**Australian Health Ministers
Advisory Council**

# Health Information
# Development Priorities

Prepared by the
**National Health
Information Management Group**

**September 2002**

# NATIONAL HEALTH INFORMATION DEVELOPMENT PRIORITIES

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# Contents

# Preface

Signing of the National Health Information Agreement (NHIA) in 1993 signalled the start of nationally coordinated development of health information in Australia. There is now consistent and reliable information on a range of health issues and health services. The national health information infrastructure set up under the Agreement, including the National Health Information Management Group (NHIMG), has been responsible for much of this improvement and continues the cooperative approach between governments that the NHIA embodies. As the Australian community moves into the new millennium there is no doubt that it faces many new health and health information challenges. In the NHIA and its management arrangements, Australia is fortunate in having a sound basis from which to move forward to meet those challenges.

The NHIMG's Health Information Development Priorities identifies work that is ongoing from the National Health Information Development Plan 1995 and introduces emerging new priorities for Australia's health information. The priorities provide a guide for managing the development of national health information for the period 2001 to 2005.

As Australia moves into an information-rich environment, there is an increasing responsibility to ensure the quality and reliability of that information. Governments, health care organisations, providers, consumers and communities also have an increasing requirement for information to use in planning and managing health care delivery and in policy development and provision of advice.

Australian governments both collectively and individually invest heavily in health information and provide much of the national information infrastructure. Therefore, the interests of the Australian Health Ministers' Advisory Council (AHMAC), the advisory body to Health Ministers in Australia, have been an important element in preparing the NHIMG's information development priorities. The priorities have been endorsed by AHMAC.

A major additional challenge has resulted from the agreement by Australian Health Ministers in June 2000 to develop electronic health records. This has signalled commencement of a new phase of investment in health information, through the Health*Connect* program. Implications for national health information in both the government and private sectors are extensive. The NHIMG will be challenged by these initiatives to integrate its planning with that of others, especially in the information technology field, in both public and private sectors.

**Patricia Faulkner**
Chair
NHIMG

# Summary

Following the initial *National Health Information Development Plan* in 1995, national health information in Australia has developed considerable momentum.

As the quality, reliability and timeliness of the information have improved so have the utility and the use of the information. There are now a number of national health information systems and data collections that are widely used for analysis and comparison at all levels of the health care system.

In preparing new priorities to move forward from the 1995 Plan, existing health information priorities have been reviewed and an assessment made of the information impact of major new health strategies. From this, ten groupings of national health information priorities have been identified. Within each grouping a number of more specific issues have been proposed.

## Aboriginal and Torres Strait Islander health

1. Reinforce efforts to implement the National Indigenous Health Information Plan, in particular through the efforts of agencies to improve the coverage and quality of the Indigenous status identifier in key data sets, including hospital separations, primary health care, births and deaths registries, and disease registries.

2. Implement the ABS Survey Strategy for Aboriginal and Torres Strait Islander Statistics and, where possible, provide separate estimates for Torres Strait Islander peoples. The strategy is to include a program of ongoing research and development of survey practice and design.

3. Improve the quality of Aboriginal and Torres Strait Islander population estimates through continued development of population census enumeration strategies, increased levels of identification in births and deaths registrations, and demographic analysis.

4. Undertake data development to support reporting of AHMAC-endorsed National Performance Indicators for Aboriginal and Torres Strait Islander Health.

## Integration of services-coordinated care

5. Develop and expand national minimum data set (NMDS) modules to cover services delivered in emergency, other ambulatory and community health settings, according to priorities of service providers, funders and consumers.

6. Work with the National Community Services Information Management Group and the National Housing Data Agreement Management Group to implement a consistent approach to data development in national data dictionaries in the health, community services and housing fields.

**Safety and quality in health care**

7. Review existing data collections and, where necessary, establish new collections to support the Australian Council for Safety and Quality in Health Care to monitor and improve health system safety and to integrate indicators with the National Health Performance Committee framework.

8. Support development of measures of health service outcome, including survival analysis, using electronic health records and ethically approved data linkage where possible.

**Information technology and health**

9. Work with Health*Connect* to develop patient summaries and health summaries through the development of classification and coding systems for adoption within the proposed national health information framework, and plan for their use in statistical analysis and reporting.

10. Use unique patient identifiers, where available, and with strict privacy safeguards (including obtaining Ethics Committee approval where necessary), to produce statistics describing patient care and outcomes within and across health care sectors.

**Population health**

11. Develop data collections to incorporate a range of health risk factors, including behavioural, biomedical, environmental, occupational and other socioeconomic factors, recognising the priority of special needs groups. In particular, introduce a series of national surveys that include biological measurement of major modifiable risk factors as part of Australia's national health information system.

12. Coordinate behavioural risk factor surveys to promote best practice and development consistent with a continuous nationwide chronic disease and associated risk factor information and monitoring system.

13. Establish ongoing programs for collection of information from previous ad hoc national surveys on key topics, especially mental health, nutrition and oral health.

14. Continue the development and collection of information on public health expenditure.

15. Support the National Public Health Partnership to implement other recommendations of the National Public Health Information Development Plan 1999.

### Equity and access

16. Build on existing development of analytical techniques for reporting on health inequalities and on the health of vulnerable populations.

17. Subject to the constraints of privacy legislation, utilise emerging geo-coding capability of population health and health service data systems to facilitate analysis of service-specific access.

### Health labour force

18. Review the frequency, content and methodology of health labour force collections against contemporary planning needs, especially where the geographic distribution, skill levels and numbers of professionals do not match consumer demand and where structural change such as corporatisation and contracting arrangements are changing the organisation of service provision.

### Performance of the health system

19. Undertake data development, expanded collections and, where necessary, implement new collections to facilitate the National Health Performance Committee's reporting of performance indicators under the National Health Performance Framework and the AIHW's reporting of indicators for National Health Priority Areas.

20. Develop a national minimum data set for public sector financial data of adequate quality for comparative analysis of health system and unit costs.

21. Develop summary health measures to ensure that valid Australian indicator data are available for reporting by the Organization for Economic Cooperation and Development (OECD) in its Wellbeing Indicators Program and by the World Health Organization (WHO) in the World Health Report.

### Standards and classification

22. Implement recommendations from the Review of the National Health Data Dictionary, March 2001, including upgrading the Knowledgebase as a national health (and welfare) data standards registry and consolidating the National Health Information Model as an organising structure for health metadata.

23. Establish processes for developing, agreeing and maintaining national classification systems and links with coding systems in all health settings.

## Management of health information

24. Commission regular and systematic review and enhancement of the timeliness, accuracy and completeness of national minimum data sets and other major national collections.

25. Negotiate for the reduction of overlap and duplication in national health data collections.

26. Develop and implement best practice guidelines, protocols and standards for data development, collection, compilation, analysis and dissemination, including common protocols for access to jurisdictional data to promote their use for research and analysis and increasing the range of data available electronically.

27. Advocate for adoption of statistical best practice in information privacy regimes, including rules for statistical use of unique client identifiers.

# Abbreviations

| | |
|---|---|
| ABS | Australian Bureau of Statistics |
| ACSQHC | Australian Council for Safety and Quality in Health |
| AHMAC | Australian Health Ministers' Advisory Council |
| AHMC | Australian Health Ministers' Council |
| AIHW | Australian Institute of Health and Welfare |
| AN-SNAP | Australian National Sub- and Non-acute Patient Classification |
| ARIA | Australian Remoteness Index |
| ATSIC | Aboriginal and Torres Strait Islander Commission |
| BEACH | Bettering the Evaluation and Care of Health |
| CATI | Computer-assisted telephone interview |
| CCCA | Clinical Casemix Committee of Australia |
| DoHA | Department of Health and Ageing |
| EHRs | Electronic health records |
| HIC | Health Insurance Commission |
| ICD-10-AM | International Classification of Diseases and Related Problems, Version 10, Australian Modification |
| MBS | Medical Benefits Schedule |
| NAGATSIHID | National Advisory Group for Aboriginal and Torres Strait Islander Health Information and Data |
| NHCDC | National Hospitals Cost Data Collection |
| NHDD | *National Health Data Dictionary* |
| NHIA | National Health Information Agreement |
| NHIDP | National Health Information Development Plan |
| NHIM | National Health Information Model |
| NHIMAC | National Health Information Management Advisory Committee |
| NHIMG | National Health Information Management Group |
| NHISAC | National Health Information Standards Advisory Committee |
| NHDC | National Health Data Committee |
| NHMRC | National Health and Medical Research Council |
| NHPA | National Health Priority Area |
| NHPC | National Health Performance Committee |
| NMDS | National minimum data set |
| NPHIDP | *National Public Health Information Development Plan 1999* |
| NPHIWG | National Public Health Information Working Group |
| OECD | Organization for Economic Co-operation and Development |
| PCCL | Patient clinical complexity level |
| RACGP | Royal Australian College of General Practitioners |
| WHO | World Health Organization |

# 1 Background

## 1.1 Introduction

The National Health Information Development Priorities will guide the development of national information to help improve the health of Australians. Priorities are for the period to 2005 and were produced in a planning process undertaken by the National Health Information Management Group (NHIMG), a peak health information body established by the Australian Health Ministers' Advisory Council (AHMAC). Information needs in health are of great importance. They are driven by continuing discoveries from research, an ever-increasing public interest in health, great technological advances in processing and spreading information, and a general trend towards accountability from those providing services in the public and private sectors. This document is considered to be a living document and its content will be reviewed from time to time.

Since the early 1990s major national agencies have formally collaborated to improve national statistics relating to the health of Australians. This began with the National Health Information Agreement in 1993. Participants in the Agreement now comprise the health departments of the Commonwealth, States and Territories; the Australian Bureau of Statistics (ABS); the Australian Institute of Health and Welfare (AIHW); and the Health Insurance Commission. The NHIMG represents those agencies and manages activities under the Agreement.

