Australian Government
Australian Digital Health Agency

AUSTRALASIAN INSTITUTE OF DIGITAL HEALTH

Enhancing understanding of the Digital Health Guideline

Connecting Care with Quality Data

Purpose

This guideline is intended for those working in healthcare in a variety of roles. Whether your work is clinical, administrative, research, or support, the guideline provides awareness and appreciation of:

1. the importance of data and the quality of data in health and care, and
2. the increasingly significant role it plays in **decision making** and enabling and **connecting care**.

The guideline can be used by individuals to obtain a better understanding and working knowledge of data and connecting services and care in healthcare. The guideline along with other guidelines that will be developed can be used to assist in building individuals' capability and confidence in using digital heath in whatever role they have in healthcare.

Organisations and professional bodies can use this guideline as a template for informing workforce development. It can be used as the basis for organisational resources which can be provided to staff. It allows key messages to be articulated in the importance of data quality and the role it plays in building trust and confidence in the system enabling decision making and connecting health services and care.

Content

The Australian Digital Health Capability Framework

This Guideline is a resource aligned to the Australian Digital Health Capability Framework (ADHCF). The ADHCF is a standard generic framework that is intended to inform and be relevant to workers in a range of health and care roles. It describes broad capability domains and statements to aid and assist individual and workforce capability development in digital health. This supports individuals to gain the skills necessary to employ and leverage digital health technologies in their healthcare roles, as the healthcare sector continues its **digital transformation**.

The Framework and this guideline are closely connected to the Australian National Digital Health Strategy which forms a strategic roadmap to harness digital technology's potential for advancing healthcare. The Quality in Data and its Importance in Connecting Care Guideline bridges the Standard pillars and the ADHCF by highlighting the pivotal role of data quality in achieving the strategy's objectives. It underscores how data quality is essential for safer, equitable, and connected care, user-valued services, and informed decision-making. By promoting awareness and appreciation of data quality's impact, the guideline aligns with the strategy's vision of leveraging digital health for a more efficient and effective healthcare system, guided by the competencies outlined in the ADHCF.

Linkage to Digital Health Capability Framework

The National Digital Health Capability Framework is a broad framework for workers in a range of health and care roles. It describes generic capability domains and statements to aid and assist individual and workforce capability development in **digital health**, and how individuals can perform best in their roles using digital technologies in healthcare.

The Guideline is a resource that aligns and supports the Digital Health Capability Framework particularly under domains C (Data and Information Quality), and D (Information Enabled Care and Services).

It complements and supports other resources, education, and guidance material developed or being developed that will ultimately provide resources and support to the broader healthcare workforce to lifting understanding and therefore capability as healthcare increasingly digitises.

Acknowledgements

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Key points to understand

- Data is the vital lifeblood for the health and care system. This is increasingly so as we continue to move towards digital systems and services.
- Data is critical in decision making and connecting care. Data is the critical element that supports having the **information** and insights to make decisions and to enable and connect care. It is not just about your work or service, but also where that information may be used by another practitioner, service, or administrator in the future.
- Your role is critical in ensuring quality of data. Your role in ensuring quality of data is critical to realising the value of data for other **health workers** and colleagues, patients and consumers, and the delivery of health and care services and its management and performance.

Data – why is it important?

Data is the vital 'lifeblood' of the health and care system. **Health data** is data which relates to a person's health, their interactions with the health and care system, and the administration of the healthcare system.

Data is varied and can be collected from any medical device used in health and healthcare settings. It can also come from patient generated data. This includes patient health records, studies about the health of groups of people, data from blood or tissue samples, imaging data, data about healthcare management and performance, patient/client satisfaction or experience, and data from health and fitness devices among others.

> "When we think digital - we need to think data. Data will be the lifeblood of the health and care system as we move to digital."

In the context of digital health, data is captured digitally by a range of systems and devices. As healthcare goes digital, the amount of data will significantly increase within the delivery of health services, as well as **personal health data** that individuals will have about themselves. This means that everybody working and accessing health and care provision should have an appreciation of data, how it creates information relied upon for decision making, and how critical it can be in supporting and managing people's healthcare and the services provided. When we work with digital systems, we create data.

From data, to information, to insights

The data and information that guides decision-making are of great importance throughout all management levels. This includes clinical data for patient treatment and care, the management and administration of health and care services, and also the facilitation of vital research and health promotion initiatives. It is key to the reinforcement of team-based and multidisciplinary care, and the empowerment of patients to take charge of their own health and care.

> "Data leads to information. Evidence and insights are provided in data and information for the knowledge to make decisions."

Information can be enhanced by combining relevant data from sources such as patient information, expert input, medical records, public health, or research. Insights from interpreting this data to create information allows meaningful decisions which may bring significant improvement to a person's treatment and care, managing the performance of a health or care service, or contribution to research or improvement.

