WORK, INCOME AND HEALTH INEQUITY

A SNAPSHOT OF THE EVIDENCE

An ACOSS/UNSW Sydney Poverty and Inequality Partnership Project

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Glossary

ABS	Australian Bureau of Statistics
ACOSS	Australian Council of Social Service
AIHW	Australian Institute of Health and Welfare
ALSMH	Australian Longitudinal Study on Male Health
ALSWH	Australian Longitudinal Study on Women'sHealth
CHETRE	Centre for Health Equity Training, Research and Evaluation
CPHCE	Centre for Primary Health Care and Equity
CSDH	Commission on Social Determinants of Health
ED	Emergency Department
EDDC	Emergency Department Data Collection
GSS	General Social Survey
HILDA	Household, Income and Labour Dynamics in Australia
IRSD	Index of Relative Socioeconomic Disadvantage
LSAC	Longitudinal Study of Australian Children
LSAY	Longitudinal Study of Australian Youth
MADIP	The Multi-Agency Data Integration Project
NATSIHS	Northern Aboriginal & Torres Strait Islander Health Surveys
NDSHS	National Drug Strategy Household Survey
NHS	National Health Survey
SEIFA	Socio-Economic Indexes for Areas
SPRC	Social Policy Research Centre
SDAC	Survey of Disability, Ageing and Caring
WHO	World Health Organization

Foreword

This report is published by the Poverty and Inequality Partnership. This partnership, between ACOSS and UNSW Sydney, aims to focus national attention on poverty and inequality through high-quality research, policy development and advocacy to effect change. The report has been written for the Partnership by representatives of the Centre for Health Equity Training Research Evaluation (CHETRE) and the Social Policy Research Centre (SPRC) at UNSW Sydney, and by representatives of ACOSS.

While some of the data used in this report pre-dates the COVID-19 pandemic, it has been finalized during a time when the higher health risks for particular groups has come to public attention via issues such as vaccination access, the increased COVID-19 risks for people living in lower socio-economic areas and unequal access to health services. In effect, the pandemic has highlighted that some groups are at greater risk of poorer health outcomes because of their background and living conditions and that some groups face greater barriers to accessing good health and health services.

This report looks at the availability of health and socio-economic data in Australia, and, using the most suitable data, reports on the relationship between certain health and socio-economic indictors. It concludes that more effective data collection of health and income indicators in Australia is important and required; and that there are distinct inequities in Australia in terms of health and socio-economic status.

This report is the second published by the Partnership in 2021, following the publication of ***COVID-19: Rental housing and homelessness impacts – an initial analysis*** in February 2021. It was written by Evelyne de Leeuw, Kaniz Fatema and Frederic Sitas from the Centre for Health Equity Training Research Evaluation (CHETRE); Yuvisthi Naidoo and Carla Treloar from the Social Policy Research Centre (SPRC); and Jacqueline Phillips, Penny Dorsch and Cassandra Goldie from ACOSS. We would like to acknowledge the contribution of Margo Barr from the Department of Medicine at UNSW Sydney.

The Poverty and Inequality Partnership takes a cross-disciplinary approach to research, including a number of UNSW researchers from different disciplines including the Social Policy Research Centre, the Centre for Primary Health Care and Equity, the City Futures Research Centre and the Faulty of Law and Justice. This approach means that the partnership can more fully explore the ways in which inequality and poverty are related to other measures of disadvantage, such as health, justice, housing and homelessness.

The Partnership is also supported by several non-government organizations from within ACOSS' membership and by some philanthropists, including Anglicare Australia; Australian Red Cross; the Australian Communities Foundation Impact Fund (and two sub-funds – Hart Line and Raettvisa); the BB and A Miller Foundation; the Brotherhood of St Laurence; cohealth, a Victorian community health service; the David Morawetz Social Justice Fund; Good Shepherd Australia New Zealand; Mission Australia; the St Vincent de Paul Society; the Salvation Army; and The Smith Family.

We thank both the partners and the supporters of the partnership for their help with this report, as well as the ACOSS Board, UNSW Vice Chancellor Ian Jacobs, and UNSW Deputy Vice-Chancellor Equity, Diversity and Inclusion Professor Eileen Baldry.

Cassandra Goldie

Carla Treloar

Executive summary

Health inequities

The COVID 19 global pandemic has been a powerful demonstration of the importance of securing positive health outcomes for all, that all might benefit equally from the best our health systems have to offer.

However, the pandemic has also highlighted that some groups are at greater risk of poorer health outcomes because of their background and living conditions, and that some groups face greater barriers to accessing good health care. Both of these factors mean that some people systematically experience poorer health outcomes because of unfair and unnecessary factors that can be overcome.

Health inequities are unfair and are avoidable differences in health outcomes between groups and populations. Health inequities are not a physiological given; they are a consequence of how our societies work; how we shape our governments, and their political decision-making parameters. Inequities can be avoided and are unjust. More equal societies are both healthier and wealthier societies.[1]

Health equity is an important goal of public health policy and practice. It means that everyone has a fair and just opportunity to be as healthy as possible. It is the state in which everyone has the opportunity to attain full health potential and no one is disadvantaged from achieving this potential because of social position or any other socially defined circumstance. This includes reducing and ultimately eliminating factors that lead to disparities in health and the determinants that adversely affect excluded or marginalized groups.[2] Health equity is socially structured and shaped by sex, race, ethnicity, or cultural background, as well as by social determinants such as employment, social support, food and transport, and significantly, work, employment, income and poverty.[3]

Despite being amongst the wealthiest countries (per adult) in the world,[4] Australia suffers from significant health inequities. This is not desirable; not for those who suffer disproportionately, nor for the coherence and fairness of Australian society.

Fortunately, health inequities and their determinants - including poverty - are not inevitable. Changes to public policy and action by civil society can dramatically close these unfair and avoidable health inequities.

This report seeks to understand the relationship between socio-economic disadvantage and health in Australia through an exploration of the health outcome indicators and socio-economic indicators currently available in Australian national health surveys and how these health outcomes differ by socio-economic position.

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[1] Wilkinson R, Pickett K (2010), *The spirit level: Why equality is better for everyone:* Penguin UK.
[2] Baciu A, Negussie Y, Geller A, Weinstein JN (ed) (2017), C*ommunities in Action: Pathways to Health* Equity National Academies of Sciences Engineering and Medicine. The State of Health Disparities in the United States. National Academies Press (US)
[3] Wilkinson RG, Marmot M. (2003), S*ocial determinants of health: the solid facts:* World Health Organization, Regional Office for Europe, Copenhagen.
[4] Credit Suisse (2021), *Global Wealth Report 2021,* **https://www.credit-suisse.com/about-us/en/reports-research/global-wealth-report.html**

Why are socio-economic indicators important in a health context?

By looking at health outcomes through the lens of various socio-economic indicators, we can get an indication of the correlations and potential relationships between economic disadvantage and health in Australia.

This research looks at four different indicators of socio-economic status:

1 Income;

2 Employment status;

3 Main source of income; and

4 SEIFA index of relative socio-economic status.

This report builds on the core research of the ACOSS/UNSW Poverty and Inequality Partnership – looking at income poverty, and income and wealth inequality - through an inspection of some of the specific inequities caused in Australia by income inequality.

Key Findings

- People under 65 whose main source of income is government income support are more likely to report mental health issues (50%) than those whose main source of income is salary or wages (18%).

- People who are without paid work are almost twice as likely to report mental health issues than people who work full time.

- People with higher incomes (60%) are more likely to report good health, while people with lower incomes are less likely to report good health (32%).

- A better framework for data, and better data, is needed in Australia to effectively measure and respond to health equity.

- There are clear links between health outcomes and socio-economic status over multiple indicators.

- Broad-based policy-supported health equity metrics are required to gauge the complexity and relations between factors to tackle inequity in health.

Australia needs a better framework and better data to measure health equity effectively

Understanding the patterns of health inequity in Australia is fundamental to developing effective policy and program responses. The data currently available for the investigation of the socioeconomic basis of health equity is distributed and decentralised. We need a stronger and coherent health equity metrics framework that can be applied at all levels of government, and we need major data collection systems. While there has been some recent progress in multi-agency projects for data integration, access to these data is not yet sufficient.

People with lower socio-economic status generally have worse health than those with higher socio-economic status

While the data available in Australia is fragmented, our analysis shows clear links between health outcomes and socioeconomic status over multiple indicators. The decisions that are made about social and economic policies, such as income support, housing and homelessness, employment and economic equality directly impact the health of individuals. We can look to guidance from international literatures (which have better data systems underpinning them) for a multi-sectoral response to reducing health inequity through addressing the social determinants of health – described by the WHO as the "non-medical factors that influence health outcomes".[5] These determinants influence health inequities, and lead to the conclusion that those with lower socio-economic status generally have worse health than those with higher socio-economic status.

A cohesive policy response is necessary to reduce health inequity

The root causes of inequity in health are the complex interactions between personal, social, economic and environmental factors.[6,7] This means that broad-based health equity supported policies are required, including recognition that macro-environmental factors (the national socioeconomic factors and the physical and social environment) are also principal determinants of inequity in health.[8] It is unlikely that any single policy or intervention will significantly reduce socioeconomic inequalities in health, and therefore at every level of government and governance we need 'packages' of policies and interventions of a comprehensive nature.

The following policy areas – at a minimum - must be involved in a multi-sectoral response to addressing socio-economically driven health inequities in Australia:

- Income and social protection

- Education

- Unemployment and job security

- Working life conditions

- Food insecurity

- Housing, basic amenities and the environment

- Early childhood development

- Social inclusion and non-discrimination

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[5] World Health Organisation (2021), *Social determinants of health* **https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1**

[6] Gordon D (1999), *Inequalities in health: the evidence presented to the independent inquiry into inequalities in health,* Chaired by Sir Donald Acheson: Policy Press

[7] Marmot M, Wilkinson R. (2005), *Social determinants of health*: OUP Oxford.

[8] Commission on Social Determinants of Health (CSDH) (2008) *Closing the gap in a generation: health equity through action on the social determinants of health: final report of the commission on social determinants of health.* **https://www.who.int/social_determinants/final_report/csdh_finalreport_2008.pdf**. Geneva: World Health Organization.

- Structural conflict

- Access to affordable health services of decent quality.[9]

Figure 1: External factors that impact health

In Australia, there are clear health inequities linked to socio-economic status

While we are limited by the data available, this report shows that there are clear inequities in health, linked to social determinants, related to paid work, employment, income and living costs. These are all factors that can be made more equitable through development and implementation of public policy.

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[9] World Health Organisation, *Social determinants of health* **https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1**

People reliant on government income support are more likely to report mental health issues and psychological distress

Overall, 10% of Australians, or 2.4 million people, report high or very high levels of psychological distress. People aged under 65 who are reliant on social security are more than twice as likely to report mental health conditions[10] (49.9%), than those whose main source of income is wages or salary (18.2%). They also report increased levels of high psychological distress[11] (35.6%), more than three times higher than the levels reported by those whose main source of income is wages or salary (9.5%).

People who are unemployed are also more likely to report mental health conditions and psychological distress

People who are unemployed (30.8%) are more likely than those who are employed full time (15.6%) or part time (23.2%) to report they have experienced or are experiencing mental health conditions. This group also reports a higher rate of psychological distress, (20.6%) compared with those employed full time (9.2%) or part time (10.8%). Similarly, the prevalence of mental health issues is also more than two times higher among those under 65 years not in the labour force (35.8%) compared with those employed full time

Paid work – and higher incomes – make us healthier

The response of people reporting their health as good, very good or excellent, is higher for those in the highest income groups. People in the highest income group are twice as likely (60.2%) to report their health status as good, very good or excellent when compared with only 33.3% of those in the lowest income group.