As part of this general process, a (NHIDP) was developed after wide consultation and adopted in 1995. Its aim was to promote high quality health information in Australia and to make national health information more cost-effective. Since then there have been major developments in national health information and in many other factors that relate to it. It is therefore timely to produce an update of health information development priorities.

It should be noted that, although the new priorities in this document are developed within the context of national health information in its widest scope, there are other national plans and agencies relating to aspects of health information or data, such as the proposed priorities for casemix (see Appendix 1). Therefore these priorities focus most on the specific work of the NHIMG.

The first part of this document, Chapters 1 to 3, is background that describes national health information, its functions and key elements, assesses progress under the 1995 Plan, and notes recent developments and issues relating to new priorities. The second part, Chapters 4 to 6, presents the new priorities and a plan for their implementation.

## 1.2 What is national health information?

National health information is information that is comparable nationally, national in coverage, or nationally relevant. It relates to:

- the health of the population generally or of various groups
- the determinants of the population's health, including those in the external environment and those internal to individuals

- health interventions and health services at the population and individual level

- the relationship between these elements.

(Note that the term 'information' used here refers mainly to descriptive statistics, not to research papers or material used in giving personal advice or clinical care.)

Health information supports and informs:

- policy and decision-making processes and structures

- administration, labour force and financial management

- public discussion of health matters

- health researchers and health professionals.

The aim of the information is to help improve the health of all Australians by contributing to planning and practice in health promotion and the prevention, detection and treatment of disease and injury.

With the increasing involvement of the non-government and private sectors in the provision and use of national health information, it is of great importance that governments' directions and plans for health information are well known and clearly understood.

Figure 1 provides a simple conceptual framework for health information.



**Source:** AIHW, Australia's Health 2002.
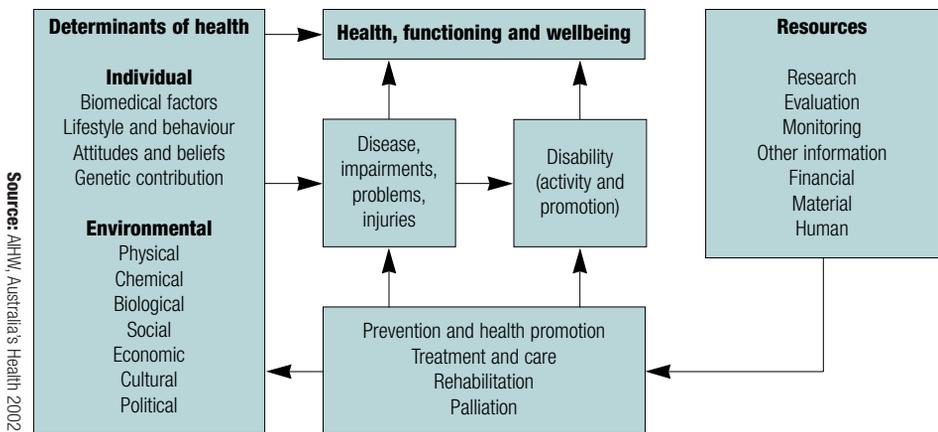
**Figure 1: A conceptual framework for health**

## 1.3    Why do we need it and why a national approach?

There are many needs for national health information:

**Individual Australians** need it to know which health issues are important, what is being done by the health system and what they can do personally in their behaviour and use of health services.

**Direct providers** of health services, such as GPs and hospitals, can use nationally consistent information to compare their activities with those of their peers.

**State and Territory Governments** can use national information to compare their performance with national results and benchmarks.

**The Commonwealth** needs national information to evaluate and monitor Australia's overall health status and the performance of its health system, as well as the Commonwealth's role in coordination, funding and specific programs, to achieve equity and access for all Australians.

A national approach to health information produces economies by reducing duplication of effort by jurisdictions while enabling a targeting of the remaining resources and effort, and provides a basis for international and interstate comparisons that could otherwise not occur. This allows Australia to account for and monitor itself as a country as well as to monitor and account by various regional sub-divisions such as by State and Territory.

In addition, collection or pooling of data across the country allows a greater depth of analysis on issues and an ability to decide whether a pattern is general or more specific. Also, some important analyses would not otherwise be possible because the numbers would be too small for statistical conclusions.

## 1.4    Key aspects of good health information

Health information and related systems need to consider:

**Coverage:** does the system cover significant health issues and population groups in a way that allows meaningful statistical estimates as well as comparisons to detect patterns, similarities and differences?

**Policy relevance and timeliness:** is the information designed to guide and respond to health policy and activities? Are data sufficiently up to date for these purposes and are reports delivered on time?

**Accuracy and comparability:** are the data items well defined, valid measures, reliable and collected in a standard manner to make them comparable across time and place?

**Ease of collection:** does collecting the data impose an additional and unnecessary cost burden upon the health system or on health care professionals or consumers? In the case of clinical and administrative data, are they collected routinely as part of information systems associated with the provision of patient care? Is there feedback on the data collected to providers and consumers?

**Confidentiality and consent:** is the information collected and handled in a way that respects and protects the privacy and other rights of those who provide it, including private citizens and those who provide health services?

**Accessibility:** subject to the above, are the data accessible to eligible users? And are reports brought to the attention of those who may be interested, including the general public, made easily available to them and presented as clearly as possible?

It is especially important that a national system for health information has:

- a joint commitment and cooperation across Australia at both high and lower levels

- associated processes for making decisions, policy and plans about national health information

- adequate resources to support those national processes, including background information through research and other sources.

## 1.5    A brief outline of the system for national health information

In its broadest sense the national system for health information comprises the National Health Information Agreement (NHIA), a group of national committees, many data providers (ranging from State and Territory health agencies and hospitals to individual health consumers), the original National Public Health Information Development Plan (NPHIDP) and the new Health Information Development Priorities, as well as other national plans and strategies.

At the national level the structure involves the NHIMG and a range of other groups that advise either the AHMAC or the National Health Information Management Advisory Council (NHIMAC).

The objectives of the national Agreement are to support the cooperation, and to provide the structures, processes and standards to improve information on health status, health determinants, health services and their performance; and to facilitate nationally agreed information projects that meet AHMAC priorities. The overall aim is to provide improved access to accurate and reliable health information by community groups, health professionals, and government and non-government organisations.

The NHIMG role is to manage the Agreement and the structures and processes set up under the Agreement. As part of its aim to promote good national information, the NHIMG has a special interest in information development such as health classification, data definitions, and standards for collecting and processing those data. It has two standing committees advising on these matters.

The main focus of the National Health Data Committee (NHDC) is on developing national data definitions for inclusion in the *National Health Data Dictionary* (NHDD). It considers and recommends to the NHIMG definitions and related specifications for data proposed for national use and the content of national minimum data sets (NMDS). This is an annual cycle of updating and extension of the NHDD. Once endorsed by the NHIMG, jurisdictions are committed to providing data to a national NMDS.

The NHIMG Expert Group on Health Classification was set up in 2001 to support the development of the national health information network by establishing a sustainable process for the national maintenance of classifications and by seeking agreement on a national classification system for all health sectors.

NHIMAC was established in 1998 to advise Health Ministers on options to promote a national uniform approach to more effective information management in the health sector. The strategic framework for NHIMAC's work is *Health Online: A Health Information Action Plan for Australia*, first released in November 1999 and as a second edition in September 2001.

# 2  Strategic issues

## 2.1      Key national strategies

A number of higher level strategies established under the auspices of the Australian Health Ministers' Council (AHMC) and advisory bodies, especially the Australian Health Ministers' Advisory Council (AHMAC) and the National Health Information Management Advisory Council (NHIMAC), have created specific requirements for national health information. Directions in health informatics, performance monitoring of health services, and public health strategies are all data dependent. Most directly, information is required to monitor the strategies. However, the same information in the public domain also serves to inform broader debates about health and health services in Australia.

New health information development priorities for Australia must identify these driving forces and recognise that these strategies require investments in data development, data infrastructure, data collection, analysis and information dissemination, with implications for the roles of all parties to the National Health Information Agreement. The priorities and the planning process (outlined below) will inform AHMAC about the information implications of national health strategies.

The following sections briefly describe the information implications of several major national strategies:

1.   Aboriginal and Torres Strait Islander health: AHMAC decided in 1995 to monitor the provision of health services to Indigenous Australians by all jurisdictions, and a set of performance indicators is defined. This reinforces the need for all parties to the NHIA to produce information that can add to policy to improve the poor health of Indigenous Australians, by better describing their health status, the services they receive and the results of those services. Better identification of Aboriginal and Torres Strait Islander people in health information systems is crucial to achieving these aims.

2.   Health Online: this provides a national strategic framework for better managing and using health information for the benefit of Australians. Key issues include privacy and security, health care identification, standards and infrastructure, and the further development of information management practices to improve the availability of health data for use in clinical decision-making, policy, planning and research. A key area of activity is the development of a national health information network based on electronic health records (EHRs). Health Ministers have endorsed recommendations from the National Electronic Health Records Taskforce for the creation of a health information network for Australia (Health*Connect*), and this is being progressed through a two-year research and development program. There is a need for developmental work to support electronic health records, such as defining data items and standards and setting up coding and

classification systems that are consistent with those for other national information. These matters fall into the work of the NHIMG and this has been recognised by the National Electronic Health Records Taskforce.

3.  Improving patient safety and quality in health care: the Australian Council on Safety and Quality in Health Care regards information as one of its highest priorities in improving the safety and quality of health care. This presents opportunities to improve many data sets and related infrastructure.

4.  Public health information: a National Public Health Information Development Plan was published by the National Public Health Partnership in 1999 and provides a developed set of priorities for public health information which need to be recognised and integrated into these wider health information development priorities.

