Towards national indicators of safety and quality in health care

Support Project

A focus on primary health care

February 2009
Abbreviations

ACSQHC  Australian Commission on Safety and Quality in Health Care
AHRQ   Agency for Healthcare Research and Quality
AIHW   Australian Institute of Health and Welfare
ANZDATA Australia and New Zealand Dialysis and Transplant Registry
ASD    Annual Survey of Divisions of General Practice
BEACH  Bettering the Evaluation and Care of Health
GP     general medical practitioner
GPRN   General Practice Research Network
MBS    Medicare Benefits Schedule
NIAG   National Indicators Advisory Group
NHMD   National Hospital Morbidity Database
NHPC   National Health Performance Committee
NPS    National Prescribing Service
OECD   Organisation for Economic Cooperation and Development
NHS    National Health Survey
PIP    Practice Incentives Program
PPH    Potentially preventable hospitalisations
ROGS   Report on Government Services
URTI   upper respiratory tract infection

Acknowledgements

The Australian Commission on Safety and Quality in Health Care (the ACSQHC) has funded a major project being undertaken by the Australian Institute of Health (AIHW) to develop national indicators of safety and quality in health care. This is a report prepared in conjunction with the major project.

This report was prepared by staff of the Health Care Safety and Quality Unit at the Australian Institute of Health (AIHW) as well as other AIHW staff. Many people provided helpful comment on aspects of the report including staff from Australian Commission on Safety and Quality in Health Care (ACSQHC), in particular the Primary Care Committee, and members of the National Indicators Advisory Group.
Summary

The finalisation of the discussion paper, *Towards National Indicators of Safety and Quality in Health Care (National Indicators)* completed the first stage of a major project to develop a proposed set of national indicators of safety and quality in health care. The Australian Commission on Safety and Quality in Health Care (ACSQHC; Commission) has provided funding for the project which is being undertaken by the Australian Institute of Health and Welfare (AIHW) in close consultation with the Commission.

The original version of this report was supplementary to the *National Indicators* discussion paper and provided further detail on the proposed national indicators which related specifically to primary health care. This included information on the use of the indicator as well as sources of data together with an assessment of the quality of data. Issues relating to the interpretation of the indicator and developments which could improve reporting were also discussed.

In addition, the report provides information on a survey undertaken of sources of indicators of safety and quality in primary health care (both Australian and International). The suitability of including these indicators in the national set is discussed. An assessment has been undertaken of eleven data sources which are available to support the development of national indicators of primary health care safety and quality. Different methods of analysing and presenting primary health care indicators are discussed in the report and examples are provided.

Consultation on the proposed set of national indicators of safety and quality in health care based on these papers closed on February 6, 2009. This ‘refreshed’ version of the supplementary primary health care paper incorporates some initial findings from the consultation feedback, including some changes to the indicators included.

There have also been further developments through the COAG process, with the indicators to be reported as part of the National Health Care Agreement (NHCA) having now been agreed. It was agreed at the December meeting of the NIAG that for any indicators included in the NHCA which also are part of the proposed national safety and quality set, the same specifications will be used, namely the NHCA specifications.

The subset of the final recommended set of national safety and quality indicators which relate specifically to primary health care are listed in Table 1. They have been mapped to the specific primary care setting, and the five dimensions of safety and quality used in the *National Indicators* discussion paper. It should be noted that this report includes only those indicators where the sole or dominant setting is primary health care, and thus does not include all indicators from *National Indicators* where primary health care is included as one of multiple applicable settings (eg ‘Failure to diagnose’ is not included here)
<table>
<thead>
<tr>
<th>Indicator title</th>
<th>Primary health care setting</th>
<th>Safe</th>
<th>Appropriate</th>
<th>Effective</th>
<th>Continuous</th>
<th>Responsive</th>
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<tr>
<td>Selected potentially preventable hospitalisations</td>
<td>General Practice</td>
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<td>Chronic disease management in General Practice</td>
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<td>GPs with a register and recall system for patients with chronic disease</td>
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<td>People with moderate to severe asthma who have a written asthma plan</td>
<td>General Practice</td>
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<td>Management of hypertension in General Practice</td>
<td>General Practice</td>
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<td>Pain management for chronic musculoskeletal conditions</td>
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<td>Annual cycle of care for people with diabetes mellitus</td>
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<td>End stage renal failure in patients with diabetes</td>
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<td>Lower-extremity amputation in patients with diabetes</td>
<td>General Practice</td>
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<td>Mental health care plans in general practice</td>
<td>General Practice</td>
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<td>Inappropriate co-prescribing of medicines</td>
<td>General Practice</td>
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<td>People receiving a medicine review</td>
<td>General Practice</td>
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<td>Quality of Community Pharmacy Services</td>
<td>Community Pharmacy</td>
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<td>Accreditation of health care services</td>
<td>General Practice</td>
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<td>Patient experience</td>
<td>General Practice</td>
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Based on feedback received through the consultation process the following indicators that were proposed have not been in this final recommended set:

**Indicator title**
- Decayed, Missing And Filled Teeth among primary school children
- Eye testing for target population
- Appropriate use of antibiotics in General Practice for Upper Respiratory Tract Infection
- Survival from out-of-hospital cardiac arrest following ambulance service intervention
- Treatment of depression in primary care

Some of these have been replaced as follows:

- **Dental indicator(s)** – we will recommend that future development of a dental indicator or indicators be undertaken in consultation with expert groups, such as the RACDS and ADA, for the safety and quality of hospital based and primary care dental services.

- **Ambulance indicator(s)** – the Council of Ambulance Authorities is currently working with the SCRGSP to develop a number of indicators to be included in future ROGS reports, some of which relate to the safety and quality of ambulance services.

- ‘Treatment of depression in primary care’ has been replaced with the alternative indicator ‘Mental health care plans in general practice’ which has been included in the set of indicators recently endorsed by Health Ministers as part of the COAG process.
1 Introduction

This report is a companion document intended to be read in conjunction with the discussion paper, *Towards National Indicators of Safety and Quality in Health Care*. It provides further information and issues for consideration on the proposed national indicators which relate specifically to primary health care.

This chapter provides background to the development of the *National Indicators* project in relation to the broader role of the Commission in leading and coordinating improvements in safety and quality in health care in Australia. It briefly describes the methods used in the *National Indicators* project covering the planned scope of the indicator set, the definitions of safety and quality and a framework for the assessment of the coverage of the indicators.

1.1 Background

**National Indicators of Safety and Quality in Health Care**

The preparation of this report was undertaken as part of the first stage of a major project to develop national indicators of safety and quality in health care. The Australian Commission on Safety and Quality in Health Care (ACSQHC; Commission) is funding the project and it is being undertaken by the Australian Institute of Health and Welfare (AIHW) in close consultation with the Commission. The discussion paper, *Towards National Indicators of Safety and Quality in Health Care*, has been made available to interested stakeholders to inform consultation on the proposed national indicators until February 6, 2009.

Health ministers established the Australian Commission on Safety and Quality in Health Care (ACSQHC; Commission) in 2006 with a broad charter to improve safety and quality across the health care system in Australia. *National Indicators* is a major project to assist the Commission to develop summary information that can be used to support national and international benchmarking and to monitor Australia’s performance in safety and quality. Indicators are being developed in consultation with stakeholders for use by the Commission to report publicly on the state of safety and quality, including performance against national standards.

The 58 proposed indicators in the *National Indicators* discussion paper span the health care system and provide a broad coverage of the dimensions of safety and quality and categories of health care need. They also cover major health care settings, the national health priority areas, major areas of health expenditure and conditions that contribute substantially to the burden of disease in Australia.

The *National Indicators* discussion paper has formed the basis for consultation with interested individuals and organisations. The AIHW will refine the indicator set and provide recommendations to the Commission in early 2009.
National Indicators of Safety and Quality in Primary Health Care

The report *Towards national indicators of safety and quality: A focus on primary health care* (Primary Health Care paper) was prepared to inform more detailed consideration of the proposed national safety and quality indicators relating to primary health care. It describes existing Australian and international primary health care indicators and highlights current work relating to the safety and quality of primary health care. The indicators may form part of indicator sets dealing specifically with the primary health care sector or they may belong to sets considering several health care sectors.

A survey of sources of data which could potentially be used to develop indicators of primary health care has also been undertaken. The data items which are relevant to safety and quality, advantages/disadvantages, and limitations of a number of data sources are discussed.

An assessment of the coverage of the primary health care indicators by dimension of quality, primary health care setting, National Health Priority Area, and burden of disease has been undertaken.

A range of data presentation issues and methods relating to primary health care indicators have been considered, including the use of geographical mapping techniques. Data for a selection of the primary health care indicators is presented using a variety of presentation methods.

1.2 Method

This section briefly outlines methods used in the National Indicators project, with specific relevance to primary health care. It covers the scope of the indicators considered, the definitions of safety and quality, and the framework used for assessment of the proposed indicator set in terms of its coverage and comprehensiveness.

Scope

The scope of the proposed safety and quality indicators in the National Indicators project is the health care system in Australia, which covers the entire spectrum of health care. The following definition of the scope for the project was endorsed by the National Indicators Advisory Group (NIAG) which was established in February 2008 to provide advice, information, expertise and critical thought, and to act as a sounding board for the National Indicators project:

“settings in which clinical care is delivered by registered practitioners where the primary purpose of the setting is health care”.

‘Clinical care’ was clarified as health care provided to patients. The definition clearly includes primary health care. A definition of primary health care has not been specified for this report. In considering which health care services constitute primary health care, contained within the often quoted definition of primary health care from the World Health Organisation’s Declaration of Alma-Ata is the phrase, “…first level of contact…” (WHO 1978). This concept forms the basis of a number of definitions of primary health care in common use, including, “Health care that begins at the time of first encounter between a patient and a provider of health care…” (Last 2007). Therefore, for this report primary health
care services are broadly considered to be those which provide the first contact between an individual seeking advice or treatment and the health care system.

In addition to being the first contact with the health care system, primary care practitioners can:

- Provide health improvement, diagnostic, and illness care
- Provide health promotion and disease prevention services
- Provide a gateway to, and coordination of, the patient’s care needs that will be provided through other health care services

(Saltman et al 2006, CIHI 2006)

In Australia, the primary health care sector is that part of the health care system which is most frequently accessed, and most frequently involves services provided by general medical practitioners (GPs). GPs act as ‘gatekeepers’ to the wider health care system through assessment and referral from primary care services to, for example, secondary and tertiary care. GPs, therefore, play a pivotal role in the coordination and continuity of care for patients (SCRGSP 2008, Duckett 2007). As well as GPs, primary health care services are delivered by a variety of other health professionals including: specialist medical practitioners, nurses, pharmacists, dentists, and other allied health professionals.

In this report, the concepts ‘primary health care’ and ‘primary care’ are used synonymously, even though these terms are assigned separate definitions in some of the literature reviewed. Where a distinction is made between the two concepts, ‘primary health care’ describes a wider, inter-sectoral, approach, whereas ‘primary care’ describes the patient-professional interaction when first contact is made with the health care system.

Definitions

Safety

For this project, the definition of safety used is that adopted by the National Health Performance Committee (NHPC 2001: 17), namely:

“the avoidance or reduction to acceptable levels of actual or potential harm from health care or the environment in which health care is delivered”.

Quality

There is no universally accepted definition of quality of health care. A common theme is that quality is about making the system better. Runciman et al. defines it as ‘the extent to which a health care service or product produces a desired outcome/s’ (Runciman et al. 2007: 297).

Quality is a multi-faceted concept which is often described in terms of its constituent dimensions, which are referred to as the quality domains. Typically, the definition of quality used is customised to fit the particular purpose for which the definition is needed.

For the purposes of the National Indicators project, NIAG decided that the indicator set should focus on four quality domains as defined in the National Health Performance Framework (NHPC 2001):

1. Appropriateness – ‘care/intervention/action provided is relevant to the client’s needs and based on established standards’
2. Effectiveness – ‘care, intervention or action achieves desired outcome’

3. Continuity of care – ‘ability to provide uninterrupted, coordinated care or service across programs, practitioners, organisations and levels over time’

4. Responsiveness – ‘service provides respect for persons and is client orientated, including respect for dignity, confidentiality, participation in choices, promptness, quality of amenities, access to social support networks and choice of provider’

Two other possible dimensions of quality (capability and sustainability) can also be considered but have a lower priority. However, aspects of capability (an individual’s or service’s capacity to provide a health service based on skills and knowledge) and sustainability (system’s or organisation’s capacity to provide infrastructure such as workforce, facilities and equipment, and to be innovative and respond to emerging needs (research, monitoring)) were expected to be reflected in some of the process and structure indicators in the proposed set.

Although the dimension of efficiency can be regarded as important in consideration of quality of care, it was not specifically included.

Access and Equity

Accessibility is defined by the NHPC as the ability of people to obtain health care at the right place and right time irrespective of income, cultural background or physical location. Accessibility was not specifically focused on as a dimension of quality for the National Indicators project. NIAG initially agreed that it would be but subsequently formed the view that it should be excluded.

Equity has not been considered as a separate dimension of quality. Rather, it is regarded as a characteristic which is relevant to all dimensions of safety and quality, consistent with the approach taken in the National Health Performance Framework. Equity is assessed by calculating and comparing values of the indicators for specific population or patient subgroups. The subgroups include Indigenous and non-Indigenous people, different socio-economic groups, and residents of cities, rural and remote areas. Not all indicators are amenable to this type of analysis, which is referred to as data disaggregation. This is discussed in further detail in Chapter 5.

Framework for the indicators

A framework for the proposed safety and quality indicator set was used to assess the coverage of the health care system and of the different dimensions of quality. The framework incorporates the relevant dimensions of quality from the National Health Performance Framework and categories of ‘health care needs’ based on the framework used by the OECD for its Health Care Quality Indicator project. It is depicted in Figure 1.1.

The ‘health care needs’ view of the health care system focuses on health consumers and their health care needs. The broad categories used are healthy start, staying healthy, getting better, living with illness/disability and coping with end of life. Two of these relate to stages of a person’s life (healthy start and coping with end of life) while the other three reflect the nature of a person’s interaction with the health care system.

A measure of the coverage of the indicator set is provided by the extent to which it covers the major burden of disease and injury areas. The eight disease and injury areas having the greatest level of contribution to the burden of disease and injury are: cancer, cardiovascular
disease, mental disorders, neurological and sense disorders, chronic respiratory diseases, injuries, diabetes and musculoskeletal diseases (AIHW2008a)

A measure of policy relevance is the coverage of the seven National Health Priority Areas, which have been endorsed by the Australian Health Ministers' Advisory Council. They are arthritis and musculoskeletal conditions, asthma, cancer control, cardiovascular health, diabetes mellitus, injury prevention and control, and mental health.

Ideally, the development of this framework would have occurred with reference to current National primary health care priority areas. However, these have yet to be clearly defined. There are a number of key reform processes which are currently underway in this area:

- National Primary Care Strategy
- Council of Australian Governments Health and Ageing Working Group
- National Health and Hospitals Reform Commission
- Preventative Health Taskforce
- Review of Maternity Services

The findings and recommendations of these various reform processes will need to be taken into account in future development of National safety and quality indicators which relate to primary health care.
Figure 1.1: Framework for health care safety and quality indicators

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<thead>
<tr>
<th>Health care needs</th>
<th>Safety</th>
<th>Appropriateness</th>
<th>Effectiveness</th>
<th>Responsiveness</th>
<th>Continuity of Care</th>
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<tbody>
<tr>
<td>Healthy start</td>
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<td>Staying healthy</td>
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<td>Getting better</td>
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<td>Living with illness or disability</td>
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<td>Coping with end of life</td>
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- **Safety and Quality**
  - Primary health care settings
  - National health priority areas
  - Burden of disease

- Equity
1.3 Structure of this report

This report has been organised into 6 chapters. This chapter (Chapter 1) provides a brief overview of the background to a methods used in the National Indicators project, as they relate to primary health care.

Chapter 2 presents a survey of indicators of safety and quality in primary health care and the organisations involved, both locally and internationally. The coverage of the indicators across the safety and quality domains and primary health care settings has been assessed. In addition, brief discussion of current work relevant to safety and quality in primary health care in Australia is included, such as the Royal Australian College of General Practitioners quality framework and accreditation standards.

A review of Australian data sources which could potentially be used to report on the subset of indicators proposed in National Indicators which relate to primary health care is presented in Chapter 3. This chapter draws on the work undertaken by the AIHW for the report Review and evaluation of Australian information about primary health care: a focus on general practice (AIHW 2008).

Chapter 4 provides a more detailed discussion of the recommended indicators which are included in the National Indicators set which are of particular relevance to primary health care. The further discussion included in this chapter is designed to augment rather than replace the indicator summaries included in the National Indicators report. This includes information on the use of the indicator (both locally and internationally), data sources and data quality, issues with the interpretation of the indicator and developments which could improve reporting for this indicator.

Chapter 5 provides examples of the different methods used to disaggregate and present primary health care indicators to provide information about specific population or provider groups.

Finally, Chapter 6 used readily available data for a selection of the primary health care safety and quality indicators from the proposed National Indicators set to demonstrate how these can be reported.
2 Survey of existing safety and quality indicators in primary health care

A survey has been undertaken to identify safety and quality indicators relating specifically to primary health care. These indicators can be contained within larger indicator sets covering multiple health care settings, or within indicator sets specifically dealing exclusively with primary health care.

A full list of the primary health care indicators considered, and their source, can be found in Appendix 1

2.1 Sources of primary health care indicators in Australia

This section details existing sources of primary health care indicators and other relevant work/programs relating to safety and quality in primary care. The number of indicators which are within the scope of the National Indicators project is specified. They are those they can be mapped to the five safety and quality domains (‘safety’, ‘appropriateness’, ‘effectiveness’, ‘continuous’, and ‘responsive’).

Royal Australian College of General Practitioners

The Royal Australian College of General Practitioners (RACGP) has developed a quality framework for Australian general practice centred on six broad areas which are seen to have the biggest influences on quality in general practice: capacity, competence, financing, knowledge and information management, patient focus, and professionalism. The framework recognises six domains of quality: Acceptability, Accessibility, Appropriateness, Effectiveness, Efficiency, and Safety (RACGP 2005).

The RACGP have also developed 15 national standards and 44 criteria for the general practice accreditation process. Each criteria contains between one and twelve ‘indicators’ relating to that criteria. (RACGP 2007)

Most of the ‘indicators’ relate to structures and processes that occur within a specific general practice. As these indicators are specifically designed for implementation and management of safety and quality at the practice level, as a part of the process of accreditation of general practices, the ability for these indicators to be operationalised and reported nationally as safety and quality indicators is uncertain.

National Health Performance Committee

The National Health Performance Committee (NHPC) was established by the Australian Health Ministers’ Conference (AHMC) in 1999, and has been responsible for the
development and maintenance of a national health performance framework, the support of benchmarking for health care systems improvement, and the provision of information on national health care system performance (NHPC 2004). From July 2008, the functions of the NHPC were assumed by the new National Health Information Standards and Statistics Committee (AIHW 2008c).

The NHPC has developed a set of 44 indicators of the performance of the Australian health care system. The indicators were most recently published as part of the AIHW publication, *Australia’s Health 2008*.

Of the 44 indicators included in the NHPC set, 7 can be considered to be in scope for this report. All the indicators relate to general practice.

**Divisions of General Practice**

The Divisions of General Practice (DGP) were established in the early 1990s to provide a national infrastructure for the integration of various elements of the primary health care system, in order to improve the overall quality of primary health care in Australia (DoHA 2005a, Great Southern GP Network 2008).

The Australian Government introduced a National Quality and Performance System (NQPS) for Divisions of General Practice in 2005. Currently, the NQPS is still under development. One component of the NQPS is a set of 52 national quality and performance indicators which span the following government priority areas: governance; prevention and early intervention; access; integration; and chronic disease management (Gardner et al 2008).

Of these, six indicators can be considered to be in scope for this report. ‘Appropriateness’ is the dimension of quality which is most frequently represented amongst these indicators, and half of the indicators are related to processes. All of the NQPS relate to general practice and none of the indicators relates to the dimensions of quality of ‘safety’ or ‘responsiveness’.

