

# ICT Testing

## Department of Health Policy

QH-POL-439:2024

### 1. Statement

The Department of Health approach to ICT testing contributes to improving quality outcomes over the full lifecycle of ICT products and services and supports the Queensland Health vision, strategic planning activities, and performance objectives.

### 2. Purpose

The purpose of this policy is to ensure that:

- the Department of Health implements quality ICT products and services that are tested efficiently and effectively as standard practice.
- the reputation of Queensland Health business operations is preserved, and not adversely impacted by the implementation of new or changed ICT products and services.

### 3. Scope

This policy applies to all employees, contractors and consultants within the Department of Health divisions and business units.

This policy covers the implementation of new or changing ICT products and services.

This policy can be used by Hospital and Health Services either as is, by re-branding or as a basis for a Hospital and Health Service's specific policy.

### 4. Principles

**Do not overlook:** Testing is integral to quality management throughout project and service lifecycles.

**Context appropriate:** Testing is responsive, measured and proportional depending on context.

**Communicated:** Testing is communicated to relevant stakeholders in a standard, consistent and timely manner.

**Traceability:** Testing is able to demonstrate traceability to test coverage objectives.

**Product risk assessment:** Risk mitigation is achieved by reducing product risks according to an agreed test approach.

**Value add:** Testing adds value and is managed as an asset.

**Continuous improvement:** Testing processes are subject to continuous improvement.

**Auditability:** Testing is auditable. Testing information is standardised and consistent.

**Data privacy and security:** Privacy and security of data is protected to meet legislative requirements.

## 5. Requirements

**5.1** The Department of Health's processes that support implementation of ICT products and services trust and rely upon testing to inform decisions. Testing is to commence early in the project and service lifecycles and continue where appropriate across the full lifecycle to contribute to quality.

**5.2** An assessment to determine the requirement to test ICT products and services must be guided by good testing practices and is to be structured, managed, performed and documented to achieve testing objectives depending on contextual attributes. Contextual attributes may include:

- health software safety classification
- statutory obligations including statutory reporting
- contractual obligations
- identified product risks (e.g., Patient safety)
- organisational priorities and obligations (e.g., cyber security, and service continuity)
- customer priorities (e.g., service criticality, prioritised requirements, quality ambition, schedule and cost).

**5.3** Information about testing that is relevant and appropriate to each stakeholder or stakeholder group must be communicated in a standard, consistent, and timely manner. (E.g., business and clinical engagement).

**5.4** Testing should add value, therefore testing assets must be developed, appropriately managed and re-used for the long-term benefit of Queensland Health. Examples of testing assets include:

- test management processes
- defect management processes
- testing tools and techniques

- test strategies and plans
  - test cases and checklists
  - automated tests
  - test records, data and metrics
  - test reports
  - test environments.
- 5.5 Continual process improvement must be applied to the planning, design, execution and management of testing. Appropriate metrics must be captured to inform the improvement process.
- 5.6 Testing records must exist for all testing and are to be retained and available for audit purposes in accordance with the Department of Health or Hospital and Health Service recordkeeping policy. Testing information retained is standardised and consistent.
- 5.7 Operational (production) databases containing security classified information, or any personal/private information should not be used for testing purposes. If they are to be used for testing
- all sensitive details including clinical information (i.e., personal, financial or medical information) and content must be removed or modified beyond recognition before use, or
  - all involved risks must be assessed and accepted by the Data Custodian. Security of information is to be maintained at the same level of operational (production) information security.

## 6. ICT Testing Framework

Testing is not an isolated, ad hoc activity, but a necessary activity throughout the lifecycle of both ICT products and services. Testing should be informed by a testing framework (typically comprised of test processes, templates, tools and techniques) that ensures testing activities are conducted in an efficient and effective way.

For guidance on designing a testing framework compliant with the Department of Health ICT Testing Policy refer to the [eHealth Queensland Testing Framework](#) which is available to the other Department of Health divisions and HHSs to adopt or adapt as required.