5.  National Health Priority Area (NHPA) work: there are new developmental demands arising from recent NHPA work, which focuses on the priority health areas of cardiovascular health, cancer control, injury prevention and control, mental health, diabetes mellitus and asthma. These needs include a greater focus on the effect of health interventions (for instance through health outcome measures; new developmental work on diabetes, asthma and mental health; and secure arrangements for long-term collection of data for monitoring all the NHPAs).

6.  Priority driven research: this research, to be funded as a result of the report *The Virtuous Cycle - Working Together for Health and Medical Research* of the Health and Medical Research Strategic Review, will need to work from an appropriate information base. This research is expected to further increase the demand for high-quality health information in the priority fields.

7.  Monitoring of health service performance: the National Health Performance Committee (NHPC) has established a health performance framework from which a set of indicators that focus on the performance of health services are to be developed. Currently, there is a lack of data on which to calculate many of the preferred indicators; this requires significant data development. The data on which these indicators will be based need to follow NHIMG/NHDD standards for data comparability and quality.

8.  Requirements for international health reporting: these include OECD requirements for social indicators for which data are available from most of its member countries, and supporting development and implementation of new WHO indicators for health, fairness in financial contribution and health system responsiveness.

9. Other strategies and frameworks: a wide range of sector-specific strategies has also been endorsed by AHMAC and new strategies are considered and implemented from time to time. Typically, these need substantial information support including data development and collaboration involving the NHIMG along with the specialist groups that manage the information aspects.

## 2.2　Progress with the 1995 plan

There has been much progress under the 1995 National Health Information Development Plan (NHIDP). The Plan's highest priority recommendations and a brief summary of the results are as follows:

1. To develop a national information plan for Aboriginal and Torres Strait Islander health. In 1998 the AHMAC endorsed a national plan, *The Aboriginal and Torres Strait Islander Health Information Plan... This time, let's make it happen.* The NHIMG is responsible for implementing this plan and has given major attention to improving the quality of identification of Aboriginal and Torres Strait Islander people in registers and health services data sets.

2. To develop a national health and welfare information model. The AIHW published a National Health Information Model in 1996 and has used a draft second version as an organising framework for the NHDD.

3. To explore the linkage of health records and identify linkages that will result in the greatest community benefit. Given the lead role for this, the AIHW has undertaken a number of pilot studies and, with other NHIA members, has developed a protocol for a major pilot study of diabetes, using a State-linked data set and national data sets.

4. To improve information on health outcomes, by developing clinical measures of outcomes for major problems and making clinical information systems more useful for these purposes. The NHIMG has reported on a health outcomes indicator framework, which, in turn, has been adopted for data development and reporting for the National Health Priority Areas such as injury, diabetes and asthma.

5. To develop information about severe mental illness: its occurrence in the population, impact and care outcomes. Information on the prevalence, symptoms, use of services and treatment of people with mental disorders was collected as part of the 1997-98 National Survey of Mental Health and Wellbeing.

6. To develop and collect data on encounters with non-institutional health care. Progress includes:

   • the survey of general practice activity (BEACH), begun in 1998 by the General Practice Statistics and Classification Unit at the University of Sydney

- developmental work, via the Commonwealth Department of Health and Ageing (DoHA), towards a general practice model and minimum data set and a coding and classification system for general practice

- the development of NMDSs for community mental health care, and alcohol and other drug treatment services

- the development of a National Community Health Services Codeset.

7. To systematically review current major health data collections and recommend how the data can be collected more cost-effectively. Progress includes:

   - a systematic review by the ABS of its system of health surveys and other household surveys, resulting in a three-yearly National Health Survey, with financial support from DoHA

   - some rationalisation in relation to national hospital morbidity data collections so there is only one annual publication in this area, the AIHW Australian Hospital Statistics report

   - standards set by the NHIMG for operating health registers, with a view to improving cost-effectiveness in this area

   - joint private (pharmaceutical) and government funding for the survey of general practice activity (BEACH)

   - efforts to share methods and developments by those States and Territories running computer-assisted telephone interview (CATI) surveys.

8. To develop ongoing surveillance of potentially modifiable, major disease risk factors, including biological measurements and ensuring coverage of small priority populations. Emphasis has been given to coordination and shared development of methodology for survey activity at a State and Territory level.

## 2.3   Continuing challenges

Despite the progress outlined above, the following points need to be taken into account:

1. There has been no ongoing national surveillance of major and potentially modifiable disease risk factors that includes biological measurements. This was one of the highest priority recommendations from the NHIDP. Progress so far includes a 1997 workshop, a series of proposals, and the setting up of groups to consider the content of such surveillance and options for its conduct. This recommendation has also been recognised as a high priority in the National Public Health Information Development Plan 1999.

2. The identification of Indigenous Australians is still inadequate in many aspects. Only a few jurisdictions have adequate Indigenous identification for vital statistics such as births and deaths, and incomplete coverage by hospitals affects the quality of data on morbidity and service use. The AIHW is working with relevant agencies to improve coverage by cancer registries and perinatal data collections.

3. The proposed major study of record linkage was delayed while the relevant parties considered a formal protocol. Agreement was reached in 2001.

4. Although detailed national data on nutrition and mental health have been collected in the 1995 National Nutrition Survey and the 1997 Survey of Mental Health and Wellbeing respectively, there are no current plans to repeat either of these surveys. However, the ABS plans to collect summary data on dietary habits and mental health in each future National Health Survey which will enable some time-series analysis.

5. Some major data collection still appears not to be cost-effective. Duplicate arrangements remain for collection of hospital morbidity data by the AIHW and the DoHA. The creation of a Private Hospitals Data Bureau adds to multiple data collections from private hospitals.

# 3    Health information infrastructure

The information needs of national health strategies are met to a large extent through the information work programs of signatories to the National Health Information Agreement, often under collaborative arrangements. The major elements of the *national health information infrastructure* are the National Health Information Agreement, the structures and processes auspiced by the Agreement (the NHIMG and the National Health Data Committee (NHDC) and its products (the *National Health Data Dictionary* (NHDD), the National Health Information Model (NHIM) and national minimum data sets (NMDS). These are the building blocks of the national data collections.

## 3.1    Data collections

### National Minimum Data Sets

Jurisdictions are responsible for the supply of data for NMDSs and, in most cases, the AIHW compiles and disseminates national results. NMDSs have an establishing role in making available health information derived from administrative data collections relating to health service encounters and some other fields. The extent to which data compilers conform to the NHDD standards remains an issue to be addressed, as does the development and nature of future NMDSs (for example for the various modes of ambulatory and community care).

### National health surveys

These are the responsibility of the ABS. From 2001 the ABS will introduce an expanded program of household surveys which will include:

- Health (three-yearly)
- Disability, ageing and carers (six-yearly)
- General social surveys (three-yearly); across broad areas of social concern
- Aboriginal and Torres Strait Islander health (six-yearly)
- Aboriginal and Torres Strait Islander general social survey (six-yearly)
- Aboriginal and Torres Strait Islander Community housing and infrastructure needs survey (infrequently).

Despite this expanded program, gaps identified by the ABS include longitudinal surveys, nutrition, mental health, biomedical risk factors, and violence and safety.

A number of development tasks relate to this program, including the development of:

- (and adoption by the ABS) of a standard survey module for core data items (and connections with NHDD standards and with computer-assisted telephone interview (CATI) survey modules)

- possible record linkage between administrative data and survey data with informed consent of respondents

- more efficient methods of promulgation of survey outputs and related materials.

### Computer-assisted telephone interview health surveys

CATI health surveys in several jurisdictions provide flexible and timely information on risk factors, disease patterns and health service use. The National Public Health Information Working Group has established the National CATI Health Survey Technical Reference Group to foster the use of national data standards and consistent questions and methodology across jurisdictions in CATI-based health surveys.

### Health registers

The National Cancer Statistics Clearing House, the National Death Index and communicable disease notification systems are well-established national health data registers, built from State and Territory cancer and deaths registers. New registers that have been established or are in the process of establishment include:

- the Australian Childhood Immunisation Register, at the Health Insurance Commission

- the National Diabetes Register, a register of people with insulin-treated diabetes, at the AIHW

- the register of cardiac surgery and coronary angioplasty at the AIHW - this register is currently based on hospital level reports

- proposal to develop a national cardiac procedures register (currently underway)

- the National Coroners' Information System developed by the Monash University National Centre for Coronial Information on behalf of the Coroners

- conceptual development work for a possible National Birth Index at the AIHW.

NHIMG standards for the purpose, establishment and management of health registers have been developed.

### Communicable disease surveillance

The National Communicable Disease Surveillance Strategy was developed in 1996. It provides for wide-ranging mechanisms for surveillance of communicable diseases in Australia. The Communicable Disease Network, Australia, New Zealand, the Commonwealth and State and Territory Governments have all used

the strategy to guide developments in surveillance mechanisms, in concert with disease control programs such as for tuberculosis, hepatitis C, vaccine-preventable diseases, and quarantine. Links with the NHIA and standardisation of data between these surveillance systems and the NMDSs could be pursued for gains in national health information.

## 3.2   Statistical standards

### Health classifications

The NHIMG has responsibility for health classifications used in NMDSs and approves updates of ICD-10-AM. The report to Health Ministers from the National Electronic Health Records Taskforce recommended that an Expert Group on Health Classification be established urgently by the NHIMG, to guide development and adoption of classifications for EHRs. This was implemented in 2001 and should provide a solid framework for classifications in health information into the future. This work needs to be coordinated with WHO work in this area, in which the AIHW is involved as the WHO Collaborating Centre for the Family of International Classifications.

### Geographic classification and analysis

The need for appropriate data to address the planning, managing and monitoring requirements for health and services in rural and remote communities has resulted in the development of the Australian Remoteness Index (ARIA). ARIA will enable the provision of enhanced information at the rural and remote community level. The ARIA concept of the isolation/remoteness index and the geographic classification incorporated in the Rural, Remote and Metropolitan Area categories need to be harmonised as each has specific strengths and weaknesses.