Employed people – both those employed part time (62.6%) and those employed full time (64.8%) – are more likely to report their health status favourably than those who are unemployed (49.7%).

People with low incomes and people whose main income source is government payments are more likely to have certain chronic conditions

The incidence of certain chronic health conditions, such as asthma, diabetes and heart, stroke or vascular diseases, are more prevalent for those people on low incomes and those who are reliant on government payments for their income.

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[10] Includes all types of conditions within the two categories of mood (affective) disorders and anxiety related disorders.
[11] Derived from the Kessler Psychological Distress Scale, based on 10 questions about negative emotional states in the past 30 days.

Introduction

Health inequity is one of the main challenges of our time. Global interest in health inequities has gained increasing prominence on the political agenda in the last three decades, and even more so since the establishment of the World Health Organization (WHO)'s Commission on Social Determinants of Health (CSDH) in 2005.[12] European WHO member states have developed a policy matrix for health equity as part of a long-term (or high-level) commitment to reducing barriers to health equity and tackling vulnerability.[13]

In Australia, the existing National Health Performance Framework (NHPF) recognises the importance of social determinants to our health. The framework includes community and socio-economic factors that relate to housing, education, employment and income.[14] The 2016 and 2018 Australian Institute of Health and Welfare's (AIHW) Health Reports suggest that if action was taken on the social determinants to close the health gap between the most and least disadvantaged Australians, half a million people could avoid chronic illness, $2.3 billion in annual hospital costs could be saved and pharmaceutical benefits scheme prescriptions could be reduced by 5.3 million.[15,16]

The AIHW's Health Reports also indicate that Australia is, on aggregate, one of the healthiest of countries in comparison with the rest of the world. People live longer, with life expectancy at birth for men above 80 years and for women above 85 years. Standardised death rates have been dropping. The death toll of infectious disease has seen a sharp decrease, prior to COVID-19. There has been an overall downward trend in deaths from coronary heart disease, lung, colorectal and breast cancer since 2003. However, these gross measures mask the significant differences in the distribution of health outcomes across the country – the data shows that, had there been no socio-economic differences across income groups in 2015, 21% of the disease burden in Australia in 2015 could have been avoided.[17] While this report is interested in health inequalities in relation to socio-economic disadvantage, we note the health disparities between First Nations and other peoples, which is partly a result of socio-economic disadvantage as well as colonisation and historic and contemporary failures of health and social policy.[18]

The project Monitoring Inequality in Australia analyses a number of health indicators by socioeconomic disadvantage of area (based on ABS Index of Relative Socioeconomic Disadvantage (IRSD) quintile distribution). Most indicators show a clear pattern of association; that is, greater measures of ill-health in geographical areas of socioeconomic disadvantage. However,

[12] Neagu, O. M., & Michelsen, K. (2015). *HEALTH EQUITY 2020 - Policy Matrix*. Department of International Health, Maastricht University, Maastricht, the Netherlands

[13] WHO regional office for Europe. (2019). *Health Equity Policy Tool: A framework to track policies for increasing health equity in the WHO European Region - Working document*. Geneva: WHO. **http://www.euro.who.int/__data/assets/pdf_ file/0003/403608/20190527-h1005-policy-tool-en.pdf?ua=1**

[14] NHPC (2001). *National report on health sector performance indicators*. Available at: **https://www.aihw.gov.au/ getmedia/0473c334-bb4d-4eca-8fd7-29f15a2ac94f/national-health-performance-framework-figure-31Aug17.pdf.aspx:** Brisbane: Queensland Health.

[15] Australian Institute of Health and Welfare (2016). *Australia's health 2016*. Australia's health series no. 15. Cat. No. AUS 199. Canberra: AIHW.

[16] Australian Institute of Health and Welfare (2018). *Australia's health 2018*. Australia's health series no. 16. Cat No. AUS 221. Canberra: AIHW.

[17] Australian Institute of Health and Welfare (2018). *Australia's health 2020*. Australia's health series no. 17. Cat No. AUS 231. Canberra: AIHW.

[18] Griffiths, K., C. Coleman, V. Lee and R. Madden (2016), "How colonisation determines social justice and Indigenous health—a review of the literature." *Journal of Population Research* 33(1): 9-30

these measures are limited, especially in relation to analysis by income related measures by household.[19]

In recognition of the widening health inequities across Australia's population and the need for evidenced-based focussed policy action, an initial critical step is to develop a sophisticated set of metrics to evaluate and monitor the health of the population and the success of the health system. Following the WHO European Region policy matrix, ideally these core health indicators cover a range of categories, including health status, health care and other determinants, and the social and economic causes and consequences of ill-health.[20] They include health status indicators such as mortality, morbidity, functional status/disability and suffering/quality of life descriptively tallied between different demographic or spatially defined groups.[21] In Australia, despite the existence of the NHPF, the ability for accurate analytical assessment of health inequity is limited by a lack of appropriate data.[22] These data limitations include:

- The lack of a centralised, and transparent governance of health and disease data and other statistical information across State, Territory, local, and national (Commonwealth) levels and agencies prevents the development of a comprehensive yet detailed picture of health and well-being across the country. Currently data is generated from a mix of administrative data, population sample surveys, registries, longitudinal studies and linkage studies each administered by different agencies. The Multi-Agency Data Integration Project (MADIP) is the first attempt by the Commonwealth to link data across the ABS, Australian Taxation Office (ATO), Department of Education, Department of Health, Department of Human Services and Department of Social Services.[23] While this represents an improvement in shared data sources, the lack of accessibility for any but 'approved research projects'[24] limits its usefulness.

- The lack of a routine and systemised collection of income and socio-economic data alongside the routine collection of health and disease administrative data, prohibit an examination of the social and economic determinants of health.[25,26]

- Despite the benefits of ABS population sample surveys (nationally representative, employing rigorous data collection procedures and enabling of sophisticated quantitative linkage analyses) there are notable limitations in their capacity to provide detailed and nuanced health equity/inequity analysis. Data disaggregation at the small area level (below capital city/rest of state) is not always possible. The over-reliance on SEIFA indices is problematic as these are assigned to geographic areas and not to individuals, potentially masking smaller pockets of disadvantage/advantage

[19] PHIDU (2019). *Monitoring inequality in Australia*. Torrens University Australia

[20] WHO regional office for Europe. (2019). *Health Equity Policy Tool: A framework to track policies for increasing health equity in the WHO European Region - Working document*. Geneva: **WHO. http://www.euro.who.int/__data/assets/pdf_file/0003/403608/20190527-h1005-policy-tool-en.pdf?ua=1**

[21] Nolen, L. B., Braveman, P., Dachs, J. N. W., Delgado, I., Gakidou, E., Moser, K., . . . Zarowsky, C. (2005). *Strengthening health information systems to address health equity challenges*. Bulletin of the World Health Organization, 83, 597-603.

[22] NHPC (2001). National report on health sector performance indicators. Available at: **https://www.aihw.gov.au/getmedia/0473c334-bb4d-4eca-8fd7-29f15a2ac94f/national-health-performance-framework-figure-31Aug17.pdf.aspx:** Brisbane: Queensland Health.

[23] ABS (2020). *Multi-Agency Data Integration Project (MADIP)*. **https://www.abs.gov.au/websitedbs/D3310114.nsf/home/Statistical+Data+Integration+-+MADIP** (accessed Feb 2020)

[24] ABS (2021). *Multi-Agency Data Integration Project (MADIP) Research Projects* (accessed July 2021 **https://www.abs.gov.au/websitedbs/D3310114.nsf/home/Statistical+Data+Integration+-+MADIP+Research+Projects**

[25] Michel JL, Jackson TJ. (2009). 'Australian Hospital Data: Not Just for Funding.' *Health Information Management Journal*, 38: 53-58.

[26] Ward MM. (2013). 'Estimating Disease Prevalence and Incidence using Administrative data: Some assembly required.' *Journal of Rheumatology*, 2013; 40: 1241–1243.

within each geographic area of advantage/disadvantage. The self-reporting in surveys gives rise to the potential for response biases, particularly in the way health, disease and well-being questions are interpreted and answered, that may over or under-estimate the incidence and severity of health outcomes.

Against these data limitations, this report presents an initial scoping study to explore the health outcome indicators and socio-economic indicators currently available in Australian national health surveys and how these health outcomes differ by socio-economic position.

Overview of information available in the Australian National Health Survey (NHS)

Following a review of available datasets including administrative data (such as MBBS primary care data, EDDC ED visits, hospital admissions, death roll), the ABS Census, linkage studies through MADIP, longitudinal surveys (such as HILDA, LSAC, LSAY, ALSWH and ALSMH), and population sample surveys conducted principally by the ABS or AIHW (such as the NHS, NATSIHA, GSS, SDAC, NDSHS), the National Health Survey provided the best, although limited, scope to understand the impact of socioeconomic indicators on health conditions and health risk factors.

The National Health Survey is an Australia-wide health survey conducted by the ABS to collect a series of information on the health conditions and health risks of Australians. The survey was conducted in all states and territories and across urban, rural and remote areas of Australia (excluding very remote areas) from July 2017 to June 2018.[27] The survey included approximately 21,300 people in 16,400 private dwellings. Previous surveys were conducted in 1989-90, 1995, 2001, 2004-05, 2007-08, 2011-12 and 2014-15.

Health data from the NHS

A full description of the health indicators identified in the NHS as suitable for providing a broad overview of health outcomes by different socio-economic variables is available in Appendix 1.

Within the NHS, prevalence rates are estimated based on the incidence of the health outcomes, currently and in the long term. The health outcome indicators we concentrate on in this report are:

- Overall self-assessed health
- Mental health conditions
- Psychological distress
- Back problems
- Arthritis
- Asthma
- Diabetes
- Heart, stroke or vascular disease

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[27] ABS (2018). *National Health Survey: First Results, 2017-18*. Cat No 4364.0.55.001. **https://www.abs.gov.au/ausstats/abs@.nsf/mf/4364.0.55.001** (accessed Dec 2019)

Socio-economic indicators

This report focuses on four socio-economic indicators from the Australian Health Survey:

1 Gross weekly equivalised household income ($ value) in groups[28]
2 Labour force status (full time/part-time/unemployed not in the labour force)[29]
3 Main source of weekly income (wages, own business, rental investment, government pension or allowance, superannuation and other)
4 SEIFA groups of relative socio-economic advantage and disadvantage (IRSAD National 2016 SA2)[30]

These indicators focus on different aspects of economic resources. They all have limitations, but together provide a rich picture of the economic and social opportunities available to people. Income is the most direct measure of consumption opportunities, but does not take account of wealth variations across households – most notably the higher home ownership rates of older households. Moreover, some households within the bottom decile of the income distribution are there because of business losses, but nonetheless are able to sustain higher levels of consumption.[31]

The SEIFA index is a summary of the socio-economic characteristics of a small geographic area (it takes account of income, housing, employment, education and other demographic indicators). As such, it indicates the characteristics of the people around the individual, but not the person or their household directly. Nonetheless, because housing location is a key consumption good, it is also associated with individual opportunities.

The other two indicators are both associated with labour market outcomes. To aid interpretation, we divide the not in the labour force and government payment categories by whether the person is over or under 65 years.

