

'Standards 101' — Foundations to underpinning Australian health and care

[GS1 Australia](#)

By Catherine Koetz, Director - Healthcare

Saturday, 01 April, 2023

[Share](#)

[Tweet](#)

[Share](#)

[Email](#)



As a sector, healthcare often uses the word 'Interoperability' closely followed by the reference to 'Standards'. Given how many 'standards' there are that apply to health and care in Australia, it is often a far too confusing landscape where people become familiar with one type of standard and struggle to understand how the others fit into their work, projects, ICT infrastructure investment, workflows or elsewhere.

In the past, we posed the question 'What is interoperability and why is it important?'. In short, interoperability is about data and information having a consistent meaning, enabling it to move and be used meaningfully between people, organisations and systems. The future of health and care focuses on the patient and the consumer. To support this, we need data to help ensure the best patient outcomes, to measure the value of treatment, and support analytics and Artificial Intelligence to help manage increasingly complex requirements in a system under pressure. It also remains critically important to the patient or consumer of health and care that their data can be accessed by those providing them with their care who have a legitimate need. All this means is that data and information must be interoperable — for the person who requires support for their health and care, this is a critical element.

So where do standards fit into this complex picture?

If interoperability is the ability of different information systems, devices and applications to access, exchange, integrate and cooperatively use data in a coordinated manner, within and across organisational, regional and national boundaries, to provide timely and seamless portability of information and optimise the health of individuals and populations globally (definition from HIMSS), then standards and more specifically data standards are how this is possible by providing the common language and common set of expectations around the data and information that is collected, stored and ultimately needs to be shared.

But which standards, I hear you ask?

It can certainly be a complex question and an even more complex answer, especially for those who are looking to implement new and often expensive technology systems such as Digital Health Records, Health Information Exchanges or similar, or upgrading other less complex but just as important systems that sit in the complex architecture of organisations. It does not stop there though as even looking at technology that is used by a patient or consumer outside of a highly controlled care setting or to communicate from one care provider to another, standards again are important to making the digital network that supports the individual in the management of their health and care.

The standards that apply are often loosely collected into three groups.

The first group is Vocabulary or Terminologies, which are semantic code sets, nomenclatures, classifications or norms that provide a common language within systems to allow data structures to be common within and across all systems. Some of the standards that fit into this group across the breadth of healthcare technology are ICD (International Statistical Classification of Diseases and Related Health Problems), SNOMED (Systemised Nomenclature of Medicine), LOINC (Logical Observation Identifiers and Codes), UNSPSC (United Nations Standard Products and Services Code), ICCBBA (International Council for Commonality in Blood Banking Automation) and GS1.

The second group are Content standards, which define the specific structure of messages that occur between systems. This group can be further broken down between the messages related to clinical data and the messages that relate to the supply chain. The first subgroup most commonly uses HL7 (Health Level 7) whilst the second group most commonly uses GS1.

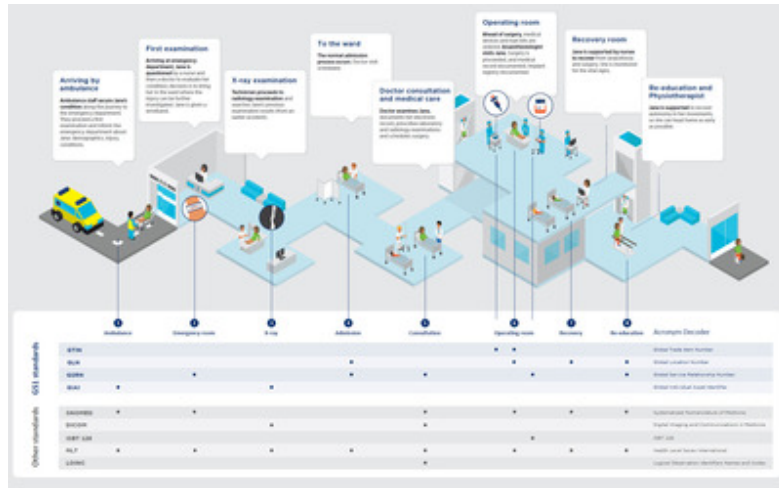
The third group are Transport standards, which are the format of messages exchanged between computer systems, the architecture, templates, etc. Depending on the standard and the circumstance, the message can be push or pull. The most commonly used standards in this area for clinical data are FHIR (Fast Healthcare Interoperability Resources) and IHE (Integrating the Healthcare Enterprise), whilst in the supply chain the most common is once again GS1.

A note should be made here that both ISO (International Organisation for Standardisation) and Standards Australia also have standards that often reflect the above-mentioned standards that are created and managed within other designated Standards Development Organisations (SDO's).

So many standards!

It is not uncommon for people to get overwhelmed in trying to work out which standards apply in what systems and under what circumstances. Some interoperability frameworks help to clarify this, but there is also work globally that ensures that all of these standards work together in a harmonised way, complementing each other and ensuring that they do create a truly interoperable health and care system for Australia and across the world. The Joint Initiative Council (JIC) helps to ensure this harmonisation, but if you want to understand how some fit together more simply the 'Cooperating standards in healthcare' developed by GS1 might help.

If you have further questions about how GS1 standards fit into Australian healthcare to enable a clinically integrated supply chain, please do not hesitate to contact the healthcare team at healthcareteam@gs1au.org



GS1 standards and other standards cooperating in clinical treatment scenarios.