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Abbreviations

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AHMAC	Australian Health Ministers Advisory Council
AHSAC	Australian Hospital Statistics Advisory Committee
AIHW	Australian Institute of Health and Welfare
AR-DRG	Australian Refined Diagnosis Related Group
ANZICS	Australian and New Zealand Intensive Care Society
APACHE	Acute Physiology And Chronic Health Evaluation
ASCCSS	Australian Standard Classification of Countries for Social Statistics
ASGC	Australian Standard Geographical Classification
BMI	Body mass index
DRG	Diagnosis Related Group
HITH	Hospital in the home
HUCS	Hospital Utilisation and Costs Study
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, 10th revision, Australian modification
ICU	Intensive care unit
MDC	Major Diagnostic Category
NAGATSIHID	National Advisory Group for Aboriginal and Torres Strait Islander Health Information and Data
NCCH	National Centre for Classification in Health
NHDC	National Health Data Committee
NHDD	*National Health Data Dictionary*
NHIMG	National Health Information Management Group
NMDS	National Minimum Data Set
NSW	New South Wales
NT	Northern Territory
OHS	Occupational health and safety
Qld	Queensland
SA	South Australia
SACC	Standard Australian Classification of Countries
SLA	Statistical Local Area
Tas	Tasmania
Vic	Victoria
WA	Western Australia

Summary and recommendations

The evaluation of the National Minimum Data Set (NMDS) for Admitted Patient Care was funded by the Australian Health Ministers' Advisory Council (AHMAC), through the National Health Information Management Group (NHIMG). It has been conducted by the Australian Institute of Health and Welfare (AIHW) with the advice of the Institute's Australian Hospital Statistics Advisory Committee. 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 identify changes required to improve data quality and comparability.

The method used for the evaluation included:

- a review of compliance, that is the extent to which data for 2000–01 were 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, using a survey tool designed with advice from the Australian Hospital Statistics Advisory Committee (AHSAC); and
- formulation of recommendations for future data development and the assignment of priorities, undertaken by the AIHW in consultation with AHSAC.

A summary of the recommendations compiled from the evaluation of utility and the compliance evaluation is presented below. Recommendations for modifications to existing data elements and proposals for new data elements are discussed. Priorities have been attached to each recommendation to guide the development of work programs that include implementation of the recommendations. Many recommendations are for further data development work to be undertaken. Any proposals for new or modified data elements that arise from such data development work would be submitted (with business cases) for approval to the National Health Data Committee (NHDC) and NHIMG (or their successors) before they are incorporated into the NMDS.

Further discussion relevant to the recommendations is included in Chapters 3 to 5 of this report.

General recommendations

- That the NMDS continues. As a whole, it was considered highly important and highly useful by most survey respondents.

- That work continues to improve the completeness and accuracy of data reporting for all data elements but, in particular, those noted as of concern in the compliance evaluation.
- That work continues to improve the coverage of the data reporting for public hospitals within the jurisdiction of state and territory health authorities, and private hospitals.
- That the wording of the NMDS scope description should be clarified in the *National Health Data Dictionary* (NHDD), and to clarify that stillbirths, hospital boarders and organ procurement activity are not officially included.
- That the adequacy of the scope be investigated with respect to changes in the definition of hospitals, so that hospitals not currently included in the data collections may be included in the future.
- That it is noted that the compliance with NHDD definitions and domain values in 2000–01 was comparable with that of 1997–98, when the last compliance evaluation was undertaken. However, the proportion of data elements that were provided for all separations in all jurisdictions declined marginally. This may in part be because of the implementation of new data elements for 2000–01.
- That it is noted that, although survey respondent comments have been summarised in this report, they will be available in full to inform subsequent data development work.
- That the considerable efforts of the states and territories and other survey respondents in providing information for this evaluation are recognised and applauded.

Recommendations relating to existing and proposed new data elements and concepts

Establishments-related data elements

State identifier

It is recommended that this data element is not changed but that it be clarified in the NHDD to show that it only relates to establishments and not to the patient's state of usual residence.

Priority: Medium

Recommendation: That this is referred to AIHW for preparation of the necessary NHDC submission.

Establishment sector

It is recommended that informal collection of information on whether the hospital is a public psychiatric, other public, private freestanding day hospital facility or private hospital using this data element is replaced with either an appropriate revision of the data domain for 'Establishment sector', or the creation of a new data element on

'hospital type'. This new data element could include data domains as currently informally used, and should be informed by current NHDC work reviewing the 'Establishment type' data element.

