

**SUBMISSION TO THE SENATE
STANDING COMMITTEE ON COMMUNITY
AFFAIRS:**

**Inquiry into Australia's domestic response to
the World Health Organization's (WHO)
Commission on Social Determinants of Health
report, "Closing the gap in a generation"**

Submission from:

The Public Health Information Development Unit

Postal address:

PHIDU

The University of Adelaide S.A. 5005

Contacts: - Assoc. Professor John Glover, Director

[phone: 08-8313-6237]

[email: john.glover@adelaide.edu.au]

**SUBMISSION TO THE SENATE'S
STANDING COMMITTEE ON COMMUNITY AFFAIRS -
Inquiry into Australia's domestic response to the World Health
Organization's (WHO) Commission on Social Determinants of Health
report, "Closing the gap in a generation"**

In order to assist the Committee's deliberations, the Public Health Information Development Unit (PHIDU) at The University of Adelaide offers the following submission with respect to these specific Terms of Reference:

- (c) the extent to which the Commonwealth is adopting a social determinants of health approach through: (iii) appropriate Commonwealth data gathering and analysis; and
- (d) the scope for improving awareness of the social determinants of health: within government programs.

[Information about PHIDU and its work is contained in Appendix 1. A full list of PHIDU publications is available online at <http://www.publichealth.gov.au>].

SUMMARY OF SUBMISSION

The extent to which the Commonwealth is adopting a social determinants of health approach through: (iii) appropriate Commonwealth data gathering and analysis

1. Since 1999, the Australian Government Department of Health and Ageing (DoHA) has funded the Public Health Information Development Unit (PHIDU) at the University of Adelaide to assist in the national development of public health data, data systems and indicators, by providing information on a broad range of health and its determinants across the life course. A major emphasis has been on the development and publication of small area statistics for monitoring differences or inequalities in health and wellbeing, and the SDOH at the local level.
2. A wide range of historic and current data relating to the social determinants of health (SDOH) is freely available online as the *Social Health Atlas of Australia* series. Using the interactive version of the atlas, different geographic areas can be selected, including Local Government Areas (LGAs), Statistical Level Areas (SLAs), Indigenous Areas, Divisions of General Practice, and most recently, Medicare Locals and Statistical Area Level 2 and above.
3. User statistics for PHIDU's website indicate that the data are viewed and downloaded by a wide range of health and non-health sector users, both from across Australia and internationally.
4. PHIDU's work in describing and monitoring inequalities in health and its social determinants is among some of the best in the world. It has been recognised internationally, has been described as 'a social innovation', and was highlighted as a promising approach in October 2011 at the World Health Organization's World Conference on Social Determinants of Health in Rio de Janeiro, Brazil.

5. The third edition of the national *Social Health Atlas*, which has a focus on health, disadvantage and social inclusion, will be published in hard copy form and online, late in 2012.
6. Despite this pioneering work and the Department's funding over the past 13 years, significant problems accessing aggregated, non-identified health data at the small area level remain in relation to some datasets. For example, data for services provided under the Medical Benefits Schedule (services to males or females, age-specific health checks), published in successive atlases since 1992, are now not available from the Department of Health and Ageing and are being sought from Medicare Australia (at considerable cost). The lack of up to date small area deaths' data from the ABS (latest data are from 2007) has further hampered public health research and analysis, as PHIDU is the only agency to publish detailed cause of death statistics, either as raw numbers or as standardised rates.
7. The lack of a high-level committee within the COAG, SCOH, or AHMAC structures, which has responsibility for leadership and planning regarding national health surveillance and its current and future data requirements (which include data on the SDOH) remains problematic.

