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Standardising aged care data

Technical report on the development of an Aged Care National Minimum Data Set

AIHW

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The AIHW is an independent statutory Australian Government agency producing authoritative and accessible information and statistics to inform and support better policy and service delivery decisions, leading to better health and wellbeing for all Australians.

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Introduction

This technical report explains why aged care data is being standardised through the development of an Aged Care National Minimum Data Set (NMDS). It focuses on the process for developing the Aged Care NMDS – i.e., standardisation of data.

However, it should briefly be noted that data improvement is a broader activity than this, covering strategies such as:

- data linkage (integrating data from different sources to arrive at novel findings)
- research and analysis (seeking to build an evidence base)
- education and training (providing staff with the necessary time and support to enter data accurately), and
- system-based corrections (improving how programs and processes operate).

The information contained in this technical report is designed to be used in conjunction with the information available via METEOR, the AIHW's metadata online registry.

AIHW funded data improvement activities

As part of addressing the final recommendations from the Royal Commission into Aged Care Quality and Safety, the AIHW have been funded by the Department of Health and Aged Care (Department) to work on the:

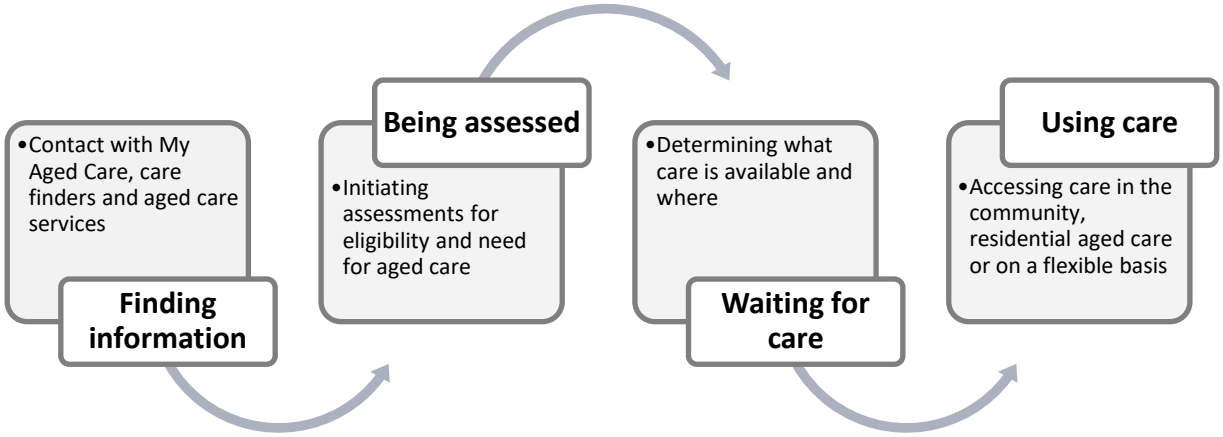
- National Aged Care Data Strategy to guide the future aged care data system
- Aged Care National Minimum Data Set to standardise the collection and reporting of a core set of aged care data
- Aged Care Data Asset to integrate person-level data collected across different settings to better understand the interfaces between aged care, health and welfare.

These activities aim to improve how aged care data are governed, collected and used. More information on aged care data improvement activities can be found on the AIHW's dedicated aged care data website GEN.

Context for the Aged Care NMDS

Government-funded aged care dates back decades in Australia. A wealth of aged care data and information – and different programs and systems – have been established to collect data over the course of providing aged care to people. Data collection happens at various stages in the aged care system, from initial contact with the person where their contact details are captured, through to assessments, care planning and service use, and information on the workers, services and providers themselves that deliver aged care (Figure 1).

Figure 1: Aged care data lifecycle from the person perspective



Data also have a lifecycle in another way, extending well beyond the initial use in the context of care planning and service delivery – the primary use of aged care data is to support aged care workers, services and providers to deliver need-appropriate, safe and high-quality aged care to people. Other secondary uses of aged care data include:

- Supporting people in making informed choices about their care
- Allowing the government to manage and regulate the aged care system
- Providing evidence to develop policy and identify best practice
- Enabling research projects to study particular issues within the aged care system (such as the health and wellbeing of people using aged care).

Administrative aged care data at the AIHW

The AIHW's National Aged Care Data Clearinghouse (NACDC) houses aged care data collected by the government in the course of managing and regulating the aged care system. The data are subsequently transferred (and transformed) through government systems and data warehouses. The data are then made available to the NACDC as an annual snapshot. The AIHW use the data for reporting via GEN and other publications and incorporate it in further on-linkages with other administrative data such as in the Aged Care Data Asset.

More information on the NACDC is available in the National Aged Care Data Clearinghouse User Guide.