Quality in data – this is where the value is created

We all play a role in ensuring the data we collect, manage, and use is of high quality. We have legislation, regulations, rules, and systems that govern and support this process. However, it can be difficult to complete these tasks without comprehending the significance of the quality of data.

The importance of quality data cannot be underestimated. Quality in data builds confidence and trust in the insights that we gain from good information. It provides the basis of the decision-making process and change. When we can rely on the quality of data, individuals can act confidently on credible evidence and trusted information.

Quality means that the data is captured and stored correctly, categorised appropriately, shared in a timely manner, governed appropriately, and can be viewed by others as relevant and reliable. **Data quality** is a measure of data characteristics such as accuracy, completeness, consistency, integrity, timeliness, validity, relevance, and avoidance of duplication. A way to remember this is through the acronym **DR AI CCTV**: avoid **D**uplication, ensure **R**elevance and **A**ccuracy, maintain **I**ntegrity, ensure **C**ompleteness, uphold **C**onsistency, deliver **T**imeliness, and ascertain **V**alidity.

The health and care system has significant amounts of data, and systems that collect data for a range of purposes. However, the benefits of this data and information are diminished due to ongoing challenges and issues with data quality, which then cause inefficiencies, double-handling, or potential harm.

Without each individual working in health and care playing their role in an approach to quality, the value of data reduces significantly, and trust and confidence in its use is lost.

> "Without quality data there is no trust in the information. If people don't trust information, they don't use it."

Data quality and safer practice

Correctly linking patient data across organisations and care providers is a key element of value-based care, patient safety, and care coordination. Duplicate or mismatched records can result in patient harm through; privacy risks, claim denials, redundant medical tests or procedures, identification errors, medication errors, medical misadventure, and reporting errors. All health and care professionals strive for safer practice – and data quality plays a critical role.

Health and care have clear standards on patient safety, associated data, and its reporting to support a system-wide culture of clinical quality and safety. In addition to State requirements, this is demonstrated through the accreditation process as defined by the National Safety and Quality Health Service (NSQHS) Standards which provide a nationally consistent statement.

Health and care organisations must have clear security and privacy practices in place to inform the management and release of personal information. These obligations require that personal information is appropriately managed and used for the purposes it is collected, and that systems and data are managed securely and that no one (organisations or individuals) can access and share data inappropriately.

Importance in enabling and connecting care

As patients become more mobile and data becomes more accessible, linking information across health services, practitioners, patients, and consumers is a significant advantage and benefit of digital health.

The importance of enabling and connecting care across a patient's care journey, including **remote monitoring**, supporting a multi-disciplinary and teams-based care approach for clinical services, and linking services for a better experience for practitioners, patients, and their family and carers is important in striving for value-based care.

Enabling improvements to connect care through a range of systems including the My Health Record, single digital patient records, electronic prescribing, integrated medical imaging systems are all underway with further benefits to be realised.

Data and information which follows the patient and consumer across health and care interactions with the many health providers and practitioners they may encounter is a key opportunity to better enable connected care.

> "Trusted data which follows the patient across health interactions with the many health providers and practitioners they encounter is the most important enabler to link and connect care."

Patient/Consumer expectations in managing personal data

Patients/consumers have expectations that their personal data and health information is collected, stored, used, disclosed and managed appropriately by health organisations and providers.

Consumers have the expectation and right to own their data, control access, and request amendments or notations be made.

Anyone working with patient/consumer data must be aware of:

- **Data health privacy** - users should be aware of their obligations as it relates to the Privacy Act and Australian Privacy Principles.
- **Consent** - obligation that consent is considered in the collection of any data and use of data.
- **Security** - responsibility of every individual involved in handling health data to understand threats to data security.

There are cultural and geographic requirements highlighted within professional standards such as cultural safety and appropriateness, data sovereignty as it relates to borders and Aboriginal and Torres Strait Islander peoples and working with regional and remote areas and communities.

Individual health and care workers need to understand they play a role in **stewardship** of personal data, ensuring we manage it appropriately. Managing personal data and information in an appropriate way builds trust and confidence in the health and care system. This trust contributes to our efforts to personalise and improve the consumer experience of health and care services.

Digital transformation – the future of health and care

Health and care already see many advanced applications of digital health and the use of data, including the ability for real-time decision making, predictive analytics, personal generated health data.

If we agree that now and into the future, health and care will increasingly be digitally enabled and that business service and care models will revise and change, we can also understand how important that data becomes for the effective and safe management of healthcare. It enables and facilitates the move towards better quality health and care outcomes for individuals, practitioners and the health system.