Priority: Medium

Recommendation: That this is referred to the AIHW for its data development work program planning.

Region code

It is recommended that this data element be removed from the NMDS.

Priority: Medium

Recommendation: That this is referred to the AIHW for preparation of the necessary NHDC submission.

Establishment number

It is recommended that this data element is not changed.

Recommendation: Retain the data element unchanged.

Establishment identifier

It is recommended that this data element is changed to reflect the recommended deletion of Region code, or deleted from the NMDS (as it is redundant).

Priority: Medium

Recommendation: That this is referred to the AIHW for preparation of the necessary NHDC submission.

Hospital

It is recommended that the definition of what constitutes a hospital could be reviewed taking into account the increasing role of Multi-Purpose Service facilities and the creation of Medihotels, for example. However, the capacity to change the definition (given that it relies on state and territory legislation, for example) may be limited. Comparability issues among jurisdictions also need to be addressed; some of these issues can have solutions based on data analysis (for example, use of hospital type/peer group classifications).

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

State record identifier and Hospital geographical indicator

These data elements are requested for the National Hospital Morbidity Database by the Institute. Consideration could be given to including them formally in the NMDS.

Priority: Medium

Recommendation: That this is referred to the AIHW for its data development work program planning.

Demographic data elements

Date of birth

It is recommended that this data element is not changed.

Recommendation: Retain the data element unchanged.

Area of usual residence

Postcode data have been informally requested to be provided for the National Hospital Morbidity Database in recent years, as some analyses are more appropriate with postcodes and others with Statistical Local Areas (SLAs). It is therefore recommended that further review of postcode of usual residence as a potential data element be undertaken.

Priority: Medium

Recommendation: That this is referred to the AIHW for its data development work program planning.

Issues relating to timeliness of the publication of revisions of the Australian Standard Geographical Classification (ASGC) need to be investigated to facilitate reporting using the correct version of SLAs by all states and territories. The creation of a standard software product for assigning the ASGC should also be investigated.

In addition, the data cannot be reliably used to assess the use of hospitals by overseas residents. The usefulness of a separate category for overseas residents (or guidance on the use of any appropriate ASGC codes) should be assessed.

Priority: Medium

Recommendation: That this is referred to the AIHW for its data development work program planning.

Country of birth

It is recommended that clarification in relation to the use of codes when insufficient information is provided (e.g. 'Africa', 'Northern Europe') be included in the NHDD.

Priority: Low

Recommendation: That this is referred to the AIHW for its data development work program planning.

Indigenous status

The National Advisory Group for Aboriginal and Torres Strait Islander Health Information and Data (NAGATSIHID) has improvement of the quality of Indigenous identification in hospital morbidity data as part of its work program. This component of the work program is being undertaken by the Institute. It is recommended that the suggestions in this report for improvement in the quality of these data be communicated to NAGATSIHID and the Institute for consideration. Other work on improving the quality of these data also needs to continue.

Priority: High

Recommendation: NHIMG notes the comments in this evaluation and refers them to NAGATSIHID and the AIHW for consideration.

Sex

A range of issues have been identified in relation to the use of this data element for transsexual and transgender patients. It is recommended that the data element is reviewed to ensure that it provides appropriate guidance for coding of sex for admissions for these patients taking into consideration the ABS standard for recording sex. In particular, the statement in the NHDD that 'to avoid problems with edits, transsexuals undergoing a sex change operation should have their sex at time of hospital admission recorded' should be reviewed.

Priority: High

Recommendation: As the NHDC is considering this issue, it is recommended that the comments in this report on this data element are referred to those groups for consideration.

Live birth

It is recommended that this data element concept is not changed.

Recommendation: Retain the data element concept unchanged.

Neonate

It is recommended that this data element concept is not changed.

Recommendation: Retain the data element concept unchanged.

Length of stay—related data elements

Admission date

It is recommended that this data element is not changed. However, it is recommended that consideration be given to the addition of admission time to the NMDS (see below).

Recommendation: Retain the data element unchanged.

Separation date

It is recommended that this data element is not changed. However, it is recommended that consideration be given to the addition of separation time to the NMDS (see below).

Recommendation: Retain the data element unchanged.