Considerations: Drivers for change

Data without agreed meaning lacks necessary context for meaningful interpretation and analysis – imagine finding a steel can at the back of the cupboard, but the label is gone. An incorrect label is equally dangerous, for that matter. How will you know what is inside it or how to use it (or if it is in fact safe to use at all)? Standard content definitions that are correctly and consistently applied help: normally you could expect the can label to include some information about what type of food it is, when it was prepared, who it was made for and how you should consume it.

This is why we need metadata. Put simply, metadata is information about data. It describes how data is defined, structured, and represented (describing what the data is about, what the response options and their allowed parameters are, and what each response option means).

Data that comes with clear, consistent information about what it means can be:

- collected consistently by different people. The information about your data can be re-used by others – even if you are not directly sharing any data. This helps to make sure that everyone is talking about the same things in the same way.
- shared and re-used more readily. People understand something of the context where the data was collected and how it can be used to make better decisions.

The Royal Commission into Aged Care Quality and Safety made similar points in its final recommendations when it concluded in 2021. It highlighted the need to improve data and information for aged care, noting that common data standards and systems are needed across government agencies and that minimum data sets must be based on common data standards for them to yield meaningful and reliable information.

Existing aged care data does not provide all the required information. This is due to gaps, fragmentation, duplication, and inconsistencies in what is collected. Standardisation of data alone cannot solve these problems, but it is a critical part of addressing all of them.

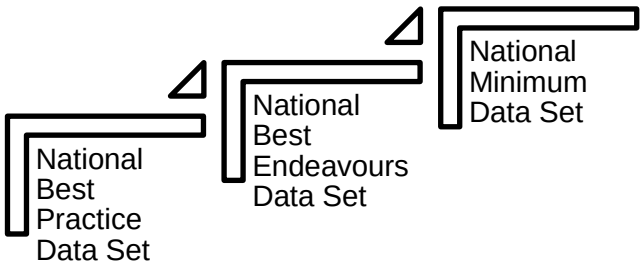
Process: A stepwise approach to data development

Data standards can be developed through different data set specifications (DSS). They can be separate, or they can be seen as a stepped progression from best practice through to mandatory collection. In the Australian context, these specifications come in three forms:

- National best practice data set (NBPDS) – a set of data elements that is not mandated for collection but is recommended as best practice.
- National best endeavours data set (NBEDS) – a set of data elements that is not mandated for collection but there is a commitment to provide data nationally on a best endeavours basis.
- National minimum data set (NMDS) – a minimum set of data elements agreed for mandatory collection and reporting at a national level that are made available via METEOR (for more information, see the box below).

These specifications provide standards for the sector to apply when data are collected or transposed. Use of data can also be supported by further documentation, such as general metadata – for example, the NACDC User Guide contains specifications for the data currently held in the NACDC, including data quality statements where available.

Figure 2: Stepped process of standardisation



What does mandatory mean?

For the Aged Care NMDS, it means that it is mandatory that these data items are collected and reported, and it is mandatory that this collection and reporting process adheres to the published data standards endorsed by the nominated authoritative body.

Other reporting within the aged care sector is also mandatory, such as the National Aged Care Mandatory Quality Indicator Program (QI Program). While participation in the QI Program is a legislative requirement, and approved providers of residential aged care services must collect and provide data in accordance with prescribed methods, these have not been formally endorsed as metadata standards by a nominated authoritative body – known as a Registration Authority. These prescribed methods have been developed via a different mechanism and have not been formally endorsed as a DSS.