A related issue is the increasing demand for improved small area health and demographic data, particularly for rural and remote areas. While there remain significant issues in relation to data collection and confidentiality, improved data for small areas is a priority issue and would be assisted by the development of geo-coding of health facilities, providers and services.

### *National Health Data Dictionary* and Knowledgebase

The NHDD is produced each year by the NHDC and is accompanied by the web-based Knowledgebase. The NHDD and Knowledgebase have expanded in scope over the years, with the Knowledgebase currently being redesigned to include a performance indicator module. Health Ministers have agreed to the recommendation of the National Electronic Health Records Taskforce that the NHDD become the repository for terms required for future EHRs.

The NHDD and its management processes were reviewed during 2000 by a consultant who reported on its capacity to deal with the breadth of health information development requirements spanning acute care (the NHDD's traditional strong suit), non-admitted hospital and community care, public health, and the requirements of Health*Connect*.

### Quality and compliance

Evaluation of the quality of existing data collections has been attempted on only a small scale by the NHIMG. However, significant issues have arisen from an examination of the National Minimum Data Set for Admitted Patient Care, showing that this is an area for attention in the new health information development priorities.

## 3.3 Information policy regimes

Effectiveness of national health data depends on its accessibility as well as the capacity to have it analysed and applied for public good, but must be balanced against the need for privacy protection and maintenance of confidentiality for data providers.

### Electronic dissemination of health data

Electronic access to health data is becoming more and more expected by health information consumers. HealthWIZ, the Hospital Casemix Protocol and AIHW interactive database packages on the internet are real examples of this powerful dissemination mechanism. There are great opportunities available for future expansion of electronic data dissemination, for which coordination of efforts will improve benefits to users.

### Health data linkage

This work is based on the application of probabilistic record-matching techniques and involves the development of data linkage keys. Introduction of a unique patient identifier would substantially increase the scope for linkage and bring a need for careful attention to privacy and ethics issues including robust legislative safeguards. In addition, the ABS is actively exploring the potential benefits of linking administrative data sets to its survey data, based on obtaining consent from respondents. Methodologies and standards need to be established if potential benefits are to be realised, within a regime where privacy and confidentiality are respected.

### Privacy and confidentiality protocols

None of the analysis that creates value from raw health data can be permitted to proceed without adequate protection for individual privacy and confidentiality. The NHIA contains protocols to protect the privacy and confidentiality of any individual and/or organisation about whom information is collected, disseminated, used and secured. These protocols guide the practices of signatories to the Agreement, and most are subject to legislative regulation such as through the *Australian Institute of Health and Welfare Act 1987*. The NHIMG gives policy advice to AHMAC and Ministers on these matters and encourages shared development of workable and consistent arrangements to protect privacy.

# 4 Priorities

While there have been considerable health information achievements in recent years, a number of issues remain that require urgent attention. In addition, there are a number of new and emerging tasks that must be addressed. This chapter puts forward ten areas in which action on national health information is a priority.

## 4.1 Aboriginal and Torres Strait Islander health

### Policy issue

Aboriginal and Torres Strait Islander health remains one of the major health issues facing Australia. Australian governments are increasingly committed to monitoring the effectiveness of programs and the evaluation of policies designed to improve the health status of, and service delivery to, Aboriginal and Torres Strait Islander peoples. This has resulted in growing demand for high-quality, regularly reported Indigenous information and data at a range of geographic levels; for the development of performance indicators on service delivery; for consideration of social and other determinants of health; and for the provision of time series on health status. Better Indigenous identification will provide improved information for prevention and early treatment of Aboriginal and Torres Strait Islander people, services which are central to bringing about improvements in Aboriginal and Torres Strait Islander health.

### Information response

In October 1997, AHMAC adopted the *National Indigenous Health Information Plan... this time, let's make it happen* and asked NHIMG to oversee its implementation. An implementation working group developed a set of priority areas taken from the Plan's recommendations, identifying the lead agency responsible for progress against each of the goals. Implementation of several goals is in progress. However, there is substantial work to be undertaken and the Plan will be reviewed against achievements.

The AIHW and the ABS continue to collaborate in the dissemination of available information on the health and welfare of Aboriginal and Torres Strait Islander people, particularly through their joint biennial report on this subject. Also, the AIHW and the ABS have worked together since 1998 to improve the completeness with which Aboriginal and Torres Strait Islander peoples are recorded in a range of administrative data sets, with priorities identified as hospital records and birth and death registrations. For birth and death registrations, work undertaken by the ABS in collaboration with State and Territory Registrars is being reflected in significant increases in the coverage of Indigenous births and deaths.

AHMAC has funded improvements in the quality and completeness of Indigenous identification in hospital separations records. A national audit was undertaken in 2002. Extension of this work is desirable but will be more difficult in service settings where national information is less well developed (e.g. pathology services).

The Commonwealth Department of Health and Ageing and the Health Insurance Commission (HIC), in agreement with Aboriginal and Torres Strait Islander community organisations, aim to implement arrangements whereby an Indigenous identifier can be included in Medical Benefits Scheme and Pharmaceutical Benefits Scheme systems for statistical purposes. This would be on a voluntary basis, where individuals can choose to identify themselves as Indigenous.

There has been a strong collaborative effort between statistical agencies, health departments and Aboriginal and Torres Strait Islander organisations to design and refine data sets to report on Aboriginal and Torres Strait Islander health and health services. An initial indicator set has been endorsed by Ministers, and has been collected and reported nationally for the 1998 and 1999 reference periods. Refinement of this indicator set has led to the development of National Performance Indicators for Aboriginal and Torres Strait Islander Health which were endorsed by AHMAC in October 2000 and will be reported from 2002.

The ABS has undertaken a special Indigenous enumeration strategy for the 2001 census. The accuracy of the Indigenous count will be evaluated using a range of techniques, such as reference to alternative data sources. Production of age by sex estimates and projections of the Indigenous population for Australia and for each State/Territory will continue. Estimates at the Aboriginal and Torres Strait Islander Commission (ATSIC) region level will be produced for Census years.

ABS has in place a comprehensive Indigenous survey program. This program includes health, housing and a general social survey of Aboriginal and Torres Strait Islander peoples. The results of these population surveys will provide a broad information source to improve understanding about health status and the social determinants of health. The ABS has recognised the development effort required to ensure the surveys provide reliable information on Aboriginal and Torres Strait Islander people across Australia.

The AIHW, in collaboration with the National Centre for Epidemiology and Population Health, has undertaken two studies of Aboriginal and Torres Strait Islander health expenditure.

In addition to implementation of Indigenous identification in information systems, additional gains would be made through adoption of the standard identifier, wherever appropriate, in health research, e.g. that funded by the National Health and Medical Research Council (NHMRC).

### Implementation

A National Advisory Group for Aboriginal and Torres Strait Islander Health Information and Data (NAGATSIHID) has been established, as a working group of the NHIMG, to progress implementation of the National Indigenous Health Information Plan, to advise the AIHW and the ABS on their information developments, and to advise AHMAC on overall information requirements.

The priority areas are:

1. Reinforce efforts to implement the National Indigenous Health Information Plan, in particular through the efforts of agencies to improve the coverage and quality of the Indigenous status identifier in key data sets, including hospital separations, primary health care, births and deaths registries, and disease registries.

2. Implement the ABS Survey Strategy for Aboriginal and Torres Strait Islander Statistics and, where possible, provide separate estimates for Torres Strait Islander peoples. The strategy is to include a program of ongoing research and development of survey practice and design.

3. Improve the quality of Aboriginal and Torres Strait Islander population estimates through continued development of population census enumeration strategies, increased levels of identification in births and deaths registrations and demographic analysis.

4. Undertake data development to support reporting of AHMAC-endorsed National Performance Indicators for Aboriginal and Torres Strait Islander Health.

## 4.2    Integration of services-coordinated care

**Policy issue**

Health care consumers, providers and funders have identified a need for greater integration of health care service delivery to improve the continuity of care and health outcomes for individuals. Policy initiatives designed to develop and support flexible, seamless health care delivery include coordinated care trials, the inclusion of discharge planning and case conferencing on the Medicare Benefits Schedule, and collaboration in primary health and community care. The National Mental Health Strategy has placed increased emphasis on mental health services delivered wholly or partially in community settings, as is also the case for palliative care. Assessing health care outcomes for individuals will require a capacity to bring together patient-based information from a variety of service delivery settings in both the public and private sectors. Rapid deployment of information technology in health and community services has created pressure on data development resources to keep pace.

**Information response**

The development and implementation of health-related NMDSs have contributed significantly to the amount and scope of compatible information for national analysis and performance measurement. While information development initially emphasised admitted patient care, there has been increasing effort going towards development of the NMDSs for services delivered in community health settings, including mental health, palliative care and alcohol and other drug treatment. The Commonwealth's Casemix Development Program is an avenue for ongoing work in these fields, as it has been for data on acute hospital care. A survey of general practice activity (BEACH) has begun to deliver information about primary care services.

A pre-requisite for development and linkage of information systems to monitor integration of health care services is increased coverage of the range of services in information systems. NMDS modules do not exist for a range of services delivered in community and ambulatory health care settings, including emergency and specialist services in hospitals, ambulance services, rehabilitation and most allied health services. A Community-based Health Services Codeset development undertaken by a consortium of Commonwealth and State health agencies has identified the scope of information covered by the latter but would require large resources to implement. The role of alternative health services, including traditional medicine practised by certain cultural groups, is not well described in existing statistics.

Encouragement for researchers to work with data from or compatible with NMDSs and the NHDD would further enhance the consistency of information available for health service policy and planning.

