Introduction

This report presents the detailed analyses undertaken by the Australian Institute of Health and Welfare that were used to support the policy report—The *Aboriginal and Torres Strait Islander Health Performance Framework, 2008 report.* The report was the second report against the Aboriginal and Torres Strait Islander Health Performance Framework (HPF) produced by the Department of Health and Ageing which provides a baseline to monitor progress against the National Strategic Framework for Aboriginal and Torres Strait Islander Health 2003 to 2013.

The Health Performance Framework monitors progress of the health system and broader determinants of health in improving Aboriginal and Torres Strait Islander Health. The HPF comprises three tiers of performance as follows:

Tier 1—health status and health outcomes. This Tier covers measures of prevalence of health conditions (e.g. circulatory disease, diabetes), human function (e.g. disability), life expectancy and well-being and deaths. This Tier aims to provide an overall indication of current health status and recent trends in the health status of Aboriginal and Torres Strait Islander peoples on a range of health issues. These issues include child and maternal health, chronic diseases, injury, communicable diseases, social and emotional wellbeing and overall health status.

Tier 2—determinants of health. This Tier consists of measures of the determinants of health which focus on factors outside the health system that impact on the health of Aboriginal and Torres Strait Islander peoples. The domains covered in this Tier include socioeconomic status (e.g. income and education), environmental factors (e.g. overcrowding), community capacity (e.g. child protection), health behaviours (e.g. risky alcohol consumption and dietary behaviours) and person-related factors (e.g. prevalence of overweight and obesity). Such factors have been shown to have a strong association with both disease and ill-health.

Tier 3—health systems performance. This Tier includes measures of the performance of the health system including population health, primary health care and secondary/tertiary care services. Six domains are covered: effectiveness of health services, responsiveness of health services to Aboriginal and Torres Strait Islander communities and individuals, accessibility of services, capability and sustainability. This Tier includes measures that deal with a range of programs and service types including child and maternal health, early detection and chronic disease management, continuous care, assess to secondary/tertiary care, the health workforce and expenditure.

The Tiers and domains of the HPF and selected measures are shown in Figure 1. There are currently 70 measures which have been developed and for which data is available.

Health Status and Outcomes (Tier 1)

Health Conditions
1.01 Low birthweight infants
1.02 Top reasons for hospitalisation
1.03 Hospitalisation for injury and poisoning
1.04 Hospitalisation for pneumonia
1.05 Circulatory disease
1.06 Acute rheumatic fever & rheumatic heart disease
1.07 High blood pressure
1.08 Diabetes
1.09 End stage renal disease
1.10 Decayed, missing, filled teeth
1.11 HIV/AIDS, hepatitis C and sexually transmissible infections
1.12 Children's hearing loss

Human Function
1.13 Disability
1.14 Community functioning

Life Expectancy & Wellbeing
1.15 Life expectancy at birth
1.16 Perceived health status
1.17 Median age at death
1.18 Social and emotional wellbeing

Deaths
1.19 Infant mortality rate
1.20 Perinatal mortality
1.21 Sudden infant death syndrome
1.22 All causes age standardised deaths rates
1.23 Leading causes of mortality
1.24 Maternal mortality
1.25 Avoidable and preventable deaths

Determinants of Health (Tier 2)

Environmental Factors
2.01 Access to functional housing with Utilities
2.02 Overcrowding in housing
2.03 Environmental tobacco smoke

Socioeconomic Factors
2.04 Educational participation and attainment of Aboriginal and Torres Strait Islander adults
2.05 Years 10 and 12 retention and attainment
2.06 Year 3, 5 and 7 literacy and numeracy
2.07 Employment status including CDEP participation
2.08 Income
2.09 Housing tenure type
2.10 Index of disparity

Community Capacity
Demography
2.11 Dependency ratio
2.12 Single-parent families by age group
Safety and Crime
2.13 Community safety
2.14 Contact with the criminal justice system
2.15 Child protection
Other
2.16 Transport
2.17 Indigenous people with access to their traditional lands

Health Behaviours
Tobacco, alcohol and other drug use
2.18 Tobacco use
2.19 Tobacco smoking during pregnancy
2.20 Risky and high risk alcohol consumption
2.21 Drug and other substance use including inhalants
Physical activity
2.22 Level of physical activity
Nutrition
2.23 Dietary behaviours
2.24 Breastfeeding practices
Other health behaviours
2.25 Unsafe sexual practices

Person-related Factors
2.24 Prevalence of overweight and obesity

Health System Performance (Tier 3)

Effective/Appropriate/Efficient
3.01 Antenatal care
3.02 Immunisation (child and adult)
3.03 Early detection and early treatment (including cancer screening)
3.04 Chronic disease management
3.05 Differential access to key hospital procedures
3.06 Ambulatory care sensitive hospital admissions
3.07 Health promotion

Responsive
3.08 Discharge against medical advice
3.09 Access to mental health services
3.10 Aboriginal and Torres Strait Islander Australians in the health workforce
3.11 Competent governance

Accessible
3.12 Access to services by types of service compared to need
3.13 Access to prescription medicines
3.14 Access to after hours primary health care

Continuous
3.15 Regular GP or health service
3.16 Care planning for client with chronic diseases

Capable
3.17 Accreditation
3.18 Aboriginal and Torres Strait Islander people in Tertiary Education for health related disciplines

Sustainable
3.19 Expenditure on Aboriginal and Torres Strait Islander health compared to need
3.20 Recruitment and retention of clinical and management staff (including GPs)

Figure 1: Aboriginal and Torres Strait Islander Health Performance Framework Measures

Notes: The **Safe** domain is measured within the National Health Performance Committee framework.