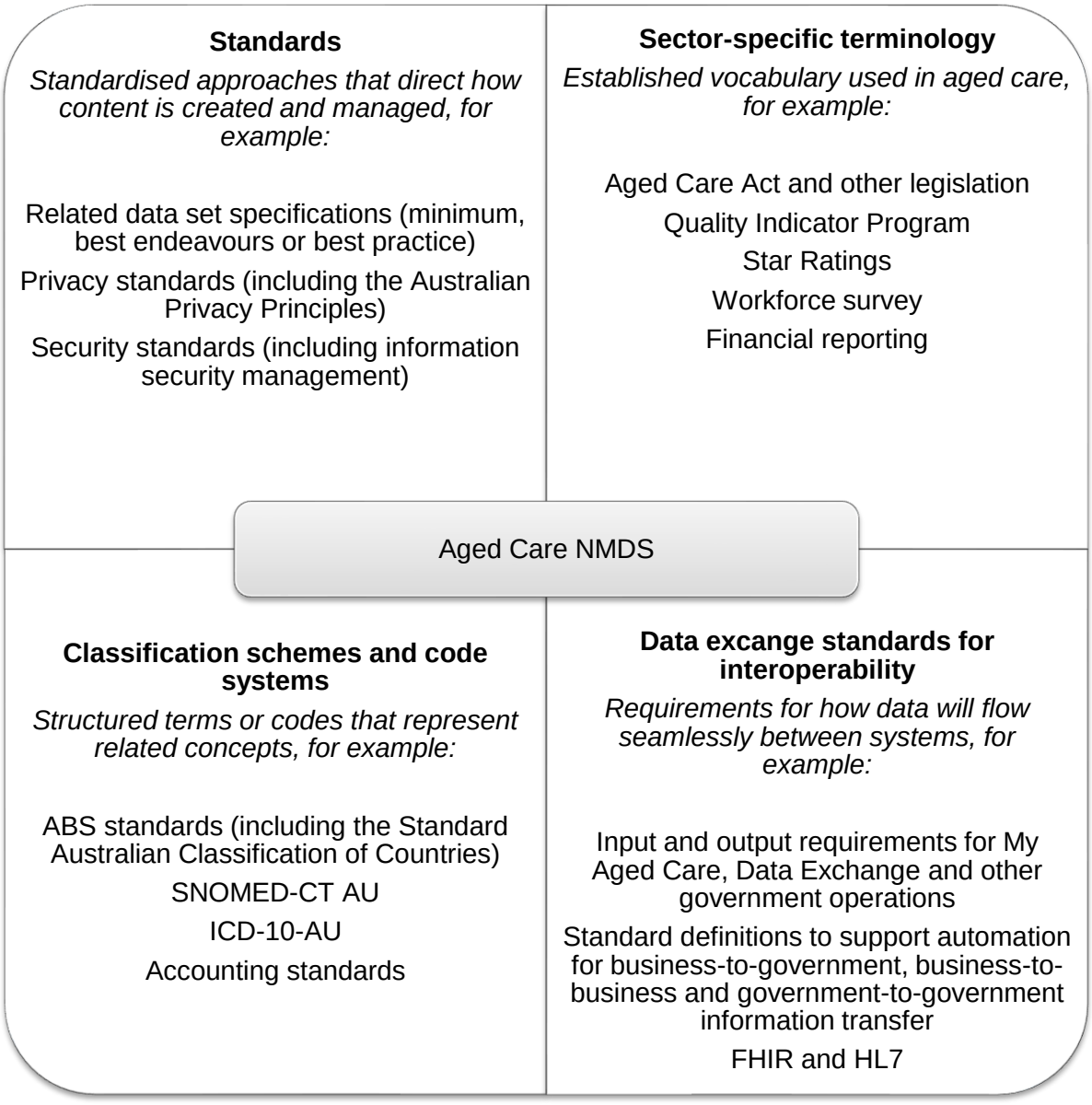
What is METEOR?

The Australian Government Metadata Online Registry (METEOR) is used to publish Australia's data standards for health and welfare information. Data standards are endorsed by and published by an expert registration authority using metadata registration processes from ISO/IEC 11179. Data standards can be endorsed at local, national or international levels. METEOR contains various sets of data elements that define the national standards for a specific collection purpose. More information is available through METEOR.

In another way, an NMDS is only one component in a larger data standardisation pathway that extends far beyond any single set of data standards. Metadata endorsed for use across Australia are referred to as data standards. These standards improve the quality, relevance, consistency, and availability of national information about the health and welfare of Australians. However, they interact with or draw on other components of information and data standardisation.

In the context of aged care, this includes drawing on other existing content standards, aged care terminology, other code systems and data exchange standards (Figure 3).

Figure 3: Examples of data standardisation components that impact and support the Aged Care NMDS



While the Aged Care NMDS is focused on content standardisation and publishing data standards via METEOR, its implementation and success ultimately depend on these other components in (almost) equal measure.

Goal: Minimum data standards for aged care

The purpose of the NMDS is to improve data quality and consistency in the aged care sector by applying standards to a core set of information. Reliable data is key to informing choices about services, care provision, managing the system and monitoring outcomes. The Aged Care NMDS is a set of standards which:

- Set out *what* information to collect and *how* to record that information (but the standards do not represent a 'data collection' as such)
- Signify what data are a high priority (but the standards do not limit what else can be collected, used and reported).

The NMDS simply specifies the minimum set of data items to be collected in the agreed way. Agreements about the use of NMDS data are separate from agreements about the NMDS itself.

The Aged Care NMDS is being developed progressively, with content added over time. Version 1 was endorsed in June 2023, and is being implemented progressively from July 2023. It contains standards for existing data items that are mostly at the person level. Work on version 2 is underway, with an expected implementation date of June 2024. The focus here will be on diverse populations, the aged care workforce and care needs. Subsequent versions will add to this set of standards and may involve modifications and updates to existing metadata where applicable.

The Aged Care NMDS standards will ensure that information is collected accurately and consistently and that data can be reused for multiple purposes to meet collection and reporting requirements more efficiently.

Setting up the Aged Care NMDS

Leading on from the process outlined in the previous section – and noting the specific meaning that 'mandatory' has for an NMDS – the stages of developing and implementing a NMDS are shown as a quick checklist here; more detail is provided against each in the following sections. The Aged Care NMDS is a multi-year project and these steps will form the basis of work each year.