To ensure that coordinated care objectives can be monitored, development and extension of health service NMDSs need to heavily emphasise consistency of data across care settings. Considerable effort is currently devoted to ensuring consistency in the outputs of NMDS projects across health, community services and housing sectors. National Health and Community Services Information Models already exist and have achieved a high degree of consistency. Reference to a compatible framework at the point of initiating NMDS development can guide new data development projects towards consistency of data. Pursuit of compatibility between national information models and related data dictionaries also gains leverage via compatibility of products of system and database developers working across the health, community services and housing spectrum.

### Implementation

The priority areas are:

5. Develop and expand NMDS modules to cover services delivered in emergency, other ambulatory and community health settings, according to priorities of service providers, funders and consumers.

6. Work with the National Community Services Information Management Group and the National Housing Data Agreement Management Group to implement a consistent approach to data development in National Data Dictionaries in the health, community services and housing fields.

## 4.3    Safety and quality in health care

### Policy issue

Health Ministers have established the Australian Council for Safety and Quality in Health Care (ACSQHC) to develop a national strategy to improve the safety and quality of health care in hospitals and other health settings; to develop a national framework for adverse event monitoring, management and prevention including incident monitoring and complaints; and effective report and measure performance, including research and development of clinical and administrative information systems.

### Information response

In the recently developed national health performance framework, the National Health Performance Committee (NHPC) describes 'quality' as encompassing effectiveness, appropriateness, efficiency, responsiveness, accessibility, safety, and other aspects of service delivery. After consultation and refinement of the framework, the NHPC proposes to develop indicators. As a summary, though, quality can be considered to encompass first, whether the health service achieved what was intended (that is, whether it has been effective in producing a desired outcome such as an improvement in patient health status; and, second, whether it was safe (that is, whether there were adverse effects or unintended or undesired outcomes resulting from the intervention or the health care environment).

Reliable national information on these aspects of the quality of the health services is in large part not readily available. Safety and quality indicators should be developed in consultation with the ACSQHC, which will work with appropriate experts and stakeholders (including clinicians, the NHDC and the NHIMG) to assist the ACSQHC in achieving its information-related aims.

The development of a national reporting system for errors that result in serious injury and death of patients in the health care system has been identified as an area for immediate action by the ACSQHC.

Measurement and recording of whether health service delivery achieves desired outcomes are undertaken sporadically, e.g. by one-off national surgical audits of common surgical conditions organised by the Royal Australian College of Surgeons. It is, however, being established under the National Mental Health Strategy for mental health care services. Other areas of health care service delivery for which general or condition- or intervention-specific outcome measures could be applied could be investigated, especially as new opportunities arise from the introduction of electronic health records.

Survival analysis using linkage of routinely collected data is in its infancy, but has been recently undertaken in relation to outcomes of surgical and other interventions for cancer and cardiovascular disease. If undertaken more widely, this type of analysis could usefully contribute to an assessment of effectiveness of interventions, and inform care choices for patients and providers.

### Implementation

Priorities issues are:

7. Review existing data collections and, where necessary, establish new collections to support the Australian Council for Safety and Quality in Health Care to monitor and improve health system safety and to integrate indicators with the National Health Performance Committee framework.

8. Support development of measures of health service outcome, including survival analysis, using electronic health records and ethically approved data linkage where possible.

## 4.4      Information technology and health

**Policy issue**

Evolving information and communication technologies aimed at improving the integration of care systems for consumers will create demands for monitoring a more complex mixture of services as well as provide opportunities for enabling information developments. Health Ministers have endorsed recommendations from the National Electronic Health Records Taskforce for the creation of a health information network for Australia, Health*Connect*. Managed wisely, and within a robust privacy framework, Health*Connect* has the potential not only to improve quality of care and health outcomes, but also to make a substantial contribution to improving national data collections, both at the population and individual levels.

A two-year research and development phase is being undertaken by the Commonwealth, States and Territories to test the feasibility of Health*Connect* and options for delivery.

**Information response**

Opportunities and demands for improved health information for statistical purposes will flow from, but not lead, the implementation of a health information network. Current information systems that exist as by-products of administrative systems, such as hospital morbidity statistics, or even as direct statistical collections, such as the survey of general practice activity (BEACH), provide information about one point of patient care. As health information systems adapt to meet the demands of electronic health records and the national health information network, the statistical requirements needed for a wider perspective on patient care will also require that patient information systems develop a capacity to provide statistical information including risk factors and outcomes. The infrastructure for undertaking this work is already available to the parties through bodies and systems such as the AIHW, the National Centre for Classification in Health, the NHDD and the information development capacity of the NHIMG. Health Ministers have agreed that the NHIMG will coordinate activity that will focus on classifications and standards for data held in event summaries and health summaries.

Opportunity for statistical analysis of linked patient records in both the health and community services sectors is expected to come with technological developments in clinical/case management and decision-support systems that utilise unique patient identifiers. Electronic health records with unique patient identifiers that are compatible across settings will enable statistical collections to become more patient centred than event centred. Demands for analysis of patient-based linked data sets for health outcome information can be expected to grow but will be restrained by demands for the protection of the privacy of an individual's health records. Patient-centred information will also enable the development of a capacity to describe and evaluate performance in a system-wide view.

### Implementation

Priority issues are:

9.  Work with Health*Connect* to develop patient summaries and health summaries through the development of classification and coding systems for adoption within the proposed national health information framework, and plan for their use in statistical analysis and reporting.

10. Use unique patient identifiers, where available, and with strict privacy safeguards (including obtaining Ethics Committee approval where necessary), to produce statistics describing patient care and outcomes within and across health care sectors.

## 4.5    Population health

### Policy issue

Population health has lacked much of the information available to other health care sectors that provides evidence to support the implementation of population health strategies or to monitor their progress. The *National Public Health Information Development Plan 1999* recommended a number of strategies and initiatives to improve the scope, use and delivery of public health information and to develop public health information capacity (see Appendix 2 for a summary of the Plan's recommendations).

Of particular importance to population health will be the emerging understanding of health determinants as a target of influence in health and disease, especially for the major chronic diseases. The impact of those determinants on special needs groups, including children and youth, is receiving increased attention.

Monitoring of the prevalence of chronic diseases is an important element of the National Health Priority Areas (NHPAs) initiative and the National Public Health Partnership. Amongst the NHPAs, mental ill health is the third largest contributor to burden of disease in Australia, justifying continuing monitoring of mental health at the population level. The WHO made mental health the main focus of its *World Health Report* for 2001.

### Information response

The continued implementation of the National Public Health Information Development Plan 1999 is needed to meet the growing demand for comprehensive and consistent public health information at national, state, territory and local levels. Implementation processes have been established under the National Public Health Partnership's National Public Health Information Working Group (NPHIWG) and rely on cooperation and coordination between government jurisdictions to develop and disseminate information about public health activities.

The Plan has a range of recommendations grouped under three headings:

*   *Improving the scope and coverage of public health information* – including health determinants, health promotive environments and financial and economic assessment of public health programs

- *Improving the use and delivery of public information* – including analysis, presentation and information access

- *Developing public health information capacity* – including record linkage applications.

Much information of relevance to public health program planning is gathered through population surveys. Recent developments of relevance include a new triennial ABS National Health Survey program beginning in 2001, a General Social Survey series that can link health and other characteristics, and a longitudinal survey of children being developed by the Department of Family and Community Services. However, an important remaining gap in Australia's survey program is the lack of biomedical risk factor surveys. Also, the new ABS National Health Survey program does not include any specific surveys of mental health, nutrition or oral health.

The National Computer-assisted Telephone Interview (CATI) Health Survey Technical Reference Group, a sub-committee of the NPHIWG, with the assistance of the ABS will be developing standard modules for collecting risk factor information in interview surveys. These will be promulgated by the ABS and will be submitted for inclusion in the NHDD. The NPHIWG will take responsibility for developing options to ensure national telecommunication systems will continue to support CATI sampling into the future.

Collection of national public health expenditure information, based on a new classification with support from the National Public Health Partnership, is proceeding. Continuation and further development of the collection, including a possible expansion of scope to include expenditure outside of the health sector, will be required.

Statistical linkage of data from survey and administrative sources, using methods that are scientifically and ethically sound and provide appropriate privacy protection, would add considerably to the analytical capacity of existing data. The AIHW National Deaths Index and National Cancer Clearing House are well-established registers that are serving these purposes. The National Diabetes Register will develop this capability once it is through its establishment phase. The AIHW proposes to explore with Registrars of Births, Deaths and Marriages the development of a National Birth Index to facilitate linkage of child health data sets for longitudinal analysis. NHIMG guidelines for health registers can promote and facilitate the extension of best practice to other registers managed outside the NHIA.

In addition to potential linkage of data within the health sector, opportunities for linkage with other data should be explored to support analysis of broader determinants of health, for example in areas of mental health and injury.

Further opportunities for enhancing population health data, for instance in disease surveillance, can be expected from successful implementation of Health*Connect*.

**Implementation**

The priorities are:

11. Develop data collections to incorporate a range of health risk factors, including behavioural, biomedical, environmental, occupational and other socioeconomic factors, recognising the priority of special needs groups. In particular, introduce a series of national surveys that include biological measurement of major modifiable risk factors as part of Australia's national health information system.

12. Coordinate behavioural risk factor surveys to promote best practice and development consistent with a continuous nationwide chronic disease and associated risk factor information and monitoring system.

13. Establish ongoing programs for collection of information from previous ad hoc national surveys on key topics, especially mental health, nutrition and oral health.

14. Continue the development and collection of information on public health expenditure.

15. Support the National Public Health Partnership to implement other recommendations of the *National Public Health Information Development Plan 1999.*

## 4.6    Equity and access

**Policy issue**

Health status is not equally distributed across the whole community. Aboriginal and Torres Strait Islander peoples have the poorest health status and have a specific focus elsewhere in this chapter. Other groups that remain vulnerable may be identified by their socioeconomic status, age, veteran status, geographic location or other specific circumstance (e.g. those in prisons). Poor access to health care services is seen as a factor affecting health experiences of many groups including rural and remote populations and people living in outer suburban and fringe areas of large cities.