Prevalence estimates (%) were extracted from the ABS Table Builder for each available socio-economic indicator for each of the health outcome indicators.[32]

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[28] This is defined by the ABS (Cat No. 6553.0] as all current receipts, whether monetary or in kind, that are received by the household or household individual members before income tax and Medicare levy has been deduced. Income estimates are adjusted by equivalence factors to standardise them for variations in household composition and size and to account for the economies of scale in shared dwellings . ABS (2019) *Household Income and Wealth, Australia. Key concepts* **https://www.abs. gov.au/statistics/economy/finance/household-income-and-wealth-australia/latest-release#key-concepts**

[29]Persons not in the labour force are therefore generally defined in ABS household collections as 'persons aged 15 years and over who are neither employed nor unemployed'. Examples of those not in the labour force includes persons who are:

- retired or voluntarily inactive;
- performing home duties or caring for children;
- attending an educational institution;
- experiencing a long-term health condition or disability;
- experiencing a short-term illness or injury;
- looking after an ill or disabled person;
- on a travel, holiday or leisure activity;
- working in an unpaid voluntary job;
- in institutions (hospitals, jails, sanatoriums, etc.); permanently unable to work; and members of contemplative religious orders

ABS (2018) *Labour Statistics: Concepts, Sources and Methods, Feb 2018.* Cat no 6102.0.55.001. **https://www.abs.gov.au/ ausstats/abs@.nsf/mf/6102.0.55.001**

[30] The ABS SEIFA indexes (Cat No. 2033.0) are assigned to areas, not to individuals. They indicate the collective socio-economic characteristics of the people living in an area. ABS (2018) *Socio-economic indexes for areas (SEIFA) 2016. https:// www.abs.gov.au/ausstats/abs@.nsf/mf/2033.0.55.001*

[31] Previous research shows relatively high expenditure levels among the bottom 3 per cent of the income distribution (Saunders, Peter and Bruce Bradbury, 2006, 'Monitoring trends in poverty and income distribution: Data, methodology and measurement' *The Economic Record 82*(258):341-364).

[32] Prevalence rates were extracted as a percentage of the full adult population aged 15 years and over (24.1053 million people). For each socio-economic category, prevalence rates were based on the population in this category (e.g. employed full time), the total of which may not add up to the full adult population.

Relationship between health outcomes and socio-economic indicators

Chronic conditions - diseases that affect people for over a year – are very common; just under half of Australia's population has at least one chronic condition.[33] Some people have more than one chronic illness, and they can affect people's quality of life. Chronic conditions are a major part of the analysis of this report.

From the latest NHS, 20.1% of Australians aged 18 years and over had mental health conditions (4.8 million people), 10.0% experienced high or very high levels of psychological distress (2.4 million), 16.4% had back problems (3.9 million people), 15.0% had arthritis (3.6 million people), 11.2% had asthma (2.7 million people), 4.9% had diabetes mellitus (1.2 million people), 4.5% had heart, stroke and vascular disease (1.1 million people), 3.8% had osteoporosis (924,000 people), 2.5% had chronic obstructive pulmonary disease (COPD) (598,800 people), 2.0% had cancer (474,500 people) and 1.0% had kidney disease (237,800 people). Given that osteoporosis, COPD, cancer and kidney disease have national prevalence rates below 4%, these were excluded from further analysis for this report.

Overall self-reported health status

The latest NHS estimates that 45.6% of people aged 15 years and over considered themselves to be in excellent or very good health. However, there is a noticeable pattern related to income position and employment.

A similar pattern is evident for SEIFA with those who live in geographic areas of advantages reporting higher levels of good health than those who live in areas of relative disadvantage. However, the gradient becomes steeper when comparisons of equivalised household income are used. Those in the higher income groups report higher levels of good health.

In terms of labour force status, a much higher percentage of employed individuals (whether full time or part time) reported higher self-assessed good health than unemployed people or people not in the labour force, with the lowest level reported for older people not in the labour force.

A consistent pattern also emerges when comparisons with main source of income are made. The lowest levels are for those who are on a government pension or allowance (social security), irrespective of age, and the highest for those whose main income is from partnerships or businesses and wages or salary.

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[33] ABS (2019), *Chronic conditions, 2017-18 financial year.* **https://www.abs.gov.au/statistics/health/health-conditions-and-risks/chronic-conditions/latest-release**

Figure 2: Good self-assessed health by weekly equivalised household income

Decile	Percentage
Tenth decile ($2,174 or more)	60.2%
Ninth decile ($1,664-2,173)	55.2%
Eighth decile ($1,343-1,663)	50.4%
Seventh decile ($1,101-1,342)	48.2%
Sixth decile ($896-1,100)	47.4%
Fifth decile ($713-895)	43%
Fourth decile ($568-712)	40%
Third decile ($450-567)	36.2%
Second decile ($376-449)	30.3%
First decile (less than $376)	33.3%
Total	45.6%
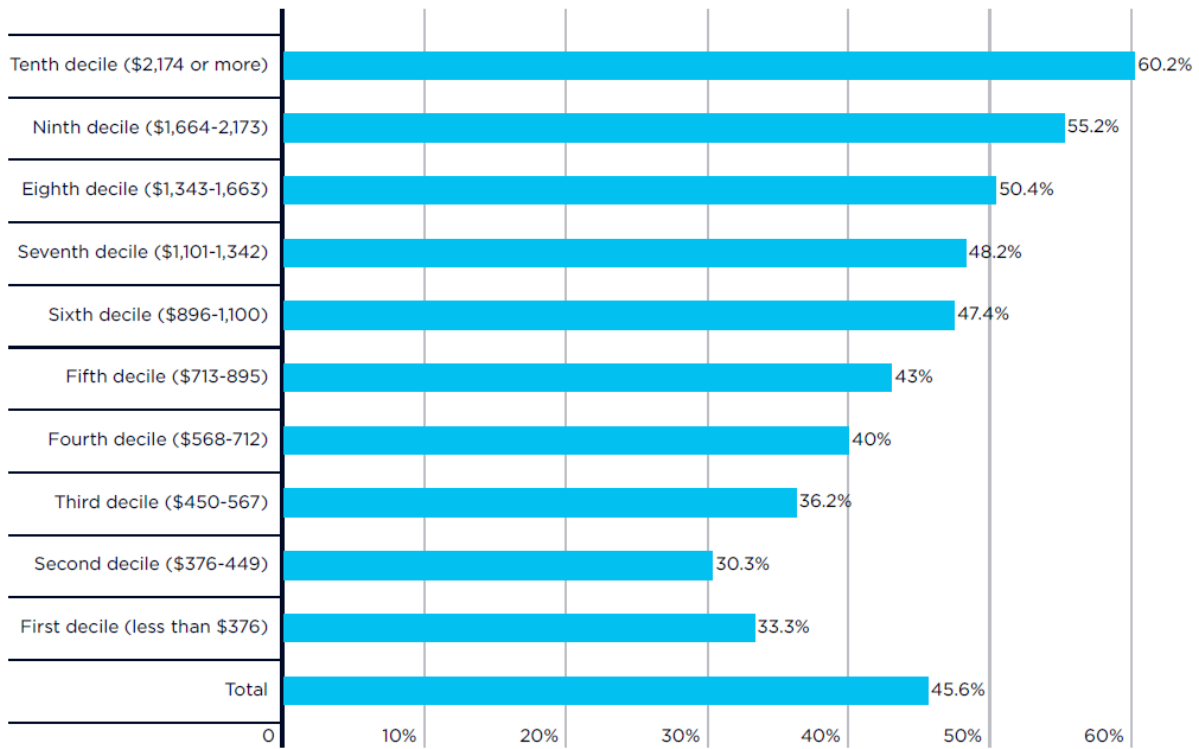
Figure 3: Good self-assessed health by labour force status

Labour force status	Percentage
Employed, working full-time	64.8%
Employed, working part-time	62.6%
Unemployed	49.7%
Not in the labour force age under 65	45.7%
Not in the labour force age over 65	38.3%
Total	45.6%
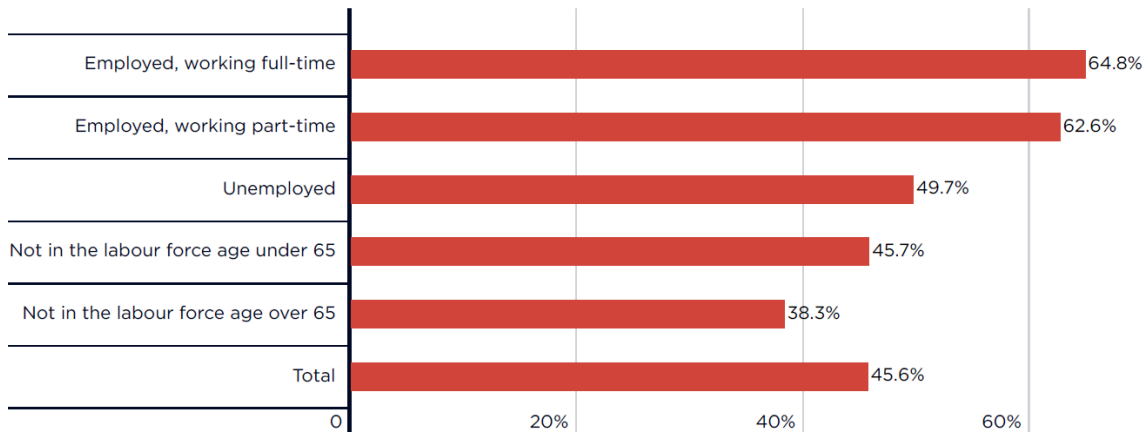
Figure 4: Good self-assessed health by main income source

Income source	Percentage
Wages or salary	64.5%
Own/share in business/partnership	61.1%
Rental investment property	42.2%
Government pension/allowance age under 65	33.5%
Government pension/allowance age over 65	34%
Superannuation/private pension	55.1%
Any other regular source	49.7%
Total	45.6%
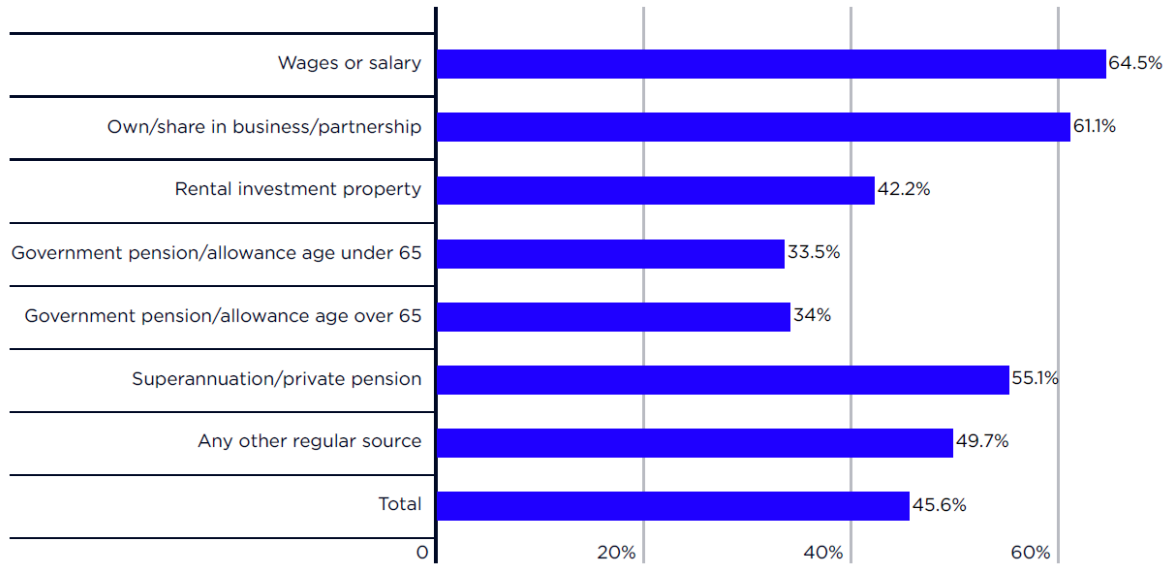
Figure 5: Good self-assessed health by SEIFA

