

# 1 Introduction

This report presents the findings of an evaluation of the National Minimum Data Set (NMDS) for Admitted Patient Care conducted by the Australian Institute of Health and Welfare (AIHW). The evaluation was funded by the Australian Health Ministers' Advisory Council (AHMAC), through the National Health Information Management Group (NHIMG) and was conducted with the advice of the AIHW's Australian Hospital Statistics Advisory Committee (AHSAC). This report was endorsed by NHIMG out of session during August 2003.

The aim of the evaluation was to assess the quality and utility of the NMDS to determine whether the data collection suits current requirements and to take actions to improve data quality and comparability. As a core part of the evaluation, the AIHW developed a methodology which can be used to evaluate other National Minimum Data Sets. The methodology incorporates: a review of compliance, that is, the extent to which data are collected and/or provided by states and territories in accordance with NMDS specifications as published in the *National Health Data Dictionary*; a review of utility, based on consultations with data collectors and users; and formulation of recommendations for future data development.

## This report

This chapter describes the National Minimum Data Set for Admitted Patient Care and outlines the purpose of the evaluation.

Chapter 2 describes the methodology that was developed and used as the basis for the current evaluation.

Chapter 3 describes the results from the review of utility, a consultation process involving a survey of data collectors and users. Information is presented on the users and uses of the NMDS, the utility of the NMDS and individual data elements, that is, the extent to which they are perceived as important and useful, and possible areas for data development.

Chapter 4 describes the results of the compliance review, including information on the scope of the data provided by states and territories and the extent to which the data provided for each data element comply with *National Health Data Dictionary* (NHDD) definitions and domain values.

Chapter 5 presents comments on existing data elements obtained from both the utility and compliance evaluations. It also outlines suggestions for new data elements.

The appendices include the survey used as the basis of the review of utility\*, a list of survey respondents, and sex-procedure edits provided by the Victorian Department of Human Services.

## **The National Minimum Data Set for Admitted Patient Care**

A National Minimum Data Set is a core set of data elements agreed by the NHIMG for mandatory collection and reporting at a national level. An NMDS is contingent upon a national agreement to collect uniform data and to supply it as part of a national collection. The NMDS standards make data collection activities more efficient by reducing duplication of effort through the standardisation of core data items; more effective, by ensuring that information to be collected is relevant and appropriate to its purpose; and more comparable and consistent for reporting purposes.

A NMDS includes agreement on specified data elements (discrete items of information or variables) and supporting data element concepts as well as the scope of the application of those data elements and the statistical units for collection. Definitions of all data elements that are included in NMDS collections in the health sector are included in the NHDD.

The National Minimum Data Set for Admitted Patient Care (referred to from here on as 'the NMDS') is a specification for data that are collected on all episodes of care for admitted patients in Australian hospitals. The scope of the NMDS is episodes of care for admitted patients in all:

- public and private acute care hospitals,
- public and private psychiatric hospitals, and
- private freestanding day hospital facilities.

Episodes of care are the statistical units of the NMDS, with data being collected at each hospital from patient administrative and clinical record systems and forwarded to the relevant state or territory health authority on a regular basis. Data for each financial year ending 30 June are then provided to the Institute and the Department of Health and Ageing for national collation, on an annual basis.

The NMDS forms the basis for nationally comparable data, such as the AIHW National Hospital Morbidity Database and AIHW's annual report *Australian Hospital Statistics*; as well as state/territory-based hospital morbidity data collections and the Department of Health and Ageing's National Hospital Morbidity (Casemix) Database.

## **Purpose of the evaluation**

The NMDS for Admitted Patient Care was first specified in 1989 (as part of the Institutional Health Care NMDS) and has been amended in relatively minor ways

---

\* Explanatory notes accompanying the survey are available from the AIHW on request.

most years since then, in response to a range of different requirements. However, there have been relatively few attempts to date to assess the quality and utility of the NMDS-based data in a comprehensive manner. As considerable resources are used at the state and territory and national levels to collect it, a comprehensive evaluation of the NMDS was considered necessary to determine whether the data collection suits current requirements and to plan actions to improve data quality and consistency.