**Steering Committee for the Review of Government Service Provision**

The Steering Committee for the Review of Government Service Provision (SCRGSP) was established in 1994. Its two main tasks were to develop agreed national performance indicators for government services (which are published in the annual Report on Government Services (ROGS)), and to analyse service provision reforms (Productivity Commission 2008). The Committee now operates under the auspices of the Council of Australian Governments.

The annual ROGS report currently includes 21 performance indicators for government services relating to various sectors of the Australian health care system, including primary health care, and 11 can be considered to be in scope for this report. These indicators were most recently published in the *Report on Government Services 2008*. The indicators focus on the dimensions of ‘appropriateness’ and ‘effectiveness’. All but one of these indicators relates to general practice and six are outcome indicators.
National Prescribing Service

Australia’s National Medicines Policy was released in 1999. The National Prescribing Service (NPS) administers the Quality Use of Medicines (QUM) program (DoHA 2008a) which has as its primary objective the judicious, appropriate, safe and efficacious use of medicines.

The NPS has developed a set of 21 quality indicators which were published in the report, *Indicators of Quality Prescribing in Australian General Practice*. These indicators have been developed for use by individual GPs, using their own practice patient data, and utilise a survey format. The detailed survey information is not currently published (NPS 2006, NPS 2008).

Ten of these indicators can be considered to be in scope for this report. All but two are related to the dimension of quality of ‘appropriateness’ and all are process indicators. All of the NPS QUM indicators relate to general practice and no indicator relates to the quality dimension ‘responsiveness’.

Australian Primary Care Collaborative

The Australian Primary Care Collaborative (APCC) is a program which aims to improve the delivery and quality of primary health care in Australia. The goals of the APCC are to assist general practitioners, and other primary health care providers, to work together to:

- Improve patient clinical outcomes
- Help maintain good health for patients with chronic and complex conditions
- Promote a culture of quality improvement in primary health care

There is a particular emphasis on the use of electronic practice management systems to improve the effectiveness and efficiency of delivery of primary health care.

The first phase of the APCC programme has focused on the areas of diabetes, secondary prevention of coronary heart disease, and improved access to primary health care services. The APCC program includes a set of 14 indicators which relate to these areas of focus. Ten of these indicators can be considered to be in scope for this report. Six indicators are related to the quality dimension of ‘appropriateness’ with the other four relating to ‘effectiveness’. All of the APCC indicators relate to general practice. There are six process and four outcome indicators.

National Advisory Committee on Oral Health


The goals of the *National Oral Health Plan* are to improve oral health status across the Australian population by reducing the incidence, prevalence and effects of oral disease, and to reduce the inequalities in oral health status across the Australian population. The Plan lists 70 proposed performance indicators relating to dental health care, which are still being developed (NACOH 2004).
Of the 70 indicators, all relate to dental health, nine can be considered to be in scope for this report. All of these indicators are related to the quality dimensions of both ‘appropriateness’ and ‘effectiveness’, and all relate to dental practice.

**Research Centre for Primary Health Care and Equity**

In 2006 the Research Centre for Primary Health Care and Equity (University of NSW) published the report, *Identifying and reviewing primary care and community care performance indicators: A mapping project for the National Health Performance Committee*. This report provides a comprehensive overview of primary health care indicators in Australia and internationally. The report authors identified 258 indicators as relating to primary health care. An analysis was undertaken which mapped these 258 indicators to the following dimensions of quality: accessible (13%), responsive (9%), continuous (3%), appropriate (18%), effective (22%), efficient (10%), safe (1%), capable (7%) and sustainable (18%) (RCPHCE 2006).

**Australian Institute of Health and Welfare**

The report, *Review and evaluation of Australian information about primary health care: a focus on general practice* (AIHW 2008j), provides a detailed assessment of the usefulness and quality of existing Australian data collections which provide information specifically relating to primary health care with a focus on general practice. Some of the general findings were that, “…although several Australian collections contain information relevant to general practice, the extent and usefulness of these data for meeting priority information needs is variable. In order to improve the data environment, take advantage of advances in information technology and build on the capabilities of existing data collection systems, we need to take stock of what exists now, consider what is needed for the future, and determine the most effective and efficient ways of moving forward.” This work is discussed further in Chapter 3.

**2.2 Sources of primary health care indicators internationally**

A range of existing international indicators which relate specifically to the primary health care sector were identified. This section presents a brief discussion regarding the sources of the international primary health care indicators of relevance to safety and quality.

**Agency for Healthcare Research and Quality**

The Agency for Healthcare Research and Quality (AHRQ) is a US Federal agency, created in 1989, to improve the quality, safety, efficiency and effectiveness of health care in the USA (AHRQ 2008a).
The AHRQ have developed health care quality indicators which have been organised into four modules: Prevention Quality Indicators (PQIs), Inpatient Quality Indicators (IQIs), Patient Safety Indicators (PSIs), and Paediatric Quality Indicators (PDIs). These indicators can be reported either at the local, state or national level.

The Prevention Quality Indicators (PQI), published in the AHRQ report, Guide to Prevention Quality Indicators, comprise 16 indicators. Some are reported in the annual AHRQ National Healthcare Quality Report (AHRQ 2008a, AHRQ 2007).

Nine of these indicators can be considered to be in scope for this report. All of these indicators are related to the quality dimensions of both ‘appropriateness’ and ‘effectiveness’. All of these indicators are related to outcomes and all relate to general practice.

Organisation for Economic Cooperation and Development

The Organisation for Economic Cooperation and Development (OECD) is undertaking the Health Care Quality Indicators (HCQI) Project. The aim is to develop indicators which can be used to produce a picture of health care quality, which can be meaningfully reported across countries using comparable data (Arah et al 2006).

The HCQI project has produced several reports which contain indicators of relevance to primary health care including: Selecting Indicators for the Quality of Health Promotion, Prevention and Primary Care at the Health Systems Level in OECD Countries (27 indicators); Selecting Indicators for the Quality of Diabetes Care at the Health Systems Level in OECD Countries (9 indicators); and Selecting Indicators for the Quality of Mental Health Care at the Health Systems Level in OECD Countries (12 indicators). However, the HCQI project is currently still in the development phase (Kelley & Hurst 2006).

Twelve indicators can be considered to be in scope for this report. Eight indicators are related to the quality dimensions of both ‘appropriateness’ and ‘effectiveness’. None of these indicators are related to the quality dimensions of ‘safety’ or ‘responsiveness’, and seven of the indicators are related to outcomes. All of these indicators are related to general practice.

Canadian Institute of Health Information

The Canadian Institute of Health Information (CIHI) was created in 1994, to develop and maintain Canada’s comprehensive health information system. The CIHI has published indicators relevant to primary health care in reports including Health Indicators 2007 and Pan-Canadian Primary Health Care Indicators Report (CIHI 2008).

A major focus of its work has been the Pan-Canadian Primary Health Care Indicator project. A key objective was to identify agreed indicators which could be used to measure and compare important elements of the structure, process and outcomes of primary health care across Canada. A set of 105 indicators were developed as part of this project (CIHI 2006), but most have yet to be introduced.

Nine indicators can be considered to be in scope for this report. Four indicators are related to the quality dimensions of both ‘appropriateness’ and ‘effectiveness’. None are related to the quality dimensions of ‘continuous’ or ‘responsive’, and six represent outcomes. All of these indicators are related to general practice.
New Zealand Ministry of Health

The Ministry of Health and District Health Boards produce an annual report relating to the performance of the health system in NZ. The most recent is Health Targets 2007/08. The aim of the program is to improve health outcomes over time by focusing on priority areas. Health care performance is measured through the use of various indicators which relate to identified priority areas. The current priority areas include: addressing the chronic disease burden, child and youth services, health of older people, primary health care, infrastructure, and value for money (NZ MOH 2007).

Five indicators can be considered to be in scope for this report. All indicators relate to the dimensions of quality of either ‘effectiveness’ or ‘appropriateness’ with one relating to both of these. The quality dimensions of ‘safety’ and ‘responsiveness’ are not represented. All but one of these indicators relates to general practice.

Commission for Healthcare Audit and Inspection

Also known as the Healthcare Commission, the UK Commission for Healthcare Audit and Inspection is an independent agency which was created in 2004 to promote and drive improvement in the quality of health care and public health in the UK.

Several indicator sets have been developed for the various ‘Trusts’ which deliver health care across the UK: Acute care trusts, primary care trusts, mental health trusts and ambulance trusts.

Of the 37 primary care trust indicators there are two indicators that can be considered to be in scope for this report. Both related to the quality dimension of ‘appropriateness’ with one also being related to ‘safety’ and ‘continuity of care’. “Effectiveness’ and ‘responsiveness’ are not related to these indicators. There is one process and one outcome indicator and both are related to general practice.

2.3 Summary findings

The below tables provide summary information on the coverage of the dimensions of safety and quality, of primary health care settings, and of indicator type by the local and international sets we have reviewed, for those 80 indicators which were identified as being in scope for this report.

Table 2.1: Distribution of primary health care indicators by dimensions of safety and quality

<table>
<thead>
<tr>
<th>Dimension of Quality&lt;sup&gt;(a)&lt;/sup&gt;</th>
<th>Safety</th>
<th>Appropriateness</th>
<th>Effectiveness</th>
<th>Responsive</th>
<th>Continuity of Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>4</td>
<td>74</td>
<td>56</td>
<td>1</td>
<td>13</td>
</tr>
</tbody>
</table>

<sup>(a)</sup> An indicator can be associated with more than one dimension of safety and quality

Table 2.2: Distribution of primary health care indicators by primary health care setting

<table>
<thead>
<tr>
<th>Primary Health Care Setting&lt;sup&gt;(a)&lt;/sup&gt;</th>
<th>General practice</th>
<th>Dental</th>
<th>Allied health</th>
<th>Optometry</th>
<th>Community pharmacy</th>
<th>Mental health</th>
<th>Ambulance services</th>
</tr>
</thead>
</table>
(a) An indicator can be associated with more than one health care setting

Table 2.3: Distribution of primary health care indicators by type of indicator

<table>
<thead>
<tr>
<th>Type of Indicator</th>
<th>Structure</th>
<th>Process</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>36</td>
<td>51</td>
</tr>
</tbody>
</table>

Some key findings from this survey of local and international safety and quality in primary health care are as follows:

- Several projects relating to safety and quality in primary health care both locally and internationally are still in the development phase – similar to National Indicators. Indicators have been identified but some are not yet able to be reported.

- There is an emphasis on the quality dimension of ‘appropriateness’ in the existing primary health care indicators surveyed, consistent with the focus on this dimension in National Indicators.

- Few indicators for primary health care relate to ‘safety’.

- Most of the safety and quality indicators for primary health care relate to general practice, with some relating to dental services, and few or none relating to other primary health care providers (for example, allied health).
3 Data sources

Australia is rich in health-related information. Relatively little of this, however, relates to primary health care. Although information on certain aspects of primary health care—for example, financing and throughput of general practice services—is readily available, information about other types of primary health care services (such as allied health services) and data relating to issues of safety and quality is less easy to obtain.

The report *Review and evaluation of Australian information about primary health care: a focus on general practice* (AIHW 2008j) provides a detailed assessment of the usefulness and quality of existing Australian data collections that provide information about general practice.

The report found that several existing data collections provide information about primary health care services in Australia, ranging from basic throughput data to detailed information about the conditions managed and treatments provided. The vast majority of this information relates to services provided in general practice. Although useful for a variety of purposes, the available information is limited in its ability to provide a comprehensive picture of primary health care activity, particularly in relation to safety and quality of care.

Another limitation identified by this report was “the lack of data which can be used to follow the management of an individual patient over time and where the management actions are linked to a specific diagnosis” (AIHW 2008j). In terms of the National Indicators project, this is of particular relevance to the quality domains of ‘continuity of care’ and ‘responsiveness’ and, for example, for those patients with complex care needs who require integrated and multidisciplinary care.

Table 3.1 below lists the collections relevant to primary health care, and a brief outline of each of these collections follows. Although there are a number of Australian data collections that contain information relevant to the issues addressed by the indicators, only those that are ongoing or regular have been included here as these will be the most useful for monitoring progress over time.

Electronic collections of data about services provided in primary care are potential alternative or additional sources of information that could be used in the future to report against the safety and quality indicators. Several small projects are using electronic means to share and collect health data, but electronic collection of primary care data at the national level is still very much in the early stages. Though an Individual Electronic Health Record is proposed, its form, content, and the extent to which it will be able to be used for statistical and research purposes are yet to be determined. The report *Review and evaluation of Australian information about primary health care: a focus on general practice* (AIHW 2008j) provides a summary of the current state of play with regard to electronic data collection in general practice, and highlights some of the barriers that still need to be overcome. It seems unlikely that electronic records will be a reliable source of data for national indicator-based reporting for some time yet. It will be important to consider safety and quality issues in future discussions to determine the types of information that would need to be included in a national electronic collection of data from general practice and other primary health care services.
Table 3.1: Potential Australian data sources for primary health care safety and quality indicators

<table>
<thead>
<tr>
<th>Data collection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bettering the Evaluation and Care of Health (BEACH)</td>
<td>Paper-based survey of general practice activity</td>
</tr>
<tr>
<td>Child Dental Health Survey</td>
<td>Annual survey of children enrolled in school dental services</td>
</tr>
<tr>
<td>General Practice Research Network (GPRN)</td>
<td>Collection of encounter data extracted from GP records</td>
</tr>
<tr>
<td>Medicare Benefits Schedule (MBS) data</td>
<td>Details of claims for services covered wholly or in part by Medicare</td>
</tr>
<tr>
<td>National Hospital Morbidity Database (NHMD)</td>
<td>Details of episodes of admitted patient care provided in Australian hospitals</td>
</tr>
<tr>
<td>National Prescribing Service (NPS)</td>
<td>Surveys relating to quality use of medicines</td>
</tr>
<tr>
<td>Pharmaceutical Benefits Scheme (PBS) and Repatriation Pharmaceutical Benefits Scheme (RPBS)</td>
<td>Details of prescription medications for which a government contribution was paid under the PBS or RPBS</td>
</tr>
<tr>
<td>The Australia and New Zealand Dialysis and Transplant Registry (ANZDATA)</td>
<td>Survey to monitor dialysis from all renal units in Australia and New Zealand on all patients receiving kidney replacement therapy where the intention to treat is long term.</td>
</tr>
<tr>
<td>National Health Survey (NHS)</td>
<td>A three-yearly survey of the health status of the population, their use of health services and health related aspects of their lifestyle.</td>
</tr>
<tr>
<td>Annual Survey of Divisions of General Practice (ASD)</td>
<td>Survey of Division’s support activities for general practice, workforce profile, disease prevention, and chronic disease management</td>
</tr>
<tr>
<td>Australian Primary Care Collaborative (APCC)</td>
<td>Enrolled practices provide aggregated, de-identified patient data relating to the areas of diabetes, coronary heart disease and access to primary health care</td>
</tr>
<tr>
<td>Practice Incentives Program (PIP)</td>
<td>Details of payments made to general practices for services covered under the Australian Government’s Practice Incentives Program</td>
</tr>
</tbody>
</table>
### Bettering the Evaluation and Care of Health (BEACH)

**Description**
BEACH is a continuous paper-based survey of general practice activity in Australia. Over 11 years it has collected information on more than 1 million GP–patient encounters.

**Owner/collector**
Australian General Practice Statistics and Classification Centre (a collaborating centre of the AIHW and the University of Sydney)

**Period of coverage**
April 1998 onward

**Method**
Data are collected from an ever-changing random sample of 1,000 GPs each year using a structured survey form. Each participating GP provides details for 100 consecutive patient encounters. The survey form is designed so that each problem managed during the encounter can be linked with the management actions undertaken for that problem (for example, pathology and imaging tests ordered, referrals written, procedures performed or medications prescribed).

**Data items potentially relevant to safety and quality**
- Patient demographics (e.g. age, sex, postcode, concession status, Indigenous status)
- GP demographics (e.g. age, sex, postcode of practice, FRACGP, place of training, use of computers)
- Patient’s reasons for encounter (up to 3)
- Problems managed (up to 4)
- Pathology tests ordered (up to 5)
- Imaging tests ordered (up to 2)
- Medications prescribed, supplied or advised for over-the-counter purchase (up to 4 for each problem managed)
- Other treatments undertaken (clinical or procedural; up to 2) and practice nurse involvement with these

**Advantages**
- Detailed information with ability to link management actions to the problem being managed
- Ever-changing random sample of GPs
- Long collection period enables trend analysis
- Includes all GP–patient encounters, regardless of Medicare coverage, including those where the patient was not physically seen by the GP
- Collection of medication data covers all medications, including those supplied by the GP, advised for over-the-counter purchase, and prescription medications regardless of PBS eligibility
- Includes all types of management actions

**Limitations**
- No facility for longitudinal analysis of patient records
- GPs who register fewer than 375 Medicare items in 3 months are excluded from the sample frame
- In most years, younger GPs (aged under 35) are under-represented
- There is a low response rate to the survey (about 31%)

**Comments**
Information on specific topics not captured by the encounter data is collected through SAND (Supplementary Analysis of Nominated Data) sub-studies. Each sub-study comprises a series of additional questions answered by around 100 GPs (resulting in a sample of 3,000–4,000 encounters for each sub-study). Topics of relevance to safety and quality include adverse effects of medications, polypharmacy, use of pathology tests, management of chronic diseases and secondary prevention of cardiovascular disease.

**Further information**
**Child Dental Health Survey**

**Description**
Annual survey of children enrolled in school dental services

**Owner/collector**
AIHW Dental Statistics and Research Unit (University of Adelaide)

**Period of coverage**
1990 onward

**Method**
Data derived from routine examinations of randomly selected children aged 4–15 years attending school dental services

In 2002 about 136,500 children were surveyed

**Data items potentially relevant to safety and quality**
- patient demographics (age, sex, country of birth, Indigenous status, postcode)
- country of birth and Indigenous status of mother
- number of decayed, filled or missing deciduous and permanent teeth

**Advantages**
- children from all schools (both public and private) are eligible for inclusion
- data are collected from dental records, not self-report

**Limitations**
- limited recording of mothers' demographics – data not able to be used in 2002
- jurisdictional variation in program enrolment and services means coverage of school dental services varies. Estimates relate only to those children enrolled in school dental services.
- differences in jurisdictional data requirements affect comparability of some data items at the national level
- estimates for NSW could not be calculated in 2002 due to under-representative sample

**Comments**

**Further information**

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**General Practice Research Network (GPRN)**

**Description**
Collection of data extracted from medical records

**Owner/collector**
Health Communication Network (HCN)

**Period of coverage**
1999 onward

**Method**
Electronic extraction of de-identified data from medical records using supplied software. The data are then encrypted and emailed to HCN.

**Data items potentially relevant to safety and quality**
- Patient demographics (age, sex, concession status)
- GP demographics (age, sex, postcode, practice size, years in practice)
- reason for encounter
- diagnoses/problems managed
- medications prescribed
- pathology tests ordered
- imaging tests ordered
- referrals written
- other procedures undertaken

**Advantages**
- Data captured directly from the patient’s record
- provides information about all drugs, regardless of PBS eligibility
- minimal burden on participants
- high level of completeness for individual data elements

**Limitations**
- participants must be users of HCN's clinical software system, Medical Director
- variation in the level of computerisation of GPs may lead to data incompleteness in cases where the GP keeps both computer and paper records
- large number of encounters clustered around a relatively small sample of GPs, leading to a large design effect

**Comments**

**Further information**
<www.hcn.net.au/doctors/gprn.asp>
**Medicare Benefits Scheme (MBS)**

<table>
<thead>
<tr>
<th>Description</th>
<th>The MBS is a national administrative data collection that contains data relating to the payment of subsidies through Medicare for services rendered by GPs and certain other health professionals.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner/collector</td>
<td>The MBS is administered by Medicare Australia.</td>
</tr>
<tr>
<td>Period of coverage</td>
<td>1984 onwards</td>
</tr>
<tr>
<td>Method</td>
<td>Continuous collection of claims lodged with Medicare Australia (from 1984 onwards).</td>
</tr>
</tbody>
</table>
| Data items potentially relevant to safety and quality | • Patient demographics (sex, age, postcode)  
• Provider demographics (location, specialty, sex, age)  
• Service provided |
| Advantages | • De-identified MBS data can be linked either internally or with data from the Pharmaceutical Benefits Scheme, subject to approvals and privacy and security constraints.  
• National coverage including all GPs registered with Medicare. |
| Limitations | • No information about the content of the consultation or the problem being managed is recorded.  
• ‘Services’ recorded are limited to eligible items as listed in the Medicare Benefits Schedule. This excludes:  
  - services rendered for insurance or employment purposes  
  - screening services  
  - services rendered under entitlements conferred by legislation other than the Health Insurance Act (e.g. those covered by workers’ compensation or the Department of Veterans’ Affairs)  
  - services rendered under grant provisions (such as the Health Program Grant arrangements)  
  - services rendered free of charge in recognised hospitals.  
However, information from the BEACH survey suggests that about 95% of services provided by GPs are claimable through Medicare (Britt et al. 2008. General practice activity in Australia 2007–08. Cat. no. GEP 22. Canberra: AIHW). |
| Comments | Basic counts of services rendered and subsidies paid (by age and sex or Division of General Practice) are available via the Medicare Australia web site at <www.medicareaustralia.gov.au>. Access to de-identified unit record data is available for research purposes with the approval of the Department of Health and Ageing, subject to privacy and security legislation. |
National Hospital Morbidity Database (NHMD)

Description

The NHMD contains records of episodes of admitted patient care provided in Australian hospitals.