☐	**Step 1: Scope the data**	The starting point for shared data needs is understood – including current data, available metadata and anticipated gaps in both.
☐	**Step 2: Agree on governance**	For an NMDS, it is necessary to establish an Endorsing Entity, Registrar and name the Registration Authority. Development is supported by an expert group of data users, subject matter experts and technical advisors. For other approaches to data standardisation, a more flexible approach to governance is possible.
☐	**Step 3: Establish a framework**	Considering the utility and feasibility, data items are assessed for inclusion in the NMDS. Data items for which metadata is to be developed are selected.
☐	**Step 4: Develop and review metadata**	The data specifications are developed in line with metadata standards and in consultation with others, focusing on subject matter expertise, technical input and quality assurance.
☐	**Step 5: Release data standards**	The Endorsing Entity reviews the metadata and endorses it as data standards. The data standards are made publicly available for use via METEOR.
☐	**Step 6: Implement standardisation**	For an NMDS, standardisation must ultimately be built into data collection so that data are collected as specified in the data standards. In the interim, transitional implementation may be considered. For other approaches to data standardisation, a more flexible approach to implementation is possible.
☐	**Step 7: Maintain standardisation**	Data needs, governance, framework and metadata are reviewed regularly and changes are made as necessary. For an NMDS, new versions are anticipated to be rolled out annually.

Step 1: Scope the data

The first task was to understand the aged care data system. This included developing a shared view of what data was currently available and what was needed in the future. These findings are covered separately in Summary of findings from the first year of aged care data improvement activities, but in particular, the following was mapped:

- Existing data sources that contribute aged care information into the system, including administrative data specifically collected in the course of administering the system and other data that may not be considered traditionally a part of the aged care system (such as tax data relating to people working in aged care or income support payments made to people using aged care).
- The activities, attributes and outcomes associated with aged care (as they relate to people, workers, services and providers), including whether data currently existed in the aged care data system to cover these information needs, or whether it could be obtained from another system, or whether specific data items should be developed for routine collection.
- Relevant data standards for the aged care data items that are currently collected, as well as other terminology, code systems and classifications that could be used to inform the development of better metadata for aged care into the future – this extended to related data standards such as the Admitted Patient Care NMDS, the Dementia National Best Practice Data Set and the Individual Healthcare Identifier National Best Endeavours Data Set.
- The data culture needed to facilitate data standardisation and the different mechanisms that must be in place to support robust data governance – this included considering the capabilities within the aged care system, from government entities to aged care workers, the ICT systems in place and other data development activities taking place within aged care and across aged care and other sectors.

Step 2: Agree on governance

Before any development could meaningfully commence, it was necessary to establish governance arrangements. Clear roles and responsibilities and smooth consultation are required to support any decision-making, but an NMDS comes with additional, specific data governance requirements (see the earlier section on Process for more information on this).

These requirements also needed to integrate with governance arrangements for the data strategy, the data system, and data asset, and align with governance arrangements for the aged care reform agenda overall.

To develop and register metadata as a national standard in METEOR:

- An Endorsing Entity (EE) must be established or appointed
- The Registration Authority (RA) must be given a name
- A Registrar must be appointed.

Table 1 articulates these roles in more detail specifically in the context of the Aged Care NMDS.

Table 1: Key NMDS governance roles

Concept	Role	Aged care context
Endorsing Entity (EE)	• The EE has the authority to take responsibility for the data standard decisions (it can include data and funding stakeholders and is supported by Expert Group/s). It must have appropriate authorising arrangements in place (such as processes, committees and delegated roles). • It examines metadata on behalf of the sector and can be critical to the development, acceptance, and endorsement of data standards. • The EE formally endorses metadata, which signifies the metadata are ready to be accepted as a standard for the sector.	**Role is performed by the Department of Health and Aged Care** on the basis that overall responsibility for the data system, including data standards, rests with the Department.
Registration Authority (RA)	• The RA is the public name of the EE (it is not a separate entity). The name must be carefully selected to not restrict future metadata development work and remain relevant for use across administrative, provider and regulatory data collections. • The name can be that of an existing authority or entity or it can be specified more broadly, as a label or description of the sector, e.g. community services. • If funding for an EE cease, the RA is retired in METEOR – metadata will be accessible, but no further development or maintenance can occur.	**RA is named *Aged care*** on the basis that the term is broad, can accommodate future changes in scope, and is relevant for use and re-use across a broad range of data.
Registrar	• The Registrar acts on behalf of the EE to manage metadata items through the endorsement process. • It facilitates reviews of the data items and metadata, notifying the EE and/or Expert Group/s of issues. • The Registrar advances the registration status of the data items through the METEOR system, including the final step of making the items publicly available.	**Role is performed by the Head of the Aged Care Data Improvement Unit, AIHW** on the basis that the AIHW has the expertise to undertake the quality assurance review of candidate items and administer METEOR.

Note: A unit within the AIHW is responsible for METEOR (the Metadata, Information Management and Classifications Unit). This unit provided expertise and training in data development, metadata standards and the METEOR system, and handled system functions such as setting up the RA within METEOR and associated contractual arrangements with the Registrar.

