AIHW | METEOR
Metadata Online Registry
meteor.aihw.gov.au

1. Introduction

1 Introduction

1.1 Purpose of this document

METEOR is the Australian Institute of Health and Welfare's (AIHW's) Metadata Online Registry. It was first released in 2005 and is a critical component of Australia's national health and welfare information infrastructure. In 2021/22, METEOR was redeveloped in-house as a result of collaborations between the Business & Development unit (BDU), Information and Communication Technology (ICT), Metadata, Information Management and Classifications Unit (MIMCU), subject matter experts and stakeholders.

This document should be used when developing metadata for standardisation. It describes the requirements for completing metadata attributes (referred to as a metadata item's characteristics) in METEOR. These requirements are important for the quality and consistency of data standards across METEOR.

This document is not a 'how to' manual on developing metadata in METEOR with step-by-step instructions. We recommend that users undertake appropriate METEOR training in order to understand how to create, develop and maintain metadata and data standards in METEOR. Training modules are available from the METEOR site.

1.2 Roles within METEOR

There are four types of roles in METEOR: metadata developer, workgroup manager, registrar and metadata administrator. Each role type requires different levels of access.

1.2.1 Developer

A developer is someone who has permission to access METEOR to create and develop new metadata, and modify existing content. To do this, the developer requires a METEOR login with developer access level.

A developer needs to be a member of a workgroup in order to gain access to that particular content. A developer can be a member of more than one workgroup.

Once a metadata item reaches *Qualified* registration status, a developer can no longer edit the item.

1.2.2 Workgroup manager

A workgroup manager is someone who has access to METEOR to create and modify existing content, as well as assign developers access to the workgroup(s) they manage.

A workgroup manager can also remove access to the workgroup(s) they manage.

A workgroup manager is usually the principal developer in a project.

Once a metadata item reaches *Qualified* registration status, a workgroup manager can no longer edit the item.

1.2.3 Registrar

A registrar is someone who works on behalf of a registration authority in order to manage metadata through the data standards endorsement process.

A registrar has access to METEOR to create and modify existing content.

Part of a registrar's role is to perform conceptual and technical reviews of metadata, ensuring that developers meet the quality and standard required against the business rules.

A registrar can progress (step-by-step) items to any status on behalf of their registration authority.

A registrar also has permission to create non-ISO 11179 content such as object class specialisations, property groups, data sources, outcome areas, and framework and dimensions.

A registrar can assign a steward to metadata items.

A registrar can assign or create a new unit of measure.

1.2.4 Metadata administrator

A metadata administrator is someone who has full access to manage workgroups, organisations and registration authorities. The administrator can access all workgroups, edit access and has the ability to retire any items.

A metadata administrator can modify user permissions, deactivate and reactivate user accounts.

A metadata administrator can create and edit all metadata content, and progress and rollback items to any status within any registration authority.

1.2.5 Steward

A steward is the organisation responsible for providing ongoing maintenance and management of a metadata item. Only a registrar can assign a steward to a metadata item.

1.2.6 Registration authority

A registration authority is responsible for endorsing their sector's data standards and indicator sets. A registration authority reviews recommendations made by data or information committees and provides formal approval for assigning the *Standard* status for data elements.

1.3 Structure of this document

1.3.1 Document outline

The document consists of the following:

- Chapter 1: Introduction
- Chapter 2: Principles for the development of good data standards
- Chapters 3 to 18: Business rules for individual metadata types
- Appendix A: Use of abbreviations in name and definition attributes

- Appendix B: Formatting and stylistic guidelines
- Appendix C: Referencing guidelines
- Appendix D: Metadata attributes automatically generated by METEOR
- Appendix E: Registration status values and associated business rules
- Appendix F: Metadata relationship types and associated meanings
- Appendix G: Value representation tables
- Appendix H: Data element clusters

1.3.2 Structure of business rule chapters

The business rules for individual metadata types are documented in chapters 3 to 18:

