

# The national Indigenous health performance measurement system

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## Abstract

This article reviews the development of the national Indigenous performance measurement system over the last decade. Data were collected from the published and unpublished literature and review of government websites, facilitated by key informant interviews which provided information about the policy context. A number of innovations have occurred over the last decade, including the development of a conceptual framework to underpin a system-wide approach to performance measurement that is aligned with nationally agreed strategic goals. The development of mechanisms to oversee Indigenous health strategy and health data development create formal mechanisms that potentially link data development and performance measurement priorities. Innovation in the development of processes to support health system performance improvement is evident, but this needs to be prioritised, particularly with respect to those components of the health system that are not Indigenous-specific.

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## What is known about the topic?

Health system performance monitoring is important, with need for monitoring achievement in Indigenous health.

## What does this paper add?

This study found innovation in the development of processes to support health system performance improvement for oversight of the implementation of Indigenous health strategy.

## What are the implications for practitioners?

The quality and availability of Indigenous health data is a priority for future development and consideration needs to be given to the relationship between the national performance measurement framework and those developed by the jurisdictions and other institutions.

**PERFORMANCE MEASUREMENT** and management are increasingly important processes for health systems.<sup>1–7</sup> Since the 1990s Australian governments have undertaken initiatives to develop a nationally coherent approach to health system performance measurement, with a focus on quality of care, health outcomes and clinical indicators.<sup>7,8</sup> From 1999 this focus shifted to integrating and rationalising these activities, resulting in the development of the Australian health performance measurement framework — an adaptation of the *Canadian health information roadmap initiative indicators framework*.

In this paper we review progress over the last decade in the development of a national Indigenous health performance measurement and management system. We compare our results with a review<sup>9,10</sup> undertaken before the transfer of responsibility for the national Aboriginal health program in 1995–96.<sup>11</sup> Our analysis is focussed on identifying priorities for future system development.

Performance measurement was introduced to Indigenous health from the mid 1980s, with the introduction of program budgeting which resulted in program-specific objectives along with performance measures.<sup>9,10</sup> During this period, performance measurement was limited to the Commonwealth-funded Aboriginal Community Controlled Health Services (ACCHS).<sup>12</sup> In 1987 ACCHS were required to submit throughput indicators to the Department of Aboriginal Affairs (DAA) every 6 months. They were subsequently required to report service activity data (client population, number of consultations by various medical and dental staff), vital statistics (such as births, deaths), administrative data from other services (such as hospitalisation rates) and health outcome data (such as morbidity rates for different diseases, immunisation rates, and infant mortality rates). Compliance was generally poor. This continued until the 1993–94 financial year when the DAA's successor, the Aboriginal and Torres Strait Islander Commission (ATSIC), limited ACCHS performance indicators to service data, with the intention of obtaining other health data from the Australian Institute of Health and Welfare (AIHW).<sup>9,10</sup> During this period the response of the Aboriginal community controlled health sector to performance measurement was hostile, viewing the approach as unprofessional and uninformed.<sup>9,10</sup>

We follow the lead of Kollberg et al who defined health performance measurement as:

The process of collecting, computing, and presenting quantified constructs for the managerial purposes of following up, monitoring, and improving organizational performance.<sup>13</sup> (p. 98)

Analysis and reporting of data are integrated with health system decision-making processes. The regulatory aspect of performance management is emphasised in Smith's historical account of performance measurement in the United Kingdom in which he characterises performance management as "the design of performance information and incentives to secure desired ends".<sup>2</sup> (p. 214)

The contemporary literature in this field places particular emphasis on conceptual frameworks to underpin performance measurement systems.<sup>3,7,14</sup> Conceptual frameworks are used to guide indicator selection and enable policy makers and data system stakeholders to jointly set priorities for data development.

Health data systems are pivotal to performance measurement management. However, health information systems have a broader role in service planning, the analysis of policy problems and the provision of data for research and evaluation. A comprehensive review of recent developments in Indigenous health data is beyond the scope of this paper. However, our more general findings suggest that the ongoing development of the Indigenous health data system should be a priority.