Metadata items must pass through rigorous approval processes to be endorsed and publicly released. An important part of supporting governance are the Expert Groups: these comprise subject matter experts who undertake development and/or review of metadata standards. An EE may call on one or more Expert Groups. Existing channels for consultation and communication with the sector may be assessed for their suitability as an Expert Group and adapted if needed.

For example, as experts in aged care data, the AIHW's Aged Care Data Advisory Group (ACDAG) performs the function of an Expert Group for the Aged Care NMDS. The Terms of Reference for ACDAG were amended to expand their existing advisory role to include provision of expert subject matter advice to inform the development of data standards for the NMDS. The ACDAG is also used to form topic-specific expert sub-groups to review data standards for the NMDS.

In the future, it may be necessary to arrange other Expert Groups for the Aged Care NMDS. Regardless of the title given to the mechanism, ongoing consultation with subject matter experts and technical advisors is a crucial part of the development of an NMDS.

Step 3: Establish a framework

Not every data need can be met, and not every data item can be standardised. As a 'core' set of aged care data, the NMDS serves a particular purpose, and there was a need to agree on a clear framework to keep its scope in check.

The NMDS data standards are mandatory: they define how information must be captured for selected data items, but they are not a new data set and they do not cover every data item collected within the aged care data system. The basic principles were that:

- The NMDS will expand over time – the first version (V1) of the NMDS has prioritised existing data that are already common across the aged care system. The NMDS will be developed in stages and further content added progressively over time, with V1 data standards released in June 2023, V2 in June 2024, and V3 in June 2025.
- The NMDS is implemented progressively – for each iteration of the NMDS, the data standards will be implemented for collection over a 12-month period. In the 12 months following data standard release, the data standards progress from voluntary to mandatory implementation.

At the next level down from these principles, it is also important to consider what makes it into the NMDS as 'core' data about aged care. Criteria were established to determine whether each data item needed to be included and then to establish the relative priority. They supported a strategic approach that was sensitive to the sector (the NMDS was not aiming for wholesale transformation for a time and resource poor sector).

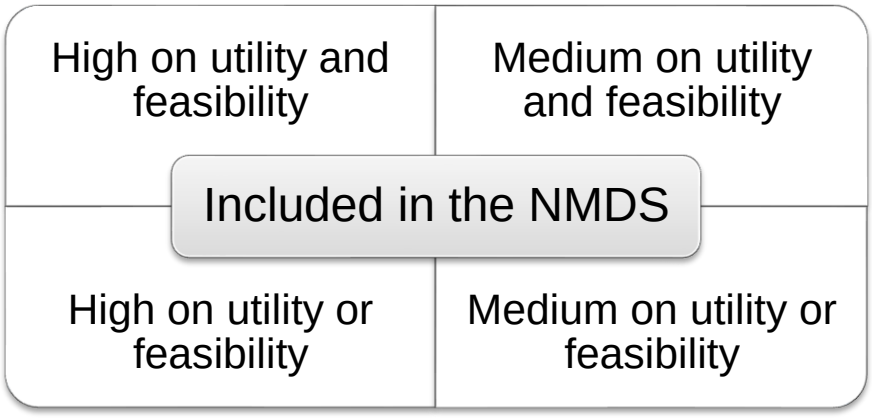
The criteria related to data items' utility and feasibility (establishing the need for data, need for standards, whether this need is long term, and assessing how well data standards could be developed and implemented for the data item) (Table 2).

Table 2: Criteria for Aged Care NMDS data items

Question		Rating	
Utility			
1 Demand for data	Is the data item needed to meet NMDS data users' information needs?	H	Needed to meet the needs of multiple data users
		M	Needed to meet the needs of some data users
		L	Of interest to some data users
2 Need for data standards	Does the data item need to be included in the NMDS for the application of data standards?	H	Data standards are needed to support consistency
		M	Data are fit-for-purpose without standardisation
		L	Other arrangements are more appropriate
3 Long-term value	Will the data item be needed over the long term?	H	Enduring long-term need
		M	Medium-term need
		L	Short-term only, or longevity is unknown
Feasibility			
4a Development of data standard	Can a data standard be developed that is a valid, reliable, and accurate measure of the intended concept?	H	Data standards already exist
		M	Some definitions, metadata or practices are available
		L	Data standards require development
4b Collection and reporting according to data standard	Can the data standard be implemented in the aged care data system (ie collected and reported by people or systems)?	H	Data are already collected and reported
		M	Minor changes in practices or systems required
		L	New practices or systems required

A prioritisation matrix then determined whether the data item was a likely candidate for the first or subsequent versions of the NMDS, or if it was unlikely it would be included in the NMDS. In simple terms, an item could be included in the NMDS (current or future versions) if it was rated as medium or high on utility or feasibility (Figure 4), meaning that there was clear, multiple uses for the item and it could realistically be collected within the aged care system. Items that are rated low on utility and feasibility are unlikely to be candidates for any version of the NMDS, although these decisions must continue to be revisited each year.

