

2022 Best Research Poster Award

The burden and trend of diseases and their risk factors in Australia, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019

Project Team Leader: Sheikh Mohammed Shariful Islam (shariful.islam@deakin.edu.au)

Project Team Members: Sheikh Mohammed Shariful Islam, Riaz Uddin, Kylie Ball, Sarah A McNaughton, Katherine M Livingstone, Paul Zimmet, Asaduzzaman Khan, Jo Salmon, Simon I Hay, Ralph Maddison, and David Crawford for the GBD 2019 Australian Burden of Disease Collaborators

INTRODUCTION

A comprehensive understanding of temporal trends in Australia's disease burden and risk is lacking, which is required to inform health service planning and improve population health.

OBJECTIVES

We explored the burden and trend of diseases and their risk factors in Australia from 1990 to 2019 through a comprehensive analysis of the Global Burden of Diseases study.

METHOD

All-cause mortality was estimated using a multistage modelling process that synthesised data from vital registration systems, surveys, and censuses. A composite measure of health loss due to both fatal and non-fatal disease burden (DALYs) was calculated as the sum of years of life lost (YLLs) and years of life lived with disability (YLDs). Comparisons between Australia and 14 other high socio-demographic index countries were made.

RESULTS

Between 1990 and 2019, the age-standardised death rate decreased from 637.7 deaths (634.1–641.3) to 389.2 deaths (381.4–397.6) per 100,000 population. In 2019, non-communicable diseases (NCDs) remained the major cause of mortality in Australia, accounting for 90.9% (90.4–91.9) of total deaths, followed by injuries 5.7% (5.3–6.1), and communicable, maternal, neonatal, and nutritional diseases 3.3% (2.9–3.7). Ischaemic heart disease; self-harm; tracheal, bronchus, and lung cancer; stroke; and colorectal cancer were the leading causes of YLLs. The leading causes of YLDs were low back pain, depressive disorders, other musculoskeletal diseases, falls, and anxiety disorders. The leading risk factors for DALYs were high body-mass index, smoking, high blood pressure, high fasting plasma glucose, and drug use. Between 1990-2019, all-cause DALYs decreased by 24.6% (21.5–28.1). Australia's ranking improved for age-standardised death rates and life expectancy at birth but not for YLDs and YLLs between 1990-2019 compared to comparator countries.

DISCUSSION

Functional health issues of the aging population, such as falls, low back pain, age-related hearing loss, continue to contribute to the burden of disease in Australia. Poor mental health, including drug use disorders, and self-harm and interpersonal violence are emerging issues where public health interventions, policy, and programmes should have a strong focus. Behavioural and metabolic risk factors contributed the most towards the mortality and morbidity of the Australian population. Therefore, remedial and preventive strategies are needed to ensure the sustainability of the Australian healthcare system.

CONCLUSION

A significant challenge for Australia is to address the health needs of older people and chronic conditions. The health system needs to be better prepared for this shift as well as meeting the demands of lifestyle diseases and aging.

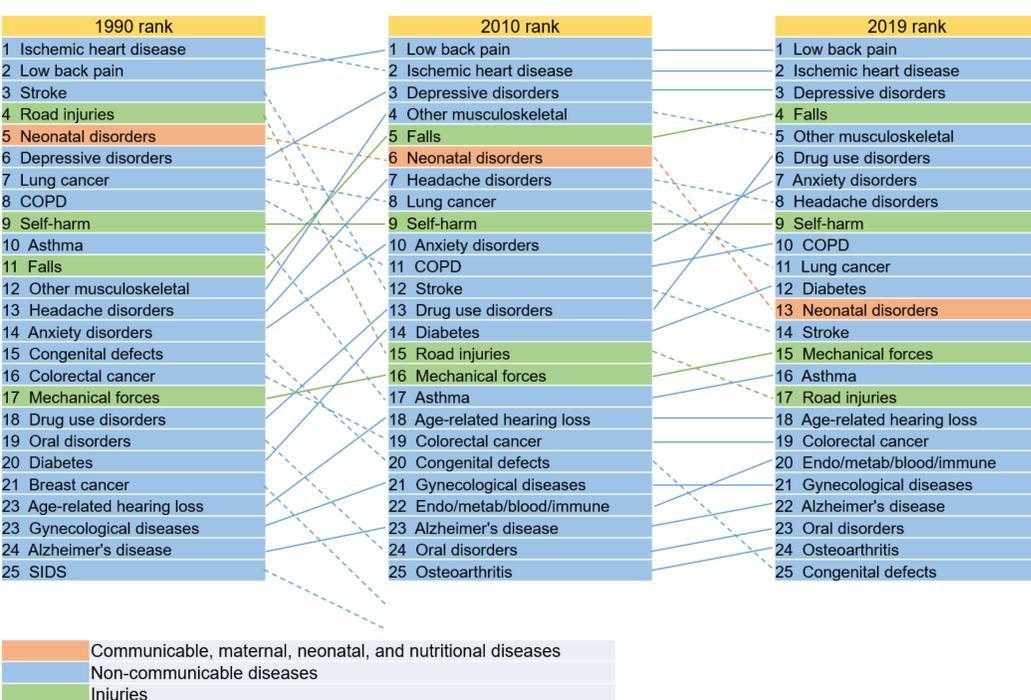


Figure: Changes in ranking of DALYs between 1990-2010 and 2010-2019 for the leading causes of diseases, disabilities, and injuries in Australia

REFERENCES & ACKNOWLEDGEMENTS

The Bill & Melinda Gates Foundation for funding the GBD Study. GBD Australia Collaborators and the GBD Secretariat for support. Shariful Islam is funded by the NHMRC and National Heart Foundation of Australia.