



Overview of the burden of disease in Western Australia, 2011

The importance of burden of disease

Burden of disease is the most comprehensive and comparable assessment of a population's health.¹ It improves our understanding of the impact particular diseases and risk factors have on a community. By enabling us to see which diseases and risk factors are affecting the community most we can better prioritise our public health efforts and set the foundation for more informed health policy.

Burden of disease measures the gap between current health and ideal health situations in the population. While one disease may be responsible for considerable loss of life due to early death, another may cause significant loss from disability. The total burden, Disability Adjusted Life Years (DALY) combines both premature deaths (YLL) and disability (YLD) into a single measure. It is a common unit of measurement calculated for each disease, enabling them to be compared like for like.

The factsheet series

The Western Australia (WA) burden of disease factsheet series will expand upon WA findings presented in the *Impact and causes of illness and deaths in Australia 2011* report² and provide a more detailed description of the WA burden.

It is based on the most recent available data for 200 diseases and nearly 30 risk factors – from the Australian Burden of Disease Study 2011. This new data should not be compared with 2006 WA burden of disease data due to methodological differences.

This is the first factsheet in this series providing an overview of the disease burden in WA.

How burden is measured?

YLL: Years of Life Lost from premature deaths (fatal burden)

YLD: Years Lost due to Disability i.e. living with an illness or injury (non-fatal burden)

DALY = YLL + YLD: Disability Adjusted Life Years (total burden),
1 DALY = 1 year of healthy life lost

WA Burden of disease factsheet series

Overview > Specific diseases > Specific population groups > Contribution of risk factors

Use of burden of disease data

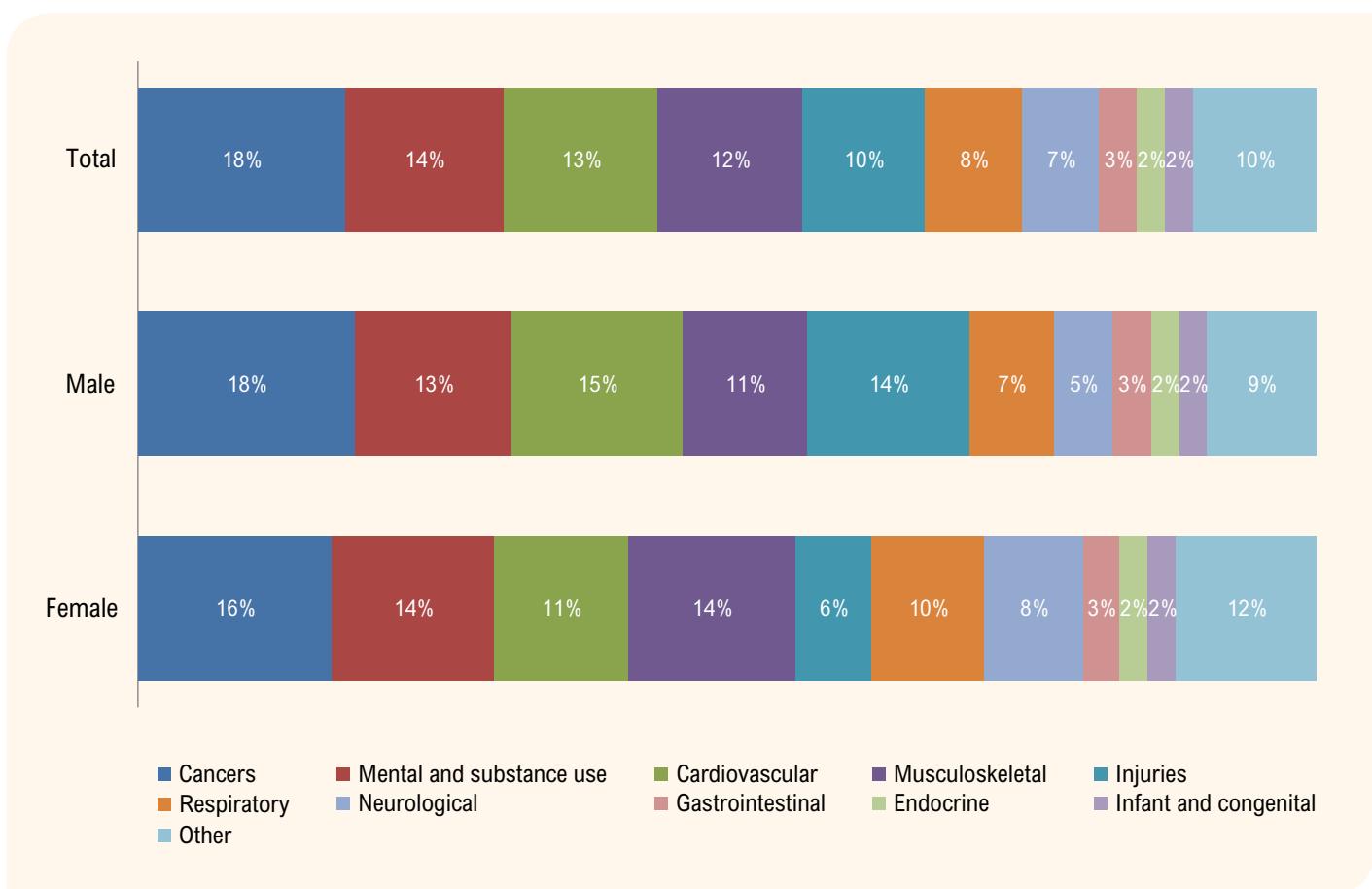
- ✓ Monitor population health
- ✓ Guide health resource allocations and prioritise services
- ✓ Measure progress of health programs
- ✓ Estimate potential health gains from investment
- ✓ Recognise services provided by non-hospital based health care such as community health, public health and general practice.