**Information response**

Comprehensive analysis and reporting on health inequalities has not been undertaken in Australia for some years. There is an urgent need for such analyses to be updated to inform public health program development and to plan the provision of health services to vulnerable groups. No coordinated information is available on either the health and risk factor status or health services usage of specific populations, including people with disabilities and prisoners. Some occupation groups remain vulnerable to the adverse health effects of specific work-related exposures to risk.

Current health information systems do not provide sufficiently detailed information on the geographic location of health, welfare and community service providers, facilities and their clients. Data based on fixed geographic classifications are adequate for looking at the broad picture of health and health services distribution but lack the flexibility for many service-specific analyses or for isolated pockets with specific health issues. The application of geo-coding to health and community service data as

well as to population data is becoming technically feasible and could significantly improve analysis of geographic access to services. Agencies collecting small area data should collaborate on the geo-coding of these data sets and use agreed national standards to ensure that they are compatible. Information privacy implications would need to be managed in accordance with statistical best practice.

**Implementation**

The priorities are:

16. Build on existing development of analytical techniques for reporting on health inequalities and on the health of vulnerable populations.

17. Subject to the constraints of privacy legislation, utilise emerging geo-coding capability of population health and health service data systems to facilitate analysis of service-specific access.

## 4.7　　Health labour force

**Policy issue**

Effective delivery of health services depends on the availability of suitably qualified staff. Demand for nursing staff with certain specialisation has begun to exceed supply, as is the case in some medical specialties, and AHMAC interest has grown, especially for nursing. As well, technological and other structural change is affecting the mix of skills needed in health professions. The regional distribution of services, often dependent on the regional availability of skilled professionals, remains a major policy focus for service providers and health education planners. AHMAC has established an Australian Health Workforce Officials Committee to support the work of a Ministerial Council on health workforce.

**Information response**

The AIHW coordinates and collates national health labour force data for the registerable health professions. The NHIMG has determined the schedule for these collections with the current five-year program ending in 2003. The program includes an annual medical labour force collection, a biennial nursing collection and a rolling program with less frequency for the other professions.

National minimum data sets for health services (e.g. Hospital Establishments) and ABS service industry surveys of the private sector typically collect only the quantum of staff resources by broad category, without any indication of the skill mix. The ABS census is the only source of industry by occupation data.

Workforce planning requires data by occupation and qualification to develop projections of workforce requirements in specialised fields. These workforce requirements can be translated into projected required number of training places and policies to be implemented for an efficient allocation of such training resources. Structural change affecting health professionals includes contracting by hospitals for nursing services and a trend towards corporatisation of medical practice. The effect of such changes is not well measured in existing labour force data collections, which should be reviewed before 2003, taking account of current market pressures.

### Implementation

The priority is:

18. Review the frequency, content and methodology of health labour force collections against contemporary planning needs, especially where the geographic distribution, skill levels and numbers of professionals do not match consumer demand and where structural change such as corporatisation and contracting arrangements are changing the organisation of service provision.

## 4.8     Performance of the health system

### Policy issue

There is continuing community debate about the pressures on the health system - whether it can be sustained in its current form and whether it can continue to produce high-quality outcomes. Existing information systems provide a wide array of information to inform this debate, but there are repeated calls for more information and more analysis based on existing information. AHMAC has established the National Health Performance Committee (NHPC) to develop benchmarking and reporting on health system performance. Annual reports by the Steering Committee for the Review of Commonwealth/State Service Provision includes health among coverage of a wide range of government service systems. In addition, the National Health Priorities Action Council oversees reporting through the AIHW's *Australia's Health* reports of indicators relevant to the six NHPAs.

### Information response

AHMAC has supported the development of a set of national health performance indicators, based on the National Health Performance Framework. The NHIMG will need to respond to the AHMAC decision by undertaking a concerted data development effort and possibly the collection of additional information to ensure availability of data to support indicators that the NHPC will recommend for reporting against the framework. Examples such as waiting times for care and continuity of care can be addressed by further development of existing NMDSs and implementation of new information systems planned for community health services. In other cases, new information infrastructure may be needed. Collaborative work with the NHPC could facilitate these developments.

Summary measures are likely to form part of the national performance indicator framework, as well as being central to WHO health systems reporting. The 2002 *World Health Report* focuses on these issues. The OECD is also developing summary health measures within its Wellbeing indicators. Recent burden of disease work in Australia has established a strong base for further development. Priorities include consultation about methodology, particularly about the use of weights assigned to functional status, and subsequent Australian testing of the sensitivity of weights previously used for burden of disease estimates and the development of generally accepted health status and health gap measures for Australia.

Currently, the national data collected on public sector health expenditure lacks consistency in terms of scope, methodology and definitions. As the importance of these collections increase in relation to inter-program and inter-jurisdictional analysis and comparisons, the need for a greater degree of consistency also increases.

The development of a financial NMDS, based on agreed NHDD definitions, would represent a substantial advance, rationalise existing collections and considerably reduce respondent burden. With the scope of expenditure collections already widening, such as the public health expenditure collection, the need for an agreed methodology and definitions is seen as a priority.

New financial information is now also being sought. Examples include the impact of corporations in the health system and the increasing indemnity insurance load. The extent of cost shifting between sectors has also been the subject of much debate and existing information systems do not allow estimation of the extent of the problem.

If funds pooling becomes a significant or partial response (e.g. for out-patient drugs), data systems will need to be developed to track the performance of these new systems, the characteristics of users and the risks faced by the various parties.

The increased integration of public and private services requires upgrading of key information systems, for example to capture the treatment of public patients in privately operated hospitals (including public hospitals operated by the private sector).

### Implementation

The priorities are:

19. Undertake data development, expanded collections and, where necessary, implement new collections to facilitate the National Health Performance Committee's reporting of performance indicators under the National Health Performance Framework and the AIHW's reporting of indicators for National Health Priority Areas.

20. Develop a National Minimum Data Set for public sector financial data of adequate quality for comparative analysis of health system and unit costs.

21. Develop summary health measures to ensure that valid Australian indicator data are available for reporting by the Organisation of Economic Co-operation and Development in its Wellbeing Indicators Program and by World Health Organization in the *World Health Report*.

## 4.9    Standards and classification

### Policy issue

With the major proposed expansion of the national health information area into electronic health records, networks, public health, performance and safety, the current standards infrastructure and coordination mechanisms need to be enhanced and duplication of effort avoided.

### Information response

Under the National Health Information Agreement (NHIA) significant improvements have been made in the application of data standards and in processes for development of definitions. The established NHIA infrastructure for the development of standards includes the National Health Information Model (NHIM), the *National Health Data Dictionary* (NHDD) and the development process through the National Health Data Committee (NHDC). The scope and content of successive versions of the NHDD has expanded significantly, particularly in its role as a repository for National Minimum Data Sets (NMDSs).

The NHIA standards development infrastructure needs to support new health information priorities arising from significant developments in health informatics.

Health Ministers have agreed that the NHDD should form the basis for an expanded set of data definitions needed to develop the Health*Connect* network. This calls for the information standards infrastructure established under the NHIA to support the information technology objectives of the National Health Information Management Advisory Council (NHIMAC), particularly in relation to the work being undertaken by the National Health Information Standards Advisory Committee (NHISAC), to be coordinated with the health informatics standards work of Standards Australia.

Recognising new policy directions and the changing environment for health services, a broad strategic review of the NHDD was commissioned by the NHIMG in 2000. The review recommendations included:

- rationalisation of current NHDD content to enable more generic application of standards

- upgrading the Knowledgebase, the electronic repository of health data standards, which includes the NHDD, so that it can meet the broad-based requirements of the emerging health information environment

- further use of information modelling, including the NHIM, as an organising framework for NHDD.

The review pointed out that significant additional resourcing is required to enable NHDD processes to keep pace with the demand for information standards.

Arising from the Health Ministers' endorsement of recommendations for electronic health records in Australia, the NHIMG has established an Expert Group on Health Classifications. Through this Expert Group the NHIMG will establish a process for the national maintenance of classifications and terminologies, and agree on an Australian Family of Health Classifications.

The priorities are:

22. Implement recommendations from the Review of the National Health Data Dictionary, March 2001, including upgrading the Knowledgebase as a national health (and welfare) data standards registry and consolidating the National Health Information Model as an organising structure for health metadata.

23. Establish processes for developing, agreeing and maintaining national classification systems and links with coding systems in all health settings.

## 4.10 Management of health information

**Policy issue**

For health information to meet the requirements of health system managers, funders and consumers, it needs to be of sufficient quality for its purpose, be timely and accessible by those who need it. Thus the development and implementation of best practice guidelines, protocols and standards for data development, collection, compilation, analysis and dissemination are basic elements of a system producing quality and cost-effective information.

There are significant community and professional concerns that the move to greater usage of electronic records and data linkage should safeguard privacy and meet appropriate ethical guidelines.

**Information response**

The NHIA has brought major gains during the 1990s in improving the quality and timeliness of major health data collections. The NHIMG will continue a program of developing NMDSs; developing data element definitions for lodgement in the NHDD and data collection implementation. NHIMG will consult with professional groups and other stakeholders in this process. However, the NHIMG recognises the need to regularly review the implementation of NMDSs in terms of their compliance with standards and their overall quality and timeliness.

A review of the National Minimum Data Set for Admitted Patient Care to be conducted in 2002 will encompass an evaluation of the quality and utility of these data, compiled by the AIHW as the National Hospital Morbidity Database. Other NMDSs can be reviewed in a similar manner in a planned program over time.

Overlap and duplication of data collections exist in some fields, including hospital morbidity and casemix in both public and private sectors, mental health services and in health system performance reporting. In some cases, funding accountability requirements have led to the establishment of data collections that parallel NMDS collections under the National Health Information Agreement. The NHIMG should negotiate for the right to auspice these collections as a means of avoiding wasteful duplication and overlap.