In this context Indigenous-specific services play a substantial role in primary health care services for Indigenous Australians. The engagement of this sector and Indigenous Australians more generally is important to the development of the Indigenous health performance and management system.

The literature and policy documents were primarily collected in 2004–06 as part of a collaborative study on Indigenous health performance measurement in Australia, New Zealand and Canada. The study aimed to compare the Indigenous health performance measurement systems as well as to compile performance indicators for Indigenous health and pilot a local performance measurement system with a collaborating community in Northern Canada.<sup>15–18</sup>

## Methods

A literature search was undertaken in the Medline, CINAHL, AMED and APAFT Full Text databases using the terms: "health surveys" or "health indicators"; "community health services" or "community based"; "Australian Aboriginal" or "Torres Strait Islander" or "health services, indigenous" or "aborigin\$ or Indigenous or first nation\$" and "Australia". Additional literature was identified through a review of reference lists, recommendation of key informants, and the

review of national, state, and territory Department of Health websites. This search strategy identified 137 articles. The abstracts of the articles were reviewed to identify what specific health indicators or indicator frameworks were used, who the health indicators were developed by, and if the Aboriginal and Torres Strait Islander community was involved either in development or use of the health indicators. Abstracts that made reference to none of this information were eliminated, and 77 articles were kept for more detailed analysis.

Key informants facilitated the search for unpublished policy documents. Ten informants were purposively selected by two of the authors across the Aboriginal health policy sector (including the Australian Government, state/territory governments and the ACCHS sector). Interviews were semi-structured, and informants were asked questions on the following themes: What health system performance measurement systems do you currently use/are you developing? What measures of individual and community health status do you currently use/are you developing? What about measures of wellness or well-being? What about broader determinants of health? These questions were supplemented with further probes, where appropriate. Probes included questions around the goals/objectives of the measurement systems, gaps in the current systems, and the role of Indigenous communities or stakeholders in the development of the measurement systems. Detailed notes were taken during the interviews, and analysed by one of the authors for recurring/dominant themes. This was an iterative process, supplemented by feedback on a draft discussion paper by a smaller number of key informants in the Australian Government.

We reviewed the underpinnings of the national Indigenous health performance measurement and management system including:

- The conceptual framework.
- The relationship between the national Indigenous health performance measurement system and national strategy.
- The relationship between the national Indigenous health performance measurement sys-

tem and other Indigenous health performance measurement frameworks.

- Mechanisms that enable Indigenous policy and health data stakeholders to set priorities for data development.
- Performance improvement in health services.
- Key developments in the national Indigenous health data system.

The study period was October 2004 to March 2006, with report on subsequent developments in the Australian health performance measurement framework up until the publication of the first report of this newly agreed national performance measurement system in November 2006.

## Key findings

### ***A conceptual framework for Indigenous health performance measurement***

In 1997 Australian Health Ministers agreed to develop *National performance indicators and targets for Aboriginal health*. Indicators were grouped into nine categories: life expectancy and mortality; morbidity; access; health service impacts; workforce development; risk factors; inter-sectoral issues; community involvement; and quality of service provision.<sup>19,20</sup> The 2000 report contained 56 indicators.<sup>20</sup> However, there was no explicit conceptual framework or policy rationale guiding indicator choice.

The first report of the *Aboriginal and Torres Strait Islander health performance framework* (ATSIHPF) was released in 2006.<sup>21,22</sup> The ATSIHPF was developed to measure the impact of the *National strategic framework for Aboriginal and Torres Strait Islander health* (NSFATSIH, see below) as well as to provide information for policy analysis, planning and program implementation. The ATSIHPF has 18 domains grouped into three tiers: Tier 1 — Health status and outcomes; Tier 2 — Determinants of health; and Tier 3 — Health system performance (see the Box). Its development was also framed by two overarching dimensions — quality and equity — applied across multiple domains. Quality is defined as, “delivering the best possible care and