When health and care providers have access to a patient's up-to-date health data, they can provide more efficient, higher quality, safer and more personalised care, with better care coordination. Patients looking at their own health data can gain insight into how their own health is evolving over time and can act accordingly and work together with their health team.

When quality data exists, so do opportunities that are highly beneficial, in a range of ways, to enhance healthcare service delivery, health improvement, health research and innovation.

Next steps

1. Reflect on your role in health and care and when you use data and how that relates to others decision making and experience – whether it is another team member, health care practitioners, patient, or consumer.

2. Understand your organisational policy and regulatory requirements for managing data and information – particularly as it relates to safer practice, security, and managing people's privacy and confidentiality.

3. Look to supporting information and resources for managing data and information in health and care. Review the Australian Digital Health Capability Framework and self-assessment tool for the types of areas we need to consider in our roles when it comes to digital in healthcare.

4. Look to further education and training opportunities that may be available within your organisation or through professional bodies or education and training you can do personally.

Glossary

Health Data	Health data is anything which relates to a person's health, their interactions with the health and care system, and the management of the healthcare system. Data can be observations or other recordings that are collected as a source of information or as a basis for understanding, reasoning, discussion, or calculation relating to a person's health, which broadly encompasses the states of physical, mental and social wellbeing.
Information	Information can be defined as data that has been organised, processed, or structured in a meaningful way to provide context, relevance, and value to a user.
Decision making	Decision making is the process by which a person arrives at a decision, blending knowledge, experience, and intuition.
Digital Health	Digital health is an umbrella term referring to a range of technologies that can be used to treat patients and collect and share a person's health information. (AIHW). For the AIDH, Digital Health can be defined as health and healthcare in the context of digital societies. (Rowlands 2020). That is, as we are increasingly becoming digital, the use of digital technologies, applications, systems, and data will be common places and business as usual in health and care provision.
Digital Health Data	In the context of digital health, it is the data captured digitally by a range of systems and devices.
Health worker	In the context of this Guide, health worker is intended to be anyone working in health and care, whether clinical, administrative, technical, research, education, or support.
Healthcare organisation	Any organisation that manages, coordinates, or has responsibility over the policy, funding, and delivery of healthcare. These include Government Departments, public and private hospitals, primary care practices, aged and community care providers, pharmacy, pathology and diagnostic services, research and education.

Glossary

Data Quality	Data quality is the degree to which a given dataset meets a user's requirements. In the healthcare system, poor quality data can lead to poor patient care, negatively affect the validity and reproducibility of research results, and limit the value that such data may have for public health surveillance. (National Institutes of Health USA).
Personal health information	Personal information includes a broad range of data including an opinion, that could identify an individual. What is personal information will vary, depending on whether a person can be identified or is reasonably identifiable in the circumstances. Health information is personal information about your health or disability. It includes information or opinion about your illness, injury, or disability. (OAIC)
Connecting care	In the context of this guide, connecting care is the process where data and information is connected across health providers to inform decision making, clinical decisions, and ease of process. Connecting and linking care supports patient centred care where the information follows the patient and is also shared and accessible to the patient by health practitioners as part of the care team.
Data Stewardship	Data stewardship is the collection of practices that ensure an organisation's data is accessible, usable, safe, and trusted. We all play a role in data stewardship as part of our work.
Digital transformation	Digital transformation is the integration of digital technology into all areas of a business, fundamentally changing how you operate and deliver value to consumers and their communities. It's also a cultural change that requires organisations to continually challenge the status quo, experiment, and get comfortable with failure.
Remote patient monitoring	Digital technologies used to collect health data from a patient in one location and electronically transmit data for storage and review by their health care provider. May include a range of wearable technologies, implanted devices, and/or handheld instruments

Extra reading

- About health data, Department of Health and Aged Care https://www.health.gov.au/topics/health-data-and-medical-research/about-health-data
- Healthcare quality and performance, Australian Institute of Health and Welfare https://www.aihw.gov.au/reports-data/health-welfare-overview/health-care-quality-performance/health-performance-overview
- Health data quality, Department of Health Victoria https://www.health.vic.gov.au/data-reporting/health-data-quality
- A Guide to using data for healthcare quality improvement, Agency for Clinical Innovation https://aci.health.nsw.gov.au/__data/assets/pdf_file/0006/273336/vqc-guide-to-using-data.pdf
- What is digital health, Australian Institute of Health and Welfare, https://www.aihw.gov.au/reports/australias-health/digital-health#What%20is%20digital%20health
- What is digital health, Australian Institute of Digital Health, https://digitalhealth.org.au/ what-is-digital-health/
- Health Information, Australian privacy law has strict rules about how a health service provider can collect, use, and disclose your health information. Office of the Australian Information Commissioner, https://www.oaic.gov.au/privacy/your-privacy-rights/health-information