Owner/collector

Jurisdictional data are governed by each state/territory and provided to the AIHW for national collation.

Period of coverage

1993–94 onward

Method

Data items potentially relevant to safety and quality

- Patient demographics (sex, age, place of residence, country of birth, Indigenous status)
- Hospital demographics (state, ARIA, ASGC and ASGC REMOTENESS AREA group, sector)
- Admission/separation dates and length of stay
- Diagnoses (principal and up to 70 additional diagnoses)
- External causes of injury (up to 24)
- Procedures undertaken (both surgical and non-surgical; up to 66)
- Mode of separation (e.g. death, transfer to other acute hospital, discharge at own risk)
- Weight of infants/neonates
- Urgency of admission

Advantages

- National data source has high power for analyses
- Generally very good quality information

Limitations

- Records are episodes of care and cannot be linked together. Individual patients cannot be identified.
- Data on Indigenous status not considered reliable in all jurisdictions (Tasmania and the ACT), and in private hospitals in the Northern Territory.

Comments

A more detailed description of some aspects of the NHMD is provided in Appendix 5: Quality of administrative data within the main National Indicators discussion paper.

Further information

### National Prescribing Service (NPS) collections

<table>
<thead>
<tr>
<th>Description</th>
<th>The purpose of the NPS surveys is to collect information relating to the quality use of prescription medicines. There are three surveys collecting information from general practitioner, pharmacists and consumers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner/collector</td>
<td>National Prescribing Service</td>
</tr>
<tr>
<td>Period of coverage</td>
<td>Collection began in 1999. GP and pharmacist surveys biennially, consumer surveys irregular. Online self-audits now available</td>
</tr>
<tr>
<td>Method</td>
<td>Paper-based, telephone and online surveys and self-audits.</td>
</tr>
</tbody>
</table>
| Data items potentially relevant to safety and quality | **GP information**  
- knowledge of evidence-based prescribing practices  
- use of computerised prescribing  
- views on generic, over-the-counter and complementary medicines  
- ways of keeping up to date with medication advances and changes  
**Pharmacist information**  
- use of computers  
- confidence in communicating with patients and doctors  
- knowledge of evidence-based use of medicines  
- ways of keeping up to date with medication advances and changes  
**Consumer information**  
- self-rated health  
- use and management of prescription and non-prescription medications  
- attitudes to medicine use and alternatives  
- awareness of medicine information  
- knowledge about medicine use |
| Advantages | Only national source of data about GP knowledge regarding quality use of medicines |
| Limitations |  
- Low response rates to surveys  
- GP and pharmacist samples not nationally representative  
- Underrepresentation of GPs in the less than 35 years old category and overrepresentation of GPs over than 45 years old. |
| Comments |  |
| Further information | <www.nps.org.au/research_and_evaluation/evaluation> |
Pharmaceutical Benefits Scheme (PBS) and Repatriation PBS

Description
The PBS and RPBS are national administrative data collections relating to the payment of government subsidies for prescription medications.

Owner/collector
The Schemes are administered by Medicare Australia for the Australian Government Departments of Health and Ageing (PBS) and Veterans’ Affairs (RPBS).

Period of coverage
Data is available on the Medicare website from 1992 to present

Method
Continuous collection of data from claims lodged with Medicare Australia by pharmacies, hospital authorities and approved medical practitioners.

Data items potentially relevant to safety and quality
- Patient demographics (sex, age, postcode, payment category)
- Prescriber demographics (location, specialty, sex, age, place and year of qualification)
- Dispenser demographics (location, ID code)
- Drug information (type, dosage, number of repeats, name, form and strength, prescription type)

Advantages
- De-identified PBS/RPBS data can be linked either internally or with data from the Medicare Benefits Scheme, subject to approvals and privacy and security constraints.
- National coverage including all prescription pharmaceuticals for which payment is covered in full or part under the PBS or RPBS.

Limitations
- No information about the reason/diagnosis for which the drug was prescribed.
- Drugs recorded are limited to those listed on the Pharmaceutical Benefits Schedule where a government subsidy was paid. This excludes:
  - drugs that cost less than the co-payment amount (at 1 January 2008, $31.30 for general patients, $5.00 for concession card holders and general patients who have reached the safety net limit, and $0.00 for concession card holders who have reached the safety net limit)
  - drugs dispensed to hospital inpatients
  - drugs prescribed for non-Scheduled indications
  - drugs prescribed to patients not fulfilling PBS eligibility criteria.


Comments
Basic counts of prescriptions dispensed and subsidies paid (by age and sex or Division of General Practice) are available via the Medicare Australia web site at <www.medicareaustralia.gov.au>. Access to de-identified unit record data is available for research purposes with the approval of the Department of Health and Ageing, subject to applicable privacy and security legislation.

Further information
### Australia and New Zealand Dialysis and Transplant Registry (ANZDATA)

<table>
<thead>
<tr>
<th>Description</th>
<th>ANZDATA monitors the incidence, trends and outcomes of renal replacement treatment, that is, dialysis and transplantation in Australia and New Zealand.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner/collector</td>
<td>The Australia and New Zealand Dialysis and Transplant registry located at The Queen Elizabeth Hospital in Adelaide, South Australia.</td>
</tr>
<tr>
<td>Period of coverage</td>
<td>The collection is complete since the initiation of dialysis and transplantation in Australia in the early 1960s.</td>
</tr>
</tbody>
</table>
| Method | - Annual paper-based survey of dialysis units and organ transplant registries.  
  - Six-monthly surveys are circulated for each patient. |
| Data items potentially relevant to safety and quality | - Diagnosis at entry and during current survey  
  - Co-morbidities  
  - Course of treatment  
  - Cause of death |
| Advantages | - high level of completeness of the data collection (99% when made available)  
  - the availability of detailed clinical information  
  - long-term patient follow-up |
| Limitations | - there are some areas where only limited depth of details are ascertained  
  - there is little information collected relating to hospital separation data or costs |
| Comments | |

### National Health Survey (NHS)

| Description | The purpose of the NHS is to:  
  - collect information on a range of health related issues  
  - enable the monitoring of trends in Australia’s health over time  
  - provide information on health indicators for national health priority areas and for important subgroups of the population |
| Owner/collector | Australian Bureau of Statistics (ABS) |
| Period of coverage | 1989-90 to present |
| Method | - Computer assisted face-to-face interview with a selected member of the household  
  - For the 2004-05 survey there were 25,000 completed questionnaires from 19,501 households |
| Data items potentially relevant to safety and quality | - Diagnosis of a number of conditions including: arthritis, asthma, diabetes, heart and circulatory conditions, renal conditions and other long term health conditions  
  - Medications for specific conditions  
  - Presence of asthma management plan |
| Advantages | - Large random sample of households  
  - Time series (from 1989-90 to present) |
| Limitations | - Potential for bias through self reporting  
  - Potential for underreporting for particular items, for example, weight  
  - Information about the medical condition or other reasons for taking a health related action was not generally obtained in the 2004-05 survey |
| Comments | |
Annual Survey of Divisions of General Practice (ASD)

**Description**
The purpose of the ASD is to:
- describe the range and focus of programs being undertaken by divisions
- measure and recognise trends within and between Divisions over time
- assist with planning and determining priorities

**Owner/collector**
The Primary Health Care Research and Information Service (PHC RIS) which is based at Flinders University in South Australia

**Period of coverage**
The ASD has been published since 2002-03

**Method**
Part paper-based, part internet-hosted survey

**Data items potentially relevant to safety and quality**
No specific data items are collected on the patient. However, the types of health prevention, interventions made, and chronic disease management intervention levels are extensively described without identification.

**Advantages**
- Coverage provides the opportunity for collecting nationally representative data
- Potential for data-linkage with other data sources
- There is capacity to collect additional data items about the encounter
- High rate of completeness of the ASD

**Limitations**
- Participation of the GP can be restricted by the corporate structure of the practice
- There is no capacity to collect additional items about individual patients if required

**Comments**

Australian Primary Care Collaborative (APCC)

**Description**
Enrolled practices provide aggregated and de-identified information relating to the areas of diabetes, coronary heart disease (CHD) and access to primary care services

**Owner/collector**
Australian Primary Care Collaborative

**Period of coverage**
Data submission began in 2005.

**Method**
Practices collect required data using extraction tools or reports within native software and then manually enter data to a secure online data reporting site. Some of these electronic tools are part of existing software while others are built into clinical software programs for the sole purpose of participation in the APCC.

**Data items potentially relevant to safety and quality**
The current measures for the APCC program include:
- Use of practice registers for patients with diabetes and CHD
- Glycaemic, cholesterol and blood pressure (BP) control for diabetics
- Service incentive Payments (SIP) for diabetes
- Patients with CHD who are on aspirin or statins
- Patients who have had a myocardial infarction who are on beta-blockers
- BP control for patients with CHD

**Advantages**
Focus on data quality and veracity for enrolled practices

Future capacity to collect additional data items relating to both the practice and clinical information relating to patients

**Limitations**
Small number of practices enrolled; currently only 6.5% of practices

**Comments**
The APCC program will be changing a number of measures and introducing new measures in the near future.

### Practice Incentives Program (PIP)

**Description**
This collection includes data on the number and type of incentive payments made to practices under this program, including some of the Service Incentive Payments (SIPs).

**Owner/collector**
Administered by Medicare Australia on behalf of the Department of Health and Ageing

**Period of coverage**
Implemented from 1 July 1998, replacing the Better Practice Program (1994–98)

**Method**
As with the MBS, there is a continuous collection of claims lodged with Medicare Australia

**Data items potentially relevant to safety and quality**
- Number of practices registered for the PIP
- Number and proportion of practices participating in each PIP initiative
  - after-hours care
  - rural status
  - teaching
  - quality prescribing
  - asthma cycle of care
  - diabetes cycle of care
  - cervical screening
  - mental health
  - practice nurse / allied health worker incentive
  - rural and remote procedural GPs.
- Number and proportion of patients covered by each PIP initiative.
- Number of and proportion of practices receiving SIPs, and number of SIP services provided, by ASGC remoteness area and Division of General Practice

**Advantages**
- Source of national and Divisional information about the number of patients receiving ‘quality’ care in specified areas (e.g. asthma, diabetes, mental health).

**Limitations**
- Payment only indicates completion of the minimal requirements for the process of care. No information about the quality of the content or patient outcomes is available.

**Comments**
Basic counts of PIP participation and subsidies paid (by Division of General Practice) are available via the Medicare Australia web site at <www.medicareaustralia.gov.au>. Access to de-identified unit record data is available for research purposes with the approval of the Department of Health and Ageing, subject to applicable privacy and security legislation.

**Further information**
4 Primary health care indicators

This chapter assesses the primary health care indicators included in the proposed National Indicators of safety and quality set for coverage of the dimensions of safety and quality, the primary health care setting which the indicator relates to, coverage of National Health Priority Areas and burden of disease.

Also included are indicator summaries for each of the primary health care indicators which include a brief overview of the indicator and rationale, the use and users of the indicators, data sources and data quality, and limitations and future development opportunities for improvements which could be made in reporting the indicators. These have been updated in light of feedback received through the consultation process (including noting those indicators which will not be included in the final recommended set).

This work was undertaken with a view to augmenting, rather than replacing, the indicator summaries which are included in the National Indicators report.

A list of the 15 primary health care indicators which will be contained part of the final recommended set of safety and quality indicators for national reporting across the health sector are listed below in Table 4.1.

Table 4.1 Primary health care indicators which are included in the National Indicators set

<table>
<thead>
<tr>
<th>Indicator title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selected potentially preventable hospitalisations</td>
</tr>
<tr>
<td>Enhanced primary care services in general practice</td>
</tr>
<tr>
<td>General practices with a register and recall system for patients with chronic disease</td>
</tr>
<tr>
<td>People with moderate to severe asthma who have a written asthma plan</td>
</tr>
<tr>
<td>Management of hypertension in general practice</td>
</tr>
<tr>
<td>Management of chronic pain in arthritis and musculoskeletal conditions</td>
</tr>
<tr>
<td>Annual cycle of care within general practice for people with diabetes</td>
</tr>
<tr>
<td>End stage kidney disease in people with diabetes</td>
</tr>
<tr>
<td>Lower-extremity amputation in people with diabetes</td>
</tr>
<tr>
<td>Mental health care plans in general practice</td>
</tr>
<tr>
<td>Inappropriate co-prescribing of medicines</td>
</tr>
<tr>
<td>People receiving a medicine review</td>
</tr>
<tr>
<td>Quality of community pharmacy services</td>
</tr>
<tr>
<td>Accreditation of health care services</td>
</tr>
<tr>
<td>Patient experience</td>
</tr>
</tbody>
</table>
4.1 Assessment against the indicator framework

This section provides a brief assessment of the primary health care indicators which will be included in the final recommended National Indicators set in terms of:

- Coverage of the dimensions of safety and quality by these indicators
- Primary health care setting to which the indicators relate
- Coverage of the National Health Priority Areas by these indicators
- Coverage of burden of disease by these indicators

The main findings were consistent with the findings of the review of local and international primary care indicators which was presented in chapter 2. The safety and quality dimensions of ‘appropriateness’, ‘effectiveness’ and ‘continuousness’ are the most frequently represented, with few indicators relating to ‘safety’. The majority of the indicators relate to the primary health care setting general practice and almost half relate to processes. All of the National Health Priority Areas are covered by at least one of the indicators, with diabetes receiving the most coverage. All of the burden of disease areas, except for ‘Injuries’ and ‘Neurological and Sense disorders’, have been covered by these indicators with diabetes again receiving the most coverage.

4.2 Indicator Summaries

This section presents indicator summaries for each of the proposed primary health care indicators which include a brief overview of the indicator and rationale (extract from National Indicators), the use and users of the indicators, data sources and data quality, and limitations and future development opportunities for improvements which could be made in reporting the indicators.

This work was undertaken with a view to augmenting, rather than replacing, the indicator summaries which were included in the National Indicators report. This section includes only those indicators which are solely or predominantly related to primary health care, rather than all indicators in the proposed national set which include primary care as one of multiple health care settings involved.

Where it has been decided following review of the consultation feedback to not include an indicator in the final recommended set, the indicator summary now includes a brief explanation in the ‘Indicator status’ field of why it has been removed.

Where an indicator is to be reported under the new National Health Care Agreement (NHCA) this has also been noted. It was agreed at the December meeting of the NIAG that for any indicators included in the NHCA which also are part of the proposed national safety and quality set, the same specifications will be used, namely the NHCA specifications.
Indicator title: Decayed, missing and filled teeth among primary school children

**Indicator status**

Established indicator, currently in use and reportable using Australian data, could be improved with further data development.

This indicator will not be included in the final recommended set as it does not sufficiently reflect safety and quality of health care delivery, this indicator provides more of a reflection of access to dental care, population health and other initiatives. The need for a suitable indicator/s of safety and quality in dental health to be developed in consultation with relevant specialist groups and other stakeholders will however be flagged.

**Description/Definition of Indicator**

Mean number of decayed, missing or filled teeth (dmft/DMFT) among primary school children at ages 5-6 years and 12 years.

**Rationale**

Australia's National Oral Health Plan 2004-2013 was prepared by The National Advisory Committee on Oral Health Plan and endorsed by Health Ministers in 2004. The Plan addresses seven action areas:

- Promoting oral health across the population
- Children and adolescents
- Older people
- Low income and social disadvantage
- People with special needs
- Aboriginal and Torres Strait Islander peoples
- Workforce (NACOH 2004)

Good oral health throughout early childhood contributes to better dental health in adults, due to less decay and reduced tooth loss. Conversely, poor dental health impacts adversely on children's health and wellbeing, through increased abscess formation, cellulitis and the systemic spread of disease, and by contributing to failure to thrive, and school absences (AIHW 2008e).

The 5-6 year old and 12-year old age groups are selected because they are standard age groups for measuring children's dental health on deciduous and permanent teeth respectively, and because Australia's jurisdictions provide free dental health services to primary school children (AIHW DSRU 2007a).

**Australian reporting of this indicator**

The Australian Institute of Health and Welfare's Dental Statistics and Research Unit have reported this indicator in the report: Water Fluoridation and Children's Dental Health: The Child Dental Health Survey, Australia 2002. (AIHW DSRU 2007a).

**International reporting of this indicator**

The Organisation for Economic Co-operation and Development has published the same indicator (ie. dmft) as reported above in the report Health at a Glance 2007. (OECD 2008)

The 2003 Children's Dental Health Survey, commissioned by the four United Kingdom Health Departments, is the fourth in a series of national children's dental health surveys that have been carried out every 10 years since 1973 in England and Wales and in the whole of the UK since 1983. The survey reports decay, tooth surface loss, and periodontal health separately. The survey targets the following ages – 5, 8, 12 and 15 year olds. (UK Health Department 2005)

**Data sources and data quality**

In Australia the jurisdictions undertake child dental health surveys which are collated and reported by the Australian Institute of Health and Welfare’s Dental Statistics and Research Unit at the University of Adelaide.

There is some variability in the methodology used across the different jurisdictional surveys, for example, WA, Tasmania and the ACT do not record information regarding indigenous status.

**Issues with interpretation of this indicator**

There is variability in the proportion of children inspected across jurisdictions, and the policies targeting particular groups of children vary between jurisdictions (AIHW DSRU 2007a).

The dental outcomes which are measured by this indicator can be impacted by multiple factors, for example:

- the quality of and access to dental health care
- self dental care
- availability of an adequately fluoridated reticulated water supply
- diet and nutrition

It should be noted, therefore, that this indicator may not reflect the safety and quality of health care as directly as some other indicators.