For more information on ICT Testing please visit <https://qheps.health.qld.gov.au/icttesting>.

## 7. Human rights

Human rights are not engaged by this policy.

## 8. Legislation

- *Financial Accountability Act 2009*
- *Hospital and Health Boards Act 2011*
- *Information Privacy Act 2009*
- *Public Records Act 2002*
- *Public Sector Act 2022*

## 9. Supporting documents

- Definitions for ICT Testing Metrics Standard
- Data and application custodianship Policy
- Data and application custodianship: Roles and responsibilities
- Health Software – Part 1: General requirements for product safety (IEC 82304-1:2016)
- ICT Procurement Standard
- ICT Service Continuity Management Policy
- ICT Service Continuity Management Standard
- Information Security Policy and supporting standards
- Medical Devices - Application of risk management to medical devices (ISO 14971)
- Medical device software – Software life cycle processes (IEC 62304)
- Software Testing (ISO/IEC/IEEE 29119-1:2022)
- Standard for Software Reviews and Audits (IEEE 1028)
- Use of ICT services and devices Policy and supporting standards.

## 10. Definitions

Term	Definition
Business owner	A position designated with accountability for acceptance of an ICT product and/or service as 'fit for purpose' for use by the relevant Queensland Health business.
Data Custodian	A position designated with overall accountability and responsibility for decision making in relation to the data set, data collection and/or application allocated and the ongoing capture, compliance, development, management, care and maintenance of data to support business needs. (Source: Data and application custodianship roles and responsibilities)
Department of Health	The Department of Health is responsible for the overall management of the public health system in Queensland, including monitoring the performance of HHSs. (Source: Queensland Health organisational structure)
Health software	Health Software products are intended by their manufacturer for managing, maintaining or improving health of individual persons, or the delivery of care. (Source: IEC 82304-1:2016)
Health software safety classification	A classification which may be assigned to health software under the international standard <i>IEC 62304 – Medical device software – Software life cycle processes</i> . A software safety class (A, B, or C) may be assigned according to the possible effects on the patient, operator, or other people resulting from a hazard to which the software system can contribute.
Hospital and Health Service (HHS)	A Hospital and Health Service established under Section 17 of the <i>Hospital and Health Boards Act 2011</i> .
ICT	Information and Communication Technology
ICT products and services	ICT products and services generally cover all types of technology (data, voice, video, etc.) and associated resources, which relate to the capture, storage, retrieval, transfer, communication or dissemination of information through the use of electronic media. All resources required for the implementation of ICT are encompassed, namely equipment, software, facilities and services, including telecommunications products and services that carry voice and/or data. (Source QGCIO Glossary)
ICT testing	ICT testing activities are defined as actions intended to check the quality and/or suitability of ICT products and services, before putting them into widespread use in production.

Term	Definition
Queensland Health	Queensland Health refers to the public healthcare sector and comprises of the Department of Health and sixteen independent HHSs.

## 11. Approval and implementation

Policy Custodian	Policy Contact Details	Approval Date	Approver
Dr Tanya Kelly	Test_Assurance@health.qld.gov.au	12/08/2024	A/Deputy Director General, eHealth Queensland.

## Version control

Version	Date	Comments
1.0	23 January 2017	New policy
2.0	14 January 2020	Formal review. The following changes were made to the policy: Value add principle and requirement added. Data privacy and security principle and requirement added. Risk-based principle removed.
3.0	12 August 2024	Cyclic review undertaken. The following changes were made to the policy: Purpose updated to include wording around preserving the reputation of the organisation. A new policy principle added: "Product risk assessment: Risk mitigation is achieved by reducing product risks according to an agreed test approach". 5.4: Examples of testing assets added – techniques, and test environment. Approved by the Architecture and Standards Committee. Approved by the Deputy Director-General, eHealth Queensland.