Overview

- In 2011, Western Australians lost more than 435,000 years of healthy life due to premature death and living with disease and injury. The burden of living with disease (51%) was almost equivalent to the burden of dying early (49%).
- The age standardised rate (ASR) of total burden (DALY) in WA (183.3 per 1,000 people) was the second lowest in Australia after the Australian Capital Territory (ACT). The Australian average was 189.9 DALY per 1,000 people.
- In WA, males experienced a greater total disease burden than females (ASR =208.0 males; ASR=160.1 females).
- Cancers, mental disorders and cardiovascular diseases together accounted for almost half (45%) of the total health loss in WA.

Leading causes of burden by broad disease groups

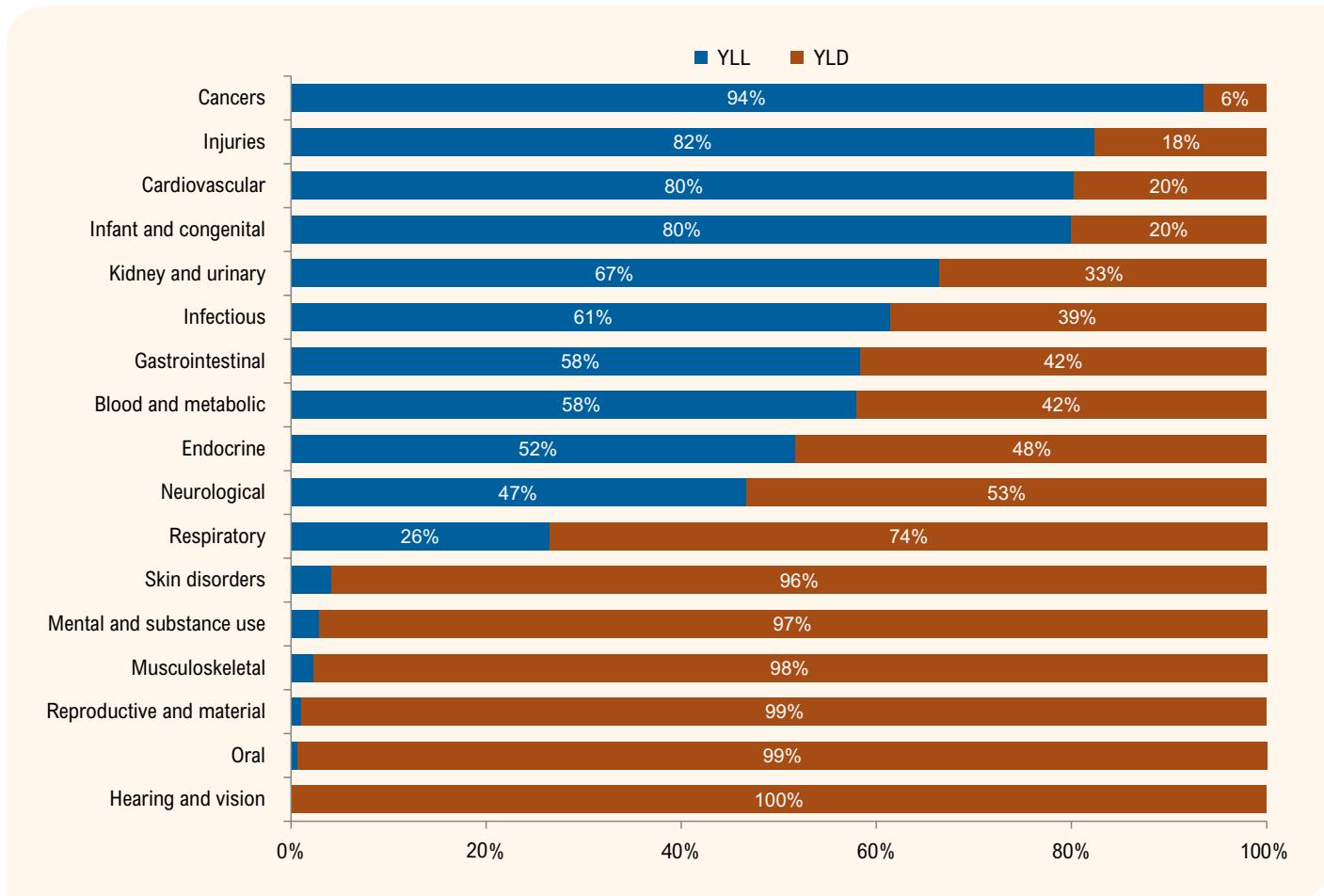
Figure 1. Proportion (%) of total burden (DALY) by disease group and sex, 2011