## Aboriginal and Torres Strait Islander Health Performance Framework

### Appendix 2 - Aboriginal and Torres Strait Islander Health Performance Framework Performance Measures

#### Health Status and Outcomes (Tier 1)

<b>Health Conditions</b> 1.01 Low birth weight infants 1.02 Top reasons for hospitalisation 1.03 Hospitalisation for injury & 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	<b>Human Function</b> 1.13 Disability <i>Next Report: Community functioning</i>	<b>Deaths</b> 1.18 Infant mortality rate 1.19 Perinatal mortality 1.20 Sudden infant death syndrome 1.21 All causes age standardised deaths rates 1.22 Leading causes of mortality 1.23 Maternal mortality 1.24 Avoidable and preventable deaths
	<b>Life Expectancy &amp; Well-being</b> 1.14 Life expectancy at birth 1.15 Perceived health status 1.16 Median age at death 1.17 Social and emotional well-being	

#### Determinants of Health (Tier 2)

<b>Environmental Factors</b> 2.01 Access to functional housing with utilities 2.02 Overcrowding in housing 2.03 Environmental tobacco smoke  <b>Socioeconomic Factors</b> 2.04 Year 3, 5 and 7 literacy and numeracy 2.05 Years 10 and 12 retention and attainment 2.06 Educational participation and attainment of Aboriginal and Torres Strait Islander adults 2.07 Employment status including CDEP participation 2.08 Income 2.09 Housing tenure type <i>Next report: Index of disadvantage</i>	<b>Community Capacity</b> <i>Demography</i> 2.10 Dependency ratio 2.11 Single-parent families by age-group <i>Safety and Crime</i> 2.12 Community safety 2.13 Contact with the criminal justice system 2.14 Child protection <i>Other</i> 2.15 Transport 2.16 Indigenous people with access to their traditional lands	<b>Health Behaviours</b> <i>Tobacco, alcohol and other drug use</i> 2.17 Tobacco use 2.18 Tobacco smoking during pregnancy 2.19 Risky and high risk alcohol consumption 2.20 Drug and other substance use including inhalants <i>Physical activity</i> 2.21 Level of physical activity <i>Nutrition</i> 2.22 Dietary behaviours 2.23 Breastfeeding practices <i>Other health behaviours:</i> <i>Next Report: Self reported unsafe sexual practices</i>
		<b>Person-related Factors</b> 2.24 Prevalence of overweight & obesity

#### Health System Performance (Tier 3)

<b>Effective/Appropriate/Efficient</b> 3.01 Antenatal care 3.02 Immunisation (child and adult) 3.03 Early detection and early treatment 3.04 Chronic disease management 3.05 Differential access to key hospital procedures 3.06 Ambulatory care sensitive hospital admissions <i>Next Report: Health promotion</i>  <b>Responsive</b> 3.07 Discharge against medical advice 3.08 Access to mental health services 3.09 Aboriginal and Torres Strait Islander Australians in the health workforce <i>Next Report: Competent governance</i>	<b>Accessible</b> 3.10 Access to services by types of service compared to need 3.11 Access to prescription medicines <i>Next Report: Access to after hours primary health care</i>	<b>Capable</b> 3.13 Accreditation 3.14 Aboriginal and Torres Strait Islander people in Tertiary Education for health related disciplines  <b>Sustainable</b> 3.15 Expenditure on Aboriginal and Torres Strait Islander health compared to need 3.16 Recruitment and retention of clinical and management staff (including GPs)
	<b>Continuous</b> 3.12 Regular GP or health service <i>Next report: Care Planning for clients with preventable chronic diseases</i> <i>Next report: Use of Enhanced Primary Care items on MBS</i>	

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

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achieving the best possible outcomes for Aboriginal and Torres Strait Islander people every time they deal with the health care system or use the services of the health care system".<sup>21</sup> (p. 4) The concept of cultural security underpins the idea of quality. In a paper describing the development of the ATSIHPF, cultural security was framed as:

a commitment to the principle that the construct and provision of services offered by the health system will not compromise the legitimate cultural rights, views, values and expectations of Aboriginal people. It is a recognition, appreciation and response to the impact of cultural diversity on the utilisation and provision of effective clinical care, public health and health systems administration.<sup>21</sup> (p. 4)