**Indicator development**

Improve the consistency in the manner in which data is collected across the jurisdictions to provide greater comparability. For example, indigenous status should be recorded nationally.
<table>
<thead>
<tr>
<th>Indicator title</th>
<th>Eye testing for target population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator status</td>
<td>Proposed indicator, partially reportable using current Australian data, indicator and data development required. This indicator will not be included in the final recommended set as it does not provide a clear indication of the safety and quality of health care delivery, instead providing more an indication of population health and access issues.</td>
</tr>
<tr>
<td>Description/ Definition of Indicator</td>
<td>Proportion of the target population having their eyes tested within the last two years</td>
</tr>
</tbody>
</table>
| Rationale | Vision problems account for a significant proportion of the burden of disease in the Australian community. According to the National Framework for Action to Promote Eye Health and Prevent Avoidable Blindness and Vision Loss 51% of the Australian population have at least one sight problem. According to Australia’s Health 2008 long-sightedness and short-sightedness are amongst the five most common long-term conditions for every Australian age group, and affect well over 50% of the population in all ages above 45. The estimated cost in 2005-06 of the treatment of eye diseases and disorders in public hospitals alone was nearly $200 million (AIHW 2008b). Community studies show that a significant proportion of eye disease conditions go undetected and untreated (DoHA 2005b). The Melbourne Vision Impairment Project (McCarty et al 1998) found that nearly half of a sampled population of Melbourne residents with diabetes mellitus were not receiving adequate screening or follow-up for diabetic retinopathy, despite the availability of bulk billing for eye tests performed biennially or more frequently when the condition is diagnosed (AIHW 2008f). The Health and Welfare of Australia’s Aboriginal and Torres Strait Islander Peoples 2008 reports that Indigenous Australians are at risk of eyesight problems at a younger age than most other Australians (ABS/AIHW 2008), and Indigenous Australians are at particular risk of retinopathy brought on by diabetes (AIHW 2008h). In 2005 the Australian Health Ministers’ Conference endorsed the National Framework for Action to Promote Eye Health and Prevent Avoidable Blindness and Vision Loss. The key areas addressed by the Framework are: • Reducing the risk of eye disease and injury • Increasing early detection • Improving access to eye health care services • Improving the systems and quality of care* • Improving the underlying evidence base One of the five key action areas is to improve early detection. Early detection of eye disease is important as there are cost-effective treatments for many eye conditions to prevent further vision loss. Examples of eye diseases which can be treated effectively if detected early include glaucoma, trachoma, certain forms of macular degeneration, and especially diabetic retinopathy (where early diagnosis and treatment may prevent up to 98% of severe vision loss). For people with sight-threatening eye conditions which are untreatable with current medical technology, early diagnosis is still important so as to enable them to make the necessary career, financial and lifestyle decisions (DoHA 2005b). The population in general, especially those aged 40 years and over, those with a family history of eye disease, and other high-risk groups, should seek regular eye checks, which can be bulk-billed when performed by an optometrist or ophthalmologist. Eye tests could also be built into other routine health assessments through the Royal Flying Doctor Service (RFDS), other medical checkups, hospital admissions, aged care assessments and well baby clinics (DoHA 2005b). (*Improving systems and quality of care in this framework has a focus on access and workforce issues which are outside the scope of this indicator set, so has not been discussed in detail here).
| Australian reporting of this indicator | The Melbourne Vision Impairment Project reported the proportion of sampled Melbourne residents over 40 years, with and without diabetes, who had seen an ophthalmologist within the previous two years (McCarty et al 1998). |
| International reporting of this indicator | The Royal National Institute of Blindness (2008) has estimated the proportion of the UK population 60 years old and older which has received an eye test in the previous two years. This is done by comparing UK Department of Health records on the number of free eye examinations to people in this age group with census information on the number of people in the UK who are at least 60 years old. |
| Data sources and data quality | A recent review of data sources relating to eye health concluded that the key area, ‘increasing early detection,’ was only moderately informed by the existing data sources (AIHW 2007). |
Medicare data provides information on the number of claims for eye checks provided by optometry services but excludes or is non-specific regarding testing provided by other services that should be included in the numerator. Data can not be filtered for target groups so data development would be needed to calculate a denominator. It may be possible to collect information via a survey such as the National Health Survey, but substantial data development would be required.

<p>| Issues with interpretation of this indicator | Although the Eye Health Action Framework advises that target groups should have regular eye checks, a time period is not recommended or defined. The two year period proposed here is based on the time period in used in the MBS schedule for claims relating to eye checks. |
| Indicator development | This is a proposed indicator which will need further consultation and research to develop and operationalise, in particular with regards to identification of the most appropriate target groups. |</p>
<table>
<thead>
<tr>
<th>Indicator title</th>
<th>Selected Potentially Preventable Hospitalisations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator status</td>
<td>Established indicator, currently in use and reportable using Australian data, could be improved with further indicator development</td>
</tr>
<tr>
<td>Description/Definition of Indicator</td>
<td>Rates of admission to hospital for selected conditions which could potentially have been prevented through the provision of appropriate non-hospital health services</td>
</tr>
</tbody>
</table>
| Rationale | The rate of ‘potentially preventable hospitalisations’ has been extensively used, both locally and internationally, as an indicator of the quality and accessibility of non-hospital services. Potentially preventable hospitalisations (PPH) represent conditions where hospitalisation is thought to have been avoidable if non-hospital care had been provided appropriately (Ansari et al 2006, NHPC 2004). PPH rates measure the effectiveness, timeliness and adequacy of non-hospital care, including population health, primary care and outpatient services, in preventing hospitalisations for particular conditions (NHPC 2004). The conditions which are included in the reporting of this indicator can be categorised into three main groups:  
| • Vaccine-preventable conditions. This includes conditions such as influenza, bacterial pneumonia, tetanus and measles, which could have been avoided through primary health interventions such as vaccination.  
| • Potentially preventable acute conditions. This includes conditions such as dehydration, gastroenteritis, kidney infection and dental conditions, which could have been avoided through interventions that can be effectively delivered through primary health care services.  
| • Potentially preventable chronic conditions. This includes conditions such as diabetes, asthma, angina, hypertension, congestive heart failure and chronic obstructive pulmonary disease, which could be managed to avoid acute flare-ups within the primary health care setting (NHPC 2004, Page et al 2007). For 2006-07, the highest rates of hospitalisation for PPH were attributable to chronic conditions, with complications due to diabetes being the highest rating of these (AIHW 2008g). A high rate of PPH could indicate an increase in the prevalence of these conditions in the population or poorer quality primary health care services. Alternatively, it may indicate an appropriate use of the hospital system to respond to greater need, for example increased prevalence of a particular condition (AIHW 2008b). It should be noted that variation may also reflect coding practices across states and territories. It is not expected that the rate of PPH will ever be eliminated entirely as not all hospitalisations are avoidable. The variation between geographic areas, however, demonstrates considerable potential for strengthening the impact of non-hospital care (NHPC 2004). |
| Australian reporting of this indicator | The National Health Performance Committee (NHPC) National Performance Framework includes an indicator relating to PPH, which was most recently published in Australia’s Health 2008. The indicator reports the rate of hospitalisation for the three categories (i.e. acute, chronic and vaccine preventable) as a rate per 1,000 population, derived from the National Hospital Morbidity Database. The NHPC report disaggregates the rate of PPH by ASGC REMOTENESS AREA category. (NHPC 2004, AIHW 2008b)  
| The AIHW has most recently reported on the number, separation rate and standardised separation rate for potentially preventable hospitalisations, in Australian Hospital Statistics 2006-07. This report also uses the NHMD to derive these measures of PPH. This report uses the same broad categories of PPH as those used by the NHPC as mentioned above; however, this report includes a wider range of conditions than the indicator reported by the NHPC. For example, ‘appendicitis with generalised peritonitis’ is included within the category ‘acute conditions’, whereas this condition is excluded by the NHPC. The report disaggregates by State & Territory, ASGC REMOTENESS AREA and by Quintile of socioeconomic advantage/disadvantage. (AIHW 2008g)  
| The Public Health Information Development Unit (PHIDU) at the University of Adelaide reported on the rates and distribution of PPH in, Atlas of Avoidable Hospitalisations in Australia: ambulatory care sensitive conditions in 2007. This report uses the same broad categories mentioned above; however, like Australian Hospital Statistics, this report includes a wider range of conditions than the indicator reported by the NHPC. For example, appendicitis is included within the category ‘acute conditions’, whereas this condition is excluded by the NHPC. Also, this report uses geographical mapping to report on the distribution of PPH as a rate per 100,000 population disaggregated by age and sex, condition (eg. diabetes), State and Territory, and socioeconomic status. The geographical mapping represented in the PHIDU publication uses health service area (Page et al 2007). The Productivity Commission, in the Report on Government Services 2008 (ROGS) reported on PPH. The format for reporting is similar to that used by PHIDU and includes standardised hospital separations per 1000 people, disaggregated by State & Territory and Indigenous status (SCRGSP 2008). |
A number of international agencies are currently reporting PPH, including:

- Organisation for Economic Coordination and Development (OECD) – Selecting indicators for the quality of health promotion, prevention and primary care at the health systems level in OECD countries
- Agency for Healthcare research and Quality (AHRQ) – Guide to prevention quality indicators
- Canadian Institute for Health Information (CIHI) – Health Indicators 2007
- New Zealand Ministry of Health – Health Targets: Moving towards healthier futures 2007/08

Within these reports there is some variability with regards to the conditions that have been included in the various condition categories, as is seen in the Australian publications. However, these reports do all report rates of PPH per 100,000 population. (Marshall et al 2004, AHRQ 2007, CIHI 2007, NZ MOH 2007).

All of the Australian calculations of rates of PPH are derived through analysis of data held in the National Hospital Morbidity Database (NHMD). The NHMD contains episode-level data from admitted patient morbidity data collection systems in Australian hospitals. The coverage of the NHMD includes almost all hospitals, that is: public and private acute hospitals, public and private psychiatric hospitals, and private free-standing day hospital facilities. The data supplied to the NHMD are based on the National Minimum Data Set (NMDS) for admitted patient care and include: demographic, administrative and length of stay data, as well as data on the diagnoses, procedures performed and external causes of injury and poisoning relating to what occurred during the hospital separation. Data supplied by the states and territories are coded using the ICD-10-AM (AIHW 2008g).

The quality of the coded data can be evaluated through the use of coding audits in which selected records are independently recoded and then compared with the original coding for that record. However, there is no national standard for performing coding audits. A discussion of the quality of coded data can be found in Australian Hospital Statistics 2006-07 (AIHW 2008g).

As noted above, not all hospitalisations for PPH conditions are avoidable and additional factors such as the rate of co-morbidities and health seeking behaviour, for example, may affect the rate of PPH. Additionally, an increase in the prevalence of a particular condition could result in a higher rate hospitalisation for PPH conditions (Ansari et al 2006, NHPC 2004, Page et al 2007).

PHIDU in their report Atlas of Avoidable Hospitalisations in Australia: ambulatory care sensitive conditions, discuss options for further development based on published research. Issues discussed included restricting the analysis to an upper age-limit of 74 years (Page et al 2007).

It may be useful to report rates of PPH, especially vaccine preventable and chronic diseases, for Divisions of General Practice.

The exact specifications of the conditions/codes included in the definition of PPH should be reviewed periodically to ensure they reflect current needs, and are standardised across Australia.
<table>
<thead>
<tr>
<th>Indicator title</th>
<th>Appropriate use of antibiotics in general practice for upper respiratory tract infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator status</td>
<td>Established indicator, currently in use and reportable using Australian data, could be improved with further data development</td>
</tr>
<tr>
<td>Description/Definition of Indicator</td>
<td>Prescriptions for oral antibiotics ordered by general practitioners (GPs) for the treatment of uncomplicated upper respiratory tract infection (URTI)</td>
</tr>
<tr>
<td>Rationale</td>
<td>Inappropriate prescribing of antibiotics provides an unnecessary health care cost, as well as increasing the risk of antibiotic resistance due to selective pressure in the wider population (AIHW 2008b, AHRQ 2008b). Uncomplicated upper respiratory tract infections (URTI) are most frequently caused by viruses, for which antibiotic treatment would have no effect on the duration and severity of the infection. A declining rate of prescribing may be an indication of more appropriate use of antibiotics. However, prescription of antibiotics for uncomplicated URTI is still frequently occurring. (SCRGSP 2008)</td>
</tr>
<tr>
<td>Australian reporting of this indicator</td>
<td>The National Health Performance Committee (NHPC) National Performance Framework includes an indicator regarding appropriate prescribing of antibiotics which was last published in Australia’s Health 2008. The NHPC indicator is presented as the ‘antibiotic prescribing rate for URTI by GPs per 100 encounters for URTI’. This indicator uses data from the BEACH (B bettering the Evaluation and Care of Health) collection to determine the number of antibiotic prescriptions written by GPs for URTI. This indicator also reports on the type of antibiotic prescribed for URTI as a proportion of all antibiotics prescribed for URTI. (NHPC 2004)</td>
</tr>
<tr>
<td>International reporting of this indicator</td>
<td>The Agency for Healthcare Research and Quality (AHRQ) in the USA reported on the appropriate prescribing of antibiotics in the National Healthcare Quality Report 2007. The indicator reported is ‘the rate of antibiotic utilisation at ambulatory care visits with a diagnosis of common cold per 100,000 population’. This indicator reports on the prescribing rates for individuals under age 18 years and over age 65 years. (AHRQ 2008b)</td>
</tr>
<tr>
<td>Data sources and data quality</td>
<td>There are two existing data sources which could be used to report this indicator: 1. BEACH data is collected from a random sample of about 1,000 GPs using a survey to collect details of 100 consecutive GP-patient encounters. The limitations of the BEACH collection include: • Part-time GPs may be excluded from the survey if they register fewer than 375 Medicare items in a quarter • There is an underrepresentation of younger GPs (aged under 35 years) • There is a low response rate to the survey (about 31%) (AIHW 2008d) 2. NPS data is collected via a national paper-based mail survey of GPs which is undertaken biennially. The GP survey collects data from, on average, 800-900 GPs. The limitations of the NPS GP survey include: • There is a low response rate (about 40%) • Underrepresentation of male GPs • Underrepresentation of GPs in the less than 35 years old category and overrepresentation of GPs over than 45 years old (AIHW 2008d)</td>
</tr>
<tr>
<td>Issues with interpretation of this indicator</td>
<td>It should be noted that there could be legitimate factors that influence the rate of prescribing antibiotics for uncomplicated URTI. For example, the proportion of patients with co-morbidities and/or difficulties in follow-up of patients may make antibiotics appropriate (NHPC 2004). Related to this, there is no agreed rate of prescribing of antibiotics for URTI which is clinically appropriate in the...</td>
</tr>
</tbody>
</table>
### Indicator title

**Survival from out-of-hospital cardiac arrest following ambulance service intervention**

- **Indicator status**: Proposed indicator, partially reportable using current Australian data, indicator and data development required

- **Description/Definition of Indicator**: The proportion of patients aged 16 years and over who were in cardiac arrest (excluding paramedic witnessed) where any chest compressions and/or defibrillation was undertaken by ambulance personnel who have a return to spontaneous circulation on arrival at hospital.

- **Rationale**: This indicator is designed as an outcome measure of ambulance events (SCRGSP 2008). This is an indicator of the patients, who were in cardiac arrest, and where any chest compressions and/or defibrillation was undertaken by ambulance personnel, and who have a return to spontaneous circulation upon arrival at hospital.

- **Australian reporting of this indicator**: The Steering Committee for the Review of Government Service Provision (SCRGSP) reports on the survival rate from out-of-hospital cardiac arrest in the Report on Government Services (ROGS). The ROGS indicator is presented as the proportion of patients aged 16 years and over, who were in cardiac arrest where any chest compressions and/or defibrillation was undertaken by ambulance personnel, who have a return to spontaneous circulation on arrival at hospital.

- **International reporting of this indicator**: No international reporting of a similar indicator was identified

- **Data sources and data quality**: The information contained within the ROGS report is supplied by jurisdictional authorities and collated.

- **Issues with interpretation of this indicator**: The survival rates from out-of-hospital cardiac arrest will be impacted by factors such as ‘bystander CPR’ and ‘ambulance response times’ (Pons 2002, Jacobs 2004).

- **Indicator development**: According to the ROGS report: “Development work is being undertaken to improve the comparability and accuracy of data, and to expand the scope of reporting on emergency services” (SCRGSP 2008)
**Indicator title** | **Enhanced primary care services in general practice**
---|---
**Indicator status** | Proposed indicator, currently reportable using Australian data, could be improved with further indicator and data development

**Description/Definition of Indicator**

GP's undertaking care planning and case conferencing for people with chronic conditions and complex multidisciplinary needs

**Rationale**

The prevalence of chronic disease is increasing in Australia, and is estimated to be responsible for around 70% of the total burden of disease. The National Chronic Disease Strategy, which was endorsed by health ministers, includes the following key principles:

- Adopt a population health approach and reduce health inequalities
- Prioritise health promotion and illness prevention
- Achieve person-centred care and optimise self-management
- Provide the most effective care
- Facilitate coordinated and integrated multidisciplinary care across services, settings and sectors
- Achieve significant and sustainable change

(NHPAC 2005, NSW Health 2006).

Care planning and case conferencing services for people, of any age, with chronic conditions and complex multidisciplinary care needs are funded via the Enhanced Primary Care (EPC) Medicare items. These items provide a framework for a multidisciplinary approach to health care through a more flexible, efficient and responsive match between care recipients’ needs and services available. The proportion of GPs who use these particular EPC items is a proxy measure of the extent of GP involvement in continuity and coordination of care. (NHPC 2004)

**Australian reporting of this indicator**

The National Health Performance Committee (NHPC) National Performance Framework includes an indicator relating to the uptake of EPC Medicare items by general practitioners, which was most recently published in Australia’s Health 2008. This indicator reports the ‘proportion of GPs who claim at least one EPC item out of all GPs who are eligible to claim EPC items’. This report presents the results by State and Territory, and by quarter. (NHPC 2004)

The Productivity Commission, in the Report on Government Services (ROGS) 2008, reports on two indicators which relate to the use of EPC Medicare items by GPs:

1. Health assessments for older people: this is reported as the proportion of eligible people who have received an EPC annual voluntary health assessment
2. Care planning and case conferencing: this is reported as the proportion of GPs who make use of the EPC CDM items for case conferencing during a 12 month period.

(SCRGSP 2008)

**International reporting of this indicator**

No international reporting of a similar indicator was identified

**Data sources and data quality**

Medicare Benefits Schedule (MBS). The MBS is a national administrative data collection relating to the payment of subsidies for services provided by health professionals, including GPs. An advantage of the MBS is that it represents a national source of data directly from every GP in Australia (AIHW 2008d).

**Issues with interpretation of this indicator**

Feedback from stakeholders identified that the EPC MBS items may be underutilised due to a perception, among GPs, that the administrative burden is ‘too high’. They indicated that it is possible that GPs are undertaking appropriate CDM but are not claiming using the EPC items.

The indicator is regarded as being of the extent to which GPs are involved in the continuity and coordination of care. It is not regarded as a specific measure of the quality of CDM by GPs.

**Indicator development**

The reporting of this indicator could be enhanced through the presentation of data using geographical location, such as by the Division of General Practice.

The existing indicator reflects a focus on the rate of take up by GP’s of the EPC Medicare items. This proposed indicator moves on from this to look at the number of claims GP’s make as a population rate.
<table>
<thead>
<tr>
<th>Indicator title</th>
<th>General practices with a register and recall system for patients with chronic disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator status</td>
<td>Proposed indicator, partially reportable using current Australian data, data development required</td>
</tr>
<tr>
<td>Description/Definition of Indicator</td>
<td>The proportion of general practices using electronic register/recall/reminder systems to identify patients with a chronic disease for review and appropriate action</td>
</tr>
<tr>
<td>Rationale</td>
<td>The timely provision of preventive and other health care to patients with chronic disease is likely to improve long-term health outcomes. Sustained improvements in health outcomes for people with chronic diseases such as diabetes have been associated with a more systematic approach in general practice including intensive follow up, use of clinical management guidelines integrated with self-management support programs and more effective use of nurse case managers and non-physician care providers. Systematic care includes having a disease register, regular recall and review, protected time, a practice nurse, clear written guidelines and a system for auditing standards of care. Supporting chronic disease care is a core role of Divisions (PHC RIS 26 August 2008, Griffin 1998). Register/recall/reminder systems are an important component of high quality chronic disease management, allowing practices to identify patients with chronic disease, recall them as required and ensure they are providing comprehensive patient care (DoHA 2008; Georgiou et al 2004).</td>
</tr>
<tr>
<td>Australian reporting of this indicator</td>
<td>The Primary Health Care Research and Information Service (PHC RIS) have previously reported this indicator in the report, Making a Difference: Report of the 2005 - 2006 Annual Survey of Divisions of General Practice (PHC RIS 2007).</td>
</tr>
<tr>
<td>International reporting of this indicator</td>
<td>No international reporting of a similar indicator was identified</td>
</tr>
<tr>
<td>Data sources and data quality</td>
<td>The Annual Survey of Divisions of General Practice (ASDGP), which is conducted by PHC RIS, collects information on the number of practices within a division who have a recall system for patient with chronic disease. It should be noted that obtaining ‘at least 80%’ of practices reporting on this indicator is the defined ‘target’ which is used by the Divisions.</td>
</tr>
<tr>
<td>Issues with interpretation of this indicator</td>
<td>This indicator currently only provides information relating to the presence or absence of an electronic register/recall system in the general practice. It does not provide information relating to the effectiveness of the system relating to the follow-up of patients who are associated with that practice. However, recent work in the area means that Divisions have now started to collect this information as part of the Network’s National Quality and Performance System (NQPS). The NQPS indicator also breaks this measure down into subcomponents eg whether the system is used, if it is paper based or electronic etc.</td>
</tr>
<tr>
<td>Indicator development</td>
<td>As the source of this indicator is the National Performance indicators for Divisions of General Practice, the ability to disaggregate this indicator, possibly though the use of geographical mapping methods, by the Division of general practice may provide useful information relating to the implementation of this measure across Divisions.</td>
</tr>
</tbody>
</table>
People with asthma who have a written asthma plan

**Description/Definition of Indicator**
Proportion of people with moderate to severe asthma who have a recent written Asthma Action Plan developed in consultation with their GP

**Rationale**
Asthma is a National Health Priority Area, and in the 2001-02 budget the Asthma Management Program was announced which aims to encourage best practice asthma management. A major specific objective of the Program was to improve the quality of care provided by general practitioners to people with moderate to severe asthma (ACAM 2005a). The Asthma Management Program included funding via the Practice Incentives Program (PIP), to encourage GPs to implement the Asthma annual cycle of care (previously the Asthma 3+ Visit Plan). This involves a series of three GP visits by patients with moderate to severe asthma, for the purpose of diagnosis and assessment, patient education, and development and review of a written asthma action plan (ACAM 2005a).