Arrangements for NMDS collections do not all follow a common model across data development, collection, compilation, analysis and dissemination aspects of collections. Arrangements for authorising access to NMDSs held by the AIHW differ across collections and jurisdictions. Continued expansion of the use of electronic means of dissemination of key health information is necessary to meet demand. Implementation of the recommendations of the Health and Medical Research Strategic Review is expected to increase the demand from researchers for access to NMDSs for research. The NHIMG could use the review process to determine and implement best practice for facilitating access for analysis, including for data linkage.

Moves towards electronic health records with unique patient records have been noted elsewhere in this chapter. The opportunity to apply data linkage analysis to obtain information on health outcomes has also been noted. AHMAC has funded work on a protocol for linkage of health records across jurisdictions but more needs to be done in this area to test and refine protocols. It has long been recognised that such analysis can only be undertaken inside a well-articulated rules for the protection of individual privacy. The NHIMG needs to continue to develop and advocate best practice in statistical information privacy regimes and in the use of unique patient identifiers in statistical analysis. The National Advisory Group on Aboriginal and Torres Strait Islander Health Information and Data should be consulted on the management of health information in respect of Aboriginal and Torres Strait Islander people.

### Implementation

Priority areas are:

24. Commission regular and systematic review and enhancement of the timeliness, accuracy and completeness of national minimum data sets and other major national collections.

25. Negotiate for the reduction of overlap and duplication in national health data collections.

26. Develop and implement best practice guidelines, protocols and standards for data development, collection, compilation, analysis and dissemination, including common protocols for access to jurisdictional data to promote their use for research and analysis and increasing the range of data available electronically.

27. Advocate for adoption of statistical best practice in information privacy regimes, including rules for statistical use of unique client identifiers.

# 5    A planning process

## 5.1        The National Health Information Agreement

The National Health Information Agreement (NHIA) is the cornerstone of the national health information infrastructure and of the cooperative development of health information in Australia. It is under the NHIA that the NHIMG and the National Health Data Committee operate and that the *National Health Data Dictionary*, National Minimum Data Sets, data standards and the National Health Information Model and Knowledgebase are produced. This multilateral agreement initially signed in 1993 for five years, was extended in 1998 for a further five years until 30 May 2003. These Health Information Development Priorities look to the period to 2005.

To provide the necessary auspice for the operation of the national health information structures and processes, an important step in the period to 2005 will be the extension of the NHIA for a further period. Given the magnitude of many developments identified as likely to occur in the health information field, together with some of the information development priorities identified earlier in this document, it is probable that some provisions of the NHIA may need reconsideration or supplementation. Improved data quality and data dissemination enabled by information technology may modify current data access provisions. Resourcing of national health information development is another such issue, discussed in Chapter 6.

It must be noted that to the extent that the parties to the NHIA bring their own resources to the process in a collaborative working model, each party also brings its own priorities, so planning outcomes will be the result of negotiation about party roles and capacities.

## 5.2        Implementation planning and review

Chapter 4 identifies the priority issues on which action is recommended. This chapter considers the twin aspects of:

- implementation of those priorities; and
- review of the continuing relevance and ranking of the priorities.

Given the close relationship between the implementation and review and as both processes are the responsibility of the NHIMG it is important that the NHIMG puts in place a single straightforward process that meets those needs.

The longer term nature of many national information projects suggests that implementation of the Health Information Development Priorities should be through a three-year rolling work program. That program will focus in detail on those projects to be carried out or commenced in the first twelve months of the work program and provide details of the project, deliverables, milestones and deadlines and the agency responsible for undertaking the project. The cost of the project, on an annual basis and over the three years, should be estimated and provided as part of a business case that identifies resourcing commitments made by NHIA parties and any shortfall.

An annual planning process by the NHIMG will bring such a review process into updating of the three-year rolling work program. It will annually consider reports from the responsible agencies on the progress of each project. That consideration should include a review of the continuing relevance and priority of the project.

Timing of the NHIMG's annual planning review and update of the work program should be tied to AHMAC's planning cycle. The NHIMG should conclude its review in time to present a work program update, linked with the Health Information Development Priorities, for AHMAC consideration at the meeting where it conducts its budget deliberations (currently its first meeting of each year). The NHIMG report would include business cases to support any bid for resources for new development work.

NHIMG planning will need to be coordinated with the work of other information relevant national bodies such as the National Health Information Management Advisory Council (NHIMAC) and the National Health Performance Committee. The NHIMG should maintain its established links with these bodies to ensure coordination of information development work and consistent advice to AHMAC. The NHIMG should continue to advise AHMAC of the data standards development (as distinct from Information Technology standards development) implications of NHIMAC's work and should provide the data standards development infrastructure for NHIMAC's developments.

# 6 Resource implications

The *National Health Information Development Plan 1995* deliberately did not set out to be a document for use in budget development. The 'partnership' arrangements of the National Health Information Agreement (NHIA) were relied upon for implementation. Funding of national information and data development has been ad hoc and opportunistic. AHMAC in recognising the importance and value of information has contributed to core infrastructure development such as the *National Health Data Dictionary* and the National Health Information Model. Where possible, signatories to the NHIA have also integrated information development priorities into existing programs or activities. While these contributions have been critical to achieving progress, the ability of the NHIMG to develop a realistic and resourced work program to implement the Plan has been severely constrained. This approach to resourcing is increasingly becoming not viable.

However, pressures are now evident at the level of data development and in data collection and gathering. New requirements for the NHDD to support Health*Connect* initiatives are both a requirement and an opportunity. Business cases based on agreed national strategies can be built around this new initiative.

## 6.1 Budget

Most of the current resourcing of the national information infrastructure is hidden within the work programs and activities of the parties to the NHIA. AHMAC has continued to support the *National Health Data Dictionary* development and updating from its annual budget and provides some special case funding. However, AHMAC has not seen its budget as a source of support for ongoing infrastructure and so new arrangements will be needed to support a growing demand for health information work. The kind of commitment to health information development (made by Canada, for instance, through its Health Information Roadmap Initiative) could not be supported under existing arrangements for health information funding in Australia. It is appropriate for AHMAC to consider funding mechanisms for the national health information infrastructure in planning ongoing arrangements following the end of the current National Health Information Agreement in 2003.

## 6.2 Skills

Analytical capacity is necessary for maintaining infrastructure and for analysis of information for policy. Burden of disease, health inequalities, health expenditure, health record linkage and disease costs are areas in which innovative analytical techniques have been applied to add value to national health information. A capacity to undertake this type of work needs to be planned and managed against the relative scarcity of skilled analysts. Training and development planning for analysts is an issue that will increasingly require the attention of national health information planners.

**APPENDIX 1**

# Casemix information development

The following priorities were identified through processes involving State and Territory representatives, representatives of the Commonwealth Department of Health and Ageing, the AIHW and the Clinical Casemix Committee of Australia (CCCA) and have been endorsed by AHMAC.

The priorities for casemix development fall into three broad categories:

- continuing existing work to maintain and improve current national casemix classifications and data collections
- developing new national minimum data collections in key areas where there is currently no meaningful data
- longer term developmental work relevant to current policy and program management issues.

In some instances there are intersections with the NHIMG's priorities. In these instances, further work will occur to develop project plans with the involvement of jurisdictions, the NHIMG, the CCCA and other relevant stakeholders.

## Maintaining current essential work

### PROJECT No. 1: Continued Diagnosis Related Group development

Diagnosis Related Groups (DRGs) are critical to understanding the inpatient component of hospital activity in Australia-worth in excess of $12 billion per year. DRGs must be periodically updated to reflect changes in practice and to improve our capacity to understand resource use in hospitals. This work is ongoing and will review aspects of the current DRG algorithm and use patient-level cost information to develop severity indices based upon Patient Clinical Complexity Level scores that will better explain cost variation within DRGs. It will also investigate development of existing and/or new data items to better explain variation of resource use within DRGs.

### PROJECT No. 2: Improvement of data quality and costing standards for the National Hospitals Cost Data Collection

The National Hospitals Cost Data Collection (NHCDC) is the only collection that provides detailed information on hospital costs on a reasonably standard basis across all Australian jurisdictions. It reports on both the public and private sectors. The collection is used by many States as the basis for their hospital funding approaches and for intra- and inter-state comparison of hospital costs. NHCDC data are also used as a basis for the ongoing refinement of casemix classifications.

A recently completed review of the NHCDC indicates that it is supported by a significant amount of goodwill and commitment from the Commonwealth, State and Territory jurisdictions and other stakeholders, and is a valuable source of cost and activity data unavailable elsewhere. Continued work in this area will address:

- the lack of consistency in costing approaches between hospitals and across State and Territory jurisdictions which makes meaningful comparative analysis difficult

- the need for clarification and standardisation of the counting of episodes across jurisdictions (e.g. treatment of mental health)

- the need for service weights to be updated.

As part of this work, opportunities have been identified, within the context of the work of the Australian Health Workforce Officials Committee, to investigate opportunities to draw upon the NHCDC to obtain additional analyses and reports that are useful for workforce planning. There is also opportunity for collaboration between the jurisdictions in relation to the more detailed cost studies undertaken to refine the component weights, with a nursing cost weight study planned.

### PROJECT No. 3: Improving the quality and timeliness of national hospital morbidity data collections

This work will focus on improving the adherence to *National Health Data Dictionary* standards in morbidity collections and facilitating timely provision of data to national hospital morbidity collections.

### PROJECT No. 4: Improving access to national data collections

This project will develop nationally agreed, standardised protocols (including confidentiality protection) and arrangements for accessing data held in casemix data collections, and stand-alone data products, to facilitate wider use of the data by those who contribute to the collections, as well as by other researchers. Considerable efforts and resources go into the collection of activity and costs data at the State, Territory and national levels. Wider availability of de-identified data for analysis, performance benchmarking at the institutional level, and research will enhance the utility of the collections.