However, it is not clear from the reports how cultural security was to be measured. It could have been conceived of as part of the effective, appropriate, responsive and safe domains, although the only measure in the framework that may approximate it is the number of people "voting with their feet", such as discharging themselves from hospitals against medical advice.<sup>21</sup> The construct is not referred to in the first report of the ATSIHPF. The reasons for this are not clear.<sup>22</sup>

The ATSIHPF defines equity as "the state or ideal of being just, impartial, and fair such as everyone having the same chance of good health regardless of who they are, where they live, or their social circumstances".<sup>21</sup> (p. 5) Equity is assessed by comparisons between Indigenous and non-Indigenous Australians for the measures in each domain.<sup>21</sup>

The ATSIHPF in 2006 provided an analysis of the data, an overview of national policies and strategies, and a description of the framework and its underpinning principles.<sup>22</sup> For each indicator or set of indicators, a rationale for its inclusion, a summary of findings and an analysis of the implications of the data were provided.<sup>22</sup>

### ***Indigenous health performance measurement and national health strategy***

The NSFATSIH was endorsed by Australian governments in 2003. It replaced the *National Aborig-*

*inal health strategy* (NAHS).<sup>23</sup> Unlike the NAHS, the NSFATSIH had clearly articulated goals, aims, objectives and key result areas. A process to develop agreed national goals and targets for Indigenous health was commenced but not completed by the time that the NAHS was reviewed in 1994.<sup>24</sup> The goal of the NSFATSIH was to "ensure that Aboriginal and Torres Strait Islander peoples enjoy a healthy life equal to that of the general population that is enriched by a strong living culture, dignity and justice".<sup>25</sup> (p. 6) The NSFATSIH articulates four specific aims, including increasing the life expectancy of Indigenous Australians to a level comparable with non-Indigenous Australians. It also has detailed objectives and action areas in nine key result areas including community-controlled primary health care services; health system delivery; a competent health workforce; emotional and social wellbeing; environmental health; wider strategies that impact on health; data, research and evidence; resources and financing; and accountability.

The underlying presumption of the NSFATSIH is that Indigenous health requires a system-wide response. Its implementation is monitored by the Australian Health Ministers' Advisory Council (AHMAC). A Technical Advisory Group was established within the AHMAC committee structure (reporting to the Standing Committee for Aboriginal and Torres Strait Islander Health) to develop the ATSIHPF.<sup>21</sup> To achieve this, the Technical Advisory Group:

- short-listed measures for policy relevance, based on the policy questions identified by the standing committee for each domain;
- refined the short-list measures with respect to technical merit and feasibility;
- reviewed the selected measures to ascertain if there were any gaps and that there was an appropriate balance of measures across the health performance framework.

### ***Indigenous health performance measurement and other performance frameworks***

The study identified distinct performance measurement frameworks that have been developed in different jurisdictions and institutions. The iden-

tification of these frameworks was limited to those that were publicly available and known to key informants. The Western Australian and Victorian frameworks predate the public release of the ATSIHPE. The Australian Productivity Commission framework uses indicators in common with the ATSIHPE, however, its organising framework is distinct.<sup>26</sup> The Northern Territory Public Health Outcome Funding Agreements has partially harmonised its performance measurement with the ATSIHPE.

In Western Australia, the Department of Health, Government of Western Australia, in collaboration with the West Australian Aboriginal Community Controlled Health Services, produced *Health measures 2005: a report on the health of the people of Western Australia*, which has a section on Aboriginal health and includes demographic indicators, life expectancy, mortality, infant mortality, birth weight, cardiovascular disease, and injury and poisoning data.<sup>27</sup>

The Victorian Department of Human Services (DHS) released its third *Aboriginal services plan key indicators report* (for 2003–04).<sup>28</sup> The purpose of the DHS plan is to improve the health and wellbeing of all Aboriginal Victorians by better focusing departmental resources: the *Aboriginal services plan key indicators report* is an integral part of the regime established for this plan.