The scope for improving awareness of the social determinants of health: within government programs

8. While there has been a focus on the SDOH only within some Divisions of DoHA, other areas have failed to recognise their importance. This is reflected, for example, in the attention paid almost exclusively to attempting to influence the health risk behaviours of individuals (harmful alcohol consumption, tobacco smoking, diet and nutrition and physical inactivity) without also considering that these are socially, culturally, structurally and economically patterned, because of the existence of the SDOH.
9. The lack of a serious focus on the SDOH was particularly apparent in the two national reports, *A Healthier Future for All Australians: Final Report* (National Health and Hospitals Reform Commission) and *Australia: the healthiest country by 2020* (National Preventative Health Taskforce), and in the Government's response to them.
10. The WHO's Health in All Policies (HiAP) approach is receiving considerable interest internationally, and should be examined more fully by the Australian Government. An intersectoral, collaborative approach to Health Impact Assessment as part of the HiAP model should also be investigated.

1.0 The extent to which the Commonwealth is adopting a social determinants of health approach through: (iii) appropriate Commonwealth data gathering and analysis

Within Australia, effective governance for action on the SDOH requires an evidence base indicating the extent of the problems of inequalities (both absolute and relative) in health and in the SDOH, and for measuring and monitoring trends over time and the effectiveness of any action taken.

1.1 Background to the development of the Social Health Atlases, 1988-2012

In 1988, in response to an increasing awareness in Australia of the role of social inequality as a key to health inequality, the Social Health Office within the (then) South Australian Health Commission (SAHC) proposed the adoption of a social health strategy. The social health strategy outlined an approach to improving health for all South Australians through a recognition that policies in areas outside of the health sector, such as housing, education, transport etc. can have substantial impact on the health of the general community, and in particular on disadvantaged groups. This is often referred to as a 'social view of health'. This (public policy) approach recognises the need to coordinate the development and implementation of a wide range of public policies on housing, education, technology, agriculture etc. (not just health policy) for the maximum positive effect on the health of the South Australian public, particularly disadvantaged groups such as the unemployed and Aboriginal people.

Information was seen as playing an important part in this strategy, by describing the socioeconomic and health status profiles of the population. The approach chosen to presenting information was through mapping. Maps present data in a way that is accessible to a wide audience, not only those charged with setting policy and undertaking strategic planning, but to consumers and other community advocates who may have limited skills in handling statistical information presented in more traditional ways. The maps describe the geographic distribution of the population by a range of socioeconomic indicators, together with maps showing health status and use of health services, thereby highlighting the relationships between the indicators of socioeconomic inequality and inequality in health status. These reports have been titled 'Social Health Atlases'. The aims of the first South Australian Social Health Atlas (SHA) (authored by John Glover and Tony Woollacott in 1990) were for the Atlas 'to be a source of information for health providers (e.g., specialist clinicians, community health service workers, and general medical practitioners), managers of health and welfare agencies, community groups, researchers, educators and students'.

At the national level, the *Health for all Australians: Report of the Health Targets and Implementation (Health for all) Committee to Australian Health Ministers* was published in 1988, and contained a major focus on the issue of health inequalities and equity. The report also cited international work including *The Health Divide* (Whitehead 1987) in Britain. By the early 1990s, as the result of research studies, information and data analysis (such as the SHAs) and policy advice, governments began to acknowledge the importance of the SDOH on the wellbeing of the population and sub-groups. National reports, such as *Enough to make you sick: how income and environment affect health* (1992) and *Better Health Outcomes for Australians: National goals, targets and strategies for better health into the next century* (1994), also clearly identified that 'the importance of social and environmental factors affecting health must be incorporated as an integral part of the health system'. The importance of the responsibilities of other non-health sectors such as employment, education, housing and community services was also acknowledged, because 'socio-economic factors are so clearly associated with health that structural changes must be made outside the health system.'

The first national SHA, published in 1992 (again authored by Glover and Woollacott), provided information on the distribution of key population groups, illnesses, causes of death and risk factors, and presented them in a way that

highlighted the role of social and economic factors in relation to health and illness. In keeping with a public policy approach, it sought to integrate information on health, education, welfare and housing, in a way that could enable more informed debates on resource allocation and policy and program directions, both within and beyond the health system.