SEIFA decile	Percentage
Tenth decile (highest)	54.3%
Ninth decile	49.6%
Eighth decile	49.0%
Seventh decile	47.9%
Sixth decile	45.9%
Fifth decile	44.2%
Fourth decile	45.9%
Third decile	42.1%
Second decile	39.6%
First decile (lowest)	33.9%
Total	45.6%
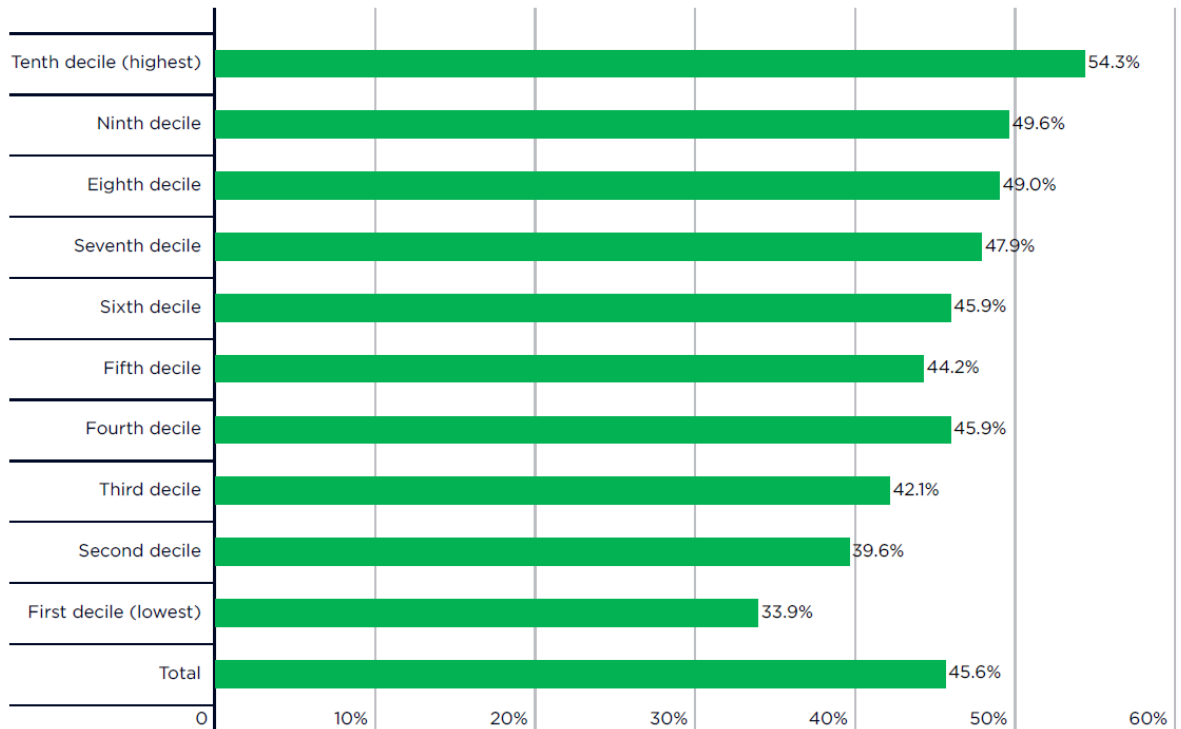
Mental and psychological health

The NHS includes an indicator of existing mental health conditions, and high psychological distress as a health risk factor.

There is a clear gradient with the incidence of mental health conditions increasing for those whose equivalised household incomes are in the lowest four groups of the income distribution and those who live in the lowest five groups of SEIFA, in geographic areas of relative disadvantage compared with advantage. Between 20-25% of those in the lowest five income and SEIFA groups report mental health conditions related to mood (affective) disorders and anxiety related disorders.

The prevalence of mental health conditions is more than two times higher among those under 65 years not in the labour force and those unemployed compared with those employed full time. Similarly, close to 50% of people on a government pension or allowance under the age of 65 years report a mental health condition, that may create significant barriers to participation in the labour market.

Figure 6: Mental health conditions by weekly equivalised household income

Income decile	Percentage
Tenth decile ($2,174 or more)	13.6%
Ninth decile ($1,664-2,173)	16.5%
Eighth decile ($1,343-1,663)	16.8%
Seventh decile ($1,101-1,342)	16.7%
Sixth decile ($896-1,100)	17.5%
Fifth decile ($713-895)	20.5%
Fourth decile ($568-712)	24%
Third decile ($450-567)	24.5%
Second decile ($376-449)	28.1%
First decile (less than $376)	25.4%
Total	20.1%
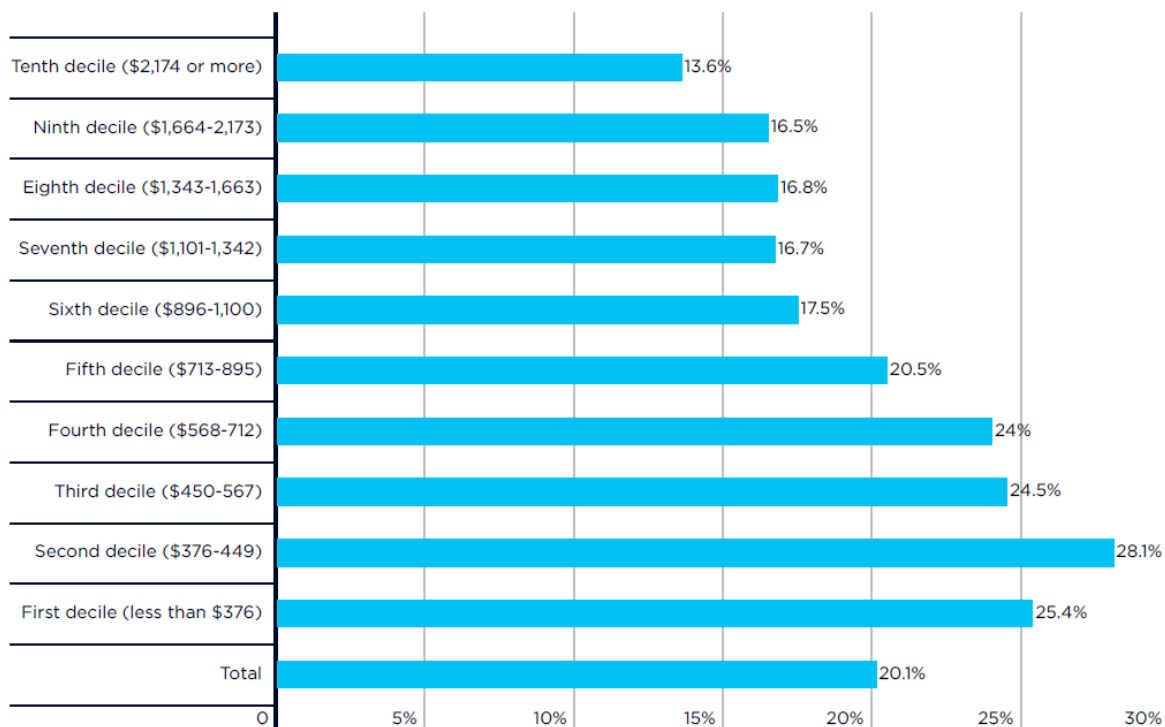
Figure 7: Mental health conditions by labour force status

Labour force status	Percentage
Employed, working full-time	15.6%
Employed, working part-time	23.2%
Unemployed	30.8%
Not in the labour force age under 65	5.8%
Not in the labour force age over 65	21.7%
Total	20.1%
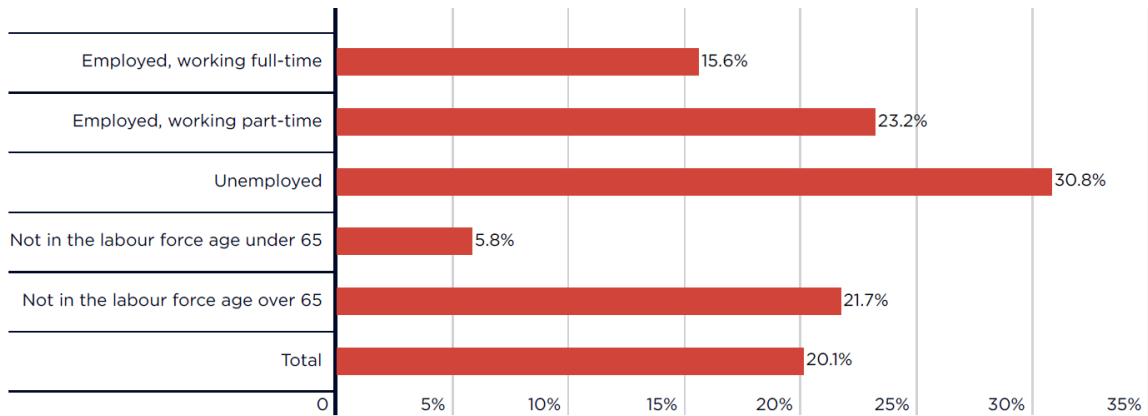
Figure 8: Mental health conditions by main income source

Main income source	Percentage
Wages or salary	18.2%
Own/share in business/partnership	16.2%
Rental investment property	16.6%
Government pension/allowance age under 65	49.9%
Government pension/allowance age over 65	23.3%
Superannuation/private pension	20.2%
Any other regular source	20.1%
Total	20.1%
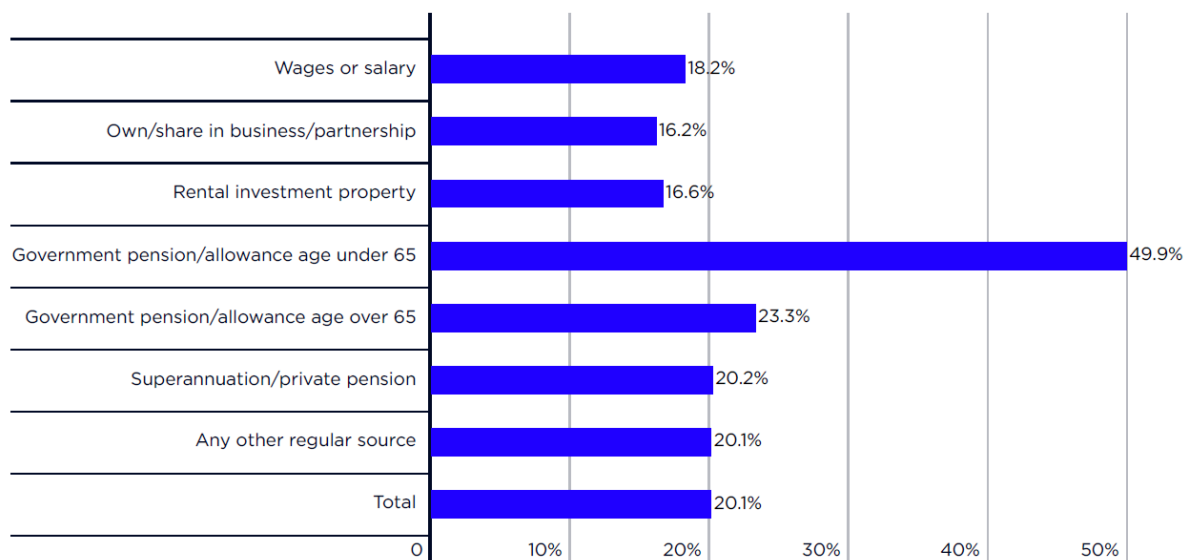
Figure 9: Mental health conditions by SEIFA