This evaluation builds on other recent attempts to assess the quality and utility of the data set including the Hospital Utilisation and Costs Study Review undertaken in 1996 (which incorporated some review of this NMDS) and the NHIMG compliance evaluation of the 1997–98 NMDS undertaken in 2000.

## **Hospital Utilisation and Costs Study Review**

The Hospital Utilisation and Costs Study (HUCS) Review was undertaken to determine its future role in the collection, analysis and dissemination of nationally comparable data on hospital costs and services. The review was commissioned by the NHIMG in response to a perceived lack of quality and timeliness in the HUCS, changes in health care delivery and financing arrangements, and the emergence of other national hospital-based collections.

Through a survey, views of data providers (state and territory health authorities) and data users were canvassed on the uses and users of the data, methods to improve timeliness and data quality, overlap with other hospital data collections and preferences for scope, data items, analysis and dissemination. Issues surrounding compliance with NHDD definitions and the collection of NMDS items were also considered. Items referred to the National Health Data Committee (NHDC) for definition development or review and/or consideration for the NMDS for Institutional Health Care included 'Hours of mechanical ventilation' (or time spent in intensive care), 'Employment status' and 'Occupation'. Responses from the review were used to develop recommendations to the NHIMG, which agreed to the institution of mechanisms to improve data quality and accelerate the timetable for data provision, processing and analysis to ensure timely dissemination.

## **NHIMG compliance evaluation of the 1997–98 NMDS**

At the NHIMG meeting on 5 March 1999 it was agreed that the Institute would undertake to develop a template for the evaluation of NMDS collections and complete this evaluation for one NMDS collection, Institutional Health Care (Admitted Patients). The Institute prepared the evaluation template in consultation with AHSAC and the NHDC.

The evaluation was based on documentation provided by the states and territories to the Institute with the 1997–98 hospital morbidity data and communications between the Institute and the jurisdictions during compilation of the 1997–98 National Hospital Morbidity Database.

The results of the evaluation were presented to the NHIMG at its meeting on 7 April 2000. The Institute outlined concerns over the collection and quality of some data elements and recommendations for change. Issues were raised concerning a number of data elements including 'Establishment number', 'Person identifier', 'Date of birth', 'Indigenous status', 'Area of usual residence', 'Hospital insurance status', 'Number of leave periods', as well as data elements relating to diagnoses, procedures and external causes.

## 2 Methodology

As part of the evaluation, the Institute developed an enhanced methodology for NMDS reviews. It was envisaged that this methodology could become a standard by which other National Minimum Data Sets could be evaluated. AHMAC has recently provided funding to the Institute for a further NMDS evaluation (of the Perinatal NMDS), which is utilising the methodology developed through this evaluation.

The methodology has been developed in consultation with the Australian Hospital Statistics Advisory Committee (AHSAC) which includes representatives from the:

- State and territory health authorities
- Australian Government Department of Health and Ageing
- Australian Bureau of Statistics
- Department of Veterans' Affairs
- Australian Healthcare Association
- Australian Private Hospitals Association
- Private Health Insurance Administration Council
- Clinical Casemix Committee of Australia
- National Centre for Classification in Health.

At its April 2002 meeting, the Institute presented a paper outlining a proposal for the enhanced methodology. Essentially the methodology has three components – a compliance evaluation (similar to that conducted in 2000 and described in Chapter 1), consultation with data collectors and users to evaluate utility of the data, and recommendations for data development.

The proposal for the enhanced methodology included:

1. assessing whether the data have been provided by states and territories and the extent to which the data were provided in accordance with the NMDS specifications as published in the *National Health Data Dictionary*, that is, use of the NHDD definitions and domain values (compliance evaluation);
2. a review of the utility of the components of the NMDS through a consultative process, that is, assessing whether the NMDS suits current requirements, including those for informing policy development and reporting on performance (evaluation of utility);
3. the development of comprehensive recommendations for future development.

### Compliance evaluation

The purpose of the compliance evaluation is to assess the quality and consistency of the data provided by states and territories. The NMDS is contingent upon a national

agreement to collect uniform data and to supply them as part of the national collection. This means that data elements should be collected or at least reported using standard definitions and domain values and reported for all separations within scope (essentially all hospitals in Australia). However, there tends to be some variation in the way in which data are reported among the states and territories.