In 1999, the head of the Public Health Division of the (then) Commonwealth Department of Health and Aged Care established the Public Health Information Development Unit (PHIDU) at the University of Adelaide, with John Glover as its Director. The role of PHIDU is to assist in the development of public health data, data systems and indicators, with a commitment to the development of an integrated health information system in Australia that could provide information on a broad range of health determinants across the life course. A major emphasis was on the development and publication of small area statistics for monitoring inequality in health and wellbeing.

PHIDU's first task was to produce the second edition of the national SHA (1999), which continued the theme of providing information with which to identify and address 'the linkages which exist between socioeconomic disadvantage and health status; the implications of these patterns and linkages for the provision of appropriate health services, in particular health services which address inequalities in health outcomes; and to broaden the use and understanding of data on health status and health outcomes beyond the health system into areas where decisions are made which impact on the health of the population'. This second edition also drew attention to variations in the patterns of distribution of the socioeconomic and health status profiles of the population over the period between the two editions. This theme of monitoring the health divide has been a major focus of later versions. While the SHAs do not provide the answer to addressing inequalities, they allow for monitoring the gap in social inequality and health inequality - the health divide - between population groups, and to ascertain whether it is growing or shrinking, and to identify trends over time in absolute and relative inequality for a large number of indicators.

SHAs have been published on a wide range of topics since 1999, all of which are available for downloading at www.publichealth.gov.au . A selection is listed below:

- A Social Health Atlas of Australia, Second Edition: A series of nine atlases covering each State and Territory, and Australia (1999)
- A Social Health Atlas of Young South Australians (2003)
- Inequality in South Australia: Key determinants of wellbeing (Volume 1: The Evidence) (2004)
- A Social Health Atlas of South Australia, Third Edition (2006)
- A Social Health Atlas of Compensable Injury in South Australia (2006)
- Australian and New Zealand Atlas of Avoidable Mortality (2006)
- Atlas of Avoidable Hospitalisations in Australia: ambulatory care-sensitive conditions (2007)
- Mental Health Atlas of South Australia (2006)
- Understanding Educational Opportunities and Outcomes: A South Australian Atlas (2010)

- Aboriginal and Torres Strait Islander Social Health Atlas, Australia (2010)
- Social Health Atlas of South Australia – online atlas updated annually (2011)
- Divisions of General Practice Atlas, Australia (2005, 2007, 2009, 2011)
- A Social Health Atlas of Australia, Third edition (in press)

Many other atlases and datasets are available online, as well as a mapping package that enables researchers to map their own data, as well as to compare them to data already made available by PHIDU.

1.2 Implementation, challenges and evaluation of impact

Since the first SHA was released in 1990, the range and quality of datasets have improved, allowing for a better understanding of the impact of socioeconomic influences on health. It has also been possible to describe changes in the overall levels and patterns in the distribution of socioeconomic status and health status, and to assess the extent to which the health divide has been addressed. Ongoing core funding from the Australian Government Department of Health and Ageing over a period of 13 years, and supplemental funding from other organisations has been essential for this work to continue.

A number of solutions have been employed by PHIDU to improve the quality of the data in order to map them, and the use of innovative software has improved the technical production and display of the maps, graphs, tables and data access online. Demonstrating that the publication of data highlighting gaps in service delivery and variations in health status and outcomes was widely accepted and the data used in many areas of public policy has assisted in freeing up previously unavailable datasets.