Number of leave periods

'Number of leave periods' is reported very poorly by jurisdictions and there is little evidence that these data are necessary in the National Hospital Morbidity Database. Therefore it is recommended that this data element be deleted from the NMDS.

Priority: Medium

Recommendation: That this is referred to the AIHW for preparation of the necessary NHDC submission.

Total leave days

It is recommended that this data element be changed to total leave hours. It is possible for patients to only go on leave for a few hours, however, this would be reported as one whole leave day under the current definition. Changing this data element to leave hours would allow length of stay calculations to be more accurate, especially for short stays. This change could be accompanied by the introduction of data elements for time of admission, and time of separation, to allow yet more accurate measurement of length of stay (see below).

Priority: Medium

Recommendation: That this is referred to the AIHW for its data development work program planning.

Admission time and Separation time

It is recommended that the addition of the data elements 'Admission time' and 'Separation time' to the NMDS should be considered. This has been proposed as an effective method of accurately measuring length of stay. In addition admission time could provide a useful validation tool for patients admitted subsequent to an emergency department presentation. The impact on the calculation of number of days of hospital in the home care, number of qualified days for newborns and total psychiatric care days would need to be taken into account.

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

Clinical and related data elements

Diagnosis

It is recommended that this data element concept is not changed.

Recommendation: Retain the data element concept unchanged.

Principal diagnosis

It is recommended that this data element is not changed for this NMDS. Its use in the NMDS for Community Mental Health Care may be a subject of separate review.

Recommendation: Retain the data element unchanged.

Additional diagnosis

There are concerns about the definition of additional diagnoses, and the variation in its interpretation. These issues are dealt with by the National Centre for Classification in Health (NCCH) in its development of the Australia Coding Standards.

Priority: High

Recommendation: That the comments on this data element are referred to the NCCH for consideration.

As some states and territories are already collecting morphology of neoplasm codes as part of their morbidity collection, the Institute invited states and territories to include these as optional codes (in addition to additional diagnosis codes) in the National Hospital Morbidity Database for the 2001–02 collection period. The inclusion of these codes may enable an indication of severity of blood and haematopoietic neoplasms, for example, for development of Australian Refined Diagnosis Related Groups. The formal inclusion of these codes in the NMDS should be investigated. They could be specified as part of the additional diagnosis data to be provided in the string formats currently used by most states and territories. If morphology codes are included in the NMDS, consultation with NCCH and Coding Standards Advisory Committee would be required on appropriate changes to the Australian Coding Standards.

Priority: Medium

Recommendation: That this is referred to the AIHW for its data development work program planning.

Diagnosis onset type

This data element is already included in the NHDD. It is recommended that it be reviewed (in collaboration with NCCH) for possible inclusion in the NMDS. It may be useful as a mechanism to improve identification of some adverse events in the data.

Priority: Medium

Recommendation: That this is referred to the AIHW for its data development work program planning.

External cause—admitted patient

External causes are reported in a variety of ways, with each jurisdiction reporting a varied number of external causes. For jurisdictions that report only a small number of external causes, it is possible that information is being lost (for example, adverse events may not be captured for patients admitted following a car accident). External cause information linked to the diagnosis to which it relates is provided to varying degrees by states and territories, making the interpretation of which conditions were attributed to the external causes difficult. This linking can be particularly useful for injury surveillance and other monitoring.

As noted below, it is recommended that work be undertaken towards improved linkage of external cause and diagnosis information.

Activity when injured

There have been significant changes to the activity codes in ICD-10-AM, third edition. The data domain specified in versions 10 and 11 of the NHDD are no longer

in line with these changes. Therefore, the domain values for 'Activity when injured' specified in the NHDD should be updated in line with each edition of ICD-10-AM.

Priority: High

Recommendation: That this is referred to the AIHW for preparation of the necessary NHDC submission.

Place of occurrence of external cause of injury

There have been significant changes to the place of occurrence codes in ICD-10-AM, third edition. The data domain specified in versions 10 and 11 of the NHDD are no longer in line with these changes. Therefore, the domain values for 'Place of occurrence of external cause of injury' specified in the NHDD should be updated in line with each edition of ICD-10-AM.

Priority: High

Recommendation: That this is referred to the AIHW for preparation of the necessary NHDC submission.