Through assessing the ability of states and territories to comply with the NMDS specifications (data definitions, domain values and scope), actions can be taken to improve the data quality and consistency (such as data element development) where necessary.

This evaluation utilised the template developed in consultation with AHSAC and the NHDC for a previous evaluation of the then Institutional Health Care (Admitted Patients) NMDS conducted in 2000 on 1997–98 data, with a few modifications.

The latest data available for this evaluation were for 2000–01 and were based on the specifications in the *National Health Data Dictionary* version 9, whereas the data currently being collected in hospitals are based on the most recent version, the *National Health Data Dictionary* version 12. As the compliance evaluation is based on data provided by states and territories, assessments of compliance have been made according to the specifications in the *National Health Data Dictionary* version 9.

The compliance evaluation was based on documentation provided with the 2000–01 data provided by the states and territories to the Institute, and communications between the Institute and the jurisdictions during compilation of the 2000–01 National Hospital Morbidity Database and in association with preparation of this report.

The compliance evaluation involved assessing for each data element for 2000–01:

1. whether states and territories had provided it;
2. the extent to which it was provided in accordance with the NMDS specifications as published in the *National Health Data Dictionary* version 9, that is, whether the NHDD definition and domain values were used; and
3. whether it was reported for every separation (scope).

The overall scope of data provided by states and territories was also assessed, that is, whether data were provided for all public and private acute hospitals, public and private psychiatric hospitals, and freestanding day hospital facilities. Additional information on the inclusion of data for boarders, posthumous organ procurement activity, hospital in the home patients and on the counting of newborn episodes of care were also analysed.

## **Evaluation of utility**

In order for an NMDS to be effective, the information collected should be relevant and appropriate to its purpose. Therefore the aim of evaluating the utility of the NMDS is to get an understanding of whether the data collection suits current requirements such as informing policy development and reporting on performance.

If the NMDS does not suit the requirements of data collectors and/or data users then essentially data will not be collected in a consistent manner and will not be useable. If these stakeholders do not believe particular data elements are important and/or useful then these data elements could be removed from the NMDS. If a data element is considered highly important and highly useful, it should probably remain unchanged. However, if a data element is considered to be highly important, but not useful, it may be a function of the way it is defined, in which case it probably needs to be modified through data development.

In order to evaluate the utility of the NMDS, the Institute consulted with data collectors and users of the NMDS specifications and NMDS-based data as well as other stakeholders through a comprehensive survey developed for this purpose.

In September 2002 a flyer outlining the evaluation and requesting participation in the consultation was developed and circulated widely to a large number of identified stakeholders including:

- over 600 delegates at the 2002 Casemix Conference
- Australian Hospital Statistics Advisory Committee
- National Health Information Management Group
- National Health Data Committee
- AHMAC Mental Health Working Group Information Strategy Committee
- Clinical Casemix Committee of Australia
- Health Information Management Association of Australia
- Clinical Coders Society of Australia (in a mailout of their quarterly newsletter *Codelink*)
- recent users of the AIHW National Hospital Morbidity Data Service.

The evaluation was also advertised on the Institute website. People interested in participating in the evaluation were invited to contact the Institute to receive a copy of the survey.

The survey was developed in consultation with and piloted with members of AHSAC. It sought the views of users of the NMDS, either as a tool for collection of data or as a specification of data for analysis, on its usefulness and whether it suits their current requirements. Specific questions were asked about the users and uses of the NMDS specifications and NMDS-based data, including individual data elements and data element concepts; the utility of the NMDS as a whole and of individual data elements; and areas for development including modifications to data elements, new data elements or changes to scope. Although specific views were sought, additional comments and recommendations or any other input that could assist the evaluation were encouraged.

The survey sought comments on the *National Health Data Dictionary* version 11, the version current at the time that the evaluation was conducted (in contrast to the data assessed in the compliance evaluation, based on the *National Health Data Dictionary* version 9). It was thought essential that user comments be based on data elements

that were current and therefore any proposed revisions or data development would not duplicate that already done. For example, some inadequacies in version 9 data elements relating to identification of funding arrangements had been addressed in the development of the data element 'Funding source for hospital patient' in version 10.