The first South Australian SHA was generally well received, not the least because it was launched in a setting where there was a good understanding of a primary health care approach which the atlas, with its local level data, was able to inform. This is not to say that it was universally accepted, with the ‘social view of health’ concept not accepted by many in the bureaucracy in the early 1990s. Some researchers and policy-makers contend that this is still the case. In discussing the view that ‘the population health approach may be of increasing significance to health researchers and practitioners, but the window of opportunity to translate it into a major policy change has not even begun to open in Australia’ (Lewis & Leeder 2001), Raftery cites the example of the Generational Health Review, a review of the South Australian health system commissioned by the South Australian government in 2002 and reporting in 2003. Of the Review, Raftery (2008) says:

Despite the fact that its aim was to deliver “a plan . . . that provides effective strategies for health system reform, which ensures that all South Australians enjoy the best possible health and have access to high standards of health care”, the Generational Health Review failed to take seriously the social determinants and health inequalities research, the Acheson Report, or even, except in a token fashion, the information yielded by the social health atlas.

The information in the SHAs adds to a convincing body of evidence built up over a number of years in Australia as to the striking disparities in health that exist between groups in the population. In addition, by presenting data for groups of areas of similar socioeconomic status, the atlases demonstrate that significant health

inequalities exist not just between the most and least advantaged groups, but are evident at each of the intervening levels of socioeconomic status as well. In other words, a social gradient of health exists in Australia, as it does elsewhere in the world.

While it is difficult to determine accurately the impact of the development of the SHAs on policy, planning and service design to address inequality, the atlases certainly represent a significant initiative in strengthening the public health information infrastructure in Australia and have been described by others as ‘an important policy tool with which to address health inequality arising from social inequality’ (Wright 2010; Raftery 2008). In an evaluation of the second edition of the national SHA, a number of informants called for the atlas to become a permanent feature of Australia’s public health information infrastructure. They argued that Australia had a paucity of time series data for monitoring long-term trends in health status and health service use and saw that the atlas had a key role to play in this regard. In addition, some informants pointed out that the SHAs’ analysis of the social determinants of health (SDOH) and the distribution of health and illness was becoming more important in the context of an increased emphasis on whole of government planning. At the federal, state and local government levels, public policy is being driven by an increased understanding that social and health disadvantage is place-related. Some stakeholders saw the SHA as an important analytical tool in supporting this sharper focus on sub-regional or small area (‘place’) planning and service integration.

In 2008, the development of the SHAs was identified as ‘a social innovation’ by Geoff Mulgan, founder of DEMOS (known as the UK’s most influential think tank), and former Head of Policy for British Prime Minister, Tony Blair.

A set of interactive atlases (a national atlas and separate atlases for each State and Territory) was added to PHIDU’s website (www.publichealth.gov.au) in 2006. The atlases were supplemented in 2007 with interactive graphics software to view variations by socioeconomic status across each capital city and non-metropolitan areas; and, in later years, for the ABS remoteness classification.

The website continues to receive considerable Australian and international interest. For example, from January to May 2011, the website has been accessed by 45,415 visitors from over 90 countries, looking at over 357,000 pages online. Each month, over 4,000 individuals view around 200 indicators on more than 30 topics in interactive atlases and charts, and download datasets for small areas across Australia. A selection of datasets is included as Appendix 2.

The work of PHIDU was presented at the World Health Organization’s (WHO) Western Pacific Regional Meeting on the SDOH in Manila in June 2011. As a result, PHIDU’s work was highlighted in Rio de Janeiro in October 2011 at the WHO’s World Conference on Social Determinants of Health, and included in a film of promising international approaches at the closing session. It was evident that the data we have in Australia to describe and monitor inequalities in health is among some of the best in the world, and the scope, presentation and widespread availability is perhaps the best.

The third edition of the national social health atlas, which has a focus on health, disadvantage and social inclusion, will be published in hard copy form and online, later in 2012. It includes some comparisons with data published some two decades earlier in Australia, in 1992.

1.3 Continuing challenges for PHIDU

Challenges related to the production of the SHAs have included:

- timely access to existing good quality administrative and other datasets;
- the lack of a standard area, at the national level, of a size useful for the presentation of data for policy and planning purposes – the new ABS small area geography, for which Census and other data are being made available, does not meet this need, as the Statistical Area Level 2 is too small, and the Statistical Area Level 3 too large, for presenting reliable data for population health planning, in comparison with the previous (SLA) boundary set;
- lack of up to date, small area deaths' data from the ABS, with the last reliable figures published for 2007;
- the lack of datasets pertaining to unique individuals rather than to events, and the ability to link them; and the under-identification of the Indigenous population in the five-yearly Census of Population and Housing, in most administrative collections and in death registrations.