SEIFA decile	Prevalence
Tenth decile (highest)	16.8%
Ninth decile	17.4%
Eighth decile	18.9%
Seventh decile	19.7%
Sixth decile	19.7%
Fifth decile	21.2%
Fourth decile	20.5%
Third decile	22.0%
Second decile	22.4%
First decile (lowest)	24.6%
Total	20.1%
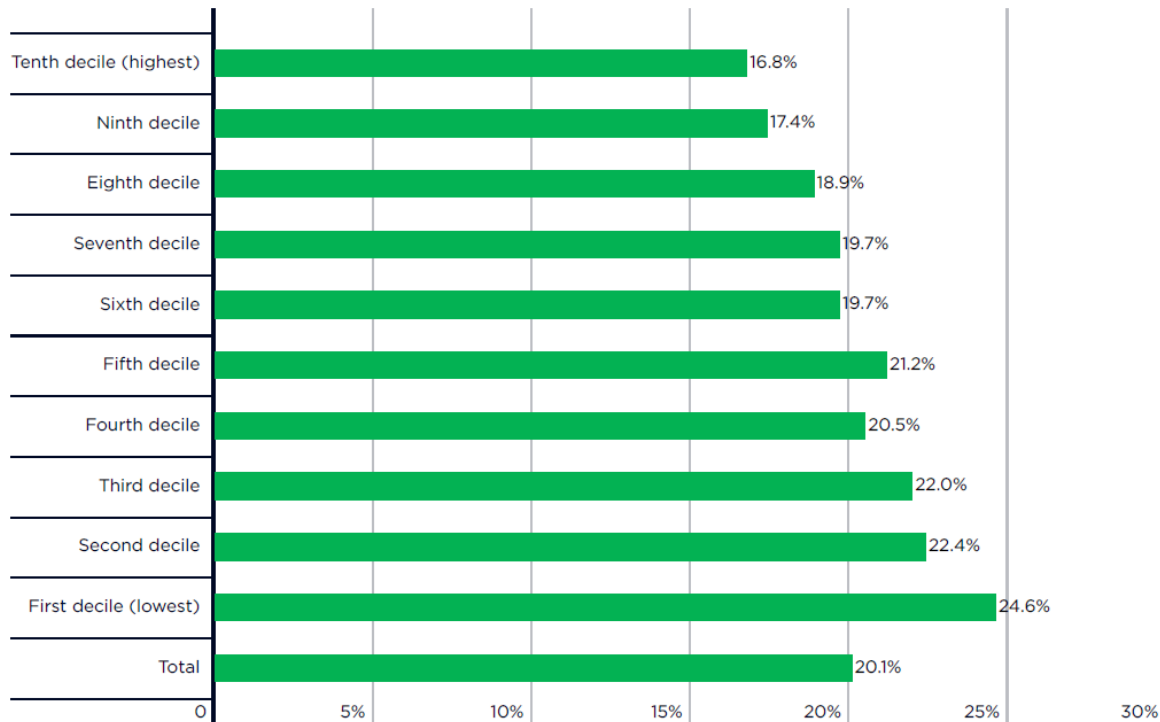
The prevalence of high psychological distress increases steadily along the income distribution from the highest income group to the second lowest group and spikes for those who are the most economically disadvantaged in group 1.

A similar pattern is present when comparisons are made based on SEIFA – people who live in the most relative disadvantaged areas have prevalence rates more than twice that of those in areas of affluence (SEIFA group 10).

Approximately 20% of people who are unemployed or not in the labour force under the age of 65 years indicate high levels of psychological distress, with this extending to over 30% of people reliant on a government pension or allowances as their main source of income. These rates are between two to three times the national rate of 10%.

Figure 10: High psychological distress by weekly equivalised household income

Income decile	Percentage
Tenth decile ($2,174 or more)	6.9%
Ninth decile ($1,664-2,173)	8.5%
Eighth decile ($1,343-1,663)	7.7%
Seventh decile ($1,101-1,342)	8.6%
Sixth decile ($896-1,100)	8.7%
Fifth decile ($713-895)	10.6%
Fourth decile ($568-712)	12.6%
Third decile ($450-567)	12.5%
Second decile ($376-449)	12.7%
First decile (less than $376)	16.0%
Total	10%
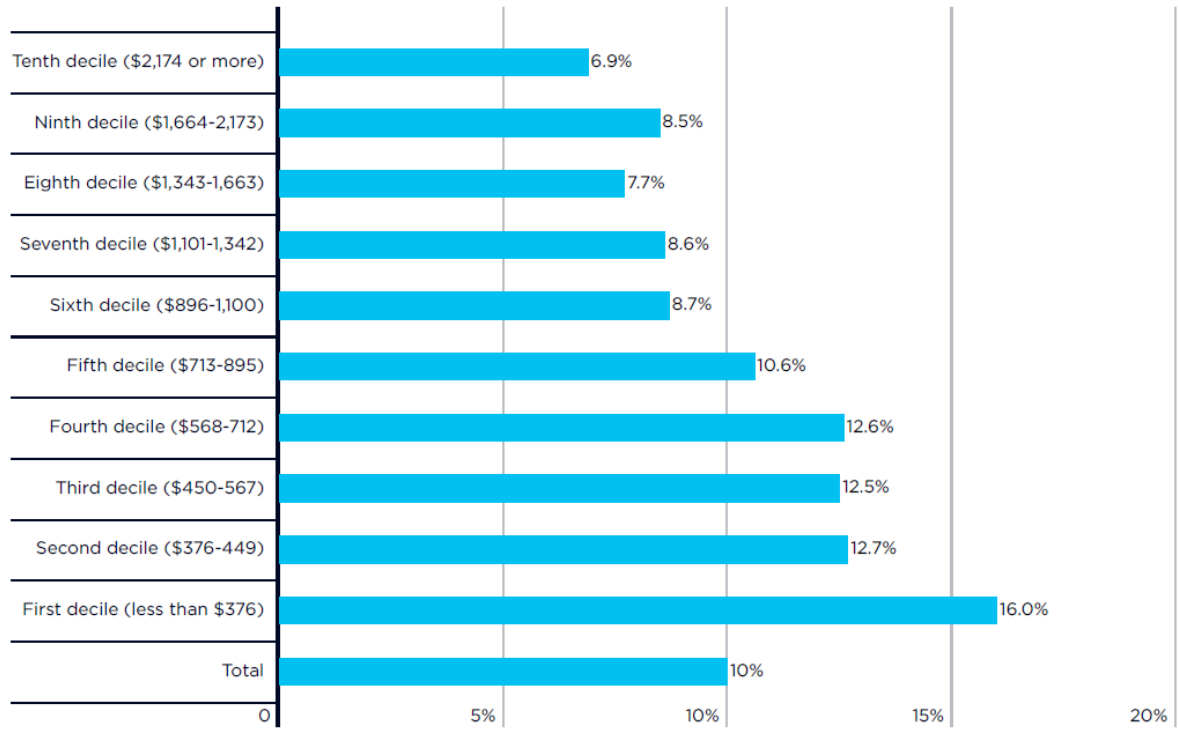
Figure 11: High psychological distress by labour force status

Labour force status	Percentage
Employed, working full-time	9.2%
Employed, working part-time	10.8%
Unemployed	20.6%
Not in the labour force age under 65	22.5%
Not in the labour force age over 65	11%
Total	10%
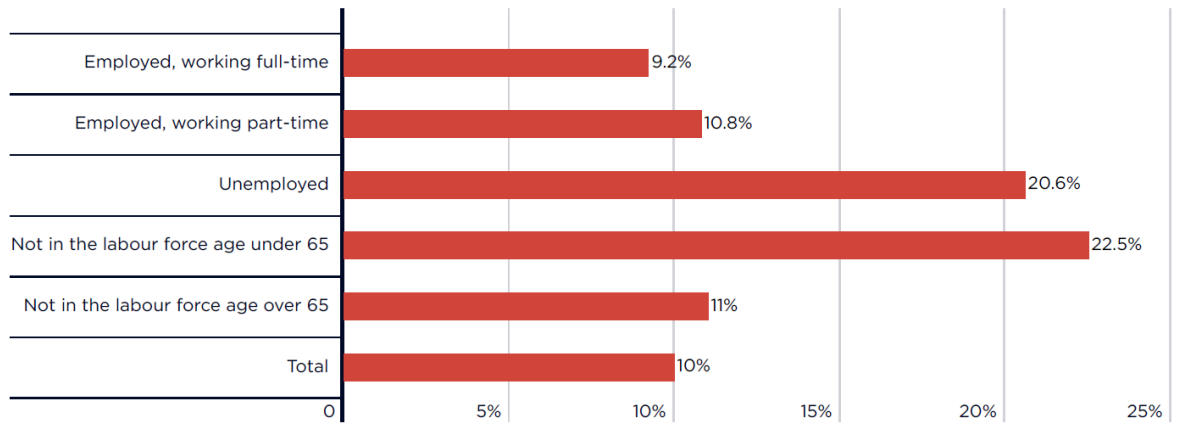
Figure 12: High psychological distress by main income source

Income source	%
Wages or salary	9.5%
Own/share in business/partnership	9.2%
Rental investment property	18.3%
Government pension/allowance age under 65	35.6%
Government pension/allowance age over 65	13.7%
Superannuation/private pension	5.4%
Any other regular source	11.1%
Total	10%
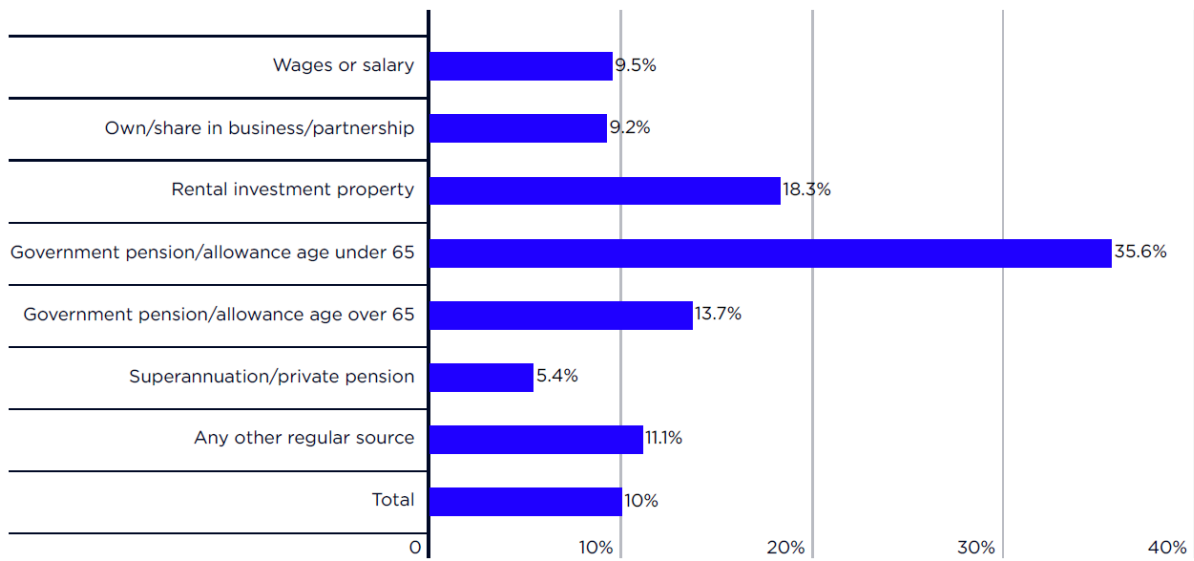
Figure 13: High psychological distress by SEIFA