Information on the National Health Information Agreement processes for changing NMDS items was attached to the survey so that respondents understood that changing the NMDS would not be a trivial exercise, and that, for example, business cases would be necessary for most proposed changes.

The survey was sent to AHSAC members to pilot in September 2002. About half the AHSAC members provided feedback on the survey, and the survey was modified in light of the comments received. The final survey was sent via email to all those who had expressed an interest in participating, as well as Institute users, AHSAC members (including state/territory data providers) and NHDC members in October 2002 for return by 15 November 2002. Reminders for non-responders were sent on 22 November 2002.

A copy of the survey is included in Appendix 1.

## **Recommendations for data development**

The results of the compliance evaluation and evaluation of utility has identified priorities for future development of the NMDS and forms the basis for the recommendations to the NHIMG presented in this report. Recommendations have been made in consultation with AHSAC and state and territory data providers, keeping in mind the assessment criteria for the development of National Minimum Data Sets approved by the NHIMG, such as the fit with national strategic directions and the likely benefits at the national level. Where recommendations involve the inclusion of new data elements or the revision of current data elements, the Institute, in consultation with the states and territories and other stakeholders, will consider them within data development work program planning and, as appropriate, work towards developing submissions including detailed background information to be considered by the NHDC and the NHIMG.



# 3 Evaluation of utility

This chapter describes the results from the review of utility, a consultation process involving a survey of data collectors and users. Information is presented on the users and uses of the NMDS, the utility of the NMDS and individual data elements, that is, the extent to which they are perceived as important and useful, and possible areas for data development. Comments provided by respondents on individual data elements are included in Chapter 5 of this report.

## Respondents

A total of 50 responses to the survey were received (Appendix 2). So that the results of the survey could be interpreted effectively, respondents were asked to indicate whether they were responding on behalf of themselves, on behalf of their unit or section within an organisation or on behalf of their organisation as a whole. The majority of respondents were responding on behalf of their unit or section within an organisation (Table 3.1).

**Table 3.1: Respondent types**

<b>Respondent</b>	<b>Number</b>
On behalf of themselves	18
On behalf of their unit or section within an organisation	26
On behalf of their organisation	6
<b>Total</b>	<b>50</b>

In order to gain an understanding of the types of organisations that use the NMDS specifications and NMDS-based data, respondents were asked to indicate from a list of 15 user groups (or identify additional user groups) the main user group to which they belonged. A list of the user groups is presented in Question 1.1 of the survey (Appendix 1).

The main user groups identified through the survey were the state and territory health authorities which collect and provide the NMDS data for national collation, the Australian Institute of Health and Welfare and the Department of Health and Ageing (Table 3.2). All state and territory health authorities provided responses to the survey and were able to provide comments from a data collection/provider perspective.

Responses were received from a number of sections within the Department of Health and Ageing.

Other user groups identified through the survey were the Australian Bureau of Statistics, AHMAC Mental Health Working Group Information Strategy Committee,

National Centre for Classification in Health, National Occupational Health and Safety Commission and the Productivity Commission.

Responses were received from a number of units within the Institute and two of the Institute's external collaborating units also responded.

Other respondents included pharmaceutical companies, universities and both public and private hospitals. Unfortunately the respondents did not represent the whole range of user groups who use the data. There are a number of other user groups that have been identified through the AIHW National Hospital Morbidity Data Service, including other government departments, clinical equipment/therapeutic device companies, interest groups and students.

## **Uses of the NMDS specifications and NMDS-based data**

The survey sought information from respondents about the way the NMDS specifications and NMDS-based data are currently being used. Respondents were asked questions relating to the purpose for which they use the NMDS specifications or NMDS-based data, how they access NMDS specifications and NMDS-based data, their overall knowledge of the NMDS specifications and NMDS-based data, and their frequency of use.