In particular, despite PHIDU's pioneering work and the Department's funding over the past 13 years, significant problems accessing aggregated, non-identified health data at the small area level remain in relation to some important datasets. For example, data for services provided under the Medical Benefits Schedule (services to males or females, age-specific health checks), published in successive atlases since 1992, are now not available from the Department of Health and Ageing and are being sought from Medicare Australia (at considerable cost). Even when data are available, it can take many months or even years on occasions for the correct data to be provided to PHIDU. The lack of up to date small area deaths' data from the ABS (latest data are from 2007) has further hampered public health research and analysis, as PHIDU is the only agency to publish detailed cause of death statistics, either as raw numbers or as standardised rates. Such data would allow better planning for and evaluation of the effectiveness of many preventive health and health care policies and programs for many disadvantaged populations across Australia.

The lack of up to date small area deaths' data from the ABS (latest data are from 2007) has further hampered public health research and analysis, as PHIDU is the only agency to publish detailed cause of death statistics, either as raw numbers or as standardised rates. Similarly, current and accurate health workforce data have been unavailable at a small area level, precluding the ability of the new Medicare Locals and others to plan for the health care needs of their local populations. It is hoped that the Health Workforce Agency will be able to redress this lack of data.

There is no high-level committee within the COAG, SCOH, or AHMAC structures with responsibility for leadership regarding national health surveillance and its data requirements (which include data on the SDOH). Such a committee did exist until mid-2010 and, despite many limitations, it provided some focus for such work. While the new e-health strategy is viewed as sufficiently important to be the focus of one of the AHMAC Principal Committees on its own, the national requirements for health surveillance have not received sufficient attention, and there is no national plan to take this work forward.

The National Health Information Standards and Statistics Committee (NHISSC) appears to have little relationship with COAG's National Partnership Agreement on Preventive Health (NPAPH), and with surveillance or population health planning in general. For example, there remains an urgent need for nationally representative,

high quality and consistent surveillance data on an ongoing basis to assess progress and underpin the evaluation of the NPAPH. This has led to an over-reliance on jurisdictional surveys, which utilise telephone landlines as the access point to respondents, an increasingly inaccurate way of collecting health-related data, given the rapid increase in mobile phone-only households across Australia (PHIDG 2008). Without such data being available nationally on an ongoing basis and from a single source, different estimates, using a variety of definitions and modes of collection, proliferate and confuse even those engaged in the surveillance field.

In 2005, following a national consultation on behalf of the National Public Health Partnership (NPHP), the Australian Health Ministers' Conference endorsed the *Blueprint for nation-wide surveillance of chronic diseases and associated determinants*, but it is yet to be implemented.

2.0 The scope for improving awareness of the social determinants of health: within government programs

While there has been a focus on the SDOH only within some Divisions of DoHA, other areas have failed to recognise their importance. This is reflected, for example, in the attention paid almost exclusively to attempting to influence the health risk behaviours of individuals (harmful alcohol consumption, tobacco smoking, diet and nutrition and physical inactivity) without also considering that these are socially, culturally, structurally and economically patterned, because of the existence of the SDOH. Broadly applied social marketing campaigns and other strategies focused narrowly on these risk behaviours have led to an increase in socioeconomic inequalities in the health risk behaviours of Australians.

The lack of a serious focus on the SDOH was particularly apparent in the two national reports, *A Healthier Future for All Australians: Final Report* (National Health and Hospitals Reform Commission) and *Australia: the healthiest country by 2020* (National Preventative Health Taskforce). While mention of the SDOH may have appeared in the preface or the introduction of the reports, the need to address them was not discussed nor recommended. *Taking Preventative Action*, the Government's response to the report of the National Preventative Health Taskforce, was similarly silent on the issue, and took an exclusively individual risk behaviours' approach, once again.