- In 2011, the top 5 causes of disease burden in WA were cancer and other neoplasms, mental and substance-use disorders, cardiovascular diseases, musculoskeletal conditions and injuries. They accounted for more than two-thirds of the total burden (67%).
- The greatest disparity between males and females was in injury burden. Among males, injuries contributed to 14% of the total male DALY compared with 6% among females. After adjusting for differences in the population age structure, the rate of burden from injuries was 2.6 times higher for males than females.
- Males had approximately twice the total health loss due to cardiovascular diseases of females, and around 1.5 times the health loss due to cancer, gastrointestinal diseases and endocrine disorders.
- The rate of burden for other disease groups in the top 10 causes was similar for males and females.

Fatal and non-fatal burden by disease groups

Figure 2. Proportion (%) of total burden by fatal (YLL) and non-fatal (YLD) burden and disease groups, 2011



- Among the top 5 disease groups, the burden from cancers, injuries and cardiovascular diseases was mainly due to people dying early (YLL), while the burden from mental and substance use disorders and musculoskeletal conditions was mostly due to living with the condition (YLD).
- Cancers, injuries and cardiovascular diseases together accounted for 73% of the fatal burden.
- Mental disorders and musculoskeletal conditions together accounted for almost half (49%) of the non-fatal burden.
- Males experienced more of the fatal burden than females (54% of DALY compared with 43% of DALY) with the rate of fatal burden 1.7 times higher for males than females.

Suggested citation:

Epidemiology Branch, Public Health Division, Western Australia Department of Health 2016. Overview of the burden of disease in Western Australia, 2011. Perth: Department of Health.

Data source:

Australian Institute of Health and Welfare 2016. Australian Burden of Disease Study: impact and causes of illness and death in Australia 2011. Canberra: Australian Institute of Health and Welfare.
<http://www.aihw.gov.au/publication-detail/?id=60129555173>

Any enquiries and feedback:

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Leading causes of burden by specific diseases

Figure 3. Top 10 causes of total burden (DALY) by specific diseases and gender, 2011

Rank	Male	% total DALYs	Female	% total DALYs
1	Coronary heart disease	8.9	Coronary heart disease	5.2
2	Suicide and self-inflicted injuries	4.5	Other musculoskeletal*	5.0
3	Other musculoskeletal*	3.7	Depressive disorders	4.4
4	Lung cancer	3.6	Dementia	4.2
5	Back pain and problems	3.6	Back pain and problems	4.2
6	Depressive disorders	2.8	Anxiety disorders	4.2
7	COPD	2.7	COPD	3.5
8	Alcohol use disorders	2.5	Breast cancer	3.2
9	Diabetes	2.4	Asthma	3.1
10	Anxiety disorders	2.3	Osteoarthritis	2.8

*Other musculoskeletal conditions include other and ill-defined arthritis; chronic pain in joints, muscles and other soft tissue; and systemic lupus erythematosus.

- Ranking the total DALY by specific disease gives a different perspective compared to ranking by broad disease groups.
- Coronary heart disease was the number one leading cause of burden for both males and females. The proportion of total health loss for males was higher than it was for females.
- In WA, coronary heart disease was made up of 83% of YLL and 17% of YLD.
- Suicide and self-inflicted injuries was the second leading specific cause of burden for males in WA.
- Other musculoskeletal conditions, depressive disorders and anxiety disorders were in the top 10 causes of specific disease burden for both males and females. However, they ranked higher for females than males.
- Lung cancer, alcohol use disorders and diabetes were in the top 10 leading causes of burden for males, but not for females.
- Dementia, asthma and osteoarthritis were in the top 10 leading causes of burden for females, but not for males.
- Specific disease burden in WA is discussed in detail in the next factsheet.

Reference

- Murray CJ, Salomon JA, Mathers C. A critical examination of summary measures of population health. *Bulletin of the World Health Organization*. 2000;78(8):981-94.
- Australian Institute of Health and Welfare. Australian Burden of Disease Study: Impact and causes of illness and death in Australia 2011. Canberra: AIHW: 2016.

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