This work will build on existing successes, such as the CD-ROM of private sector data currently produced by the Commonwealth Department of Health and Ageing, by exploring how such approaches might be extended to improving the availability of data from national collections in forms useful to public hospitals and those who work in them.

### PROJECT No. 5: Education and training in casemix

The project will develop a range of targeted education and information initiatives for users and generators of casemix data, including health professionals, managers/administrators, policy makers, and data coders.

### Immediate priorities for data development (next two years)

### PROJECT No. 6: Nationally consistent data for emergency department care

The Commonwealth, States and Territories have identified the need for nationally consistent data on non-admitted hospital activity, including the characteristics of the patient population. The creation and implementation of reliable and high-quality national data sets for emergency services and other non-admitted patient care are seen as a prerequisite for the on-going development of hospital casemix systems as well as for the development of more sophisticated planning and resource allocation systems in the Australian health care system.

A National Reference Group, convened by the Commonwealth, has been working towards the development of a proposed National Minimum Data Set for patient-level data on emergency department care.

### PROJECT No. 7: Nationally consistent data for outpatient care

The Commonwealth, States and Territories have identified the need for nationally consistent data on non-admitted hospital activity, including the characteristics of the patient population. The creation and implementation of reliable and high-quality national data sets for outpatient care and other non-admitted patient care is seen as a prerequisites for the ongoing development of hospital casemix systems as well as for the development of more sophisticated planning and resource allocation systems in the Australian health care system.

A National Reference Group, convened by the Commonwealth, has been working towards the development of consistent national data for outpatient care and will identify the optimum strategy and timetable to progress this work. The Reference Group will consider the advantages and disadvantages of defining a patient level national minimum data set and the collection of patient level outpatient data for at least a subset or sample of public hospitals.

### PROJECT No. 8: Sub- and non-acute care national data collection and casemix classification

The lack of data on sub- and non-acute care in hospitals has hampered addressing issues such as the interface between hospital care and aged care for older Australians. This has been recognised in a paper presented to health CEOs in December 2000, and in an all-jurisdictions paper to the joint meeting of Health and Aged Care Ministers in August 2001. Data on sub- and non-acute care is also of increasing relevance to the private sector. While there has been limited implementation of the Australian National Sub- and Non-acute Patient Classification (AN-SNAP) in some jurisdictions, there is no consistent agreed data collection across jurisdictions to underpin policy and program development in this area.

This project will work towards the development of specifications for national minimum data sets for sub- and non-acute care, and will be followed by further development of casemix classification systems and costing methodologies for these care types.

### PROJECT No. 9: Coding for quality and safety

Hospital morbidity data has real potential to provide the basis for better understanding of safety and quality in hospital services, including adverse events.

To realise this potential, work needs to be undertaken to review approaches to coding, in particular ICD-10-AM coding, to reliably capture data which are useful for these purposes. This project will identify the best strategies through which existing and enhanced casemix data sources could be utilised in the routine production of information and indicators concerning the quality and safety of health services. The work will be undertaken in collaboration with the Australian Council for Safety and Quality in Health Care.

**Medium term developmental work (three to five years)**

### PROJECT No. 10: Primary and community care collection and classification

The primary and community care sector is responsible for about one-third of all health expenditure. While there are some long standing data collections (e.g. medical benefits data for general practice), there is little consistently collected data for non-medical services in the sector. Initially, the project focus will be on scoping minimum data set developments for primary and community care services and on extending current approaches such as the Home and Community Care data collection. Expectations are that the work would include evaluation of proposed data sets through pilot implementations.

### PROJECT No. 11: Investigating the usefulness of person-based analysis

The project will seek to demonstrate the utility of person-based analyses of data in a casemix data context. A particular focus will be on the potential for person-based analyses to promote an understanding the inter-relationships between services, outcomes and quality (e.g. unplanned re-admissions to hospital, admissions to hospital for conditions amenable to long-term care in the community, the validity of using ambulatory care sensitive admissions and an indicator of quality of care, longitudinal analysis of patterns of care for people with chronic conditions). The project will also explore the potential for the development of person-based casemix classification schemes (for example approaches that bundle aspects of care beyond the acute episode). The project itself will not be the avenue for exploring the feasibility of establishing unique identifiers and addressing associated policy issues, as this issue will be progressed through the NHIMG.

### PROJECT No. 12: 'Packages of care'

The project will explore developing a number of 'packages of care' for acute hospitals that span traditional hospital settings (e.g. inpatient, outpatient and hospital in the home) and will cost the packages. Packages that span more than one hospital will also be developed. The project will use a mix of statistical and normative techniques including clinical pathways for this work, with a view to developing packages that would be able to be incorporated into current casemix funding policy, to address the problem that casemix funding approaches that are setting-specific can hamper the development of innovative approaches to care across settings.

### PROJECT No. 13: Developing data to inform resource allocation

There are a variety of developments that look at applying data and classification techniques to understanding resource use and informing the allocation of resources. These include approaches to risk adjustment at the level of individuals, such as Diagnostic Cost Groups, Ambulatory Care Groups and Clinical Risk Groups, through to broader population approaches such as Health Benefit Groups and Program Benefit Marginal Analysis. The project will focus on assessing the relevance of these, and trialing their application to Australian data to assess their potential use to inform policy development and resource allocation in Australia.

### PROJECT No. 14: Facilitating casemix research and development

Recognising that there are many possibilities for the useful analysis of casemix and related data, this project will seek to facilitate access by the wider research community to national casemix and related data collections, and to foster research relevant to the priority areas identified in the other thirteen areas of this national work program.

**APPENDIX 2**

# Public health information

The National Public Health Information Development Plan 1999 developed by the National Public Health Partnership's National Public Health Information Working Group, contains details on the following recommendations.

## 1. Improving scope and coverage of public health information

**1.1 Health determinants**

1.1.1 Conduct of a national biomedical risk factor survey in conjunction with the 2001 National Health Survey, subject to piloting to confirm that adequate response rates can be achieved.

1.1.2 Development by the ABS of a General Social Survey and the associated development of agreed methods to measure physical, social and economic environments as they relate to health. The General Social Survey should complement the National Health Survey and State/Territory health surveys.

1.1.3 Development of a national work program to improve the overall coverage of survey data, facilitate the sharing of data between jurisdictions and provide a basis for establishing agreed national minimum survey data sets for priority areas.

**1.2 Indigenous peoples**

1.2.1 Active implementation within jurisdictions of the Aboriginal and Torres Strait Islander Health Information Plan.

1.2.2 Development of data collections so that the environmental and social causes of ill health in Indigenous communities are identifiable.

**1.3 Socioeconomic disadvantage**

1.3.1 Standardisation of the instruments or questions used to measure socioeconomic status or socioeconomic disadvantage in all population-based health surveys.

1.3.2 Examination of the feasibility and social acceptability of the routine collection of indicators of individual socioeconomic disadvantage as part of routine population-based health data collections.

1.4 Intersectoral information and data on the physical environment

1.4.1 Establishment of a cooperative work program to develop national data standards for intersectoral data which meet public health requirements, and to establish regular flows of information (in both directions) between the public health sector and the non-health and local government agencies which collect or produce this information.

**1.5  Health promotive environments**

    1.5.1    Development of a work program, in collaboration with education, transport, employment and related environmental agencies, to measure the extent of health promotive environments in Australia and to collect data on their establishment, use, maintenance and impact on health outcomes.

**1.6  Geographic classifications**

    1.6.1    Development and promulgation of a set of standard national geographical boundaries, identifiers and aggregations for use in all population-based health data collections and surveys and a mechanism for coding current and historical address information to this classification.

**1.7  Financial and economic assessment of public health programs**

    1.7.1    Further development, via a consultative process, of the AIHW classification of public health activity.

    1.7.2    Continuation of the AIHW National Public Health Expenditure Survey project.

    1.7.3    Development and promulgation of sets of guidelines for:

- the conduct of burden of disease and cost-effectiveness studies, and the collection of evidence by systematic reviews of the literature

- measurement of the output from and impact of different types of public health programs and services (including public health information programs).

**1.8  National public health indicators**

    1.8.1    Development of an agreed set of national public health indicators via a consultative process.

## 2.  Improving the use and delivery of public health information

**2.1  Analysis and presentation of information**

    2.1.1    Research into best practice for the analysis and presentation of small area and local data, and into improved methods of communicating epidemiological and statistical concepts to lay audiences.

**2.2  Information delivery and access**

    2.2.1    Organisations and agencies responsible for the reporting of public health data should actively develop their capacity for electronic publication and explore methods for exploiting this capacity.

## 3. Developing public health information capacity

**3.1 Record linkage**

3.1.1 Systematic investigation of the appropriateness, utility, feasibility and cost-effectiveness of the application of record linkage techniques to existing data collections at and between levels of government.

**3.2 Sentinel surveillance networks and communicable disease surveillance**

3.2.1 Development of mechanisms to enable better coordination of sentinel surveillance networks and pooling of data; including general practice data in close cooperation with the Royal Australian College of General Practiioners (ACGP) and local Divisions of General Practice

3.2.2 The National Communicable Diseases Surveillance Strategy should continue to be implemented.

**3.3 Sharing of and access to public health data**

3.3.1 Development and promulgation of guidelines for the responsible, ethical and, in some cases, controlled release of information based on shared or pooled data.

**3.4 Development of a systematic approach to national public health information**

3.4.1 Development of a framework for the systematic, collection, aggregation and use of public health information at the national level.

**3.5 An infrastructure for managing the national development of public health information**

3.5.1 Development of a body which has well-defined mechanisms for making decisions affecting national public health information and which can represent the information needs of the public health sector and can act as an advocate for a population perspective in national and international health information forums.