### **Purpose**

In order to gain an understanding of the way the NMDS specifications and NMDS-based data are being used, respondents were asked to indicate from a list of 11 purposes (or identify additional purposes) the three most common purposes for which they use the NMDS specifications and/or NMDS-based data. A list of common uses for the NMDS specifications and/or NMDS-based data is presented in Question 2.1 of the survey (Appendix 1).

The three most common purposes for using the NMDS specifications and/or the NMDS-based data identified by respondents were:

1. collection and reporting of NMDS-based data
2. statistical reporting
3. epidemiological research.

The purposes identified by respondents tended to vary depending on their user group (Table 3.2). State and territory health authorities reported the largest range of uses for the NMDS specifications and NMDS-based data including:

- planning and monitoring hospital resources
- comparisons and benchmarking
- health services research
- epidemiological research

- statistical reporting
- facility planning
- collection and reporting of NMDS-based data
- casemix and classification development
- information development including development of data sets, data dictionaries and standards
- responding to inquiries for data/information.

Other purposes for which the NMDS specifications and NMDS-based data are being used which had not been specified in the survey were:

- policy development
- teaching
- estimating product market size, share and growth.

## **Level**

The majority of respondents indicated that they used the NMDS-based data at the national level. Respondents from the Department of Health and Ageing and the Institute were the main users of national level data. State and territory health authorities most commonly used the data at the state/territory level, with some users indicating they also used data for a hospital group or for one hospital only.

## **Access to NMDS specifications**

The most common source used by respondents to access the NMDS specifications overall was the *National Health Data Dictionary*, followed by the *National Health Data Dictionary* online and the Knowledgebase. State and territory health authorities also identified state/territory data specifications as a common source for accessing the NMDS specifications, while Institute users also identified internal documentation and data dictionaries.

## **Source of NMDS-based data**

The most common sources of NMDS-based data that respondents use were largely dependent on their user group. State and territory health authorities identified a state or territory hospital database as the most common source of NMDS-based data they use, while the Department of Health and Ageing identified its databases, namely the National Hospital Morbidity (Casemix) Database, the National Hospital Cost Data Collection and the Hospital Casemix Protocol Data Collection as most common. Similarly, Institute users indicated that their most common source was the AIHW National Hospital Morbidity Database. The *Australian Hospital Statistics* publication and Internet tables were other common sources of NMDS-based data identified by respondents.

**Table 3.2: Purposes for which the NMDS specifications and NMDS-based data are being used, by user group**

User group	Plan/ monitor hospital resources	Compare/ benchmark	Manage/ purchase hospital services	Health services research	Epidemiological research	Statistical reporting	Facility planning	Planning by private industry suppliers	Collect/ report NMDS- based data	Casemix & classification development	Software develop- ment
State or territory health authority	✓	✓		✓	✓	✓	✓		✓	✓	
Other state or territory government department		✓				✓				✓	
Australian Government Department of Health and Ageing		✓		✓		✓			✓	✓	✓
Other Australian Government department				✓	✓	✓			✓		
Australian Institute of Health and Welfare		✓		✓	✓	✓			✓		
Public hospital		✓	✓	✓		✓			✓	✓	
Private hospital		✓	✓	✓		✓			✓	✓	
Other health service provider											
University or other research organisation						✓			✓	✓	✓
Private planning consultant						✓			✓		
Clinical equipment/therapeutic device company											
Pharmaceutical company		✓	✓								
Software developer											
Interest group											
Student											

## Knowledge and frequency of use

Most respondents indicated that they were either familiar or very familiar with the NMDS specifications and/or the NMDS-based data (Table 3.3). Respondents from the state and territory health authorities and the Department of Health and Ageing were more likely to indicate that they were very familiar with the NMDS specifications and/or the NMDS-based data, while those from the AIHW generally indicated they were familiar. Respondents were more likely to be unfamiliar with the NMDS specifications than the NMDS-based data, which may be related to the less frequent use of the NMDS specifications by respondents compared to the NMDS-based data.