A written asthma action plan (AAP) enables people with asthma to recognise deterioration promptly and respond appropriately, by integrating changes in symptoms or peak expiratory flow measurements with written instructions to introduce or alter medication. It has been shown that asthmatics benefit from the use of an AAP and that there is a relationship between achievement of asthma control with the use of an AAP and an increase in the patient’s quality of life. There is also evidence that the use of a written AAP, in conjunction with training in self-management and regular medical review, improves outcomes, including the need for hospitalisation, GP visits and medication and lung function, in people with asthma. When used in conjunction with regular follow-up and education, an AAP can improve quality of life and asthma control. However, the use of written asthma action plans in isolation from these associated elements has not been shown to improve health outcomes in people with asthma.

Asthma action plans may be provided in various formats. The following features, which are common to most of the AAPs that have been shown to be beneficial, are considered to be the four essential components of an AAP:

- the AAP must be written
- the AAP must be individually prescribed and not a generic example
- the AAP must contain information to allow patients to recognise the onset of an exacerbation
- the AAP must contain information on what action to take in response to that exacerbation (usually to increase or commence steroids and/or seek urgent medical care) (AIHW 2004).

It should be noted that this is one of the indicators reviewed and recommended by the Australian Centre for Asthma Monitoring (ACAM 2007a).

**Australian reporting of this indicator**
The Australian Centre for Asthma Monitoring (ACAM), a collaborating unit of the AIHW has previously reported on this indicator in the reports:

- Australian asthma indicators: Five-year review of asthma monitoring in Australia
- Asthma in Australia 2005
- Asthma in Australia: findings from the 2004–05 National Health Survey

(ACAM 2005, ACAM 2007a, ACAM 2007b)

**International reporting of this indicator**
No international reporting of a similar indicator was identified

**Data sources and data quality**
The data which is used to report this indicator is sourced through the National Health Survey (NHS) as well as state based surveys, for example, the NSW Child Health survey and the Queensland Chronic Disease survey.

**Issues with interpretation of this indicator**
According to ACAM, the data sources identified often fail to adequately define the criteria for a written asthma action plan as stated in the rationale for this indicator.

There is also question around how ‘moderate to severe’ asthmatics are to be defined and identified.

**Indicator development**
The ACAM have identified general practices as a potential source of data to better inform the reporting this indicator. This could be achieved through the use of an electronic patient record (EPR) stored within the practice information systems, for example, Medical Director.
Management of hypertension in general practice

The proportion of patients who have been prescribed an antihypertensive agent and who were not at their target blood pressure (BP)

Cardiovascular health is a National Health Priority Area, and relates to the health of the heart and blood vessels. Maintenance of cardiovascular health and prevention of cardiovascular disease are the focus of the NHPA initiative in this particular priority area.

Hypertension, which is defined as systolic BP \( \geq 140 \) mmHg and/or diastolic BP \( \geq 90 \) mmHg, is a major risk factor for coronary heart disease (CHD), stroke, heart failure and kidney failure. The higher the BP, the higher the corresponding risk of complications. However, when hypertension is controlled, the risk of complications and overall mortality is reduced (NPS 2006, AIHW 2008b).

Hypertension is the most frequently managed clinical problem in general practice in Australia (NHPC 2004). In Australia in 2003, about 8% of the total burden of disease was attributable to hypertension (AIHW 2008b).

The 1999–2000 Australian Diabetes, Obesity and Lifestyle Study measured people’s BP and the results indicated that 30% of Australians aged 25 years and over (3.7 million) had high systolic or diastolic blood pressure or were on medication for hypertension (AIHW 2008b).

The National Prescribing Service (NPS) Indicators of Quality Prescribing in Australian General practice program uses a system of self-audit and surveys for participating GPs to evaluate their prescribing practices. The NPS indicator is presented as the ‘proportion of patients prescribed an antihypertensive agent who are not at their target blood pressure’ (NPS 2006).

Information relating to the management of hypertension has been reported by a number of BEACH/SAND sub-studies (2003-04, 2004-05 and 2006-07 reporting years). These included information such as:

- Proportion of patients attending GP with hypertension
- Current and target BP
- Medication use for hypertension

(AGPSCC 2007)

No international reporting of a similar indicator was identified

NPS data is collected via a national paper-based mail survey of GPs which is undertaken biennially. The GP survey collects data from, on average, 800-900 GPs. The limitations of the NPS GP survey include:

- There is a low response rate (about 40%)
- Underrepresentation of male GPs
- Underrepresentation of GPs in the less than 35 years old category and overrepresentation of GPs over than 45 years old (AIHW 2008d)

BEACH data is collected from a random sample of about 1,000 GPs using a survey to collect details of 100 consecutive GP-patient encounters. Information on specific topics which are not covered through the consultation-based data is collected through the Supplementary Analysis of Nominated Data (SAND) sub-studies. The format of these sub-studies is a series of additional questions answered by around 100 GPs (AIHW 2008d).

Ideally, the proportion of patients not at their target BP should be low. However, this result may be affected by the following factors:

- Some patients, especially the elderly, may not tolerate the specified blood pressure targets
- Patients not responding to antihypertensive therapy may have poor compliance
- Secondary hypertension is relatively resistant to standard therapy
- Newly diagnosed patients are likely to have blood pressures above their target values for some time while lifestyle interventions and drug therapy are being implemented (NPS 2006).

Also of note is the fact that this indicator does not identify patients with undiagnosed or untreated hypertension.

A future source of information for this indicator could be the data collected as part of the electronic patient record (EPR) stored within the practice information systems, for example, Medical Director.)
The potential advantages of using the ERP include:

- The ability to link diagnosis of hypertension and prescribing information with blood pressure measurement
- Overcome the current limitations of the existing surveys, such as small sample size and low response rates

It should be noted that both the National Prescribing Service and the Australian Primary Care Collaboratives (APCC) are currently undertaking work aimed at including data relating to hypertension as part of their respective electronic practice information tools.
### Indicator title
Management of chronic pain in arthritis and musculoskeletal conditions

### Indicator status
Concept proposed for further research and development

### Description/Definition of Indicator
Number of people with arthritis and musculoskeletal conditions whose chronic pain is adequately managed.

### Rationale
Findings from the 2004–05 National Health Survey revealed that long-term arthritis and musculoskeletal conditions affect more than 6 million people, or 31% of the population, in Australia (AIHW 2008b). Arthritis and musculoskeletal conditions became a National Health Priority Area in 2002, and in 2003 accounted for 4% of the total disease burden in Australia (AIHW 2008b, AIHW 2005). These conditions are a highly heterogeneous group, which include more than 150 forms of arthritis and musculoskeletal conditions, and their causes include overuse of joints, congenital anomalies, metabolic or biochemical abnormalities, infections, inflammatory conditions, trauma and cancer (AIHW 2008b). The NHPA initiative for arthritis and musculoskeletal conditions is has focused initially on osteoarthritis, rheumatoid arthritis and osteoporosis; these conditions being among the most common, both in Australia and worldwide (AIHW 2005).

Pain, both acute and chronic, are key symptoms in most forms of arthritis and musculoskeletal conditions (AIHW 2005). Chronic pain is frequently defined as experiencing pain every day for a duration of three months or more, however, it should be noted that there is debate regarding the classification of what constitutes ‘chronic pain’ (Blyth et al 2001, Carnes et al 2007).

The majority of treatment for arthritis and musculoskeletal conditions is aimed at managing pain and improving functioning and health-related quality of life (AIHW 2005). It should be noted that the management of chronic pain associated with arthritis and musculoskeletal conditions may include pharmacological and physical therapy and can potentially involve a variety of practitioners including: GPs, physiotherapists, occupational therapists, chiropractors, massage therapists and other alternative health practitioners (AIHW 2005, AIHW 2008b).

### Australian reporting of this indicator
While not restricted to arthritis and musculoskeletal conditions, a BEACH/SAND sub-study was reported from the 2005-06 reporting year which included both ‘severity of chronic pain’ (using Chronic Pain Grades) and ‘clinical opinion of GPs on adequacy of pain management for patients with chronic pain’ (AGPSCC 2006). The ‘Chronic Pain Grade’ scale is a questionnaire-based assessment tool for patients to rate the severity of their pain (Von Korff et al 2008).

### International reporting of this indicator
No international reporting of a similar indicator was identified

### Data sources and data quality
BEACH data is collected from a random sample of about 1,000 GPs using a survey to collect details of 100 consecutive GP-patient encounters. Information on specific topics which are not covered through the consultation-based data are collected through the Supplementary Analysis of Nominated Data (SAND) sub-studies. The format of these sub-studies is a series of additional questions answered by around 100 GPs (AIHW 2008d).

The BEACH/SAND sub-study on chronic pain was restricted to 109 GP and only covered a two month period. This survey based method allows for information to be collected relating to the clinical condition, the patient’s assessment of pain and the GPs clinical opinion regarding adequacy of pain management and could provide the basis for the future operationalisation of this indicator on a wider scale

### Issues with interpretation of this indicator
While the patient rated severity of pain and GP clinical opinion on adequacy of pain management are recorded in a general practice setting, the adequacy of pain management for arthritis and musculoskeletal conditions can also include pharmacological and physical therapy and may include a variety of practitioners as noted above.

The BEACH/SAND type survey provides an example of the type of information required to inform the reporting of this proposed indicator. However, at this stage the coverage of the existing survey would need to be expanded to allow routine reporting with national coverage.

A future source of information for this indicator could also be the data collected as part of the electronic patient record (EPR) stored within the practice information systems, for example, Medical Director).

The potential advantages of using the EPR include:
- The ability to link diagnosis of arthritis and musculoskeletal conditions, prescribing information, patient rated severity of pain and GP clinical opinion on adequacy of pain management
- Patient referral to other health care providers such as allied health and medical specialists
- Overcome the current limitations of the existing surveys, such as small sample size and low response rates.

<table>
<thead>
<tr>
<th>Indicator title</th>
<th>Management of chronic pain in arthritis and musculoskeletal conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator status</td>
<td>Concept proposed for further research and development</td>
</tr>
<tr>
<td>Description/Definition of Indicator</td>
<td>Number of people with arthritis and musculoskeletal conditions whose chronic pain is adequately managed.</td>
</tr>
<tr>
<td>Rationale</td>
<td>Findings from the 2004–05 National Health Survey revealed that long-term arthritis and musculoskeletal conditions affect more than 6 million people, or 31% of the population, in Australia. Arthritis and musculoskeletal conditions became a National Health Priority Area in 2002, and in 2003 accounted for 4% of the total disease burden in Australia. These conditions are a highly heterogeneous group, which include more than 150 forms of arthritis and musculoskeletal conditions, and their causes include overuse of joints, congenital anomalies, metabolic or biochemical abnormalities, infections, inflammatory conditions, trauma and cancer. The NHPA initiative for arthritis and musculoskeletal conditions is has focused initially on osteoarthritis, rheumatoid arthritis and osteoporosis; these conditions being among the most common, both in Australia and worldwide. Pain, both acute and chronic, are key symptoms in most forms of arthritis and musculoskeletal conditions. Chronic pain is frequently defined as experiencing pain every day for a duration of three months or more, however, it should be noted that there is debate regarding the classification of what constitutes ‘chronic pain’. The majority of treatment for arthritis and musculoskeletal conditions is aimed at managing pain and improving functioning and health-related quality of life. It should be noted that the management of chronic pain associated with arthritis and musculoskeletal conditions may include pharmacological and physical therapy and can potentially involve a variety of practitioners including: GPs, physiotherapists, occupational therapists, chiropractors, massage therapists and other alternative health practitioners.</td>
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<td>While not restricted to arthritis and musculoskeletal conditions, a BEACH/SAND sub-study was reported from the 2005-06 reporting year which included both ‘severity of chronic pain’ (using Chronic Pain Grades) and ‘clinical opinion of GPs on adequacy of pain management for patients with chronic pain’. The ‘Chronic Pain Grade’ scale is a questionnaire-based assessment tool for patients to rate the severity of their pain.</td>
</tr>
<tr>
<td>International reporting of this indicator</td>
<td>No international reporting of a similar indicator was identified</td>
</tr>
<tr>
<td>Data sources and data quality</td>
<td>BEACH data is collected from a random sample of about 1,000 GPs using a survey to collect details of 100 consecutive GP-patient encounters. Information on specific topics which are not covered through the consultation-based data are collected through the Supplementary Analysis of Nominated Data (SAND) sub-studies. The format of these sub-studies is a series of additional questions answered by around 100 GPs. The BEACH/SAND sub-study on chronic pain was restricted to 109 GP and only covered a two month period. This survey based method allows for information to be collected relating to the clinical condition, the patient’s assessment of pain and the GPs clinical opinion regarding adequacy of pain management and could provide the basis for the future operationalisation of this indicator on a wider scale.</td>
</tr>
<tr>
<td>Issues with interpretation of this indicator</td>
<td>While the patient rated severity of pain and GP clinical opinion on adequacy of pain management are recorded in a general practice setting, the adequacy of pain management for arthritis and musculoskeletal conditions can also include pharmacological and physical therapy and may include a variety of practitioners as noted above. The BEACH/SAND type survey provides an example of the type of information required to inform the reporting of this proposed indicator. However, at this stage the coverage of the existing survey would need to be expanded to allow routine reporting with national coverage. A future source of information for this indicator could also be the data collected as part of the electronic patient record stored within the practice information systems, for example, Medical Director. The potential advantages of using the EPR include:</td>
</tr>
<tr>
<td>Indicator development</td>
<td>The ability to link diagnosis of arthritis and musculoskeletal conditions, prescribing information, patient rated severity of pain and GP clinical opinion on adequacy of pain management Patient referral to other health care providers such as allied health and medical specialists Overcome the current limitations of the existing surveys, such as small sample size and low response rates.</td>
</tr>
</tbody>
</table>
Indicator title | Annual cycle of care within general practice for people with diabetes
---|---
Indicator status | Established indicator, currently in use and reportable using Australian data, could be improved with further indicator and data development
This indicator is to be reported under the National Health Care Agreement
Description/Definition of Indicator | Proportion of people with diabetes mellitus who have received an annual cycle of care within general practice
Rationale | Diabetes became a National Priority Area in 1996. In November 2005, the Australian Health Ministers’ Conference (AHMC) endorsed a national strategic policy approach to manage and improve chronic disease prevention and care in the Australian population. The proposed national approach comprises three complementary components: the National Chronic Disease Strategy, the National Service Improvement Frameworks and the Blueprint for Chronic Disease Surveillance. These provide an overarching framework for addressing the burden of chronic disease including diabetes, and for providing information to monitor progress (AIHW 2008c).
Poor management of diabetes increases the risk of a range of complications which are the major causes of associated morbidity and mortality in people with diabetes. The goal of diabetes management is for the diabetic patient to have a life that is as healthy and as normal as possible. Symptom control and longer term prevention can be achieved by maintaining normal blood glucose levels and by attention to lifestyle and its associated risk factors (such as diet and physical activity). (AIHW 2008f, Greenfield et al 2004)
The Australian Government provides funding for GPs to undertake an annual cycle of care for diabetic patients. The Royal Australian College of General Practitioners (RACGP) and Diabetes Australia guidelines describe the minimum level of care for people with diabetes which are aimed at monitoring glycaemic control, and preventing or delaying the onset of complications (AIHW 2008b; Roughhead 2008).
The elements of the annual cycle of care for managing diabetes include:
- Measurement of glycated haemoglobin (HbA1c) levels.
- Review smoking status, physical activity and nutrition.
- Measurement of body mass index (BMI).
- Measure blood pressure and serum lipids (cholesterol, triglycerides and HDL).
- Medication review.
- Comprehensive eye examination.
- Foot examination.
- Measurement of urinary albumin excretion (microalbuminuria test).
- Self-care education
(DoHA 2007a, Roughhead 2008).
Determining the proportion of people with diabetes who have completed an annual cycle of care provides a measure of the extent to which GPs provide continuity or coordination of care for the prevention and management of diabetes mellitus (NHPC 2004)

Australian reporting of this indicator | The National Health Performance Committee (NHPC) National Performance Framework includes an indicator relating to management of diabetes, which was most recently published in the National Report on Health Sector Performance Indicators 2003. This report contained information on the proportion of all people with diabetes who had received an annual cycle of care, within those general practices that were participating in the Practice Incentive Program (PIP). The calculation was restricted to those practices participating in the PIP as they were eligible to sign onto the Diabetes initiative. The completion of an annual cycle of care for a diabetic patient initiates a ‘diabetes incentive payment’ through the PIP (NHPC 2004).

International reporting of this indicator | The Organisation for Economic Coordination and Development (OECD) report Selecting indicators for the quality of diabetes care at the health systems level in OECD countries includes four indicators relating to diabetes management: annual glycated haemoglobin, LDL cholesterol and urinary albumin measurements, and annual eye examination (Greenfield et al 2004).
The Agency for Healthcare Research and Quality (AHRQ) in the USA has previously reported on the management of diabetes in the National Healthcare Quality Report 2007. This report includes the national rates of three recommended measures of diabetes management: annual glycated haemoglobin measurement, eye examination and foot examination (AHRQ 2008b).
The New Zealand Ministry of Health report, Health Targets: Moving towards healthier futures 2007/08, includes three indicators to measure diabetes management: the proportion of people with diabetes who have an annual
free check, annual glycated haemoglobin levels showing satisfactory glycaemic control, and annual retinal screening (NZ MOH 2007).

Data sources and data quality

Medicare Benefits Schedule (MBS). The MBS is a national administrative data collection relating to the payment of subsidies for services provided by health professionals, including GPs.

Currently, completion of an annual cycle of care for diabetes attracts a ‘diabetes incentive payment’ through Medicare. However, this payment (and thus use of the MBS item for diabetes annual cycle of care) is restricted to accredited practices that are registered for the Practice Incentive Program (PIP), which represents around 66% of all practices (SCRGSP 2008).

Issues with interpretation of this indicator

GP’s who are not accredited and registered for the PIP program may be providing all elements of the annual cycle of care to their patients with diabetes however this would not be picked up within the current data. In addition, a GP may not necessarily claim the incentive payment even though they are eligible to do so.