Jurisdictional reporting on Indigenous health data is also tied to various intergovernmental agreements, such as the Australian Health Care Agreements, the Aboriginal and Torres Strait Islander Framework Agreements and the Public Health Outcome Funding Agreements. In the Northern Territory, as part of the Public Health Outcome Funding Agreement, performance measures are used to monitor progress in public health outcomes in communicable diseases, cancer screening and health risk factors.<sup>29</sup> The agreement specifically mentions the obligation of both parties to “give appropriate attention to strategies and policies” in this arena as they relate to Aboriginal and Torres Strait Islander peoples.<sup>29</sup> (p. 6) The performance indicators were agreed between the Commonwealth and the Northern Territory governments, and are guided by the

same three-tiered framework as the ATSIHPE, but with indicators selected to reflect the Northern Territory’s specific health goals.

The Productivity Commission also reports Indigenous health indicators in its series *Overcoming Indigenous disadvantage*.<sup>30</sup> In addition to health data, the scope of these reports includes sectors such as education, social outcomes for children, community services, cultural activity, environmental health systems, and economic participation and development. In its third report since 2003 the *Overcoming Indigenous disadvantage* report provides a conceptual framework for its measurement which is framed by the priority outcomes set by the Council of Australian Governments, which are:

- Safe, healthy and supportive family environments with strong communities and cultural identity.
- Positive child development and prevention of violence, crime and self-harm.
- Improved wealth creation and economic sustainability for individuals, families and communities.
- Indigenous health policy and health data development mechanisms.

The National Aboriginal and Torres Strait Islander Health Council (NATSIHC) was established in 1996 to advise the Australian Government’s Minister for Health on Indigenous health policy and planning. Before this, the Council for Aboriginal Health was the only national policy mechanism with a focus on Indigenous health. It was established under the NAHS but only met four times.<sup>24</sup> NATSIHC includes membership from the policy sector, a range of relevant Indigenous organisations and Ministerial nominees. Under its current terms of reference, it shares oversight of the implementation of the NSFATSIH with AHMAC.<sup>31</sup>

AHMAC established the National Advisory Group on Aboriginal and Torres Strait Islander Health Information and Data (NAGATSIHID) in October 2000 to advise the National Health Information Management Group (NHIMG) on strategies to improve the quality and availability of data and information on Aboriginal and Torres

Strait Islander health and health-service delivery, and to draw together the range of existing activities already underway into a coordinated and strategic process.<sup>32</sup> When the National Health Information Group (NHIG) was established in October 2003, the Health Ministers agreed that NAGATSIHID would become a standing committee of, and provide broad strategic advice to, NHIG (now the National Health Information Management Principle Committee). Significantly, NAGATSIHID also includes representation from ACCHS, independent Indigenous advisors and the Indigenous health policy sector. It has a majority of Indigenous members and is chaired by a member of AHMAC.

NAGATSIHID superseded the Aboriginal and Torres Strait Islander Health and Welfare Information Unit Advisory Committee, which previously advised the Australian Bureau of Statistics (ABS) and AIHW on their joint work program on Indigenous statistics. However, the ABS continues to have a distinct advisory process to advise on the development of its Indigenous statistics program.

### ***National performance measurement and health service performance development***

The processes established to improve health system performance include the development of Service Activity Reporting and the related Service Development Reporting Framework, Healthy for Life and initiatives to support continuous quality improvement. These initiatives are focussed on ACCHS. The *Cultural respect framework for Aboriginal and Torres Strait Islander health 2004–2009* (CRFATSIH) is focussed on the broader health system.