Figure 4: Prioritisation matrix for Aged Care NMDS data items



Step 4: Develop and review metadata

With the data item list in mind, development of metadata then focused on the specifications and standards that were needed to give the items meaningful content. Appendix A gives more information on METEOR structure.

Best practice is to use existing standards, drawing on either whole data elements or components of a data element. This may be:

- METEOR standards for data elements (or parts of data elements, such as object classes, properties or value domains – what the item will be about and how responses should be coded and interpreted).
- Australian Bureau of Statistics (ABS) standards and classifications
- clinical standards, including code systems, and other terminology already in use (this may also extend to non-clinical standards, such as accounting or legislated requirements).

However, in many cases, it was necessary to modify or fully develop new standards – this was due to major difference/s between existing standards and information needs in the context of aged care. The general principle was to keep standards broad and general to increase the likelihood that they are applicable not only across aged care but also potentially in other sectors.

Other considerations included:

Propose new standard to capture meaning	Seek to re-use components of existing standards as applicable – for example, aged care required some aged care-specific object classes to be developed, but some of the properties and value domains of existing non-aged care standards could be re-used. There is a general preference for aiming to not add new object classes and to re-use existing value domains (for example, creating an item that can be answered as a yes or no question, rather than more bespoke response options).
Modify existing standards to capture meaning	Seek changes to existing standards – where they are part of an NMDS, changes must be endorsed by the relevant RA (this will see the existing standard superseded).
	Add a conditional attribute to an existing standard – for each data element, it is possible to describe how the context of the data collection affects what is collected or how it should be treated (for example, where items are collected in aged care in a particular way, but the same standard may be used in health or disability settings as well and different considerations apply to those).
Specify meaning in the data set specification	Add information about the context of the data collection in attributes at the data set specification (DSS) level (rather than at the data item level) – the Scope, Collection methods and Comments attributes of the DSS itself can be used to give information at a more general level. For aged care, the context of the NMDS generally makes it clear that the question is being asked about a person in aged care.
Structure data differently	Create data element clusters – these are a group of data elements to be included in a data set specification, putting together related elements. The cluster can better describe that group and how they should be collected or reported for a specific purpose. Clusters have a unique identifier, must have at least 2 data elements and must be collected in its entirety. There are two types: matched (for cross classificatory data collections) and common (where data elements are to be reported in conjunction).

For each issue, the appropriate approach was identified in consultation with stakeholders and technical advisers to clarify understanding and explore solutions. Metadata were developed in Microsoft Word (structured around the METEOR template), circulated for comment and ultimately uploaded into METEOR for finalisation. This approach was chosen because unregistered standards in METEOR would not have been accessible to external reviewers and Microsoft Word provided a degree of version control and the ability to track changes and add comments.

The goal of the review of the metadata was to gain insight from subject matter experts and to confirm all important issues were being considered. The review process was iterative, as some material from existing data standards were able to be used for definitions and value domains even if an aged care-specific item did not exist. Guides for use (specific to the context of aged care data collection) were in large part a blank canvas – available documentation provided a starting point but considerable drafting and consultation was required to develop these in full.

Review considerations

To focus attention and seek input on high-priority issues, some specific questions were included as part of the review – for example seeking views on anticipated changes, barriers and opportunities.

The full METEOR specifications include information that is not relevant for subject matter experts or other reviewers. The version of the NMDS that was circulated for review did not include all aspects of METEOR content as a result; only those deemed necessary for content, focusing on the content shown in Appendix A:

- Data element (including selected identifying and definitional attributes and all data element attributes)
- Object class (including only the definition for the identifying and definitional attributes)
- Value domain (including various representational attributes and guide for use and collection methodology only for collection and useage attributes).

As the complexity of an NMDS increases, a formal issues register may assist in keeping track of review feedback and actions – who said what, when, and what was done about it.

Step 5: Release data standards

The technical areas responsible for METEOR completed final quality assurance reviews alongside the Registrar to clear the NMDS data standards for public release. This means that the NMDS data items progressed through METEOR to reach the status “Registered”.

The Registrar then recommended the data standards for endorsement. Once the Endorsing Entity was satisfied that the due process had been followed and appropriate care taken to finalise the data standards, they were accepted and endorsed for release.