Indicator development

The future development of a data collection based on the electronic patient record (EPR), stored within the practice information system, would provide information regarding diabetes management for the one-third of practices which are not accredited, and so not eligible to claim the diabetes incentive payment.
<table>
<thead>
<tr>
<th>Indicator title</th>
<th>End stage kidney disease in people with diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indicator status</strong></td>
<td>Established indicator, currently in use and reportable using Australian data, data development required</td>
</tr>
<tr>
<td><strong>Description/Definition of Indicator</strong></td>
<td>Persons with end-stage renal disease with diabetic nephropathy as a causal factor, as a proportion of all persons with diabetes</td>
</tr>
<tr>
<td><strong>Rationale</strong></td>
<td>Diabetes became a National Priority Area in 1996. In November 2005, the Australian Health Ministers’ Conference (AHMC) endorsed a national strategic policy approach to manage and improve chronic disease prevention and care in the Australian population. The proposed national approach comprises three complementary components: the National Chronic Disease Strategy, the National Service Improvement Frameworks and the Blueprint for Chronic Disease Surveillance. These provide an overarching framework for addressing the burden of chronic disease including diabetes, and for providing information to monitor progress (AIHW 2008c). Poor management of diabetes increases the risk of a range of complications which are the major causes of associated morbidity and mortality in people with diabetes. The goal of diabetes management is for the diabetic patient to have a life that is as healthy and as normal as possible. Symptom control and longer term prevention can be achieved by maintaining normal blood glucose levels and by attention to lifestyle and its associated risk factors (such as diet and physical activity). (AIHW 2008f, Greenfield et al 2004) Kidney disease due to uncontrolled diabetes is the most frequent cause of end-stage renal failure (ESRF) in Australia. In end-stage renal failure kidney function has deteriorated to the point where it is no longer sufficient to sustain life and, if interventions such as dialysis and renal transplant were not undertaken, this condition would be fatal within weeks (Greenfield et al, 2004). Research has shown that the prevention and retardation of kidney disease in patients with diabetes is possible through adequate management, and that the incidence of kidney disease in patients with diabetes would seem to be a good measure of the quality of care for patients with this condition, lending the measure face validity (Greenfield et al 2004). Therefore, as an indicator, the rate of kidney disease in people with diabetes reflects the outcomes of long-standing inadequate management of diabetes.</td>
</tr>
<tr>
<td><strong>Australian reporting of this indicator</strong></td>
<td>This information has been previously reported in the Annual report of the Australia and New Zealand Dialysis and Transplant Registry (ANZDATA).</td>
</tr>
<tr>
<td><strong>International reporting of this indicator</strong></td>
<td>The Organisation for Economic Coordination and Development (OECD) report Selecting indicators for the quality of diabetes care at the health systems level in OECD countries includes a proposed indicator for reporting on the number of diagnosed diabetics with ESRF.</td>
</tr>
<tr>
<td><strong>Data sources and data quality</strong></td>
<td>ANZDATA collects information from dialysis units in Australia and New Zealand on all patients receiving kidney replacement therapy where the intention to treat is long term. Cases of acute kidney failure are excluded. Advantage of using the ANZDATA include:  - The clinical diagnosis which has led to the need for renal replacement therapy, as well as co-morbidities, is recorded.  - There is a high level of completeness of this data collection (99% complete when made available).</td>
</tr>
<tr>
<td><strong>Issues with interpretation of this indicator</strong></td>
<td>A limitation of this indicator is that the total number of individuals with diabetes in Australia is unknown (NHPC 2004).</td>
</tr>
<tr>
<td><strong>Indicator development</strong></td>
<td>ANZDATA is a well established (since the 1960s) data collection. However, determining its usefulness for reporting on the safety and quality of the health system requires further development work.</td>
</tr>
</tbody>
</table>
Indicator title | Lower-extremity amputation in people with diabetes
---|---
Indicator status | Proposed indicator, partially reportable using Australian data, data development required
Description/Definition of Indicator | People with diabetes with major (above or below knee) lower-extremity amputations
Rationale | Diabetes became a National Priority Area in 1996. In November 2005, the Australian Health Ministers’ Conference (AHMC) endorsed a national strategic policy approach to manage and improve chronic disease prevention and care in the Australian population. The proposed national approach comprises three complementary components: the National Chronic Disease Strategy, the National Service Improvement Frameworks and the Blueprint for Chronic Disease Surveillance. These provide an overarching framework for addressing the burden of chronic disease including diabetes, and for providing information to monitor progress (AIHW 2008c).

Poor management of diabetes increases the risk of a range of complications which are the major causes of associated morbidity and mortality in people with diabetes. The goal of diabetes management is for the diabetic patient to have a life that is as healthy and as normal as possible. Symptom control and longer term prevention can be achieved by maintaining normal blood glucose levels and by attention to lifestyle and its associated risk factors (such as diet and physical activity). (AIHW 2008f, Greenfield et al 2004)

Peripheral vascular disease and neuropathy due to uncontrolled diabetes puts the patient at greater risk of lower-extremity lesions, which can then lead to further complications such as infections (e.g. gangrene or osteomyelitis) that then lead to the need for amputations (AIHW 2008).

It is proposed that this indicator will have a focus on major amputation, as minor amputations of the toes and feet may be done to prevent major amputations, and could conceivably be the result of improved system and patient surveillance that leads to earlier detection and treatment of foot lesions. Since major amputations result in large decreases in quality of life they may be considered to be a failure of care even if necessary when performed. Thus, major amputations may be more likely to be linked to antecedent poor quality of care (Greenfield et al 2004).

As an indicator, rates of lower-extremity amputation in people with diabetes reflect outcomes of long-standing inadequate management of diabetes.

Australian reporting of this indicator | No local reporting of a similar indicator was identified
International reporting of this indicator | The Organisation for Economic Coordination and Development (OECD) report Selecting indicators for the quality of diabetes care at the health systems level in OECD countries includes a proposed indicator for reporting on the number of major (above or below the knee) amputations in a year.
Data sources and data quality | Data on hospital admissions for non-traumatic amputation with diabetes are available from the National Hospital Morbidity Database. However this does not enable differentiation between multiple admissions for the same individual, for example one patient with multiple admission and different types of amputations for each admission, 1 toe, ankle, knee etc.
Issues with interpretation of this indicator | A limitation of this indicator is that the total number of individuals with diabetes in Australia is unknown (NHPC 2004).
It should be noted that the OECD – Quality Indicators project, is still in a development phase.
Indicator development | This indicator has not been operationalised for national reporting in Australia and data development is required.
<table>
<thead>
<tr>
<th>Indicator title</th>
<th>Treatment of depression in primary care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator status</td>
<td>Concept proposed for further research and development</td>
</tr>
<tr>
<td>This indicator will not be included in the final recommended set, having been replaced by the indicator &quot;Mental health care plans in general practice&quot; which is part of the set to be reported under the National Health Care Agreement. Information on this replacement indicator is included (in the format to be used in the main report) on the next page.</td>
<td></td>
</tr>
<tr>
<td>Description/Definition of Indicator</td>
<td>To be determined</td>
</tr>
</tbody>
</table>
| Rationale | Mental health is a National Health Priority Area, and mental disorders, including depression, accounted for 13% of the total burden of disease in Australia in 2003, third behind cardiovascular disease and cancer; and mental disorders are the largest contributor to the non-fatal burden of disease (24%) (AIHW 2008b). It should be noted that the initial focus of the NHPA initiative in mental health is upon depression.  

Depression can be defined as a mood disorder with prolonged feelings of being sad, hopeless, low and inadequate, with a loss of interest or pleasure in activities and often with suicidal thoughts or self-blame (AIHW 2008b).  

It is recognised that primary care, and in particular general practice, is a major point of contact for individuals with mental health disorders such as depression (Johnson 20007). In 2006-07, for example, it is estimated that over 10% of all GP encounters were mental health-related encounters (AIHW 2008i). However, there is some evidence that GPs fail to recognise depression in about half of cases (Clarke et al 2008).  

While not restricted to depression, the Divisions of General Practice National Performance Indicators include a group of indicators directed to management of mental health disorders. These indicators include:  

- The number and proportion of GPs in the Division who have completed any mental health training recognised through the General Practice Mental health Standards Collaboration  
- The number of GP mental health plans claimed by GPs practicing within the Division’s area, compared to the estimated population in the Division’s area who could benefit from the development of a GP mental health care plan  

It should be noted that in Australia there are currently no agreed guidelines regarding what is appropriate treatment for patients with depression. This proposed indicator of the quality of the treatment of depression in primary care is a concept which requires future development work. There were no examples of local or international reporting of this or a similar indicator identified. In considering a proposed indicator of the quality of treatment of depression in primary care, however, it is evident that this is a difficult concept to define, and thorough consultation will be needed to identify, develop and implement an appropriate a measure or measures as the basis of an indicator. |
| Australian reporting of this indicator | No local reporting of a similar indicator was identified |
| International reporting of this indicator | No international reporting of a similar indicator was identified |
| Data sources and data quality | At this stage there is no defined data source for this proposed indicator. |
| Issues with interpretation of this indicator | The current Australian estimates for the prevalence of depression are based on the 1997 National Survey of Mental Health and Wellbeing. This survey was repeated in 2007, but at this stage the findings are yet to be published. When available, this will provide an update to the number of individuals with depression, which could be used as a denominator for any future indicators. |
| Indicator development | At this stage this indicator is a concept proposed for further research and development |
Mental health care plans in general practice

Indicator number: 45
Description: Proportion of people with mental illness with GP care plans
Indicator status: Proposed indicator. Currently reportable using Australian data.

This indicator is to be reported under the National Health Care Agreement

Rationale (clinical/policy): Mental health is one of Australia’s National Health Priority Areas, with mental illness being one of the more prevalent conditions affecting the Australian population (AIHW 2008). In 2007 the Australian Bureau of Statistics (ABS) conducted a National Survey of Mental health and Wellbeing, with one of the findings of this survey being that one in five (20% or 3.2 million) Australians had a 12-month mental illness (ABS 2008).

Mental illness is one of the leading causes of non-fatal burden of disease in Australia, and is associated with increased exposure to health risk factors, poorer physical health, and higher rates of death from many causes including suicide. Mental illness is responsible for a large proportion of disability cases, incur high direct and indirect costs, result in high numbers of hospitalisations, and impose a heavy burden of human suffering, including stigmatisation of people with mental disorders and their families (AIHW 2008).

It is recognised that primary care, and in particular general practice, is a major point of contact for individuals with mental illness (Johnson 2007). Funding is provided through the Medical Benefits Scheme (MBS) for general practitioners to undertake a mental health care plan for patients with mental illness. The MBS items incorporate a model for best practice primary health care of patients with mental disorders, including patients with both chronic and non-chronic disorders that comprise: assess and plan; provide and/or refer for appropriate treatment and services; and review/ongoing management as required (DoHA 2008).

Numerator: Number of individuals with a mental health plan
Denominator: Total population
Indicator type: Process
Level of application: Clinician
Disaggregation: To be determined
Related Indicators: 42 – Post-discharge community care for mental health patients
Issues/Comments: This indicator only provides an indication of the extent to which GPs are utilising MBS mental health care plan items. It is not regarded as a specific measure of the quality of mental health management by GPs.

Framework elements
Health needs domain: Living with illness
Quality Domain: Appropriate
Setting: Primary care
Area of expenditure: Primary care

Data Comments
Data currently available

53
This indicator would ideally be related to the number of people with mental illness. This data could be obtained from the National Mental Health Survey.

Data source: MBS

International comparisons available: No

Data currently available:

Per capita rate of MBS items for mental health plans by State and Territory (per 100,000 population), 2006-07 to 2007-08.

What this data shows

- The dramatic increase in the use of mental health plans between 2006-07 and 2007-08 reflects the introduction of the Better Access to mental health services program, replacing the previous Better Outcomes program.

References


Indicator title: Inappropriate co-prescribing of medicines

Indicator status: Concept proposed for further research and development

Description/Definition of Indicator: Proportion of patients identified with inappropriate combinations of prescribed medicines

Rationale:
The National Strategy for Quality Use of Medicines is one component of the National Medicines Policy, and has the stated goal to, “...make the best possible use of medicines to improve health outcomes for all Australians” (DoHA 2002). The Quality Use of Medicines (QUM) can be defined broadly as including:

- Selecting medicine management options wisely
- Choosing suitable medicines if a medicine is considered necessary
- Using medicines safely and effectively
- The QUM defines ‘medicine’ as including: prescription medicines; over-the-counter medicines; vitamin and mineral supplements; herbal and natural therapies medicines (DoHA 2002, NPS 2008).

Goldberg & Adena (2007) state that, “if a medicine is considered necessary, then QUM mandates selection of the most appropriate medicine should take into account factors such as the individual, the clinical condition, risks and benefits, dosage and length of treatment, any coexisting conditions and other therapies.”

The National Prescribing Service (NPS) consider that prescriptions may be inappropriate when:

- there are contraindicated existing medical conditions
- there are potential drug interactions
- there are known documented allergies
- the wrong dose is prescribed
- there is inadequate monitoring
- two drugs are prescribed for a patient when only one is necessary
- when a drug is prescribed for which there is no indication.

(NPS 2006)

The inappropriate co-prescribing of prescription medicines could potentially relate to a wide variety of co-morbidities and medicines including, for example, the co-prescribing of topical and systemic beta-blockers in patients with glaucoma. In addition, indicators of inappropriate co-prescribing could be developed to include secondary and tertiary health care sectors.

Australian reporting of this indicator:
In Australia, there were two indicators of inappropriate co-prescribing identified which have been operationalised:

1. Inappropriate co-prescribing with antidepressants. The Department of Veteran’s Affairs (DVA) Medicines Advice and Therapeutics Education Services (MATES) program has identified the following examples of inappropriate co-prescribing:

- SSRI antidepressants co-prescribed with: Tramadol; HMG Co-A reductase inhibitors; beta-blockers; perhexiline; and antipsychotic drugs
- Tricyclic antidepressants (TCA) co-prescribed with: nitrates; anticholinergic drugs; selective alpha blockers

However, data for this indicator is currently only collected for veterans.

2. Co-prescribing of ACE inhibitors, or angiotensin II-receptor antagonists, with diuretics and NSAIDs (including COX-2 selective NSAIDs). The National Prescribing Service includes this in their Indicator of Quality Prescribing in Australian General Practice.

However, this information is currently only for use as a quality measure within general practices.

International reporting of this indicator:
No international reporting of a similar indicator was identified

Data sources and data quality:
While PBS data could be used to identify some instances of inappropriate co-prescribing this does not apply to all patients.

Further research and development, including defining potential sources of data, is required for this indicator. It should be noted that the operationalisation of this type of proposed indicator may require data-linkage which is
Currently not possible.

**Issues with interpretation of this indicator**
Specific indicators relating to inappropriate co-prescribing have been reported in Australia. However, the proposed indicator is a much broader construct than these specific indicators, and is still to be fully developed and defined. For example, what health sectors (primary health care, hospitals) will be included and whether the indicator will relate to only the inappropriate co-prescribing of medications with medications, or whether it should include co-prescribing of medications with clinical conditions.

**Indicator development**
The proposed indicator is a concept which will require further research and development.
<table>
<thead>
<tr>
<th>Indicator title</th>
<th>People receiving a medicine review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator status</td>
<td>Proposed indicator, partially reportable using current Australian data, data development required</td>
</tr>
<tr>
<td>Description/Definition of Indicator</td>
<td>People who have received a home medicine review or residential medication management review in the last 12 months</td>
</tr>
<tr>
<td></td>
<td>This includes both community dwelling (Medicare item 900) and aged care facility residents (Medicare item 903).</td>
</tr>
<tr>
<td>Rationale</td>
<td>The Australian Government’s Home Medicine Review (HMR) initiative is a patient-centred approach to ensuring the appropriate and safe use of medicines by patients at risk of a medication misadventure. It is a collaborative health care service that involves the relevant members of a patient's healthcare team. A HMR involves, at a minimum, the patient, their GP and a pharmacist.</td>
</tr>
<tr>
<td></td>
<td>As the gatekeeper for this service, GPs are required to determine a patient's clinical necessity for a medication review. Characteristics of patients qualifying as at risk of a medication misadventure include their age, complexities in their conditions and treatments, number of medicines they take, problems with taking medicines and available care support (Centre for Research and Education in Ageing).</td>
</tr>
<tr>
<td></td>
<td>Residential Medication Management Reviews (RMMR’s) aim to improve the medication management for residents of aged care homes. Approved aged care providers contract accredited pharmacists to undertake medication reviews and provide Quality Use of Medicines services in residential aged care homes.</td>
</tr>
<tr>
<td></td>
<td>The HMR and RMMR aim to prevent medicine-related problems. An Australian study has found that 88% of patients who had a medication review had at least one problem with use of their medication (Pit et al 2007) (NB this study used a different methodology than the HMR and RMMR). A trial of a patient-centred and multidisciplinary approach to medication management showed that 92% of General Practitioners and 94% of Pharmacists agreed that the care of the participating patient had improved (Sorensen et al. 2004). There were also positive affects for clinical outcomes and health service costs.</td>
</tr>
<tr>
<td></td>
<td>Research has shown that there are at least 80,000 medication-related hospitalisations in Australia each year (Roughead EE, 2002). Of these hospitalisations it is believed that between 32% and 69% are avoidable. This large range of avoidable cases indicates that there is the potential to reduce this problem.</td>
</tr>
<tr>
<td>Australian reporting of this indicator</td>
<td>No local reporting of a similar indicator was identified</td>
</tr>
<tr>
<td>International reporting of this indicator</td>
<td>No international reporting of a similar indicator was identified</td>
</tr>
<tr>
<td>Data sources and data quality</td>
<td>There are Medicare Benefit Schedule (MBS) items relating to HMR and RMMR. The MBS is a national administrative data collection relating to the payment of subsidies for services provided by health professionals, including GPs. An advantage of the MBS is that it represents a national source of data directly from every GP in Australia (AIHW 2008d).</td>
</tr>
<tr>
<td>Issues with interpretation of this indicator</td>
<td>Feedback from stakeholders identified that this type of indicator, based on MBS items, may be underutilised due to a perception among GPs that the administrative burden is ‘too high’.</td>
</tr>
<tr>
<td>Indicator development</td>
<td>A clear definition of ‘people at risk of medication misadventure’ is complex, and identifying this population, which would constitute the denominator for this proposed indicator, may require further research and development. A suggested option is the number of people currently on 5 or more medications.</td>
</tr>
<tr>
<td>Indicator title</td>
<td>Quality of community pharmacy services</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Indicator status</td>
<td>Concept proposed for further research and development</td>
</tr>
<tr>
<td>Description/Definition of Indicator</td>
<td>To be determined</td>
</tr>
<tr>
<td>Rationale</td>
<td>This proposed indicator of the quality of community pharmacy services is a concept which requires further consultation and development work. An example of current work in this area is the Quality Care Pharmacy Program (QCPP), which is a quality assurance program aimed at raising the standards of service that pharmacies provide to the public. The Program is based on business and professional standards that have been developed by both the Pharmacy Guild and other industry stakeholders. Currently, over 86% of Australian Community Pharmacies are accredited under the QCPP, which launched in 1998. To ensure that pharmacies are meeting the required Standard in all areas of their business, they are required to undergo an external audit every two-years. (QCPP 2008) Standard Maintenance Assessment visits are used to assess the maintenance of Quality Care Pharmacy Program (QCPP) standards in QCPP accredited pharmacies. The assessment involves a pseudo-patient purchasing Pharmacy Medicine or Pharmacist Only Medicine and the outcomes being reported to a pharmacy liaison officer (QCPP 2008).</td>
</tr>
<tr>
<td>Australian reporting of this indicator</td>
<td>Information is collected as a part of the QCPP accreditation process; however, this information is not available publicly.</td>
</tr>
<tr>
<td>International reporting of this indicator</td>
<td>No international reporting of a similar indicator was identified</td>
</tr>
<tr>
<td>Data sources and data quality</td>
<td>Information is collected as a part of the QCPP accreditation process. Information relating to the coverage and quality of the data collected has not been identified in the public domain. The QCPP program is presently undertaken only by accredited pharmacies. Ideally, any future indicator of the quality of community pharmacy would involve all pharmacies.</td>
</tr>
<tr>
<td>Issues with interpretation of this indicator</td>
<td>Further consultation and development work is required to clearly identify what information can and should be gathered to allow for reporting on the safety and quality of community pharmacies.</td>
</tr>
<tr>
<td>Indicator development</td>
<td>This proposed indicator of the quality of community pharmacy services is a concept which requires further consultation and development work.</td>
</tr>
</tbody>
</table>
**Indicator title**  
Accreditation of Health Care Services

As the context and scope of this discussion paper is primary health care, this material relates only to accreditation in General Practice

<table>
<thead>
<tr>
<th>Indicator status</th>
<th>Proposed indicator, partially reportable using current Australian data, indicator and data development required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description/Definition of Indicator</td>
<td>The proportion of GP practices, Aboriginal community controlled health organisations, hospitals and community pharmacies that are accredited</td>
</tr>
</tbody>
</table>
| Rationale | The ACSQHC state that, “accreditation is a systematic process and its purpose is to ensure that all health service providers in the health system provide the highest possible levels of safety and quality to consumers” (ACSQHC 2008). Accreditation is widely recognised as having played an important role over the past three decades in improving safety and quality in the Australian health care system (ACSQHC 2003). Accreditation in health care has been used as a proxy indicator of the provision of quality health care. Accreditation is the process whereby an external and independent body evaluates the degree of compliance by a health care service against previously determined standards and, if the service is found to be adequate, awarding certification (Braithwaite et al. 2005). The accreditation process provides a system for an organisation to review their performance and improve in areas that are identified as deficient. Accreditation of general practices in Australia is a voluntary process. Practices are evaluated against a set of national standards that have been developed by the Royal Australian College of General Practitioners (RACGP). The broad RACGP Standards include:  
- Access to care  
- Health promotion and prevention of disease  
- Continuity of care  
- Coordination of care  
Within each of these broad Standards there are a number of Criteria, and these contain multiple Indicators. These indicators principally relate to the structures and processes within the practice, but there are a small number of outcome indicators included. (RACGP 2007)  
In achieving accreditation, a practice is measured against the many structure, process and outcome indicators contained within the broad standards of the RACGP. General practices that are accredited have implemented and/or been found to comply with the set of National Standards. Practices may be accredited by one of two organisations that have been approved to undertake the accreditation assessment; Australian General Practice Accreditation Limited (AGPAL) and GPA Accreditation Plus (GPA) (NHPC 2004). An increase in the proportion of practices that are accredited may indicate an improvement in the capacity of general practices to deliver high quality services. Importantly, however, general practices without accreditation may also deliver services of equally high quality. For a particular general practice, the decision to seek accreditation might be influenced by perceived costs and benefits unrelated to its quality standards. Accreditation does affect eligibility for some government programs, such as the Practice Incentive Program (PIP), so there are some financial incentives for gaining accreditation (AIHW 2008b, SCRGSP 2008). Work is currently being undertaken by the ACSQHC, which has developed an ‘alternative’ model of safety and quality accreditation, the principles of which were endorsed by the AHMC in April 2008. Work will now proceed on ‘phase one’ of the implementation of these reforms, which will include:  
- Development of a preliminary set of Australian Health Standards (AHS) and exploration of options for their mandatory implementation  
- Determining processes, costs and possible funding options to implementing the Alternative Model for Safety and Quality Accreditation  
- A review and analysis of State and Territory private health facility licensing  
- A review of overlaps and potential linkages between accreditation and the contractual obligations between States and Territory health services and health insurance funds, including opportunities to streamline safety and quality performance reporting in this domain. (ACSQHC 2008)  

| Australian reporting of this indicator | The National Health Performance Committee (NHPC) National Performance Framework includes an indicator relating to accreditation in general practice, which was most recently published in Australia’s Health 2008. The NHPC indicator is presented as the number of accredited practices who participate in the Practice Incentives Program (PIP) and the proportion of all general practice services which are provided by those practices participating in PIP. This method was used due to the fact that information on the total number of general practices (as a denominator) was not available at that time. The number of accredited practices participating in |
the PIP was presented as a ‘measurable alternative’. This information was presented disaggregated by State and Territory (NHPC 2004).