- Chapter 3: Object class business rules
- Chapter 4: Object class specialisation business rules
- Chapter 5: Property business rules
- Chapter 6: Property group business rules
- Chapter 7: Data element concept business rules
- Chapter 8: Value domain business rules
- Chapter 9: Data element business rules
- Chapter 10: Classification scheme business rules
- Chapter 11: Glossary item business rules
- Chapter 12: Data set specification business rules
- Chapter 13: Indicator business rules
- Chapter 14: Indicator set business rules
- Chapter 15: Outcome area business rules
- Chapter 16: Framework dimension business rules
- Chapter 17: Data quality statement business rules
- Chapter 18: Data source business rules

Each of the above chapters list the respective metadata attributes (represented by templates in METEOR), such as ‘name’, ‘definition’, and the like. Each chapter includes attribute information relevant to the particular metadata type in table format as follows:

Attribute name

Attribute definition	
Obligation to complete:	This specifies the obligation, or requirement, to complete the attribute which may be: • Mandatory—the attribute must be completed. • Conditional—the attribute is mandatory to complete if the stated condition is met. • Optional—completion is discretionary and is largely dependent on whether there is appropriate information to include for the metadata item being developed.
Completed by:	This specifies who needs to complete the attribute—developer or registrar.
Visibility	This specifies who can view the information.
Rules:	This specifies the business rules for completing the attribute.
Notes:	This specifies additional information to note, if applicable.

1.4 Terminology

A distinction is made in this document between metadata and data standards.

The term metadata is used to refer to any content within the METEOR metamodel (Figure 1.1) that has been used to describe some aspect of data.

The term data standard is applied to a metadata item that has undergone the endorsement process by a registration authority to become a standard. A data standard endorsed for use across Australia is referred to as a national data standard.

The business rules in this document are generally written using the adjectival verb must or should:

- Business rules written as 'must' are requirements that need to be met.
- Business rules written as 'should' are recommended as best practice.

See the Glossary for further terms used in this document.

1.5 ISO/IEC 11179, AS 21667—2012 and the METEOR metamodel

The architecture of METEOR is based on the international standard for metadata registries, ISO/IEC 11179. This standard provides a disciplined approach to the development, storage and management of metadata across a broad range of sectors. ISO/IEC 11179 specifies the kind and quality of metadata necessary to describe data independent of the organisation that produces the data, as well as the management and administration of that metadata in a metadata registry. ISO/IEC 11179 provides a standardised format to describe and represent the meaning and content of data.

The METEOR metamodel, the architectural framework model that defines how METEOR is structured, also extends beyond ISO/IEC 11179, as it incorporates both ISO/IEC 11179 and non-ISO/IEC 11179 structures. The framework dimensions in METEOR consist of indicator sets, indicators and outcome areas which are based on the Australian Standard (AS 21667—2012) Health indicators conceptual framework. The METEOR metamodel is shown in Figure 1.1. The components of the METEOR metamodel are described in Table 1.1.