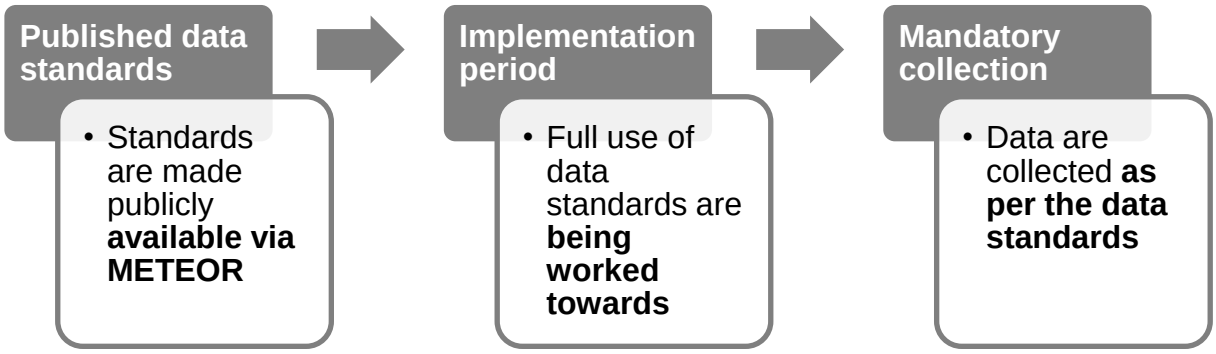
The Registrar indicated this new status in METEOR (“Endorsed”) and the Aged Care NMDS data standards and associated material were released publicly on METEOR.

Step 6: Implement standardisation

To manage the process smoothly over time, the NMDS V1 data standards are being implemented in stages. In the 12 months following their release, the data standards progress from a National Best Endeavours Data Set (NBEDS) during their implementation period to an

NMDS (once mandatory collection begins) (Figure 5). During this implementation period (running approximately from July 2023 to June 2024), data are to be collected on a best endeavours basis, with an expectation that data suppliers will be able to collect all mandatory data items according to the NMDS data standards by the end of that period.

Figure 5: Implementation pathway for the Aged Care NMDS



The distinction between NBEDS and NMDS data standards is to support a staged implementation in acknowledgement of the impact on the sector. This model enables aged care workers, services and providers, software vendors and government to anticipate and make necessary system changes.

These system changes are varied: for example, routine collections or ad hoc forms may need to be updated to align with the NMDS data standards, e.g., to reflect the terminology for questions or definitions. Staff must also have the skills to enact changes, and the digital exchange of information must support the NMDS data standards.

Step 7: Maintain standardisation

The NMDS data standards are regularly reviewed, beginning this process again from Step 1 to assess whether new gaps have emerged and what data are needed to address information needs. At a minimum, each update cycle for the NMDS will review the existing items and update reference dates. More detailed maintenance might include updating the metadata.

In the future, analysing NMDS data may also shed light on issues. For example, once data are collected as per NMDS data standards, new fields (such as those relating to unknowns or not applicables) can be assessed to identify whether data is being accurately captured and identify opportunities for improvement. In this light, data use will inform data development.

Appendix A

Metadata components

Data element name	Generated from the component parts used to build the data element
Identifying and definitional attributes – what is being collected?	
Metadata item type	Data element (data elements are also commonly known as data items, variables or other similar terms)
Short name	A short-form or common name to identify a data element.
METEOR identifier	A system generated number. Each entry in METEOR is identified by a 6-digit numeric code, which forms part of each element's persistent URL and aids users in navigating to the element.
Registration status	Indicates the sector(s) in which the data element is endorsed for use and the registration stage (e.g., No registration status, Candidate, Standard or Superseded).
Definition	What is it that you want to know? This is a precise and unambiguous statement about the data element describing what is being collected. It must differentiate between and give consideration to related definitions, but it should not contain related definitions. The definition should not repeat or paraphrase the name as its definition, or include information about how, where or why is being collected. Glossary items can also be used to define what terms mean within a specific context. For example, a glossary item provides further information for terms that may be used across different settings, but which have a particular meaning in some settings.
Property	The characteristic or aspect for which data are being collected (relating to the object class). Properties with similar characteristics can be grouped, but a property can only be assigned to one property group (e.g., sex has been assigned to the property group 'Demographic/social/cultural characteristics').
Value domain attributes	
Representational attributes – what is the range of possible answers?	
Representation class	Main structure of the value domain, e.g., code, date, currency or identifier.
Data type	Reflects the representation class, e.g., date, time or number. For example, for the representation classes 'code' or 'identifier', data type may be given as number or string.
Format	A template for the presentation of values including specification and layout of permitted characters, the maximum and minimum size, and precision. For example, for the representation class 'date', format may be given as DDMMYYYY. These may have different classes of representation as enumerated (where a set of codes have been named) or non-enumerated (such as 'Total'). The