ACCHS routinely provide data on activities and outputs through Service Activity Reports (SARs), as required by the funding agreement. The SARs were developed following the transfer of administrative responsibility to the health portfolio. This data collection project was developed in consultation with ACCHS and reporting is undertaken collaboratively by the National Aboriginal Community Controlled Health Organisation and the Office for Aboriginal and Torres Strait Islander

Health (OATSIH).<sup>33,34</sup> Data are reported annually and the framework includes service-level data on Commonwealth-funded health care and health-related activities, as well as issues such as funding, staffing and achievements.<sup>35</sup> Some informants argue that the current indicators do not capture the breadth of the role ACCHS play in Aboriginal communities, and front-line workers doubt the utility of these reports at the service-provision level. Key informants from OATSIH do not fundamentally disagree, but they note that the 2005–06 collection will include a question on “group work”, which may go some way to capturing the non-clinical work of services, even though it still doesn’t capture the extent of this work.

OATSIH has developed a Service Development and Reporting Framework (SDRF) which requires the health service to plan and set aims for the upcoming year and to decide on strategies to accomplish them and ways to measure their progress. Services are allocated funding to apply to areas nominated in their action plans. Services are also given the opportunity to participate in OATSIH-funded continuous quality improvement initiatives. Currently, work is being undertaken to produce a list of voluntary performance indicators against which services may choose to report, commencing in 2007–08. (McKenzie J; Office for Aboriginal and Torres Strait Islander Health, Department of Health and Ageing, Canberra. “Service development reporting framework”. Personal communication; 22 Jan 2007.) The SDRF was piloted with thirty-four Aboriginal Medical Services in 2004–05, with an evaluation suggesting it had been very well received across all sites.<sup>36</sup> It has since been introduced progressively across the sector with full implementation commencing in 2007–08. This process has the potential of integrating local priorities into performance measurement processes. However, as services define their own performance measures, the data cannot be aggregated. Key informants from OATSIH argue that the Service Activity Reports and SDRF have been developed as complementary processes — Service Activity Reports for national policy and SDRF for service-level development and planning.

The Healthy for Life program aims to improve the health of Aboriginal and Torres Strait Islander mothers, babies and children, and the quality of life for people with chronic conditions, ultimately reducing the incidence of adult chronic disease. The development of continuous quality improvement processes has been embedded in this initiative.<sup>37,38</sup> In the Australian Government's 2007–08 budget, \$36.9 million is to be provided over 4 years to further roll-out the development of this quality agenda and, in particular, to enable ACCHS to become accredited.<sup>39</sup> Over the short term (0–4 years) the program aims to: increase first attendance for antenatal care in the first trimester; increase adult and child health checks by 10% per year; and improve best practice service delivery for people with chronic conditions by 30%. Over the longer term (5–10 years) the program aims to: increase mean birth-weight to within 200g of the non-Indigenous population; decrease incidence of low birth-weight by 10%; reduce selected behavioural risk factors in pregnancy by 10%; reduce hospital admissions by 30% for chronic disease complications; and improve the numbers of patients with intermediate health outcomes within the acceptable range by 30%.<sup>7</sup> The measurement framework for Healthy for Life is under development.

However, not all Indigenous Australians attend indigenous-specific primary health services, and the non-primary care component of the system has a significant role in health care. The CRFAT-SIH was developed by AHMAC. It aims to influence the corporate health governance, organisational management and delivery of the Australian health care system. It is underpinned by the assumption that culturally respectful policies and practices will contribute to improved health outcomes for Aboriginal and Torres Strait Islander peoples.