Demographic information

The Aboriginal and Torres Strait Islander population of Australia was estimated to be 517,174 in 2006. Aboriginal and Torres Strait Islander peoples represent 2.5% of the total Australian population. They have an age structure that is significantly younger than that of other Australians. For example, Aboriginal and Torres Strait Islander peoples aged less than 15 years constitute 38% of the total Indigenous population, whereas this age group represents about 20% of the total Australian population. Conversely, those aged 65 years and over comprise only 3% of the Indigenous population, compared with 13% of the total Australian population.

About two-thirds of Aboriginal and Torres Strait Islander peoples live in major cities, inner and outer regional areas. However, just over a quarter reside in remote and very remote areas. The majority of Aboriginal and Torres Strait Islander peoples live in New South Wales (29% of the Indigenous population) and Queensland (28%), Western Australia (15%) and the Northern Territory (13%). Indigenous people comprise about 32% of the Northern Territory population but less than 4% in all other state/territory populations.

Structure of this report

Chapter 1 presents analyses for Tier 1—health status and health outcomes; Chapter 2 presents analyses for Tier 2—determinants of health status, and Chapter 3 presents analyses for Tier 3—health system performance. The layout for each measure is constant and includes a definition according to the technical specifications, a section on the data sources used, analyses undertaken, additional information and data quality issues. For each measure, analyses are presented by age, sex, state/territory and remoteness. Time trends are presented where possible for years that have adequate identification of Indigenous people in their recording systems. For some measures, data are also presented by selected health and population characteristics to examine the relationships between health and socioeconomic factors. International comparisons with New Zealand, the United States and Canada are presented for some measures.

Data sources and methodology

Data in this report come from a number of different administrative data sets and surveys. A table of all data sources used for each measure of the Framework is presented at Appendix 1.

Administrative data sets used in the report include administrative data related to health such as the Australian Institute of Health and Welfare (AIHW) National Hospital Morbidity Database, the AIHW National Mortality Database, the AIHW National Perinatal Data Collection, Australia and New Zealand Dialysis and Transplant Registry and the National Notifiable Diseases Surveillance System; administrative data related to education such as the ABS National Schools Statistics Collection, DEST Higher Educations Statistics Collection and the National Centre for Vocational Education Research database; administrative data related to crime and justice such as the Juvenile Justice National Minimum Dataset and the AIC National Homicide Monitoring Program; administrative data related to community services such as the AIHW Community Mental Health Care Database and the AIHW National Child Protection Data collections; and administrative data related to other government services and programs such as the Service Activity Reporting Database, Australian Childhood Immunisation Register and Medicare database.

Surveys that were used to obtain data include Indigenous specific surveys such as the National Aboriginal and Torres Strait Islander Health Survey, the National Aboriginal and Torres Strait Islander Social Survey, the Community Housing Infrastructure Needs Survey and the Western Australian Aboriginal Child Health Survey; and mainstream surveys such as the Census of Population and Housing, the Bettering the Evaluation and Care of Health (BEACH) survey, the ABS National Prison Census and the AIHW National Drug Strategy Household Survey.

Age-standardised rates and ratios have been used in many of the indicators as a measure of morbidity in the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates of morbidity among Indigenous people and those of other Australians, taking into account differences in age distributions. All age-standardised rates and rate ratios have been calculated using the direct standardisation method and the 2001 Australian population as the standard population.

Time series analyses presented throughout this report have used linear regression analysis to determine whether there have been significant increases or decreases in the observed rates over the period. Many of the tables also include a * to indicate that rates for the Indigenous and non-Indigenous populations are statistically different from each other at the $p<.05$ level.

Data limitations

There are a number of limitations of available data presented in this report that should be noted when interpreting data analyses and making comparisons across jurisdictions and over time. The main issue in most administrative data collections is the under-identification of Aboriginal and Torres Strait Islander peoples. Under-identification is a major problem in mortality, hospital morbidity and communicable disease data, particularly in some states and territories. Data analysis has therefore been limited to jurisdictions with adequate identification of Indigenous people for these data collections. For recent hospital separations these jurisdictions are New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. For longer term hospital separations data and recent mortality data, these jurisdictions are Queensland Western Australia, South Australia and the Northern Territory. Longer term mortality trend data are limited to three jurisdictions—Western Australia, South Australia and the Northern Territory, which have over 10 years of adequate identification of Indigenous deaths in their recording systems. Data on communicable diseases from the National Notifiable Disease Surveillance System includes data from Western Australia, South Australia and the Northern Territory which have been assessed as having adequate identification.

The incompleteness of Indigenous identification means the number of hospital separations, deaths and disease notifications recorded as Indigenous are an underestimate of the true level of morbidity and mortality of Aboriginal and Torres Strait Islander people. As a result, the observed differences between the Indigenous and non-Indigenous populations are underestimates of the true differences.

Surveys are also subject to a number of data limitations. Under-identification can be an issue for some surveys. For example, the Bettering the Evaluation and Care of Health (BEACH) survey has a high number of 'not stated' responses to the Indigenous identification question which suggests the survey consistently undercounts the number of Indigenous people visiting doctors. A problem for some national surveys such as the BEACH and National Drug Strategy Household Survey is that they have small samples of Indigenous people. Survey data are also subject to sampling and non-sampling errors. In most tables in this report, estimates with large relative standard errors, which is a measure of the sampling

variability, have been footnoted to indicate that they should be used with caution or are considered too unreliable for general use.

There are also data limitations surrounding international comparisons for some of the measures. These include the lack of an accurate denominator for the Indigenous population (mainly due to undercounting) and the lack of agreement over which is the best population denominator to use when they exist (for example, whether to use single ethnic response groups or multiple ethnic response groups). There are differences in how Indigenous status is defined in the different countries. There have also been frequent modifications to the ethnicity question recorded in the censuses in some of these countries.