The possibility of including codes to identify forest and logging areas (which have very high work-related injury and fatality rates) should be further investigated in collaboration with the NCCH.

Priority: Medium

Recommendation: That this is referred to the AIHW and NCCH for data development work program planning.

Linkage of information relating to diagnoses

Currently, despite huge coding efforts to code information on diagnoses (which can sometimes require more than one code to be described) and their accompanying cancer morphologies and external causes (with activity and place of occurrence), it is rare that this information is collected, stored and reported in a way in which the linkages between these pieces of information are unambiguously maintained. This means that the usefulness of these data becomes limited, and accurate analysis of the data (for example, in relation to adverse events) is hampered. It is therefore recommended that work be undertaken to move towards data systems and reporting arrangements that maintain these linkages. It is noted that such changes have the potential to impact on computerised coding packages.

Priority: Medium

Recommendation: That this is endorsed in principal as a direction for the future. AIHW is asked to prepare an information paper, in collaboration with NCCH, as a first step to further this work.

Procedure

Comments on this data element have included that ICD-10-AM in its current form is of limited usefulness for admitted patient mental health care. It is recommended that the feasibility of developing an alternative or expanded set of procedure codes that are appropriate to admitted patient mental health care be investigated.

Priority: High

Recommendation: That this is referred to NCCH for consideration.

Date of procedure

This data element is already included in the NHDD. It may be useful as a mechanism to identify day of surgery admissions, however, this is not viewed as a priority at present.

Recommendation: That this data element is not included in the NMDS at this time.

Major diagnostic category

As this data element can be derived from Diagnosis Related Groups there was uncertainty as to its importance as an NMDS item. The Institute regroups the data provided by states and territories to the Australian Refined Diagnosis Related Group (AR-DRG) version effective from 1 July each year, regardless of what is provided. States and territories agreed that it is important that this is retained as it is a method of highlighting differences in calculations, data issues and grouper version used.

Recommendation: Retain the data element unchanged.

Diagnosis Related Group

As this data element is derived and can be readily determined from other data elements in the NMDS there was uncertainty as to its importance as an NMDS item. The Institute regroups the data provided by states and territories to the AR-DRG version effective from 1 July each year, regardless of what is provided. States and territories agreed that it is important that this is retained as it a method of highlighting differences in calculations, data issues and Diagnosis Related Group (DRG) grouper version used.

Recommendation: Retain the data element unchanged.

Infant weight, neonate, stillborn

It is recommended that the scope of this data element be reviewed. It needs to be clarified as to whether this data element should be collected for newborns aged 28 days or less or weighing less than 2,500 grams or for all infants aged less than 365 days. Currently these data are not collected routinely for all states and territories for all infants aged less than 365 days and it is believed the quality for infants between the ages of 28 and 365 days is questionable. The relevance of collecting weight for infants over 28 days of age or over 2,500 grams should be assessed with advice from relevant clinicians.

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

Number of qualified days for newborns (and data element concept 'Newborn qualification status')

It is recommended that 'Number of qualified days for newborns' only be reported for separations with a *Newborn* 'Care type' and not for the remaining separations, as is the approach adopted by Queensland and Western Australia.

There were a number of comments from respondents regarding this data element and the data element concept to which it relates, 'Newborn qualification status' indicating that both may need to be modified. Concerns included the absence of guidance on the treatment of leave days, and on how to count periods of less than 24 hours. The range of issues raised should be further investigated.

Priority: Medium

Recommendation: That this is referred to the AIHW for its data development work program planning.

Admitted patients and care type data elements

Admission and Admitted patient

It is recommended that consideration be given to providing clearer guidelines on what an admission is, for incorporation into the NHDD. One of the major areas of work required for this NMDS is to define the boundaries between admitted overnight, same-day and non-admitted care more consistently and accurately. For example, a need was expressed for national standards for when a patient is admitted following a presentation to the emergency department. It is recommended that a comprehensive review of these boundaries be undertaken in consultation with a range of stakeholders. In relation to mental health-related care, it was suggested (but not agreed upon by all stakeholders) that some types of mental health admitted patient care be regarded as non-admitted, particularly non-procedural same-day admissions that had not been intended to be overnight admissions. This issue could be resolved through revision of this data element concept, or possibly use of a data analysis solution.

This consideration is also relevant to the definition of hospital in the home care, and the definition of hospitals.