**Table 3.3: Respondents' rating of overall knowledge of the NMDS specifications and NMDS-based data**

Knowledge	NMDS specifications	NMDS-based data
Very familiar	17	19
Familiar	21	23
Unfamiliar	9	4
Not answered	3	4
<b>Total</b>	<b>50</b>	<b>50</b>

Most respondents indicated that the NMDS specifications were used on an occasional basis, however, a large proportion also used the specifications on a daily or weekly basis. The NMDS-based data were most likely to be used on a daily basis (Table 3.4). The use of the NMDS specifications by respondents from the state and territory health authorities ranged evenly from daily to occasionally, while most respondents indicated that their use of the NMDS-based data tended to be on a daily basis. Respondents from the Department of Health and Ageing commonly indicated that they use both the NMDS specifications and the NMDS-based data on a daily basis, while AIHW users were more likely to use both on a weekly basis.

**Table 3.4: Respondents' rating of their frequency of use of the NMDS specifications and NMDS-based data**

Frequency	NMDS specifications	NMDS-based data
Daily	10	18
Weekly	12	9
Monthly	9	9
Occasionally	13	11
Never	4	1
Not answered	2	2
<b>Total</b>	<b>50</b>	<b>50</b>

## Utility

The main purpose of the survey was to gain an understanding of whether the NMDS is useful and whether it suits the current requirements of users. In order to assess the utility of the NMDS respondents were asked to rate the importance and usefulness of the NMDS overall and each individual data element, and to indicate which data elements should remain unchanged, which should be modified and which deleted.

When assessing importance, respondents were asked to think of how significant they believe the NMDS and each data element are to a national collection of data on admitted patient care. When assessing usefulness, respondents were asked to keep in mind whether the NMDS and each data element suit their current requirements. Importance could be rated as 'Not important', 'Important', 'Highly important' or 'Unsure' and usefulness could be rated as 'Not useful', 'Useful', 'Highly useful' or 'Unsure'.

If all respondents think a data element is 'Highly important' and 'Highly useful', it should probably remain unchanged. However, if respondents indicate that a data element is 'Highly important', but 'Not useful', it may be a function of the way it is defined, in which case it probably needs to be modified.

Table 3.5 provides respondents' ratings of the importance and usefulness of the NMDS and individual data elements and concepts. Not all respondents provided a rating for every data element, so the frequencies will not add to the total number of respondents (50) for every data element.

Seventy-nine per cent of respondents who provided a rating for the importance of the NMDS overall rated it as highly important and 81% rated it as highly useful. Concerns raised with the NMDS overall were in relation to the possible lack of consistency of the counting unit, that is, the episode of care, across states and territories and possibly between hospitals within states and territories, and the varying interpretation of individual data elements.

**Table 3.5: Respondents' rating of the importance and usefulness of the NMDS and individual data elements and data element concepts**

Data element	Importance				Usefulness			
	Not important	Important	Highly important	Unsure	Not useful	Useful	Highly useful	Unsure
<b>NMDS for Admitted Patient Care</b>	1	6	31	1	1	5	29	1
<b>Establishment data elements</b>								
Establishment identifier	6	15	21	3	6	16	15	5
Establishment number	2	12	19	9	5	12	13	10
Establishment sector	3	16	18	6	8	16	11	6
Region code	7	12	19	7	9	13	15	6
State identifier	3	13	30		3	19	20	1
<b>Demographic data elements</b>								
Area of usual residence	3	4	38		2	8	31	1
Country of birth	5	14	23	2	4	17	18	2
Date of birth	2	7	36	1	2	7	31	3
Indigenous status	4	8	34		5	13	24	1
Sex	1	7	38		1	8	33	1
<b>Length of stay data elements</b>								
Admission date	4	6	35		2	10	30	1
Number of days of hospital in the home care	2	19	10	11	7	17	7	9
Number of leave periods	13	15	6	10	14	13	6	9
Number of qualified days for newborns	4	15	16	9	8	16	10	8
Separation date	2	5	39		2	7	33	1
Total leave days	5	18	13	8	9	17	9	7
Total psychiatric care days	3	17	14	9	5	17	10	9
<b>Clinical and related data elements</b>								
Activity when injured	3	19	16	5	5	15	14	6
Additional diagnosis	2	8	34		2	10	28	1
Care type	2	11	29	2	6	11	22	2
Diagnosis related group	2	8	32	3	3	9	26	4
External cause—admitted patient	4	10	27	3	4	12	21	4
Infant weight, neonate, stillborn	3	11	25	5	6	8	19	6
Major diagnostic category	3	14	22	5	2	14	19	6
Place of occurrence of external cause of injury	6	14	19	3	6	14	14	5
Principal diagnosis		4	39			7	33	
Procedure	1	6	37		2	8	30	1