### **Key developments in Indigenous health data**

The most recent review of developments in Indigenous health data concludes that there has been significant progress over the last decade in the availability and quality of statistical information

on Aboriginal and Torres Strait Islanders.<sup>40</sup> The Census of Population and Housing is a key source of Indigenous population data. Since 1995 the ABS has adopted a standard question for identifying Australian Indigenous peoples based on self-identification of Aboriginal or Torres Strait Islander origin; respondents are now able to answer “yes” to both.<sup>40</sup> The census collects information on place of residence, language, housing and household composition, income, education and employment.<sup>41</sup>

In 1997 the ABS reviewed its household survey program and developed a strategy for Indigenous statistics. This involves a range of different data collection strategies, but the key elements are a 6-yearly National Aboriginal and Torres Strait Islander Social Survey and Health Survey and the identification of Aboriginal and Torres Strait Islander people in the Labour Force Survey (to provide broad employment data in the intercensal period).<sup>40</sup>

The National Aboriginal and Torres Strait Islander Social Survey (NATSISS) was first performed in 1994 and then again in 2002 when it was reportable down to broad regional levels.<sup>42</sup> The complementary General Social Survey provides comparable information for non-Indigenous Australians. NATSISS provides information on culture and language, removal of Indigenous peoples from their natural families, self-reported health, education, employment, income, housing, law and justice (including experiences of physical violence), family and community attachments (including supports and stressors), and smoking and alcohol consumption.

The National Health Survey (NHS), which was first performed in 1977, did not include an Indigenous identifier until 1989, and did not have sufficient statistical power to report on Indigenous outcomes until 1995.<sup>43,32</sup> The latest published cycle in 2001 provides national-level information on self-reported health measures, health-service use and lifestyle factors that affect health.

There are other surveys which have expanded the availability of Indigenous health data, such as: the ABS's Community Housing and Infrastructure



Needs Survey conducted in 2001 and 2006; Bettering the Evaluation of Care of Health survey (which provided information on general practice consultations); National Drug Strategy Household Survey (every 2–3 years from 1985); and the Western Australian Aboriginal Child Health Survey (2001–2002).<sup>40,44</sup>

There are a number of other data sources relevant to Indigenous health. States and territories are responsible for reporting on the National Minimum Data Sets (NMDS). Indigenous status is recorded in the following NMDS: admitted patient care; child protection notifications; admitted patient palliative care; admitted patient mental healthcare; Aged Care Assessment Program; housing-related data collections; disability; Home and Community Care and the Supported Accommodation Assistance Program.<sup>45</sup> Cancer registries which are jurisdictionally based also collect Indigenous data. The jurisdictionally based vital statistics agencies collect data on Indigenous births and deaths.

### **Data quality**

Recent changes in the census counts of the Indigenous population cannot be fully explained by natural increase. For example, between 1991 and 1996 the number of Indigenous people increased by 33%, with 14% attributed to natural increase and 19% to other factors (such as increased census awareness, and field and editing procedures). Between the census years 1996 and 2001 there was an increase of 16%, with 12% due to natural increase and 4% to other factors.<sup>40</sup>

With respect to birth data, the ratio of recorded Indigenous births to the number expected (using experimental population estimates) was 90.8% across Australia for the period 1998–2003. The ratio of recorded Indigenous deaths to the number expected from experimental population estimates was 58% nationally for the years 1999–2003. Currently, the coverage ratio for Indigenous deaths is deemed to be acceptable in four jurisdictions: Western Australia, South Australia, Queensland and the Northern Territory (which encompasses 60% of the Indigenous population).<sup>40</sup>

There are no national estimates of completeness of coverage of Indigenous identification in hospital separations data — although there have been studies of the under-identification of Indigenous status in some hospitals and others that suggest that the quality of data varies between jurisdictions.<sup>40</sup> Recent AIHW work recommends that analysis should be undertaken only using data from the NT, WA, SA and Qld.<sup>40</sup>

In 2004, Indigenous identification in communicable diseases notifications was considered to be adequate (more than 60% coverage) for the NT (92%), SA (89%) and WA (64%). While the ascertainment of cancer cases is almost complete in all jurisdictions' cancer registries, none have complete Indigenous identification. South Australia and the NT have undertaken projects to identify all Indigenous cases, but only the NT has an estimated completeness (with an underestimate of 18%).<sup>40</sup> There are significant differences between jurisdictions in the quality of recording of Indigenous status. Some states/territories are not able to publish data because of poor quality. As an example, cancer data are only reported as reliable from WA, the NT and Qld.<sup>46</sup>

### **Discussion**

Over the last decade the developments in the national Indigenous health performance measurement and management system have been significant — notwithstanding the challenges that remain. Before, this performance measurement was focussed only on ACCHS. The new approach is system-wide underpinned by a conceptual framework that is aligned with the goals, aims and objectives of the NSFATSIH — unlike the previous regime.