The Steering Committee for the Review of Government Service Provision (SCRGSP) had, up until 2007, included an indicator based on an estimate of the number of general practices, which has been published in the Report on Government Services (ROGS) annually. However, this indicator only included those practices accredited through one of the accreditation services, AGPAL. This information was presented disaggregated by State and Territory (SCRGSP 2008).

However, the recently published ROGS 2008 included, for the first time, data from both AGPAL and GPA. Additionally, data for the number of general practices in Australia were for the first time sourced from the Annual Survey of Divisions of General Practice (ASDGP) conducted by the Primary Health Care Research and Information Service (PHC RIS). This overcomes the problem with calculating the denominator, total number of practices, as mentioned above. The completion of this survey by Divisions is required under contractual agreements with the Department of Health and Ageing (SCRGSP 2008).

<p>| International reporting of this indicator | No international reporting of a similar indicator was identified |
| Data sources and data quality | Annual Survey of Divisions of General Practice (ASDGP) conducted by the Primary Health Care Research and Information Service (PHC RIS) provides the total number of practices (denominator) as well as the number of accredited practices (numerator) |
| It should be noted that obtaining ‘at least 80%’ of practices reporting on this indicator is the defined ‘target’ which is used by the Divisions. |
| Issues with interpretation of this indicator | As noted above, general practices without accreditation may also deliver services of equally high quality to accredited practices. For a particular general practice, the decision to seek accreditation might be influenced by perceived costs and benefits unrelated to its quality standards (AIHW 2008b, SCRGSP 2008). |
| Stakeholders indicated that single doctor practices, either in remote/rural or urban localities, may be less able to bear the financial and administrative burden of accreditation. Analysis of the data may be able to provide information on the extent to which this occurs. |
| Indicator development | The recent introduction of the ASDGP has greatly improved the completeness and quality of data for the reporting of this indicator. |
| The reporting of this indicator could be enhanced through the presentation of geographical location, such as Division of General Practice. |</p>
<table>
<thead>
<tr>
<th>Indicator title</th>
<th>Patient experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>As the context and scope of this discussion paper is primary health care, this material relates only to patient experience of this sector</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicator status</th>
<th>Concept proposed for further research and development</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Description/Definition of Indicator</th>
<th>Patient evaluation of the quality of primary health care received</th>
</tr>
</thead>
</table>

| Rationale | Internationally, the use of surveys to elicit patient feedback regarding their experience of the health care system is widespread, with information derived from these surveys being used as part of quality monitoring and improvement processes (Jenkinson et al 2002, Pettersen et al 2004). Research by the Picker Institute Europe identified eight aspects of health care which were valued most highly by patients: |

- Fast access to reliable health advice.
- Effective treatment delivered by trusted professionals.
- Involvement in decisions and respect for preferences.
- Clear, comprehensible information and support for self-care.
- Attention to physical and environmental needs.
- Emotional support, empathy and respect.
- Involvement of, and support for, family and carers.

The Picker Institute has developed a tool known as the Picker Patient Experience Questionnaire, which has been used in a number of countries, for example the UK and Switzerland. In Australia, the NSW health Patient Survey uses the Picker tool for evaluating patient experience. |

It should be noted that the OECD has work relating to patient experience currently underway, which is aimed at developing comparative reporting of responsiveness/patient experience, using instruments such as the Picker Institute tool, amongst others. |

<table>
<thead>
<tr>
<th>Australian reporting of this indicator</th>
<th>In Australia, two jurisdictional surveys relating to patient experience have been identified:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• NSW Health Patient Survey (Inpatient/outpatient and community)</td>
<td></td>
</tr>
<tr>
<td>• Victorian Patient Satisfaction Monitor (Inpatient only)</td>
<td></td>
</tr>
</tbody>
</table>

A number of other jurisdictions report some information relating to patient satisfaction, but these appear to not be as systematic as the abovementioned surveys. |

<table>
<thead>
<tr>
<th>International reporting of this indicator</th>
<th>As mentioned above, a number of countries have implemented the Picker tool.</th>
</tr>
</thead>
</table>

As noted above, work is being undertaken by the OECD regarding patient experience. |

<table>
<thead>
<tr>
<th>Data sources and data quality</th>
<th>The NSW Health Patient Survey was the only jurisdictional source of patient experience relating to out-of-hospital care which was identified.</th>
</tr>
</thead>
</table>

A coordinated approach to the implementation of either one national patient experience survey tool, or if different tools are implemented in different states, comparability of reporting, would provide the opportunity for national reporting. |

Further work is required to define what health care settings would be covered by patient experience surveys, such as primary care, hospital in-patient and out-patient, etc. |

<table>
<thead>
<tr>
<th>Issues with interpretation of this indicator</th>
<th>National implementation of patient experience surveys would be required for national reporting of this indicator</th>
</tr>
</thead>
</table>

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5 Indicator reporting and presentation

This chapter provides some examples of the different ways that the data which can be used to produce and report primary health care indicators can be disaggregated to provide information about specific populations or health service provider groups of interest.

Disaggregation of data

‘Disaggregation’ refers to limiting the data to that which applies to specific groupings, such as health service settings or population sub-groups of interest. The advantage of disaggregating indicator data is that it allows comparisons to be undertaken between the rates for different groups and a national rate for the indicator.

An example of the value of disaggregating data is the rates of low birth weight babies comparing indigenous and non-indigenous mother. In 2005, there were 270,440 births in Australia of which 6.4% (17,241) were babies of low birth weight (<2,500g). Through disaggregating this data by the indigenous status of the mother, it shows that there were 17,241 births to Indigenous mothers in 2005 of which 1,303 were low birth weight, representing 13.2% of births for this group (AIHW 2008b).

This example shows that disaggregation allows further insight to be gleaned into differential rates of health service utilisation, health outcomes and differences in specific aspects of safety and quality relating to health service delivery which can occur across population groups.

Many ways of disaggregation can be considered, but in practice a handful of choices serve most purposes:

- Demographic categories such as sex and age
- Indigenous status
- Socioeconomic status
- Geographic area (of residence or of service)
- Health service areas such as Division of General Practice or public/private sectors

More detail about the various ways of disaggregating health data is provided below. Not all of these will be appropriate in all cases; some may be more suited to particular indicators or to use for particular purposes. Further, not all data collections will contain sufficient information to disaggregate the data in this manner: the relevant data items may not be collected, or the sample size may not be large enough to produce reliable estimates for small groups. In any situation the reasons for disaggregation and the quality of the resulting data need to be considered.
Sex

A person’s sex may affect their likelihood of developing a particular disease or using a particular type of health service provider. For example, rheumatoid arthritis is found much more often in women, whereas gout is much more likely to occur in men.

Sex is also a significant predictor of health-related behaviours (Barkley 2008). For example, women are more likely than men to use complementary and alternative medicines (Brownie 2006, Girgis et al. 2005), to participate in screening programs (Malila et al. 2008, Sieverding et al. 2008) and to seek help for mental health problems (Judd et al. 2008). Further, many studies have suggested men and women may receive different treatment for the same health condition (Bönte et al. 2008, Dong et al. 1998); some have related this partly to differing treatment preferences (Takakuwa et al. 2008). This has implications for interpreting data on the health care provided to men and women and making inferences about quality of the care provided.

Age group

The use of some types of health services becomes more frequent with age, for example the need for chronic disease management. Examining age-related variation in health care may highlight age groups at high risk or who may not be utilising health services for whatever reason, and can help to ensure age-targeted services (for example, cancer screening or vaccinations) are being provided to those for whom they are intended. It may also help in interpreting changes over time, for example, in procedure rates, where advances in technology and medical techniques may make certain procedures available to those who previously were not considered good candidates because of their age.

Indigenous status

It is well recognised that Australia’s Aboriginal and Torres Strait Islander peoples experience much poorer health than their non-Indigenous counterparts. In particular, rheumatic heart disease, kidney disease, diabetes, sexually transmitted diseases and injuries are much more common among Indigenous Australians. They are also much more likely to report risky health behaviours such as smoking, use of illicit substances, obesity and physical inactivity (ABS & AIHW 2008).

The disaggregation of data relating to the safety and quality of health services can be used to represent differences by Indigenous status. Other issues, such as access to health services for Aboriginal and Torres Strait Islander people, may be affected by distance, cost, cultural or language barriers, and lack of transport.

Data quality issues

It is often difficult to obtain reliable data about the health status of and use of health services by Indigenous Australians. Even administrative data collections such as the National Hospital Morbidity Database suffer from problems with accurately identifying Indigenous people. Reasons for the difficulty in obtaining data about Indigenous people may include, for example, the non-reporting of Indigenous status to national administrative systems (for example, Medicare enrolment details).
Efforts are being made to improve the accuracy and completeness of Indigenous identification within national and jurisdictional data collections. Although this will allow more accurate estimates of Indigenous health to be produced, care will need to be taken when evaluating trends, as they may reflect the effects of improved identification and not real changes to the underlying problems being targeted by the indicators.

**Socioeconomic status**

Disaggregating by the socioeconomic rating of an individual’s place of residence can demonstrate differences in the safety and quality of health services delivery. Using the example of potentially preventable hospitalisation, while the Australian rate for PPH in 2006-07 was 32.5 per 1,000 people, the rate for the most-disadvantaged areas was higher (40 per 1,000 people) than the most-advantages areas (25 per 1,000 people) (AIHW 2008g).

**Data quality issues**

In most health-related data collections, socioeconomic status is calculated using one of several area-based indexes derived by the Australian Bureau of Statistics from information collected in the Census of Population and Housing. The index most often used is the Index of Disadvantage (IoD). The IoD is an area-based measure that represents the average level of disadvantage across a geographic area, in this case the statistical local area (SLA). It is derived from social and economic characteristics of the SLA such as income, educational attainment, levels of public sector housing, level of unemployment, and jobs in relatively less skilled occupations.

It is usual for SLAs to be grouped into levels of relative socioeconomic disadvantage based on their IoD value. The groups are generally created such that each contains a specified proportion either of the total Australian population or of the total number of SLAs. The most commonly chosen groupings are fifths (‘quintiles’), fourths (‘quartiles’) or tenths (‘deciles’).

**Geographic location**

Disaggregation using a person’s place of residence can be used to reflect differences in the safety and quality of the health services delivered for different classifications, such as remoteness.

For example, it is useful to disaggregate the reporting of rates of potentially preventable hospitalisation (PPH) by the remoteness area for the individual’s place of residence. The Australian rate for PPH in 2006-07 was 32.5 per 1,000 people. However, the rate was higher for residents of very-remote areas (71 per 1,000 people) when compared to residents of major-cities (30 per 1,000 people) (AIHW 2008g).

There are a variety of geographical classifications used in Australia, which attempt to group areas with similar characteristics, for example, the size of the population and distance to major service centres, or under the same administrative unit (for example, local government areas).
Administrative regions

There are two main types of administrative regions by which to disaggregate data: service-type units (such as health service areas or divisions of general practice) and governmental units (such as state/territory or local government areas).

At the service unit level, there may be area-wide practices or processes that could be altered or implemented to improve the safety and quality of care. Further, these relatively small geographic regions may have characteristics that affect the health status of their residents or the health services they use—for example, a high proportion of older persons, or a large migrant population. Considering these factors can help us to understand variation in the safety and quality of health services delivered.

At the government unit level, policy and program decisions affect the types of services available, the environments in which people live and work, and to some extent the public health messages they receive. For example, though all states and territories provide oral health services for children and adolescents, the types of services provided, eligibility criteria and fees vary. In cases such as this, disaggregating data by jurisdiction may aid in its interpretation.

Data quality issues

Many data sets contain only limited geographic information, and in some cases where a variable such as postcode is collected these data are considered sensitive and are not made available for use in analysis.

A second problem is the capability of the data to produce reliable estimates for small areas. In many non-administrative data sources the sample size is simply not sufficient to enable data to be produced for regions smaller than the state or territory level. This will make it difficult to disaggregate the data by area health service or division of general practice.

A third issue is the changing of administrative boundaries over time. SLA boundaries, for example, are revised slightly each year. Although the Australian Bureau of Statistics provides mappings to reclassify data to different boundary systems, these are not available for every possible conversion and using multiple mappings can introduce misclassification errors.

Using geographic mapping

There are limitations to what standard geographical classification systems can tell us about variations in health. A good example of this is the fact that there is evidence that indicators such as mortality rates differ when comparing inland and costal regions, which would have the same geographical area classification (AIHW 2008a). Mapping also enables a visual illustration of the data so that variations and extremes can be easily seen.

Geographical mapping is an effective method for the analysis and display of health-related data; indeed, maps have been used to represent public health information for over 150 years (Gordon & Womersley 1997). The mapping is performed through the use of software applications known as Geographical Information Systems (GIS), which are programs that can be used to capture, store, retrieve, analyse and display spatial data, including health-related data.

From the perspective of informing policy, the knowledge that a ‘problem’ is concentrated in a particular geographical location, rather than just a type of location, provides the
opportunity for a more specific and targeted policy response (Rezaeian et al. 2007). In considering indicators relating to the safety and quality of primary health care, the use of GIS represents the opportunity to provide a detailed spatial analysis relating to the impact of location on the results of the various processes and outcomes measured.

**Time series analysis**

Examining how indicator measures change over time could be considered the fundamental reason for indicator-based reporting, because it is this that allows progress to be assessed. The ability to follow the indicators over time is therefore essential to indicator-based reporting.

It should be noted that there are some difficulties in the interpretation of time-series data, such as seasonality which can impact the ‘significance’ of findings over time.

**Data quality issues**

One of the biggest problems with reporting against indicators over time is data comparability. Several factors can affect this:

- the data items collected may change, so that it is not possible to calculate the same statistic at each time point
- coding systems may change, so although the same data item appears to be collected it does not provide the same information
- collection methods may change, affecting the accuracy or completeness of the data.
6 Example indicator presentation

This chapter provided some examples of how the proposed indicators could be reported against. The indicators presented here were those for which data were readily available, either published or easily obtainable in a usable format. The following indicators are included:

3 Decayed, missing and filled teeth among primary school children
7 Selected potentially preventable hospitalisations
10 Appropriate use of antibiotics in general practice for upper respiratory tract infection
11 Effectiveness of ambulance life-support interventions on the rate of survival from out-of-hospital cardiac arrest
44 Enhanced primary care services in general practice
49 Annual cycle of care for people with diabetes mellitus
50 End-stage kidney disease in people with diabetes
54 People receiving a medicine review
57 Accreditation in general practice

Data availability and quality

This report has noted the limitations of existing data sources with respect to providing data to report against indicators of safety and quality in primary health care. Although data for some issues of interest (for example, potentially preventable hospitalisations) are readily available, in others considerable data development is needed.

At present, data are available to report at least to some extent against 15 of the 19 proposed primary care indicators:

• for 10 indicators the available data allow national reporting against the indicator as defined
• for 2 indicators data for reporting as defined are available, but not at the national level (for example, only for certain states or territories, or a subset of services)
• for 3 indicators the data allow a ‘proxy’ or partial measure to be calculated at either the national or sub-national level.

For the remaining 4 indicators, either no data are currently available or the indicator is not yet sufficiently defined to nominate a data source.

The indicator summaries in the Toward national indicators of safety and quality in health care: discussion paper note some of the issues relating to the quality of the available data. These include incomplete coverage, lack of representativeness, and problems with the identification of Indigenous persons. These factors need to be taken into account when interpreting the indicators so that incorrect conclusions are not drawn.

Despite some limitations, the existing data collections can provide valuable insights into issues of safety and quality in Australian primary health care. As described in the previous chapter, one of the ways that best use can be made of the indicators is through
disaggregation. The following examples demonstrate how disaggregation can be used in reporting.

**Indicator 3: Decayed, missing and filled teeth among primary school children**

**Indicator definition**

**Description:** Mean number of decayed, missing or filled teeth (dmft/DMFT) among primary school children and ages 5–6 years and 12 years.

**Numerator:** Number of decayed, missing or filled deciduous teeth (dmft) among 5–6-year-olds.

Number of decayed, missing or filled permanent teeth (DMFT) among 12-year-olds.

**Denominator:** Number of children in age group.

**Presentation:** Average number for each age group.

**Recommended disaggregation:** Indigenous status, socioeconomic status, remoteness, state/territory.

**What the data show**

- On average, Australian children at 5–6 years of age have 1.9 decayed, missing or filled deciduous teeth. Children aged 12 have on average 1 decayed, filled or missing permanent tooth.

- Just over half of children aged 5–6 years and slightly less than half of children aged 12 years have no decayed missing or filled teeth.

- At age 5–6 years, children are more likely to have untreated decay than to have missing or filled teeth. Children at 12 years are about equally likely to have fillings or untreated decay, and unlikely to have missing teeth.

- 5–6-year-olds in Queensland and the Northern Territory tend to have more decayed, missing or filled teeth than children in other jurisdictions (Figure 6.1). By contrast, 12-year-olds in the Northern Territory are the least likely to have decayed, missing or filled teeth.

- Indigenous children aged 5 years have many more decayed, missing or filled deciduous teeth on average than their non-Indigenous counterparts (Figure 6.2). Indigenous 12-year-olds have slightly more decayed, missing or filled permanent teeth on average than non-Indigenous children of the same age.

- Children living in areas where the water has a low concentration of fluoride have greater average numbers of decayed, missing or filled teeth than those living in areas where the fluoride concentration is higher.
Notes
1. Data for 5–6-year-olds refers to decayed, filled or missing deciduous teeth. Data for 12-year-olds refers to decayed, filled or missing permanent teeth.

