	157	187	417	869	896	381	2907	181	293	811	1486	1672	643	5086
K01	Chronic kidney disease	39	75	139	369	605	347	1574	45	59	211	536	981	752	2584
K03	Kidney stones	4	37	70	138	97	27	373	0	43	150	209	170	47	619
K04	Other kidney and urinary diseases	28	38	60	147	190	106	569	24	59	141	194	239	115	772
K05	Interstitial nephritis	8	9	13	19	30	7	86	14	9	25	32	53	19	152
L13	Other reproductive conditions	295	171	149	167	146	68	996	274	166	156	168	173	105	1042
M01	Dermatitis and eczema	96	29	27	59	63	37	311	120	25	46	100	82	57	430
M02	Psoriasis	0	1	5	19	10	1	36	0	2	12	24	17	2	57
M03	Acne	4	3	0	0	0	0	7	1	0	2	2	1	1	7
M04	Ulcers	10	26	68	166	198	145	613	12	23	42	141	235	171	624
M05	Skin infections (including cellulitis)	293	642	725	826	596	245	3327	335	704	899	1070	903	347	4258
M06	Other skin disorders	84	222	217	331	234	76	1164	107	278	255	402	388	127	1557
M07	Scabies	7	1	3	12	10	3	36	4	2	7	12	4	6	35
N01	Osteoarthritis	0	18	74	182	258	72	604	0	10	47	153	285	99	594

N02	Gout	0	2	35	98	135	41	311	0	6	46	112	151	76	391
N03	Rheumatoid arthritis	2	2	6	14	18	6	48	1	2	10	25	50	19	107
N04	Back pain and problems	11	55	158	223	190	70	707	5	101	257	386	358	155	1262
N05	Other musculoskeletal conditions	138	360	510	738	715	211	2672	180	415	577	841	903	403	3319
O01	Dental caries	254	54	59	48	29	4	448	245	59	68	77	46	12	507
O03	Periodontal disease	7	10	9	4	7	1	38	4	9	8	8	5	0	34
O04	Other oral disorders	77	78	80	110	92	21	458	112	131	121	143	123	41	671
R01	Cystic fibrosis	6	7	1	0	0	0	14	10	10	1	0	1	0	22
R02	Haemophilia	3	2	4	2	3	0	14	8	0	0	0	1	0	9
R03	Haemolytic anaemia	9	1	6	7	1	0	24	15	1	6	10	1	2	35
R04	Iron-deficiency anaemia	47	19	21	70	134	108	399	80	21	56	101	192	131	581
R05	Protein-energy deficiency	18	10	17	83	141	96	365	28	19	29	151	333	237	797
R06	Other blood and metabolic disorders	463	298	505	1169	1503	755	4693	659	463	781	1624	2217	1184	6928
S09	Suicide and self-inflicted injuries	4	167	123	67	20	4	385	2	196	122	88	32	8	448
S10	Homicide and violence	12	396	286	174	45	6	919	17	318	340	200	52	17	944
T01	Road traffic injuries: motorcyclists	13	162	96	57	24	1	353	21	207	113	91	25	7	464
T02	Road traffic injuries: vehicle occupant	25	180	124	97	53	14	493	22	260	164	116	58	36	656
T03a	Road traffic injuries: pedal cyclists	38	46	35	46	21	3	189	32	29	46	51	31	1	190
T03b	Road traffic injuries: pedestrians	3	23	8	5	4	2	45	6	16	14	11	5	3	55
T04	Other land transport injuries	135	331	177	117	36	4	800	130	320	186	136	50	10	832
T05	Poisoning	46	50	47	59	23	15	240	47	65	78	66	54	23	333
T06	Falls	596	399	342	398	434	333	2502	582	487	435	576	740	623	3443
T07	Fire, burns and scalds	77	103	92	56	40	5	373	74	79	77	73	26	3	332
T08	Drowning	23	2	2	6	0	0	33	20	7	1	2	2	0	32
T11	Other unintentional injuries	439	1113	995	801	406	131	3885	456	1362	1238	1005	574	159	4794
T12	All other external causes of injury	219	350	450	887	1208	492	3606	302	420	592	1110	1597	809	4830
I05	Pneumoconiosis	0	0	0	1	8	8	17	0	0	1	3	5	8	17
A31	Malaria	10	25	11	2	2	1	51	10	23	8	5	4	0	50

L05	Early pregnancy loss	0	0	0	0	0	0	0	0	0	1	0	0	0	1
L12	Infertility	0	0	1	0	0	0	1	0	0	0	0	0	0	0
A30	Barmah Forest virus	0	0	0	1	0	0	1	0	0	0	0	0	0	0
B05	Sudden infant death syndrome	1	0	0	0	0	0	1	1	0	0	0	0	0	1
C17	Prostate cancer	0	0	0	22	127	85	234	0	0	0	39	224	131	394
C18	Testicular cancer	0	7	15	6	0	0	28	0	5	19	3	1	0	28
K02	Enlarged prostate	0	0	5	66	216	149	436	0	0	6	70	270	181	527
Total		11715	10061	13045	21862	25519	11652	93854	14287	12343	17268	28776	36521	18359	127554

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