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

Episode of care (the statistical unit for the NMDS)

It is recommended that the concept of an episode of care be reviewed along with the data element 'Care type'. The possibility of expanding the concept of 'Episode of care' into other areas of health care should also be investigated. It has been suggested that this and related concepts need to be defined in such a way that is equally relevant to community settings as hospital ('admitted patient') settings.

Alternatively, this data element concept could be renamed 'Episode of admitted patient care'.

Priority: Medium

Recommendation: That this is referred to the AIHW for its data development work program planning.

It is also recommended that consideration be given to amending the NMDS data collection arrangements to change the statistical unit for longer term care, for selected analysis applications. This 'long stay' issue derives from the separation-based definition of the NMDS. A significant proportion of patient care in designated mental health units (and for 'extended stay' or nursing home type patients) is longer term care which remains invisible to the current NMDS approach. Acknowledging that the scope would be difficult to define in many cases, it was suggested that the concept of a 'statistical separation' should be extended to accommodate these groups of patients whereby a NMDS record of the ordinary kind is generated, but is separately identified. The options identified for generating such a record are (1) every 12 months from initial admission, or (2) on a census date of 30 June.

Priority: Medium

Recommendation: That this is referred to the AIHW for its data development work program planning.

Acute care episode for admitted patients

As this information is already defined under the 'Care type' data element it is recommended that this data element concept be reconsidered along with 'Care type'.

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

Patient

It is recommended that this data element concept is not changed.

Recommendation: Retain the data element concept unchanged.

Separation

See detailed comments under the 'Episode of care' data element concept above.

Number of days of hospital in the home care (and data element concept 'Hospital in the home care')

Concerns have been expressed that this data element is not well recorded across jurisdictions, and that this may be due to the lack of clear definitions of hospital in the home care. It is believed that the delineation between hospital in the home care, on-campus hospital care and community care is not clear and that there is a need for clear national guidelines defining the concept. This issue could also be considered as part of any consideration of the definition of admitted patients (see above).

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

The data element and data element concept need to be included in the list of NMDS items in the front of the *National Health Data Dictionary* version 12.

Priority: High

Recommendation: That this is referred to the AIHW for action.

Care type

As there were a large number of issues raised in relation to this data element, it is recommended that it be more comprehensively reviewed with input by clinicians (such as the Clinical Casemix Committee of Australia). Even though data for this data element have now been collected for several years, there is evidence of significant inconsistencies among jurisdictions in the use and application of the various data domain values. The limitations of this data element for psychiatric care have been particularly noted. A number of new data domains including psychiatric care, intensive care, transitional care, convalescent care and acute psychiatric care have been suggested.

Another suggestion has been to replace this data element with two new data elements, one covering clinical intent and the other the type of service, as it is believed that decisions about 'Care type' confuse these two quite separate concepts. If a 'type of service' data element were to be developed, it could include a potentially wide range of 'bed types'. If it included a range of psychiatric service types, it could effectively replace 'Total psychiatric care days' and allow mainstreaming of some activity data currently collected in the National Survey of Mental Health Services. Ideally, service type categories would also align with expenditure categories in the NMDS for Public Hospital Establishments.

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

Total psychiatric care days

It has been suggested that a separate 'Care type' should be introduced for patients admitted to designated psychiatric wards. It would be unnecessary to retain this data element if such a care type was to be introduced, as the length of stay of the psychiatric episodes of care could be easily calculated. This data element will need to be reviewed further along with 'Care type'.

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

While this data element is maintained, it is recommended that psychiatric care days only be reported for separations with psychiatric care and left null for separations with no specialised psychiatric care, as is the approach taken by Queensland, Western Australia and the Australian Capital Territory. This in effect is a

recommendation to delete this data element from the NMDS for Admitted Patient Care while retaining it in the Admitted Patient Mental Health Care NMDS.

Priority: Medium

Recommendation: That this is referred to the AIHW for preparation of the necessary NHDC submission.

It is also recommended that this data element be changed to hours of psychiatric care, as numbers of days (or even part days) is not accurate enough when most separations are 1–2 days long. It is possible for patients to remain in a psychiatric unit for a few hours only, however, this would be reported as a whole psychiatric care day under the current definition. If deleted from the NMDS for Admitted Patient Care this issue still needs to be considered for the Admitted Patient Mental Health Care NMDS.