	permissible values specified on a primary collection form (whether list of codes and/or code descriptions) must either match those shown here, or they must be mappable to permissible values. Supplementary values can be included to represent values produced in the data cleaning process (i.e., values that were not specified on the data collection form).
Maximum character length	The maximum number of characters permitted to represent the values.
Data element attributes	
Collection and usage attributes – how do I collect and use the answer?	
Guide for use	Which one of the possible answers should I choose? Include comments, advice, or instructions for the interpretation or application of the data element. For example, describe how other data elements should be used in conjunction with the current data element, any formulae which guide calculations, or coding guidelines.
Collection methods	How and when should this information be obtained? Include comments, advice, or instructions for the actual capture of data. For example, describe data collection formats, data collection frequency or minimum data collection requirements, give advice on the recommended way to ask for the information (e.g., Indigenous status), outline requirements for supportive material and how missing or not stated data is to be treated.
Comments	What else do I need to know to understand this definition? Include any additional information that adds to the understanding of the metadata. For example, whether the metadata item is likely to be reviewed in the near future, considerations for further development, potential terminology issues, and justification for the inclusion or exclusion of content.
Source and reference attributes – what other information is relevant?	
Origin	Any document(s) (including websites), organisations or committees from which any content of the metadata item originates.
Reference documents	Significant documents that contributed to the development of the metadata item which were not the direct source for the metadata content
Relational attributes – what other metadata is connected to this information?	
Related metadata references	Any other references that may be useful for the reader.
Implementation in Data Set Specifications	Any other data set specifications that have implemented this data element.

METEOR definitions

More information is available through METEOR.

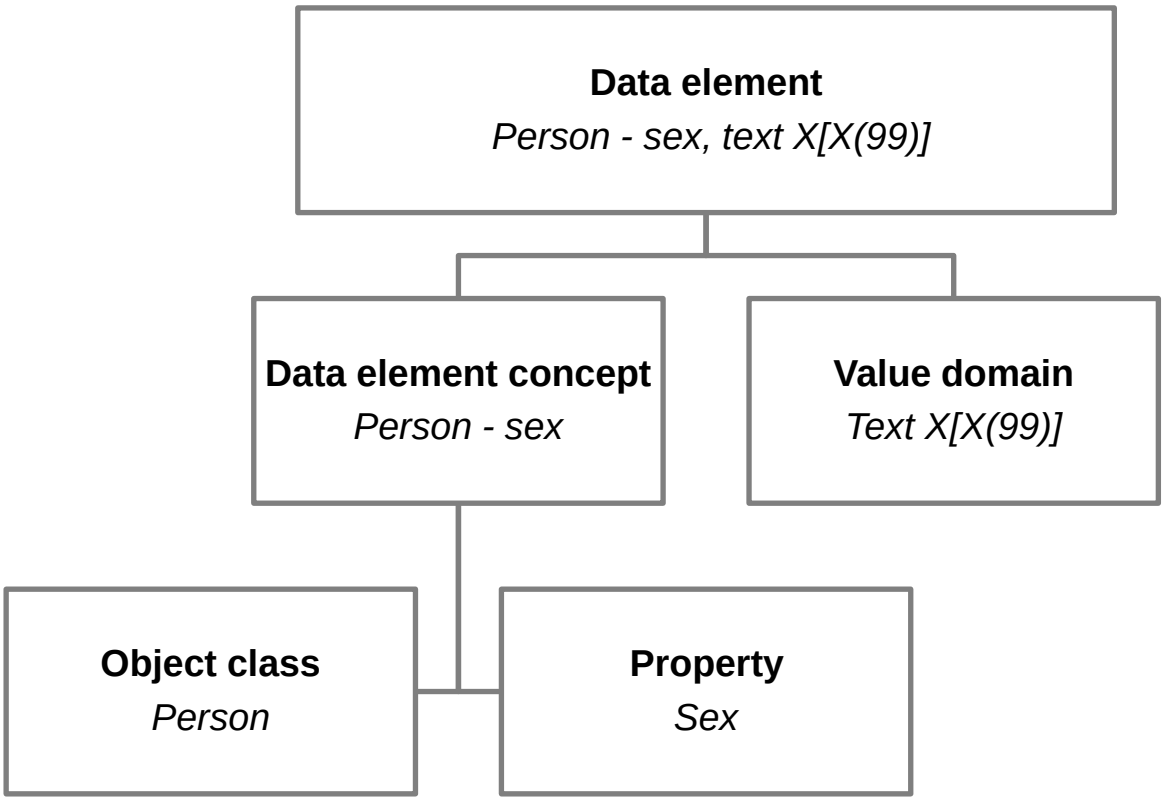
Data element: The combination of a data element concept and a value domain – conversationally referred to as ‘data item’ throughout this document.

Data element concept: The combination of an object class and a property, describing a data item conceptually, but without specifying the value domain (the set of allowed values.)

Object class: The entity or event that is being described. This can include a person, an organisation, a structure, an episode of care or other target of interest.

Property: The characteristic or aspect for which data are being collected (relating to the object class). Properties with similar characteristics can be grouped, but a property can only be assigned to one property group (e.g., sex has been assigned to the property group ‘Demographic/social/cultural characteristics’).

Value domain: The set of allowed values for a data element.



This technical guide provides information on why the National Minimum Data Set (NMDS) is needed, how we developed it, and what its staged implementation looks like.

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Stronger evidence,
better decisions,
improved health and welfare