SEIFA decile	%
Tenth decile (highest)	6.6%
Ninth decile	8.3%
Eighth decile	8.7%
Seventh decile	9.7%
Sixth decile	9.9%
Fifth decile	9.3%
Fourth decile	10.2%
Third decile	11.9%
Second decile	11.2%
First decile (lowest)	16.3%
Total	10%
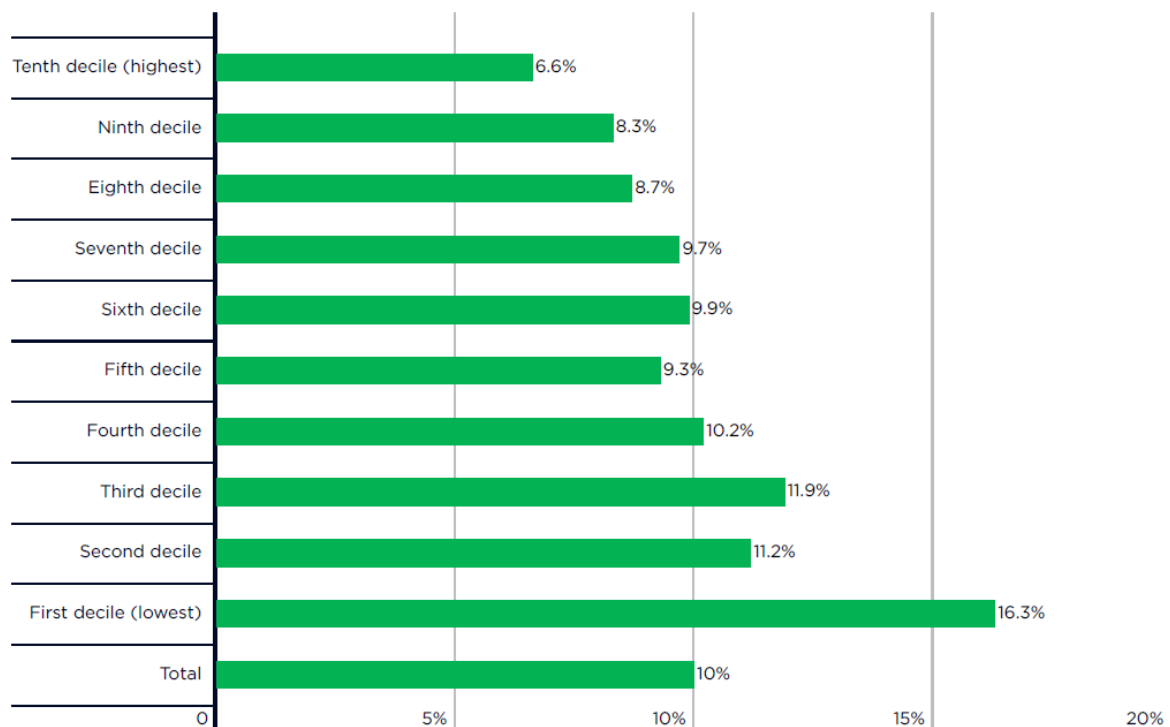
Other chronic health conditions

Our analysis shows that, while there are some chronic conditions that are more likely to affect people in higher age groups – as would be expected given the age profile of these conditions – there is nevertheless an increase in prevalence among the lower income groups, among those who are not in the labour force, those in receipt of government payments, and, to a lesser extent, by SEIFA.

Asthma and back problems are two chronic health conditions with prevalence rates that mirror the income distribution and SEIFA most closely, yet with slight increases towards the lower deciles and higher rates amongst people not in the labour force and in receipt of a government pension or allowance.

The prevalence of asthma was distributed approximately evenly across the income distribution, except for a slight increase, around 4-5 percentage points higher, amongst the three lowest income groups. A similar pattern is evident for SEIFA with incidence rates increasing by two percentage points between the top four groups to the middle three groups and then again increasing for those living in relative areas of disadvantage (last three groups). Asthma rates are also higher amongst those under 65 years of age who are not in the labour force and/or are in receipt of a government pension or allowance, indicating that potentially the severity of this excludes them labour force participation.

The national prevalence of back problems of 16.4% was also mirrored across the income distribution, except for an increase of 2-6 percentage points for those with equivalised household incomes in the second-fourth groups. For SEIFA, there was only a slight increase amongst areas of relative disadvantage (predominantly from groups 1 to 3).

The prevalence rate is highest among those not in the labour force irrespective of age and those whose main income source is a government pension or allowance. However, these rates are comparable for those whose main income source is from rental investment property and from superannuation/ private pensions, two groups with older-age profiles.

Figure 14: Asthma and back problems by income group

Income group	Back problems	Asthma
Tenth decile ($2,174 or more)	15.2%	10%
Ninth decile ($1,664-2,173)	14.6%	11.8%
Eighth decile ($1,343-1,663)	14.8%	10.4%
Seventh decile ($1,101-1,342)	14.7%	9.6%
Sixth decile ($896-1,100)	14.8%	10.8%
Fifth decile ($713-895)	17.2%	10.6%
Fourth decile ($568-712)	18.2%	10.1%
Third decile ($450-567)	19.6%	13.9%
Second decile ($376-449)	22.0%	15.7%
First decile (less than $376)	17.2%	13.7%
Total	16.4%	11.2%

Back problems   Asthma
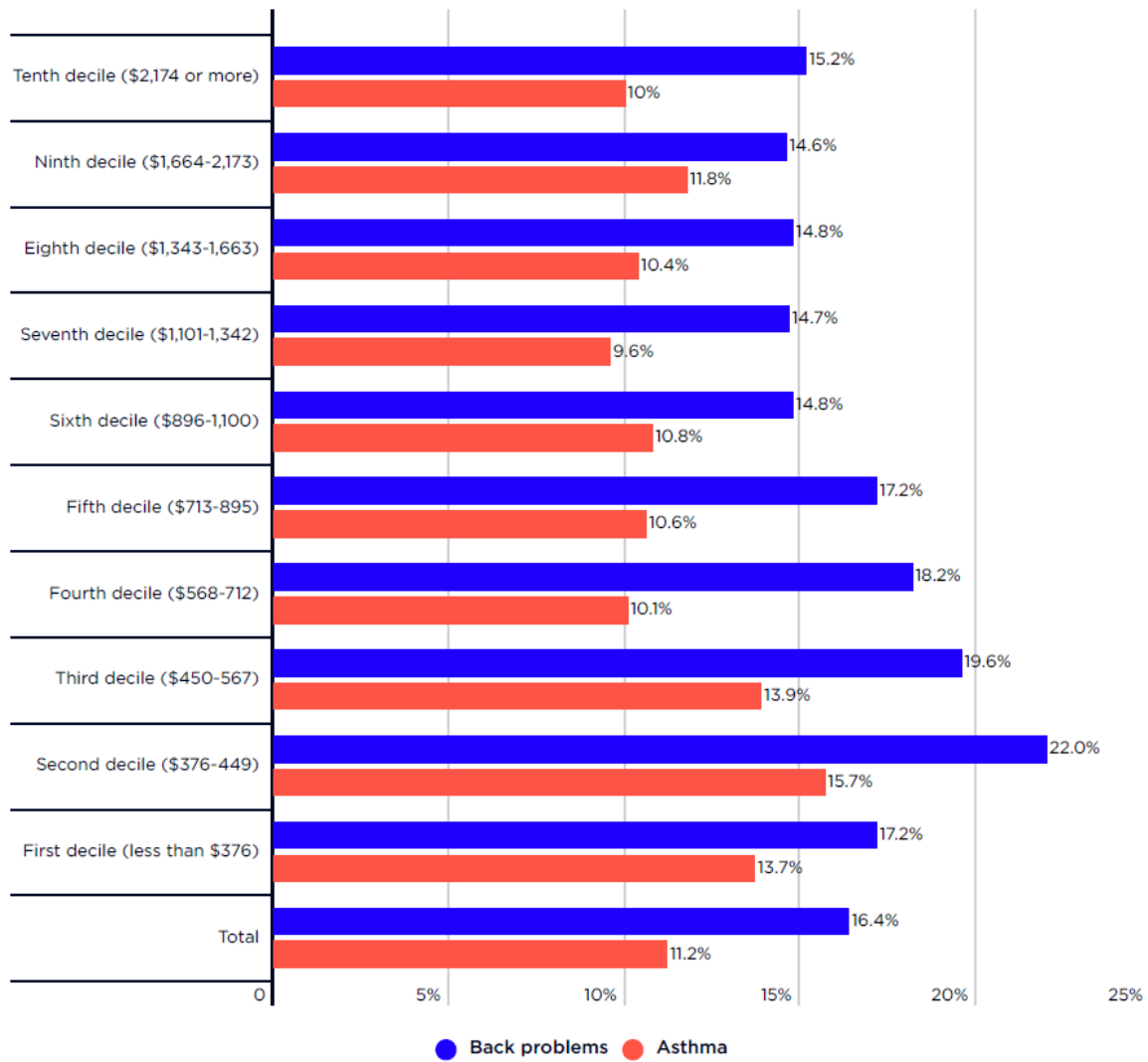
Figure 15: Asthma and back problems by labour force status

Figure 15: Asthma and back problems by labour force status

Labour force status	Asthma	Back problems
Employed, working full-time	10.7%	18.2%
Employed, working part-time	11.1%	17.8%
Unemployed	9.1%	16.8%
Not in the labour force <65	14.2%	23.1%
Not in the labour force 65+	12.4%	26.8%
Total	11.2%	16.8%

Figure 16: Asthma and back problems by main income source

Figure 16: Asthma and back problems by main income source

Main income source	Back problems	Asthma
Wages/salary	17.3%	10.6%
Own business/share partnership	23.9%	9.9%
Rental investment property	28.5%	10.6%
Government pension <65	29.0%	18.8%
Government pension >65	28.3%	13.8%
Superannuation/private pension	25.4%	11.3%
Any other regular source	25.1%	6.2%
Total	16.8%	11.2%

Figure 17: Asthma and back problems by SEIFA

SEIFA decile	Back problems	Asthma
Tenth decile (highest)	14.2%	9.5%
Ninth decile	14.1%	8.8%
Eighth decile	14.9%	9.1%
Seventh decile	16.7%	9.3%
Sixth decile	16.5%	11.9%
Fifth decile	17.1%	11.8%
Fourth decile	17.2%	12.1%
Third decile	17.9%	13.9%
Second decile	18.2%	13.3%
First decile (lowest)	18.3%	13.0%
Total	16.8%	11.2%

● Back problems ● Asthma

While other chronic conditions, such as heart, stroke or vascular diseases, arthritis and diabetes, clearly reflected the age profiles of these diseases they also highlight the risk of poorer health outcomes amongst the socio-economically disadvantaged.

Prevalence rates of heart, stroke or vascular disease are several times higher for those with low incomes and older people. It is between 2-3 times higher the national rate for those in the second and third groups of the income distribution and two times higher for those who live in the most socio-economically disadvantage areas (SEIFA groups 1 and 2).[34]

Conversely, it is nearly half the national rate for persons in the highest income distribution, those who are employed and receive a wage or salary.

