



Australian Government

**Australian Institute of
Health and Welfare**

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Managing health data using international standards – a best practice solution

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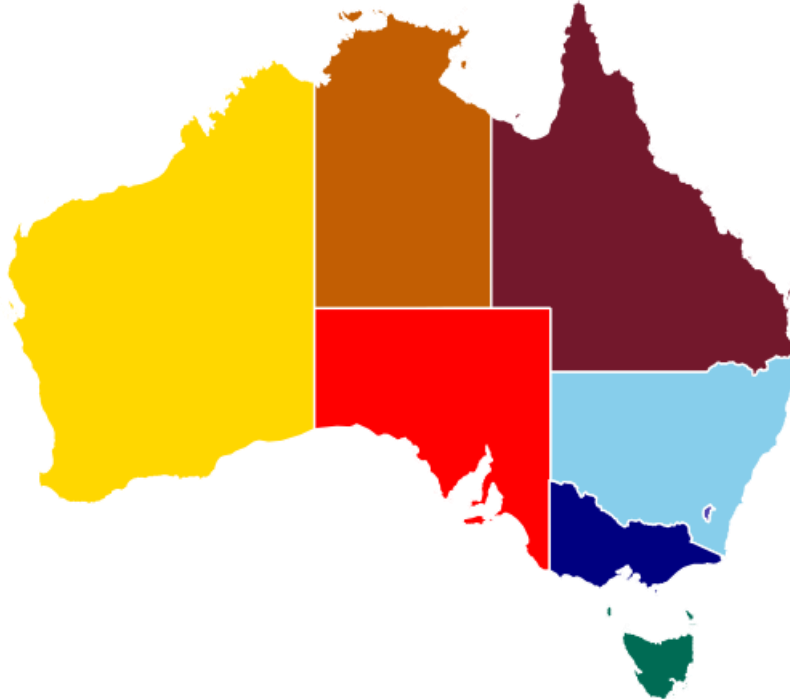


AIHW and Data Collections

- The AIHW is an independent Australian Government agency with more than 30 years of experience working with health and welfare data.
- Our role is to provide meaningful information and statistics to the Australian people by:
 - **Collecting and managing data** on health and welfare issues
 - **Analysing** and turning data into useful information and reports to support decision makers
 - **Making data available** to government agencies, universities, research centres, and non-government organisations.



The Constitution – health service divides





Inconsistent data standards





Consistent data standards





Health data governance arrangements

- [National Health Information Agreement](#) (2013)
- [2020-25 National Health Reform Agreement](#)
 - Enhanced Health Data
- [National Health Data and Information Standards Committee](#) (NHDISC)



METeOR (2005)

The screenshot shows the METeOR website home page. At the top left is the Australian Government logo and the text 'Australian Institute of Health and Welfare'. To the right is the METeOR logo 'METeOR Metadata Online Registry'. A navigation bar contains 'Home', 'Search', 'Advanced search', 'Help', and 'Contact us'. On the right of the navigation bar are 'My items (8)' and 'Login'. A left sidebar menu lists: 'About METeOR', 'About metadata', 'About metadata standards', 'About Indicators', 'National minimum data sets and data set specifications', 'National Data Dictionaries', 'Publications', and 'Registration Authorities'. Below the menu is a 'Search help' box with an input field and a 'Go' button. The main content area has the heading 'METeOR home' and a welcome message: 'Welcome to METeOR, AIHW's Metadata Online Registry. METeOR is Australia's repository for national metadata standards for health, housing and community services statistics and information.' Below this is a 'Search the registry' section with instructions on using 'Quicksearch' and 'advanced search'. A bold instruction reads: 'Click on the metadata item types in the model below to link directly to current standard content.' Below this instruction are two buttons: 'Data set specification' (blue) and 'Indicator set' (purple). On the right side of the page, there is a 'Print page' icon and a 'Did you know?' section with text about data standards extraction in XML format and links to 'metadata developer training' and 'METeOR administrator for details'.



METEOR (4 May 2022)

The screenshot shows the METEOR website homepage. At the top left is the Australian Government logo and the text 'Australian Government Australian Institute of Health and Welfare'. To the right is the 'METEOR Metadata Online Registry' logo. Further right are links for 'Our sites', 'Contact', and 'FAQs'. Below these is a search bar with the text 'Search METEOR' and a magnifying glass icon, and a 'Sign In' button. A dark navigation bar contains four menu items: 'Find metadata', 'Metadata management', 'How to use METEOR', and 'Learn about metadata'. The main content area has a teal background with the heading 'Welcome to METEOR' and 'The Australian Institute of Health and Welfare's Metadata Online Registry'. Below this is a paragraph: 'METEOR is the registry for Australian metadata standards for statistics and information in areas such as health, housing and homelessness, aged care, Indigenous, disability, children, families and youth.' A final paragraph states: 'Please note that METEOR does not contain any data, reports or statistical information. If you are looking for data, please visit the [AIHW Data Collections](#).' On the right side of the main content area, there is a decorative graphic of white dots connected by thin lines, resembling a network or data flow.