(continued)

**Table 3.5 (continued): Respondent's rating of the importance and usefulness of the NMDS and individual data elements and data element concepts**

Data element	Importance				Usefulness			
	Not important	Important	Highly important	Unsure	Not useful	Useful	Highly useful	Unsure
<b>Administrative data elements</b>								
Admitted patient election status	9	12	16	5	8	10	15	7
Funding source for hospital patient	4	15	20	3	6	12	17	5
Hospital insurance status	4	17	15	6	6	15	15	4
Intended length of hospital stay	12	15	8	8	13	12	8	8
Inter-hospital contracted patient	8	18	7	8	7	14	6	11
Medicare eligibility status	4	17	16	5	5	16	13	5
Mental health legal status	5	21	9	7	6	16	8	9
Mode of admission	3	17	20	3	6	18	11	5
Mode of separation	2	11	28	3	3	13	21	3
Person identifier	3	11	27	3	3	15	19	4
Source of referral to public psychiatric hospital	8	18	8	8	8	16	7	9
Urgency of admission	3	18	16	5	8	15	11	6
<b>Data element concepts</b>								
Acute care episode for admitted patient	3	13	22	4	5	15	17	3
Admission	2	13	23	3	4	16	16	3
Admitted patient	2	13	23	3	4	14	18	3
Contracted hospital care	4	15	9	12	5	13	7	13
Diagnosis	1	5	35	2	1	7	30	2
Episode of care	1	7	30	3	1	11	23	4
Hospital	2	13	22	5	3	13	15	8
Hospital boarder	7	9	15	10	6	10	11	11
Hospital in the home care	3	18	10	9	7	13	5	13
Live birth	5	11	21	4	5	11	17	6
Neonate	3	12	23	3	5	11	18	5
Newborn qualification status	5	12	17	6	8	11	12	8
Organ procurement—posthumous	5	13	9	12	6	11	7	12
Overnight stay patient	3	16	19	2	3	15	17	3
Patient	2	15	20	4	3	15	15	5
Same-day patient	2	13	26	1	3	16	20	1
Separation	2	8	30	2	1	12	23	3



## Data development

Respondents were asked their views on possible areas for development of the NMDS, including possible changes to the scope, or any other priorities for definitional development. The views of respondents (other than detailed comments on individual data element and data element concepts) are summarised in this section. Chapter 5 presents comments on individual data elements and data element concepts from this utility evaluation and the compliance evaluation.

### Scope

The scope of the NMDS for Admitted Patient Care as published in the *National Health Data Dictionary* is:

Episodes of care for admitted patients in all public and private acute and psychiatric day hospital facilities and alcohol and drug treatment centres in Australia. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories may also be included. Hospitals specialising in dental, ophthalmic aids and other specialised medical or surgical care are included.

A few respondents commented that the scope of the NMDS is unclear, and it is uncertain whether it includes all private and public hospitals in Australia, or whether some are excluded. It was suggested that given that there is a classification system for hospitals provided by the 'Establishment type' data element it may be better to write the scope statement using these hospital types. For example, all public and private hospitals (including acute and psychiatric, day centres/hospitals and freestanding day surgery centres, Veterans' Affairs, defence force and other Australian government hospitals). Alternatively the scope statement could be shortened to 'All hospitals in Australia'.

Although hospitals operated by the Australian Defence Force and corrections authorities are included in the scope of the NMDS, data for these hospitals are generally not provided for the national collection. It was suggested by one jurisdiction that these should probably be considered for inclusion in the scope (or rather collected and provided for the national collection).