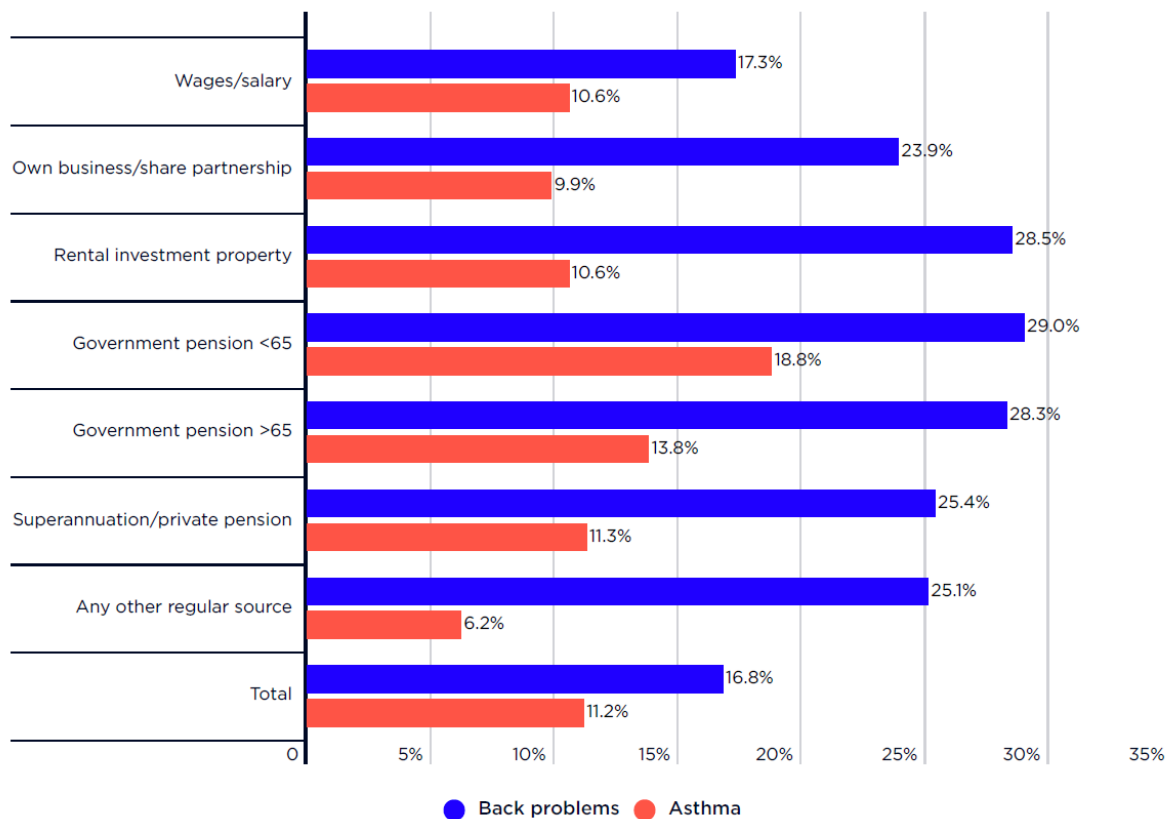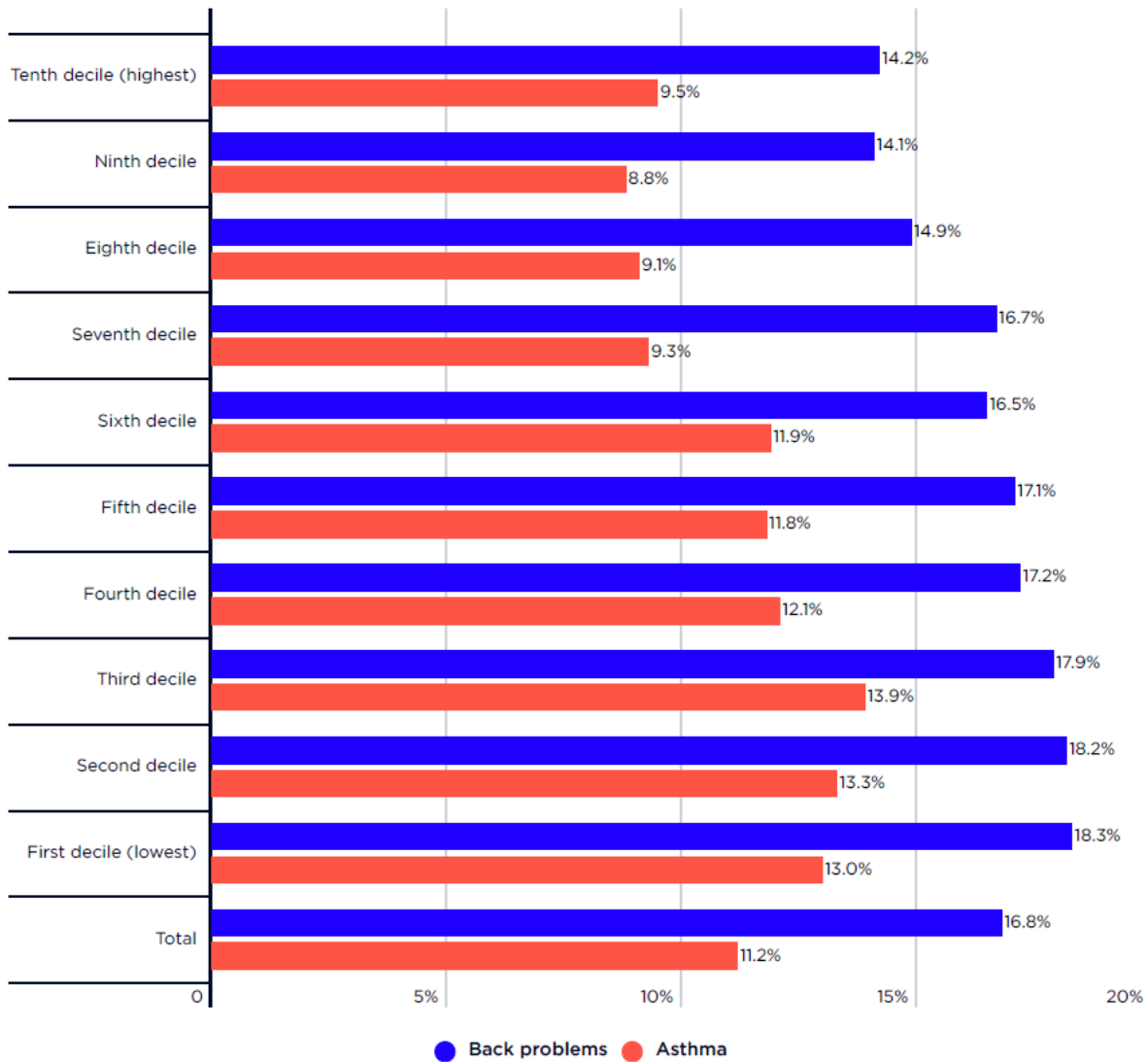The prevalence of arthritis increases almost exponentially as people fall into the lower groups of the equivalised household income distribution. Rates are nearly three times as high for people in the second and third lowest income group compared to those in the seventh to tenth income groups. Although much less severe, there is a similar pattern present when comparisons are made based on SEIFA – people who live areas of advantage have lower rates of arthritis compared to people who live in areas of relative disadvantage.

Arthritis rates are also higher for people not in the labour force aged 65 years and above and whose primary source of income is a government pension or allowance, investment property, superannuation or private pensions. This reflects the age profile of arthritis, the incidence of which steadily increases across life stages.[35] The prevalence is lowest among people who are unemployed and those whose main source of income is wages.

While national aggregate rates for diabetes is low, less than 5% of the population, there is significant variation across the income distribution and SEIFA. People from the fourth group and below for both indicators reported a higher prevalence of diabetes and peaked for those in the second group. The age profile of the disease is evident, with people not in the labour force and/or aged over 65 and receiving a government pension or allowance reporting over three times the national rate.

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[34] The disparity in low prevalence rates for heart, stroke or vascular disease and diabetes between the first and second income deciles requires further investigation. It can be postulated that the reporting of disposable income is not commensurate with actual wealth and SES 'advantage' in these groups. More fine-grained SES gradient data from Europe suggests a near-perfect gradient for any disease group.
[35] The AIHW reports that "The prevalence of arthritis (including osteoarthritis, rheumatoid arthritis and other forms of arthritis) increases steadily across life stages (from less than 1% in children aged 0-15 to 19% in people aged 35-64 and 51% in those aged 80 or over)." See *Arthritis and other musculo-skeletal conditions across the life stages*, AIHW, 2014.

Figure 18: Heart, stroke and vascular diseases, diabetes and arthritis by income group

Income group	Heart, stroke or vascular	Diabetes	Arthritis
Tenth decile ($2,174 or more)	1.8%	2.3%	8.7%
Ninth decile ($1,664-2,173)	2.7%	2.7%	9.9%
Eighth decile ($1,343-1,663)	2.5%	2.7%	9.0%
Seventh decile ($1,101-1,342)	2.5%	2.7%	9.5%
Sixth decile ($896-1,100)	3.5%	3.4%	13.7%
Fifth decile ($713-895)	5.2%	4.5%	15.1%
Fourth decile ($568-712)	4.6%	6.2%	17.7%
Third decile ($450-567)	9.8%	8.7%	28.3%
Second decile ($376-449)	13.7%	13.4%	35.2%
First decile (less than $376)	5.2%	7.1%	17.6%
Total	4.5%	4.9%	15.0%

● Heart, stroke or vascular   ● Diabetes   ● Arthritis

Figure 19: Heart, stroke and vascular diseases, diabetes and arthritis and diabetes by labour force status group

Legend: ● Heart, stroke or vascular ● Diabetes ● Arthritis

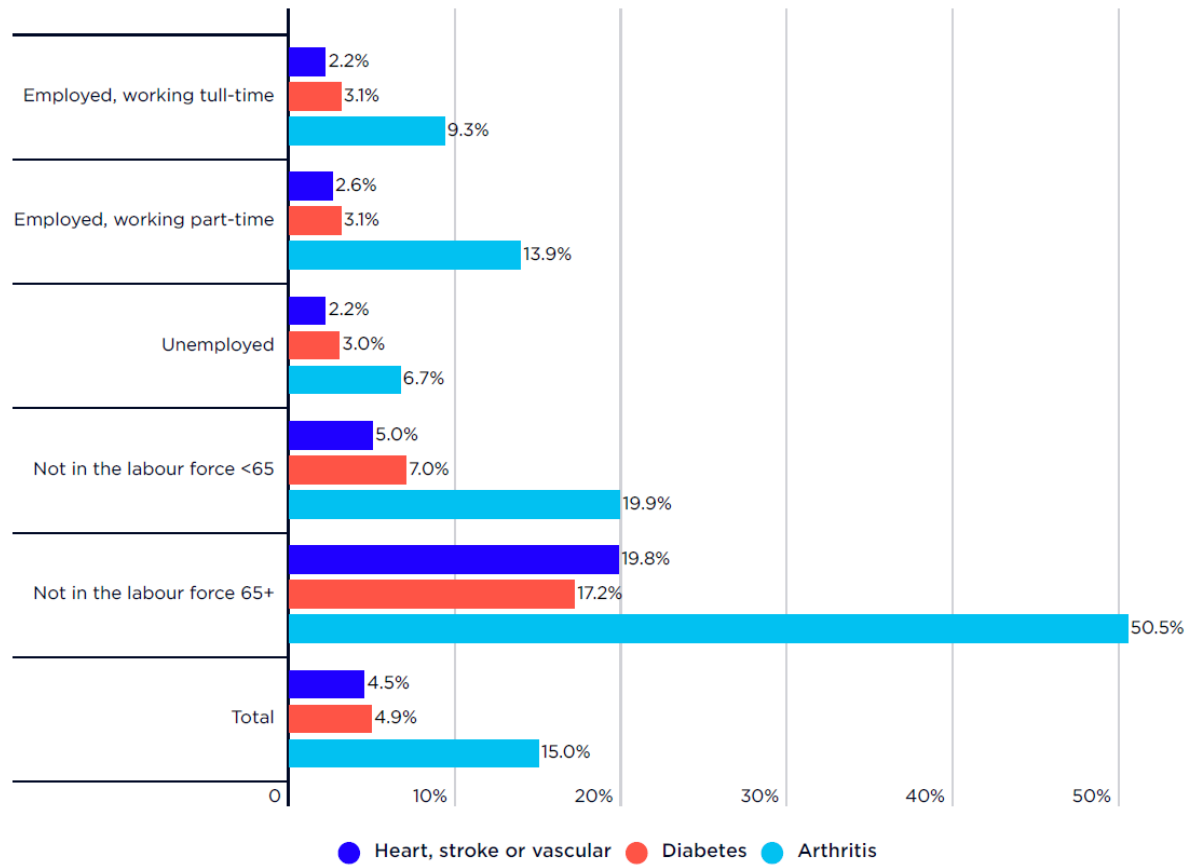| Labour force status group	Heart, stroke or vascular	Diabetes	Arthritis
Employed, working full-time	2.2%	3.1%	9.3%
Employed, working part-time	2.6%	3.1%	13.9%
Unemployed	2.2%	3.0%	6.7%
Not in the labour force <65	5.0%	7.0%	19.9%
Not in the labour force 65+	19.8%	17.2%	50.5%
Total	4.5%	4.9%	15.0%