Priority: Medium

Recommendation: That this is referred to the AIHW for its data development work program planning.

This change could be accompanied by the introduction of data elements for time of admission, and time of separation, to allow yet more accurate measurement of length of stay and length of specialised psychiatric care (see above).

Hospital boarder

It is recommended that this data element concept and/or the scope description of the NMDS may need clarification, as they do not clearly specify whether boarders are not included in the scope of the NMDS.

Recommendation: That this is referred to the AIHW for preparation of the necessary NHDC submission.

Organ procurement—posthumous

It is recommended that this data element concept is not changed.

Recommendation: Retain the data element concept unchanged.

Same-day patient

It is recommended that the reference to procedure banding should be removed from the 'Same-day patient' definition.

Overnight stay patient

It is recommended that this data element concept is not changed.

Recommendation: Retain the data element concept unchanged.

Administrative data elements

Admitted patient election status

It is recommended that this data element be reviewed to address the range of issues highlighted in this evaluation. These include the inclusion of a data domain for an

unknown patient election status, clarification of the status of reciprocal health care agreements patients and the status of patients who are not Medicare eligible but are not charged (at the discretion of the hospital), and the appropriate use of this data element for patients of public psychiatric hospitals.

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

Funding source for hospital patient

As a number of comments from respondents indicate that this data element is poorly defined and further thought needs to be given to the data domain, it is recommended that this data element be more comprehensively reviewed.

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

Hospital insurance status

The funding source data element, in version 10 of the NHDD, indicates whether insurance paid for the episode. However, the 'Hospital insurance status' data element indicates whether patients (particularly private patients) had insurance (and used/didn't use it). As this data element only captures the patient's 'reported' hospital insurance status, it has been suggested that it be so named accordingly.

It is also recommended that the applicability of this item for public psychiatric hospital patients be clarified in the NHDD definition.

Priority: Medium

Recommendation: That this is referred to the AIHW for its data development work program planning.

Medicare eligibility status

Further review of this data element is recommended to address the range of concerns outlined in the utility review, including the applicability of this item for public psychiatric hospitals.

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

Inter-hospital contracted patient (and data element concept 'Contracted hospital care')

As inter-hospital contracted patients are admitted patients of both the contracting and contracted hospital, these separations can represent double counting of hospital activity in the National Hospital Morbidity Database. It is important to understand the extent to which double counting occurs for contracted patients, therefore, the reporting and quality of this data element should be improved.

It is recommended that the label for category 3 *Other* should be amended to *Not contracted*.

Priority: High

Recommendation: Retain the data element concept unchanged. That the change to the data element is referred to the AIHW for preparation of the necessary NHDC submission.

Intended length of hospital stay

A number of respondents commented that this data element is rarely requested or analysed, as there is a far greater interest in the actual length of stay. It is also no longer used for grouping to Diagnosis Related Groups. There were also questions raised over the quality of data for this data element.

However, this data element is seen as useful for reporting data for admitted patient mental health care. Suggestions were made in relation to this which would see some types of mental health admitted patient care regarded as non-admitted, particularly non-procedural same-day admissions that had not been intended to be overnight admissions. There could be either a definitional solution (see Admitted patient data element concept) or a data analysis solution for this issue.

It is therefore recommended that this data element be deleted from the NMDS, unless consultation with mental health information users indicates a continuing need for it (as part of an analysis solution for the issue described above).

Priority: Medium

Recommendation: That this is referred to the AIHW for its data development work program planning.

Mental health legal status

The scope of this data item needs to be more clearly defined. It is recommended that 'Mental health legal status' only be reported for separations including care in a designated psychiatric unit (that is, those which have psychiatric care days reported), and not for the remaining separations, as is the approach adopted by Victoria, Queensland, Western Australia and the Australian Capital Territory. This in effect is a recommendation to delete this data element from the NMDS for Admitted Patient Care while retaining it in the Admitted Patient Mental Health Care NMDS.

If 'Mental health legal status' is only reported for separations with psychiatric care days, then the Institute requests that category 9 *Not applicable* be reported if 'Mental health legal status' was not known. It is proposed that this category be included in the data domain for this data element.

Priority: High

Recommendation: That this is referred to the AIHW for preparation of the necessary NHDC submission.