There was a strong feeling by respondents that there needs to be a clear distinction between admitted and non-admitted patients and that the boundaries between admitted overnight, same-day and non-admitted need to be reviewed with clinical input to determine if more appropriate guidelines can be developed. It was suggested that areas such as chemotherapy and dialysis will continue to be a problem without clear guidelines and rules. It was also noted that the scope of this NMDS should not overlap with the scope of the recently endorsed NMDS for Non-Admitted Patient Emergency Department Care. One respondent commented that the usefulness of the NMDS would be greatly increased by expanding the scope to include more non-admitted care data items, community health in particular,

however, this would mean that the focus of the NMDS is no longer admitted patients. If an NMDS for non-admitted care were to be developed, data elements such as those may be better placed there.

Other concerns raised were that the scope may be incomparable across jurisdictions because of the flexible definition of 'hospital'.

The need to improve and rationalise the current NMDS and correct for some of the inconsistencies that already exist was raised as an issue. It was noted that while the NMDS is a great idea and concept it is clear that not all states and territories use this standard. A problem related to this is that the current version of the NHDD is not necessarily used, meaning that the usefulness of data elements in their first year of implementation/collection is questionable as they are either missing or not collected or miscoded in many cases. The need for improving national consistency was highlighted.

### **Other issues raised by respondents**

Other issues raised by respondents tended to be broader than comments on the NMDS as a whole or the individual data elements and are probably outside the scope of this evaluation. They are included here for completeness.

The accuracy of coding of ICD-10-AM diagnosis and procedure codes and external cause, place and activity codes was noted as needing improvement.

It was suggested that it would be useful if the NHDD were to include more background information, for example, history of the data element, early difficulties, and inconsistency in usage between states and territories, as was provided in earlier versions of the dictionary. It was noted that this would assist with trend analyses.

It was suggested that the NHDD version used for data submission should be available 12 months before the start of the data collection. The current arrangement is that changes to an NMDS are approved by the NHIMG in November for implementation in the following July.

It was also suggested that the NHDD should include common epidemiological terms and concepts that are not necessarily included in the NMDS. The examples given were self-rated health, blood pressure, incidence, prevalence, disability, infant mortality, perinatal mortality, life expectancy and potential years of life lost (PYLL).

Another comment related to the fact that the Knowledgebase is only available to users as an interactive Internet-based interface. It was noted that this is not the most efficient method for more complex inquiries or analysis of the NMDS metadata and that it would be very helpful if the Knowledgebase was also available as a stand-alone database, for example, in Microsoft Access format.

Also noted was the inconsistencies in reporting agreements apparent for mental health episodes between the NMDS and the National Hospital Cost Data Collection, the respective roles of the AR-DRGs and Mental Health Classification and Service Costs (MH-CASC) classes as casemix categories for mental health, and the associated need for improved casemix measures and costing information for these episodes.

## **Persons who should be consulted for future data development**

A number of respondents commented that they thought the current consultation process is appropriate, whereby submissions for data development go to the National Health Data Committee which then makes recommendations to the National Health Information Management Group.

Most respondents identified a wide range of stakeholders who should be consulted in relation to data development; however, it is seen as essential to consult especially with those who are involved in the collection of the data. It was noted that all state and territory health authorities must come to some agreement and consensus before introducing new data elements, as the data quality is at risk of becoming compromised if too much data is collected for the sake of a few.

Stakeholders identified by respondents included:

- hospitals and health care providers who will have to collect the data
- state and territory health authorities, including data providers
- expert data users
- health insurance funds.

More specific organisations and committees identified included:

- Australian Institute of Health and Welfare (including collaborating units)
- Department of Health and Ageing
- Australian Bureau of Statistics
- National Centre for Classification in Health
- National Advisory Group on Aboriginal and Torres Strait Islander Health Information and Data
- Steering Committee for the Review of Commonwealth/State Service Provision
- Australian Private Hospitals Association
- Australian Health Care Association
- National Health Performance Committee
- National Occupational Health and Safety Information Committee.

It was suggested that clinical advice is critical to many of the areas mentioned for review and that it may be worth considering convening a special group to look at the issues identified as part of this review. Alternatively, advice could be sought from existing groups such as the Clinical Casemix Committee of Australia.