Figure 20: Heart, stroke and vascular diseases, diabetes and arthritis by main income source

Wages/salary
- Heart, stroke or vascular: 2%
- Diabetes: 2.8%
- Arthritis: 9.6%

Own business/share partnership
- Heart, stroke or vascular: 4%
- Diabetes: 4.5%
- Arthritis: 15.1%

Rental investment property
- Heart, stroke or vascular: 15.7%
- Diabetes: 5.4%
- Arthritis: 35.4%

Government pension/allowance age under 65
- Heart, stroke or vascular: 6.2%
- Diabetes: 7.5%
- Arthritis: 23.9%

Government pension/allowance age under 65
- Heart, stroke or vascular: 20.9%
- Diabetes: 19.3%
- Arthritis: 54.6%

Superannuation/private pension
- Heart, stroke or vascular: 14.6%
- Diabetes: 11.4%
- Arthritis: 41.4%

Any other regular source
- Heart, stroke or vascular: 6.3%
- Diabetes: 8.8%
- Arthritis: 21.3%

Total
- Heart, stroke or vascular: 4.5%
- Diabetes: 4.9%
- Arthritis: 15.0%

● Heart, stroke or vascular ● Diabetes ● Arthritis

Figure 21: Heart, stroke and vascular diseases, diabetes and arthritis by SEIFA

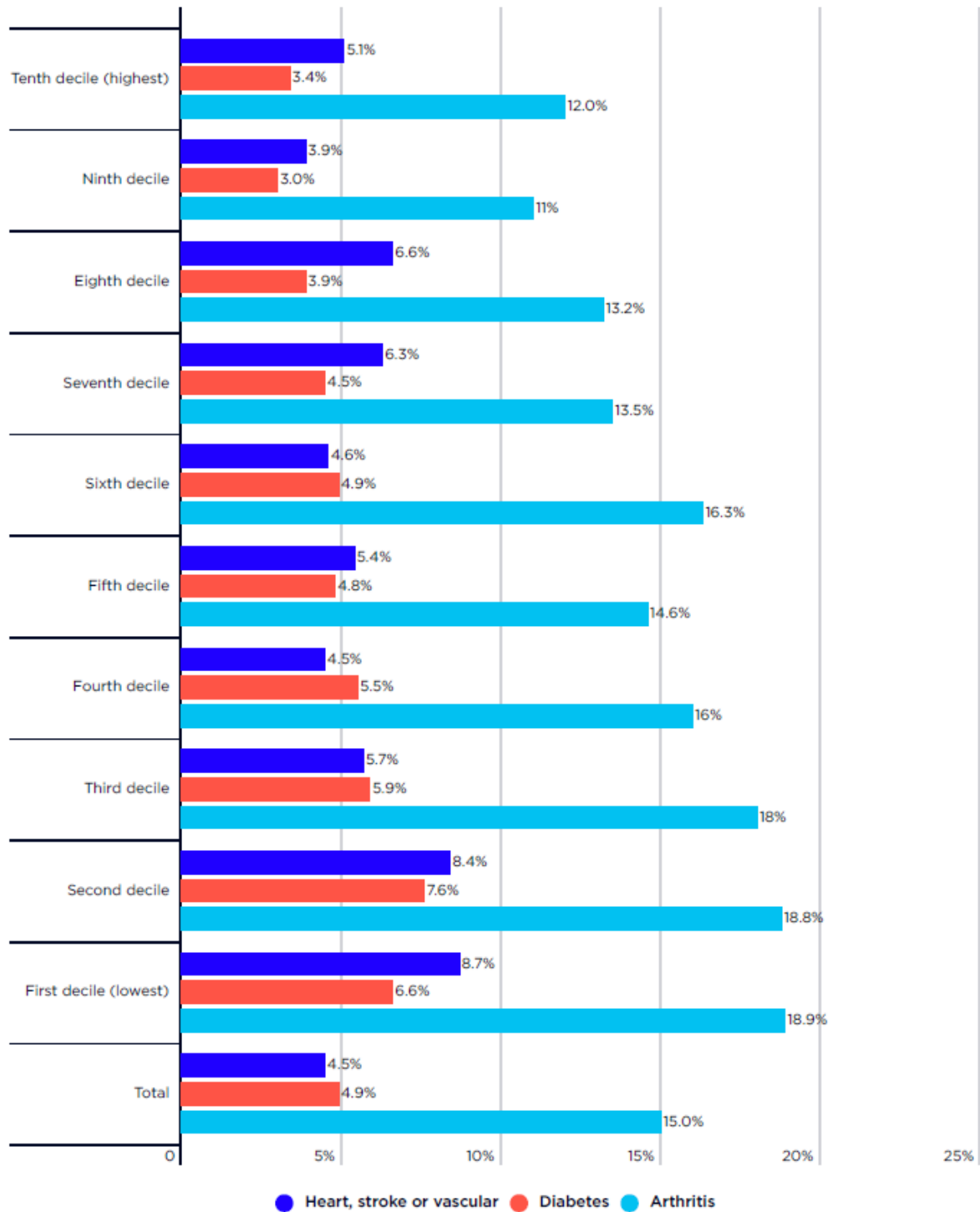|	Heart, stroke or vascular	Diabetes	Arthritis
Tenth decile (highest)	5.1%	3.4%	12.0%
Ninth decile	3.9%	3.0%	11%
Eighth decile	6.6%	3.9%	13.2%
Seventh decile	6.3%	4.5%	13.5%
Sixth decile	4.6%	4.9%	16.3%
Fifth decile	5.4%	4.8%	14.6%
Fourth decile	4.5%	5.5%	16%
Third decile	5.7%	5.9%	18%
Second decile	8.4%	7.6%	18.8%
First decile (lowest)	8.7%	6.6%	18.9%
Total	4.5%	4.9%	15.0%

● Heart, stroke or vascular ● Diabetes ● Arthritis

Research and policy implications

Health equity is widely considered to be an important goal of Australian public health policy and practice.[36] The underlying social justice principle is to provide all Australians with the opportunity to attain full health potential and not be disadvantaged from achieving this potential because of social position or any other socially defined circumstance. This includes reducing and ultimately eliminating factors that lead to disparities in health and the determinants that adversely affect socially disadvantaged groups.

While Australia is overall one of the healthiest countries in the world, with relatively high standards of health and health care, not all Australians fare equally well. The findings in this report show a consistent pattern of health inequities in terms of the prevalence of health conditions and health risk factors by socio-economic position. It provides further evidence of inequities in health. The incidence and prevalence of health disease or illness related conditions and the risk factors for ill-health is lower amongst richer and higher socio-economic status individuals and population groups. This report shows this with respect to people who have higher incomes, live in relative geographic areas of advantage, are employed, and in receipt of earned money (whether from wages, salaries, private investment or their own business). Conversely, the incidence and prevalence of health disease or illness related conditions and the risk factors for ill-health is higher amongst poorer and lower socio-economic status individuals and population groups. This includes people in the lower groups of the income distribution, those who live in relative geographic areas of disadvantage, are unemployed or not in the labour force, and in receipt of a government pension or allowance.

This analysis does not investigate cause and effect, that is, if the existence of health conditions and risk factors are causal factors impinging access to the labour market, higher earning potential and greater choice of residential location or vice versa. This should be the next analytical step. Nevertheless, it clearly demonstrates a health inequities linked to social determinants that we were able to assess, related to work, employment, income and living costs. Other social determinants such as access to affordable fresh food, transport, social inclusion, early life experiences and safe areas for exercise have been shown to be important for health equity These are socially structured and within the realm of public policy development and intervention.[37]

Australia has been moving towards a strategy of health promotion and disease prevention – that is, targeting early intervention measures, providing better information to people, looking at health risk factors, and, most importantly, addressing the broader factors that influence health, such as where people live and work, income, education, employment and social support.[38] To this end, Australia's consultation paper for the National Preventive Health Strategy has recommended an increase on investment in preventive health measures to 5% of all health spending by 2030.[39] The final National Health Promotion

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[36] AIHW (2014). *Mortality Inequalities in Australia 2009–2011.* Bulletin 124. Canberra, AIHW.
[37] Wilkinson, R. G., & Marmot, M. (2003). *Social determinants of health: the solid facts*: World Health Organization, Regional Office for Europe, Copenhagen
[38] Australian Government Department of Health (2021) *About preventive health* **https://www.health.gov.au/health-topics/ preventive-health/about**
[39] Australian Government Department of Health (2020) *Consultation paper: Development of the National Preventive Health Strategy* h**ttps://consultations.health.gov.au/national-preventive-health-taskforce/consultation-paper-for-the-national- preventive-hea/supporting_documents/NPHS%20Consultation%20Paper%20%20PDF.pdf**

and Disease Prevention Strategy must recognise that packages of policies and interventions of a comprehensive nature are required to improve incomes, living standards and wellbeing, in the understanding that it is unlikely that any single policy or intervention will significantly reduce socioeconomic inequalities in health.

Investment must also be made in improving the existing system of health data collection in Australia, both in the quantity and quality of data that can be used by policy makers and researchers to adequately examine inequities in health. The current proliferation of health and wellbeing related data is generated from varied sources and is difficult to navigate. It also does not easily provide evidence of the relationship between the social determinants of health and people's health outcomes in order to close the health gap between the most and least disadvantaged Australians.

Appendix 1

Table A.1: Description of NHS Health Outcomes and Socio-economic Variables

Term	Definition
Good self-assessed health	Refers to Excellent and Very Good amongst six possible responses – n/a, excellent, very good, good, fair, poor)
Mental and behavioural conditions	Includes all types of conditions within the two categories of mood (affective) disorders and anxiety related disorders.
Back problems	Includes sciatica, disc disorders, back pain/problems not elsewhere classified and curvature of the spine.
Arthritis	Includes rheumatoid, osteoarthritis and other and type unknown.
Asthma	Single question if respondent has asthma
Diabetes	Includes type A, type B and unknown.
Heart, stroke or vascular disease	Includes angina, heart attack, other ischaemic heart diseases, stroke, other cerebrovascular diseases, oedema, heart failure, and diseases of the arteries, arterioles and capillaries.
Osteoporosis	Single question if respondent has osteoporosis
Chronic obstructive pulmonary disease (COPD)	Includes bronchitis and emphysema.
Cancer	Includes all types within the two categories of malignant neoplasms and benign neoplasms & neoplasms of uncertain nature.
Kidney disease	Single question if respondent has kidney disease
High psychological distress	Psychological distress is derived from the Kessler Psychological Distress Scale (K10). It is non-specific scale of psychological distress based on ten questions about negative emotional states in the past 30 days. The K10 is scored from 10-50 with high levels of distress ranging from 22-29 and very high levels from 30-50. The high psychological distress indicator below ranges from 22-50 (high and very high). .