The WHO's Health in All Policies (HiAP) addresses the effects on health across all policies such as agriculture, education, the environment, fiscal policies, housing, and transport. It seeks to improve health and at the same time contribute to the wellbeing and the wealth of the nations through structures, mechanisms and actions planned and managed mainly by sectors other than health. Thus, instead of seeing major diseases as only a challenge to the health sector, HiAP highlights the fact that the risk factors of major diseases, or the determinants of health, are modified by measures that are often managed by other government sectors as well as by other actors in society (EOHSP 2006). Broader societal health determinants – above all, education, employment and the environment – influence the distribution of risk factors among population groups, thereby resulting in health inequalities. This approach is receiving considerable interest internationally, and should be examined more fully by the Australian Government. Focusing on HiAP may shift the emphasis from individual lifestyles and single diseases to societal factors and actions that shape our everyday living environments. It does not, however, imply that any other public

health approaches, for example health education or disease prevention, are undermined or treated as less important.

Despite its solid scientific basis, HiAP is a challenging strategy that requires deliberate efforts to be promoted and implemented (EOHSP 2006). Determinants of health, their surveillance and related methodological issues are demanding questions that most naturally, practically and effectively are developed through collaboration, not by any single Department or sector acting alone.

Greater attention to the SDOH also requires more awareness of their importance, and a language that can be used by all members of the community, including practitioners and policy-makers, to discuss their relevance and what could be done more effectively in Australia to address them. Sentinel work has been undertaken in this regard in Canada, the USA and some countries in the European Union (see for example, RWJF 2010; Schultz 2010). Such efforts have helped to find a new frame for talking and thinking about the SDOH in a way that people can understand, is meaningful and does not align the topic to any existing political perspective or agenda (RWJF 2010).

References

EOHSP (European Observatory on Health Systems and Policies) 2006. *Health in All Policies: prospects and potentials*. (Eds. Stahl T et al.) Finland: Ministry of Social Affairs and Health.

Glover J & Woollacott A 1990. *A social health atlas of South Australia*. South Australian Health Commission: Adelaide.

Glover J & Woollacott A 1992. *A social health atlas of Australia*, volumes 1 and 2. 2 vols. Commonwealth Department of Health and South Australian Health Commission: Adelaide.

Glover J, Harris K & Tennant S 1999. *A social health atlas of Australia* [2nd edn]. Volume 1: Australia, 9 vols. Openbook Publishers: Adelaide.

Mulgan G 2008. *Innovation in 360 Degrees: Promoting Social Innovation in South Australia*. SA Department of the Premier and Cabinet: Adelaide.

PHIDG (Population Health Information Development Group) 2008. *Summary report on home phone ownership; & Attachment A: Extent and characteristics of the population with no fixed-line phone access* [PHIDG_2_2008_7.1].

Raftery JB. Critical perspectives on public health history. In *Understanding Health: a determinants approach*, Keleher H, McDougall C (Eds.), 2nd revised Edition. Oxford University Press: Australia.

RWJF (Robert Wood Johnson Foundation) 2010. *A new way to talk About the Social Determinants of Health*. At <http://www.rwjf.org/vulnerablepopulations/product.jsp?id=66428> (accessed 27 September 2012)

Schultz P 2010. *The social determinants of health – 25 resources to support your work*. [Online] Canada: Health Nexus Santé. At http://www.healthnexus.ca/events/25th_anniversary/november.html

Wright K 2010. Population health: data, trends and indicators. *J Health Serv Res Policy* 15(1): 62-64.

APPENDIX 1

Background to PHIDU

The Public Health Information Development Unit (PHIDU) was established by the Australian Government Department of Health and Ageing (DoHA) in 1999, to assist in the development of public health data, data systems and indicators. PHIDU is located at The University of Adelaide.