Person identifier

Person identifiers that are unique within an establishment or agency can be used to identify multiple separations by a distinct individual. Some respondents commented that it would be useful to be able to undertake this type of analysis at the national level reliably. There were mixed views as to whether 'Person identifier' should be reported in accordance with the NHDD definition for all jurisdictions.

A number of respondents commented on the need for the person identifiers to be transferable across hospitals (not just unique within a hospital) and to be able to track repeat hospitalisations. Many respondents expressed the need for a universal patient identifier. It is recommended that this be noted by the NHIMG, which is undertaking work towards the development and inclusion of appropriate identifiers and linkage infrastructures for these data, at the request of the AHMAC.

Priority: High

Recommendation: That the importance of developing unique person identifiers as communicated by survey respondents is noted.

Modes of admission and separation data elements

Mode of admission

As there were a large number of comments relating to the limitations of this data element it is recommended that it be more comprehensively reviewed. The possibility of including domains for transitions and substitutions between services, re-admissions and admissions, for example, from hospital emergency departments, booking offices, elective surgery waiting lists, general practitioner offices and residential aged care facilities should be assessed. It was suggested that this data element could be replaced by several data elements to identify the place the patient came from, who referred them and the point of admission into hospital. It was also suggested that the 'Source of referral to public psychiatric hospital' could be the basis of a revision for this data element. These options should all be reviewed, in the light of proposed changes to data element structures arising from the review of the Knowledgebase.

It is also recommended that the lack of consistency in terminology should be addressed, that is, the data domain *Statistical admission – episode type change* should be changed to *Statistical admission – care type change* in line with the change to the use of 'Care type' rather than 'Episode type'.

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

Mode of separation

Further review of this data element is recommended given the variation in use and interpretation of particular data domains among states and territories and the large number of comments relating to the limitations and quality of this data element.

Issues in relation to the distinction between discharged to a residential aged care facility and discharged to usual place of residence and the lack of differentiation between the type of 'other' health care facility to which the patient is discharged/transferred to were raised. More information about transitions between services, re-admissions, and substitutions between services is also required.

It is also recommended that the lack of consistency in terminology should be addressed, that is, the data domain *Statistical discharge – type change* should be changed to *Statistical discharge – care type change* in line with the change to the use of 'Care type' rather than 'Episode type'. These options should all be reviewed, in the light of proposed changes to data element structures arising from the review of the Knowledgebase.

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

Source of referral to public psychiatric hospitals

It is recommended that the feasibility of expanding this data element for collection across all sectors should be investigated. The inclusion of a data domain of 'referral from general practitioner or local medical officer' or similar requires consideration. Data reported for this data element seems to be quite variable, and the data domains probably require definitions to ensure more comparable data are collected.

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

Urgency of admission

It was noted that there are serious data quality issues in relation to this data element that need to be resolved. It is recommended that the NHDD definition be clarified, especially for the identification of cases where 'Not assigned' is expected and for cases where the patient has been transferred from another hospital. Additional data domain values may be useful.

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

Other data elements relating to continuity of care

These would include data elements to monitor re-admissions to hospital, to provide information on where patients are referred to from hospital, details of carer availability, and data elements for monitoring whether patients are ready for discharge and reasons for delay (or data elements for 'extended stay' patients). Some of these issues could be addressed via developments for mode of admission and mode of separation. AHMAC has provided funding to the NHIMG, which AIHW is using for data development in relation to 'extended stay' patients.

Priority: Medium

Recommendation: That AIHW continues its data development work in relation to 'extended stay' patients and considers these other issues in its data development work program planning.

Other new data elements

Data elements relating to intensive care

It is recommended that consideration be given to including some data elements that relate to the activity of intensive care units, including time in intensive care units (in hours), level of severity (for example, as APACHE scores) and hours of mechanical ventilation. Intensive care was also suggested as a type of care that could be added to the 'care type' data element.

Recommendation: That such data elements are not investigated for inclusion in the NMDS at this stage.

Data elements for the Hospital Casemix Protocol

It is recommended that these data elements be included in the NHDD and then the NMDS in a formal manner.

Priority: High

Recommendation: That this is referred to the AIHW for its data development work program planning.

Industry, occupation and employment status

These data elements could be useful for analyses related to occupational health and safety. It is recommended that consideration be given to an expected submission in relation to them from the National Occupational Health and Safety Commission.

Priority: Low

Recommendation: That NHIMG consider any submission relating to this issue.

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.