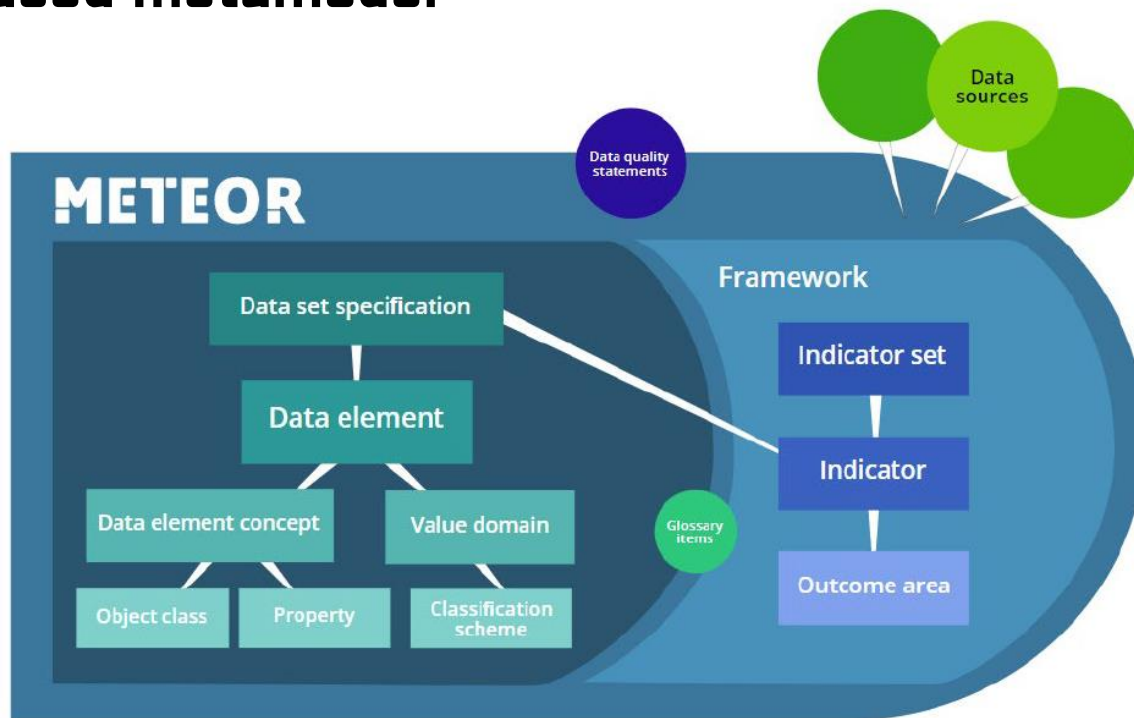


Underlying structure fit for purpose

- Based on ISO/IEC standard 11179 *Information technology – Metadata registries (MDR)*
- Existing underlying data structure re-used because it was standards base it was still fit-for-purpose
- Built in the MS Azure cloud – allows interoperability with range of Microsoft products



METEOR's I1179-based metamodel





Main Metadata types in METEOR

- Data elements and Data set specifications
 - National Minimum Data Sets (NMDSs)
 - National Best Endeavours Data Sets (NBEDSs)
 - National Best Practice Data Sets (NBPDSs)
- Indicators and Indicator Sets - (Extension to 11179)
- Data Quality Statements - (Extension to 11179)



Benefits of METEOR

- Published metadata means data owners/providers/users have a common understanding of what data means
 - What IS TO BE collected
 - What WAS collected
- Rigorous model of how to structure data
 - Thinking about metadata at the design phase results in better data sets



Benefits of METEOR (cont.)

- Modular nature promotes consistency
 - E.g. re-use of Value Domains (1 always equals “Yes”, 2 always equals “No”)
- Consistency aids interoperability
 - Analysis of linked data underpinned by standardised variables



Benefits of ISO/IEC 11179

- Recognised international standard
- Standardises data concepts and representation so that data is collected consistently, understood, and used appropriately to inform decision making
- is system independent and facilitates interoperability between metadata registries



Benefits of ISO/IEC 11179 (cont.)

- metadata registries are supported with robust governance and registration practices that ensure metadata are uniquely identified, monitored for quality and have a documented source



Upcoming METEOR development

- API interface (expected release late 2023)
 - REST interface
- FHIR API to the SNOMED-CT AU Ontoserver
- Data catalogue (based on DCAT standard)
- ??? and more!



Questions?