Figure 1.1: METEOR metamodel

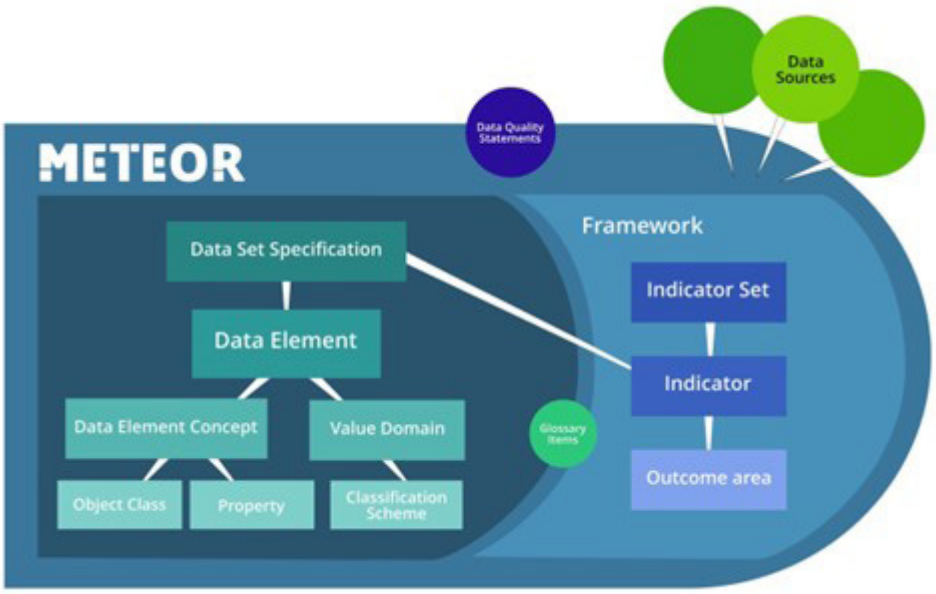

Figure 1.1: METEOR metamodel

Table 1.1: METEOR metamodel components

Component	Definition	Architecture
Object class	The person, place, event or thing that is being described.	ISO/IEC 11179
Property	The characteristic of the object of interest.	ISO/IEC 11179
Data element concept	A concept that can be represented in the form of a data element, described independently of any particular representation. In METEOR this is achieved by combining an object class and a property.	ISO/IEC 11179
Value domain	An implied and/or explicit set of values used to represent the characteristic being measured or described.	ISO/IEC 11179
Data element	A unit of data for which the definition, representation and permissible values are specified by means of a set of attributes. In METEOR this is achieved by combining a data element concept and a value domain.	ISO/IEC 11179
Classification scheme	A system for classifying data which is recognised and endorsed by a national or international body	ISO/IEC 11179
Glossary item	A term with a defined meaning that applies across all instances within a specified context.	Non-ISO/IEC 11179
Data set specification	A grouping of data elements and/or data set specifications, and the conditions under which the grouping should be collected or reported.	Non-ISO/IEC 11179

Table 1.1: METEOR metamodel components		
Indicator	A statistical measure used to describe the progress or performance of a system. The measure may be that of a population or the output of provision of goods and services.	AS 21667—2012
Indicator set	A grouping of indicators, including information on the origin of the indicator set and the auspice body responsible for defining the set.	AS 21667—2012
Outcome area	A statement that specifically defines the target, standard or the ideal result of an indicator, against which performance is to be assessed.	Non-ISO/IEC 11179
Framework and dimensions	The name of the conceptual framework to which a performance indicator can be reported against.	AS 21667—2012
Data quality statement	A statement of multiple quality dimensions for the purpose of assessing the quality of the data for reporting against the performance indicator.	Non-ISO/IEC 11179
Data source	A specific data set, database and reference from where data are sourced.	Non-ISO/IEC 11179

The METEOR metamodel is supplemented by two navigational structures managed by registrars that are not identified in Figure 1.1 or Table 1.1. These items are listed in the table below.

Table 1.2: METEOR navigational components		
Component	**Definition**	**Architecture**
Object class specialisation	A grouping of related object classes – consisting of 'parent' and 'child' object classes (e.g., Adult is a sub-type of Person).	Non-ISO/IEC 11179
Property group	A system for grouping properties with similar characteristics	Non-ISO/IEC 11179

1.6 Accessing business rules within METEOR

The business rules contained in this document have evolved over the many years since METEOR was released in 2005, it continues to be reviewed and refined as business and user requirements change. The most recent version of this document can be found on METEOR.

The business rules can also be found in the online contextual help for each metadata attribute within METEOR. The contextual help can be accessed by clicking on the information icon 'i', located against each attribute in METEOR—see icon example below:

Name 

1.7 Feedback

Feedback on this document and/or the business rules contained in it can be provided to the AIHW's My Health, Information Management and Metadata unit (MHIMM) on (02) 6244 1222 or email meteor@aihw.gov.au.