2. Data were not available for children resident in NSW.


Figure 6.1: Average number of decayed, filled or missing teeth at ages 5–6 years and 12 years, by state or territory of residence, 2002

Note: Data for 5–6-year-olds refers to decayed, filled or missing deciduous teeth. Data for 12-year-olds refers to decayed, filled or missing permanent teeth.


Figure 6.2: Average number of decayed, filled or missing teeth at ages 5 years and 12 years, by Indigenous status, 2001
Indicator 7: Potentially preventable hospitalisations

Indicator definition

Description: Admissions to hospital that could have potentially been prevented through the provision of appropriate non-hospital health services.

Numerator: Number of separations including diagnosis codes (either as principal or additional diagnosis, as relevant) for:
- Vaccine-preventable conditions
- Potentially preventable acute conditions
- Potentially preventable chronic

Denominator: Total population.

Presentation: Age-standardised rate per 1,000 population, standardised to the June 2001 Australian population.

Recommended disaggregation: Indigenous status, socioeconomic status, remoteness, division of general practice.

What the data show

- There were almost 700,000 hospital separations in 2006–07 that were identified as potentially preventable – 32 separations per 1,000 population. These included 12,543 separations for vaccine-preventable conditions (predominantly influenza and pneumonia) and 274,702 separations for acute conditions (with the largest numbers for dental, dehydration and gastroenteritis conditions). Chronic conditions accounted for 415,679 separations, with diabetes complications (227,620) and COPD (56,593) the conditions with the largest numbers of separations.

- Hospitalisation rates for PPHs were highest in very remote regions, with rates more than twice the national average (Figure 6.3(a)). Rates in other regional and remote areas were also much higher than rates in major cities. These patterns are consistent with the lower per person provision of general practice care, other primary care and specialist services in rural and remote Australia.

- Rates also varied between categories of socioeconomic status (Figure 6.3(b)). Rates in the most disadvantaged regions were 60% higher than those of the most advantaged regions.

- Comparing jurisdictions, rates for PPHs were lowest in the Australian Capital Territory and New South Wales (22 and 28 per 1,000 population, respectively) and highest in the Northern Territory and Western Australia (both 48 per 1,000 population). Rates for other states were similar to the national average.
Notes
1. Separations for which the care type was reported as Newborn with no qualified days and records for Hospital boarders and Posthumous organ procurement have been excluded.

2. Separations per 1,000 population were age-standardised to the June 2001 Australian population.

3. Potentially preventable hospital separations – Vaccine-preventable conditions include influenza, bacterial pneumonia, tetanus, measles, mumps, rubella, pertussis and polio. Potentially preventable acute conditions include dental conditions, dehydration/gastroenteritis, ear, nose and throat infections, convulsions and epilepsy, cellulitis, kidney infections, pelvic inflammatory disease and appendicitis. Potentially preventable chronic conditions include diabetes complications, chronic obstructive pulmonary disease, angina, congestive heart failure, asthma, and iron deficiency anaemia.

Source: AIHW 2008g.

Figure 6.3: Separation rates for potentially preventable hospitalisations, by broad categories, by remoteness area (a) and by quintile of socioeconomic disadvantage (b), 2006–07
Indicator 10: Appropriate use of antibiotics in general practice for upper respiratory tract infection

Indicator definition

Description: Prescriptions for oral antibiotics ordered by general practitioners (GPs) for the treatment of uncomplicated upper respiratory tract infection (URTI).

Numerator: Number of patient encounters where commonly used antibiotics are prescribed by GPs for uncomplicated URTI problems.

Denominator: Number of patient encounters for URTI by GPs.

Presentation: Prescribing rate per 100 encounters for URTI.

Recommended disaggregation: Remoteness, division of general practice.

What the data show

- The prescribing rate of antibiotics for URTI problems declined from 42.1 per 100 URTI problems in 1998–99 to 34.6 per 100 problems in 2006–07 (Figure 6.4). The decline was significant for cephalosporins and ‘other’ antibiotics (which include tetracyclines and macrolides).

- Where antibiotics are necessary for the management of some URTIs, narrow spectrum penicillins are recommended. These include amoxycillin, amoxycillin+clavulanate, and phenoxyethylpenicillin (Therapeutic Guidelines Ltd 2000). The rate of prescription or supply of narrow spectrum penicillins increased slightly (though not significantly) between 1998–99 and 2006–07, suggesting a possible shift towards more appropriate management of URTIs.

- URTI was the second most common problem managed with antibiotics in 2001–02 (14.4 per 100 antibiotic encounters), after acute bronchitis (15.3 per 100 antibiotic encounters). Between 1998–99 and 2006–07, there was a significant decline in the management rate of URTI (from 6.8 to 5.8 problems per 100 encounters) (AIHW 2008b).
Figure 6.4: Prescribing rates of antibiotics for URTIs, 1998–99 to 2006–07

Note: Year refers to BEACH data year, which runs from 1 April to 31 March.

Source: AIHW 2008b.
Indicator 11: Effectiveness of ambulance life-support interventions on the rate of survival from out-of-hospital cardiac arrest

Indicator definition

Description: The proportion of patients aged 16 years and over who were in cardiac arrest (excluding paramedic witnessed) where any chest compressions and/or defibrillation was undertaken by ambulance personnel, who have a return to spontaneous circulation on arrival at hospital.

Numerator: Number of patients aged 16 years and over who were in cardiac arrest (excluding paramedic witnessed) where any chest compressions and/or defibrillation was undertaken by ambulance personnel who have a return to spontaneous circulation on arrival at hospital.

Denominator: Number of patients aged 16 years and over who were in cardiac arrest (excluding paramedic witnessed) where any chest compressions and/or defibrillation was undertaken by ambulance personnel.

Presentation: Proportion.

Recommended disaggregation: Geographical location.

What the data show

- The cardiac arrest survival rate varies across jurisdictions, from 12% in Western Australia to 28% in Victoria in 2006–07.

- Note that this indicator does not reflect the proportion of patients who survive to be discharged from hospital alive, but is the proportion with spontaneous circulation at transfer of care to medical staff at the receiving hospital.
Notes

1. Proportion of people aged 16 years and over who were in cardiac arrest (excluding paramedic witnessed) where any chest compressions and/or defibrillation was undertaken by ambulance personnel, who have a return to spontaneous circulation on arrival at hospital.

2. Data were not available for Tasmania.


Figure 6.5: Cardiac arrest survival rate, 2006-07
Indicator 47: Annual cycle of care for people with diabetes mellitus

Indicator definition

Description: Proportion of people with diabetes mellitus who have received an annual cycle of care within general practice.

Numerator: Number of people with diabetes mellitus who have received an annual cycle of care within general practice.

Denominator: Estimated number of people with diabetes mellitus managed within general practice.

Presentation: Proportion.

Recommended disaggregation: Indigenous status, socioeconomic status, remoteness, division of general practice.

What the data show

- Relatively few Medicare claims were made by GPs for completing an annual cycle of care for a person with diabetes, compared with the number of Australians diagnosed with the condition.

- Around 11% of people with diabetes had an annual cycle of care. They were more common in females and in older age groups.

- People with diabetes living in Tasmania were the most likely to have an annual cycle of care (18%) whereas people with diabetes in the Australian Capital Territory were the least likely (7%).

- The Medicare item for an annual cycle of care in diabetes is only available to GPs who work in practices that are registered for the Practice Incentives Payment (PIP) program. As at May 2008, approximately 4,500 general practices were registered to receive diabetes cycle of care payments under the PIP program.
Figure 6.6: Proportion of people with diabetes receiving an annual cycle of care in general practice, by age and sex, 2007–08

Note: The estimated number of people with diabetes in 2004–05 was used as the denominator.
Source: AIHW analysis of MBS online statistics and 2004–05 National Health Survey.
Indicator 48: End-stage kidney disease in people with diabetes

Indicator definition

Description: Persons with end-stage kidney disease with diabetic nephropathy as a causal factor, as a proportion of all persons with diabetes.

Numerator: The number of new patients with end-stage kidney disease and diabetic nephropathy (within a specified time frame).

Denominator: Number of people with diabetes mellitus.

Presentation: Proportion.

Recommended disaggregation: Indigenous status, socioeconomic status, remoteness.

What the data show

- According to the Australian and New Zealand Dialysis and Transplant Registry (ANZDATA), 2,378 Australians commenced kidney replacement therapy (that is, began kidney dialysis or received a kidney transplant) in 2006. For 770 (32%) of these people the primary kidney disease was diabetic nephropathy.

- Data from the 2004–05 National Health Survey suggest there are around 704,000 Australians with diabetes. Just under 4% of people with diabetes are of Aboriginal or Torres Strait Islander origin.

- Indigenous Australians with diabetes are much more likely to require kidney replacement therapy for diabetic nephropathy than their non-Indigenous counterparts, with commencement rates of 4.7% and 0.9%, respectively, in 2006 (Figure 6.7).

Note: Data are number of people commencing dialysis or having a kidney transplant in 2006, for whom the primary kidney disease was diabetes, as a proportion of the estimated number of people with diabetes.

Source: McDonald et al. 2008 and AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey.

Figure 6.7: New cases of end-stage kidney disease among people with diabetes, by Indigenous status, 2006
Indicator 52: People receiving a home medicine review

Indicator definition
Description: People who have received a home medicine review in the previous 12 months.
Note: This includes both community-dwelling and aged-care facility residents.
Numerator: Number of people who have received a Home Medicine Review (identified by Medicare item 900 or 903) within a 12 month period.
Denominator: Not applicable.
Presentation: Number.
Recommended disaggregation: Age, socioeconomic status, remoteness, division of general practice.

What the data show
- More than 75,000 Australians received a Home Medicines Review in 2007–08, with 52% of these being provided to persons resident in aged care facilities.
- The majority of reviews were provided to people aged 65 or over.
- At younger ages, males were more likely than females to have a medicine review, however among the oldest age group many more reviews were provided to females.

Figure 5.1: People receiving a home medicine review, by age and place of residence, 2007–08
Stakeholder consultation and feedback in summary

Around 250 invitations to comment were initially sent by the AIHW and the ACSQHC, followed by range of people receiving details through presentations at conferences and word of mouth. Feedback was received from the following organisations:

ACHS
ACT Health
Australian General Practice Network
AGPSCC
Alfred Health
Australian Private Hospitals Association
Australasian Rehabilitation Outcomes Centre
Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists
Australian and New Zealand College of Anaesthetists
Australian and New Zealand Society of Palliative Medicine
Australian College for Emergency Medicine
Australian College of Midwives
Australian Health Insurance Association
Australian Psychological Society
Ballarat Health Services
Cancer Australia
Department of Health, WA
Dieticians Association of Australia
DoHA
Flinders Medical Centre
Flinders University, Flinders Medical Centre, representing Cardiac Society of Australia and New Zealand
Health Care Quality and Complaints Commission, Queensland
Health quality and complaints commission
Mater Health Services, Brisbane
Mental Health Information Subcommittee
National Centre for Classification in Health, University of Sydney
National Perinatal Statistics Unit
National Stroke Foundation
National Health and Medical Research Council (NHMRC)
NHMRC CRE-PS
National Prescribing Service
NSW TAG
NT Health
QIP/AGPAL
QLD Health
Royal Australian College of Physicians
Royal Australasian College of Surgeons
Royal Australian and New Zealand College of Obstetricians and Gynaecologists
Royal Australian and New Zealand College of Psychiatrists
Royal Australian and New Zealand College of Radiologists
Royal Australian College of General Practitioners (RACGP)
Royal College of Nursing, Australia
In addition to feedback relating to specific indicators which contributed to decisions as to which of the proposed indicators to include in our final recommended set, feedback from stakeholders also identified some broader issues relating to the coverage of the primary health care sector as follows:

- Overall it was felt that the coverage of the indicator set as a whole was reasonable, and gave an appropriate level of attention to issues in general practice
- Consistent with our findings in this paper, gaps were noted in terms of other areas of primary health care, in particular relating to allied health, specialist private practice and community care
- There were mixed views on the exclusion of access issues and preventative health from the proposed indicator set, with some respondents identifying these as significant omissions, while others supported the approach we have taken which sees these as areas that are relevant to but distinct from the safety and quality of health care delivered
- Issues were raised regarding the potential additional reporting burden the proposed indicators could entail within primary health care settings
- Looking to future use of electronic patient records as a data source was supported, in particular in relation to some of the proposed indicators which currently would be reported using MBS items and are seen as proxy measures (eg use of the MBS item for asthma plans as a measure of the effective management of people with asthma)
- There were suggestions regarding some of the other indicators in the proposed national set which currently do not include primary health care but which could/should be expanded in future (being mindful of data considerations) – eg accidental puncture/laceration (technical difficulty with procedure)
References


ACAM (Australian Centre for Asthma Monitoring) 2007a. Australian asthma indicators: Five-year review of asthma monitoring in Australia. Canberra: AIHW.


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http://www.nps.org.au/about_us/what_we_do/about_quality_use_of_medicines


http://www.racgp.org.au/standards


http://www.statistics.gov.uk/children/dentalhealth/

Appendix 1

Indicators reviewed and the source of the indicator

The following lists specify the indicators which were considered to be within the scope of this project from each of the sets discussed in Chapter 2. For details of the full indicator sets please refer to the websites specified in ‘Further Information’ for each source.

**Australian indicators and sources**

**National Health Performance Committee (NHPC)**
- Potentially preventable hospitalisations
- Appropriate use of antibiotics
- Management of diabetes
- Bulk billing for non-referred (GP) attendances
- Availability of GP services
- Electronic prescribing and clinical data in general practice
- Enhanced primary care services
- Health assessments by GPs
- Accreditation in general practice


**Steering Committee for the Review of Government service Provision (SCRGSP)**
- Management of upper respiratory tract infections
- Electronic information management systems
- General practices with accreditation
- Care planning and case conferencing
- Health assessments for older people
- GPs with vocational registration
- Hospitalisations for vaccine preventable conditions
- Hospitalisations for selected acute conditions
- Hospitalisations for selected chronic conditions
- Hospitalisations for diabetes
- Hospitalisation of older people for falls
- Cardiac Arrest Survived Event Rate

Divisions of General Practice

The number and proportion of general practices using a practice register/recall/reminder system to identify patients with diabetes for review and appropriate action

The number and proportion of patients with diabetes on practice register/recall/reminder systems whose most recent HbA1c in the past 12 months was…

The number and proportion of patients with diabetes on practice register/recall/reminder systems whose most recent total cholesterol in the past 12 months was…

The number and proportion of GPs in the Division who have completed any mental health training recognised through the General Practice Mental Health Standards Collaboration

The number and proportion of general practices using a practice register/recall/reminder system to identify patients who have participated in a GP mental health care plan with their GP, for review and appropriate action

The number and proportion of general practices using a practice register/recall/reminder system to identify patients with asthma for review and appropriate action


National Prescribing Service (NPS).

Antibiotics (non-specific URTI): Percentage of patients prescribed an antibiotic for a non-specific upper respiratory tract infection (URTI)

Antibiotics (acute otitis media): Percentage of children prescribed an antibiotic for acute otitis media

Antibiotics (cephalexin): Percentage of prescriptions for cephalexin for which the indication was non-specific URTI, pharyngitis, tonsillitis, acute otitis media, sinusitis or acute bronchitis

Diabetes and ACE inhibitors: Percentage of patients with type 2 diabetes and hypertension and macroalbuminuria or proteinuria who have not been prescribed an angiotensin-converting enzyme (ACE) inhibitor or an angiotensin II-receptor antagonist

Myocardial infarction: Percentage of patients with a history of myocardial infarction (MI) who have NOT been prescribed a beta blocker, antiplatelet agent (or anticoagulant) and statin

Hypertension and target blood pressure: Percentage of patients prescribed an antihypertensive agent who are NOT at their target blood pressure

Heart failure and ACE inhibitors: Percentage of patients with systolic heart failure NOT currently prescribed an ACE inhibitor or angiotensin II-receptor antagonist

Good prescribing (avoiding the 'triple whammy'): Number of patients receiving a combination of ACE inhibitors (or angiotensin II-receptor antagonists), diuretics and NSAIDs (including COX-2 selective NSAIDs)

Good prescribing (dosing instructions): Percentage of prescriptions with non-specific dosing instructions

Asthma (long acting beta2 agonists): Percentage of patients prescribed a long-acting beta2-agonist who are NOT using an inhaled corticosteroid


Australian Primary Care Collaborative (APCC)

Total number of patients on the diabetes register

Percentage of patients with diabetes whose last recorded HbA1c within the previous 12 months was less than or equal to 7.0%

Percentage of patients with diabetes whose last recorded total cholesterol was less than 4 mmol/L within the previous 12 months

Percentage of patients with diabetes whose last recorded blood pressure reading was less than or equal to 130/80 mmHg within the previous 12 months

Percentage of patients with diabetes who have had diabetes Service Incentive Payments (SIPs) claimed for them within the last 12 months

Total number of patients on the coronary heart disease (CHD) register
Percentage of patients with CHD on aspirin
Percentage of patients with CHD on a statin
Percentage of patients who have had a myocardial infarction in the past 12 months who are on a beta-blocker
Percentage of patients with CHD whose last recorded blood pressure within the last 12 months was less than 140/90 mmHg


The National Advisory Committee on Oral Health (NACOH).
Proportion of 6 year olds experiencing dental caries (1 or more deciduous teeth affected)
Mean number of deciduous teeth affected by caries in 6 year olds
Proportion of 12 and 14 year olds experiencing dental caries (1 or more permanent teeth affected)
Mean number of permanent teeth affected by caries in 12 and 14 year olds
Proportion of edentulous adults aged 35-44 years
Proportion of edentulous adults aged 45-60 years
Proportion of dentate adults aged 35-44 years with 21 or more natural teeth
Proportion of dentate adults aged 45-60 years with 21 or more natural teeth
Proportion of persons aged 60 or more years with oral cancer
Proportion of dentate adults aged 35-44 years with irreversible periodontal pocketing (≥ 4 mm)


International Indicators and sources

Agency for Healthcare Research and Quality (AHRQ)
Hypertension admission rate
Congestive heart failure (CHF) admission rate
Dehydration admission rate
Bacterial pneumonia admission rate
Urinary tract infection admission rate
Angina without procedure admission rate
Uncontrolled diabetes admission rate
Adult asthma admission rate
Rate of lower-extremity amputation among patients with diabetes

Further information: http://www.ahrq.gov/qual/measurix.htm#indicator

Organisation for Economic Cooperation and Development (OECD)
Annual Hba1C Testing
Annual Ldl Cholesterol Testing
Annual Screening for Nephropathy
Annual Eye Exam
Hba1C Control
Ldl Cholesterol Control
Lower Extremity Amputation Rates
Kidney Disease in Persons with Diabetes
Cardiovascular Mortality in Patients with Diabetes
Timely Ambulatory Follow-Up after Mental Health Hospitalisation
Continuity of Visits after Hospitalisation for Dual Psychiatric/ Substance Related Conditions
Hospitalisation for Ambulatory Care Sensitive Conditions

**Further information:** [http://www.oecd.org/document/34/0,3343,en_2649_33929_37088930_1_1_1_1,00.html](http://www.oecd.org/document/34/0,3343,en_2649_33929_37088930_1_1_1_1,00.html)

**Canadian Institute for Health Information (CIHI)**
- PHC client/patient registries for chronic conditions
- Ambulatory Care Sensitive Conditions
- Complications of diabetes
- Emergency department visits for asthma
- Emergency department visits for congestive heart failure
- Glycaemic control of diabetes
- Blood pressure control for hypertension
- Antidepressant medication monitoring
- Use of medication alerts in PHC

**Further information:** [http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=GR_1489_E&cw_topic=1489](http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=GR_1489_E&cw_topic=1489)

**New Zealand Ministry of Health**
- Repeat Admissions for Asthma in Children under 5 and in Children 5-14
- Ambulatory Sensitive Conditions
- Diabetes Case Management
- Retinal Screening of People with Diabetes in the last two years
- Caries Free at Age 5

**Further information:** [http://www.moh.govt.nz/healthtargets](http://www.moh.govt.nz/healthtargets)

**UK Healthcare Commission**
- Diabetic Retinopathy Screening
- PCT Patient Survey: Safe, High Quality, Coordinated Care

**Further information:** [http://www.healthcarecommission.org.uk/homepage.cfm](http://www.healthcarecommission.org.uk/homepage.cfm)