The Canadian framework, which shaped ATSIHPE, is multi-tiered and uses an approach to health performance that integrates a health determinants model.<sup>47</sup> The Australian framework has been described as non-hierarchical, in that the different tiers do not nest within lower or higher levels of the health system. Rather, the relationships between the different components have been characterised as relational “as it pays atten-

tion to other contextual variables that may considerably influence health care inputs, process, outputs or outcomes”<sup>7</sup> (p. 386). Further work is required to evaluate the efficacy of this framework as a tool in improving system performance.

Our review identified one jurisdictional performance measurement framework that was partially harmonised with the ATSIHPF — not surprising given the timing of its development. It may be important that future developments in performance measurement are aligned with the ATSIHPF. Arguably, this may minimise the resource burden on the performance measurement process, reduce inconsistencies in measurement and enhance the integration of national and jurisdictional strategy. On the other hand, the program logic underpinning different frameworks does not necessarily cause them to nest within each other. The Productivity Commission’s approach, for example, deliberately focuses on inter-sectoral activity as opposed to the dominance of health system within the ATSIHPF.

Further conceptual work is needed to clarify how key concepts such as cultural security or equity are to be measured. It is not clear from the documents whether there is a commitment for the further application of cultural security. However, if the *Cultural respect framework* is to be further developed as a tool for mainstream system development it will be necessary to develop this construct further. Likewise, if the ATSIHPF is to be used in assessing whether services are provided on the basis of need, further work is required to reach a consensus on the measurement of need.

Notwithstanding the improved availability of Indigenous health data, there are a number of priorities for data development. The 2006 ATSIHPF summarises the key data limitations as under-identification in administrative data collections; variations in data quality between jurisdictions; the inconsistent application of the nationally agreed standard wording for Indigenous status; and the lack of an identifier for Indigenous fathers in the national perinatal data. The changing census counts present a very significant challenge — particularly with respect to

monitoring trends through time. To that end, the ABS’s Indigenous enumeration strategy, which includes a mix of special collection procedures (such as forms designed for use in remote communities) and awareness-raising activities, is critically important.<sup>40</sup>

The development of the conceptual framework for the ATSIHPF has the potential to guide data development priorities. Formal policy mechanisms are in place to support this — although a review of this nature could not test the efficacy of these relationships. Further, work should be undertaken using this ATSIHPF data framework for comprehensive review of existing systems such as the ABS survey program.

The link between performance measurement and performance improvement needs to be strengthened. This relationship is poorly understood and researched in other contexts.<sup>7</sup> SAR data is reported at an aggregate level which potentially can inform policy and funding initiatives. The development of the SDRF has the potential to shape the development of local-level service reporting. The direction of local service-level reporting has a potential role in the development of local service quality and responsiveness. The Healthy For Life program has the potential to drive the development of quality improvement processes across the sector. However, ACCHS are diverse organisations with a range of different services. A quality improvement agenda framed by maternal and child health and chronic diseases may not have sufficient breadth. Issues of service capacity will be critical for sustainability.

Perhaps the biggest gap is with respect to the mainstream health sector. There may be jurisdictional initiatives that we did not identify because of the scope of this review. However, the *Cultural respect framework* is a high-level policy framework that fails to articulate a nationally coherent approach to performance improvement including performance drivers. Consideration should also be given to the role of benchmarking and target setting, the creation of incentives, and continuous quality improvement and accreditation in the mainstream health sector in performance improvement for Indigenous health.

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## Competing interests

The authors declare that they have no competing interests. Ian Anderson was a member of the Technical Advisory Group, which advised on the development of the Aboriginal and Torres Strait Islander Health Performance Framework.

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