The Unit is committed to the development of an integrated health information system in Australia that can provide information on a broad range of health determinants across the life course. A major emphasis is on the development and publication of small area statistics for monitoring inequality in health and wellbeing.

PHIDU's work program has included:

- . the publication of the *Social Health Atlas* series for Australia (second edition), three Australia-wide Indigenous Social Health Atlases, and numerous Social Health Atlases for South Australia;
- . the development of the Business Case for a program of national health measurement surveys (the Australian Health Measurement Surveys) to provide objective health data to complement the self-reported information collected by the ABS National Health Surveys;
- . an audit of international and Australian surveillance systems for monitoring chronic diseases and their risk factors (with other partners), currently being updated;
- . arranging national symposia on health data linkage and its relevance to health policy and research;
- . the development of question modules for use in state and territory computer-assisted telephone interviewing (CATI) systems; and
- . the publication of a number of articles, using small area data, highlighting the extent of health inequalities in Australia, and the need for better links between policy and research in this area;
- . the development of an atlas of potentially avoidable hospitalisations for Australia;
- . the development of an atlas of avoidable mortality for Australia and New Zealand;
- . providing project officer support for the development of a discussion paper which identifies strategies to improve the identification of Aboriginal peoples and Torres Strait Islanders in communicable diseases' reporting; and
- . providing project officer support for the development of a classification of public health.

PHIDU staff have expertise and skills in the following areas:

- . the compilation and analyses of health and other data with a primary focus on health and social inequalities in Australia, with collaborative links to many of the key international researchers in this area;
- . the theoretical frameworks and the extent of research evidence that underpins knowledge about the social determinants of health;
- . policy analysis and other mechanisms to support the interface between research evidence and policy interventions;

- . technical ability in the areas of health statistics, national and state health information needs, data access and coverage, survey development, and dissemination of health information to a wide range of users;
- . detailed knowledge about the current range of health information and data sources in Australia;
- . experience in policy and program development for disadvantaged populations, specifically Indigenous communities, children and young people, disability, and socioeconomically disadvantaged communities.

Appendix 2

List of some of the datasets available from the PHIDU website

Population demographics:

Age/ sex distribution

Population projections: whole and Indigenous

Ethnicity - birthplace, non-English speaking residents, recent arrivals.

Social indicators:

Early childhood development – domains of physical, social emotional, cognitive etc development

Education – participation in pre-school, primary, secondary, post-school vocational training

Learning or earning – at ages 15 to 19

Families – single parent, low income, jobless with children under 15 years

Rent assistance, public housing, housing and mortgage stress, no motor vehicle

Income support – age and disability pensions, unemployment (long-term and youth), single parent, health care/ pensioner cardholders, children in low income families

Internet access at home

Labour force – unemployment, labour force participation including female, unskilled and semi-skilled workers, managers& administrators, and professionals

Summary measure of disadvantage

Child care – unpaid

Community strength – voluntary work, help available from family, friends or neighbours, member of organised group, actively involved in school activities

Health status:

Mothers and babies – low birthweight, smoking in pregnancy

Child health – immunisation, infant deaths, deaths at ages 1-4 years

Self-assessed health

Risk factor prevalence – smoking, harmful use of alcohol, physical inactivity, overweight/obesity, fruit consumption

Chronic disease prevalence – type 2 diabetes, mental health disorder, respiratory disease, heart disease, arthritis, osteoporosis

Disability (profound or severe)

Premature mortality – by sex, for selected causes

Potentially avoidable mortality – for selected causes

Service use – general practitioners, health assessments, Aboriginal health workers etc

Private health insurance

Residential aged care places and community outreach service places

Cancer screening services – participation in and outcomes of breast, cervical and bowel cancer screening

Hospital admissions – for a range of conditions

Health and welfare workforce:

General and specialist medical practitioners, nurses, dentists, psychologists, pharmacists etc.