



Connected Health Principles

Version 2.1

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1 Introduction

Connected Health is establishing an environment for the safe sharing of health information by delivering standards, frameworks and core network components to create a foundation for an interconnected health network where applications will be able to interoperate.

This document describes a set of principles to which suppliers of Connected Health certified products and services need to adhere. These principles have been developed in consultation with the industry. The purpose of these principles is to ensure that services and products are installed and operated in a manner that supports the Connected Health objective of safe sharing of health information.

Suppliers must agree and adhere to these principles to be eligible to obtain Connected Health certification for services or products.

The principles cover requirements suppliers need to meet when providing services or products that support the secure delivery or sharing of electronic health information. These include:

- Agreeing to follow the accreditation and certification processes, and submitting Health ICT products and services for certification
- Providing appropriate levels of security and interoperability
- Complying with the Connected Health architectural principles as outlined in the Connected Health Architectural Framework (refer section 4.1 for reference).

Suppliers who are confirmed as meeting these principles can become Accredited Suppliers.

They will be accredited to market and operate certified Connected Health products and services once their agreement to abide by the Connected Health Principles is confirmed.

2 Terminology

The following terminology outlines key definitions that relate to certification.

Accreditation Agreement	Document that confirms the supplier has agreed to the connected Health Principles and Operational Policy. Created during Accreditation.
Accredited Supplier	Suppliers who have been approved to be Connected Health suppliers of product and services to the NZ health sector via the Accreditation process.
Certification Authorities	Agencies who conduct the certification of products against the Connected Health standards, and who may be external or internal to the Ministry.
Connected Health / Connected Health Team	The Ministry of Health programme or business entity that implements and supports improved network inter-connectivity for the health sector, facilitating the delivery of improved network resources to health providers.
Connected Health Product	A product or service that has been certified as meeting the Connected Health standards of suitability and general, technical, and procedural compliance.

Connected Health Tiers	<p>The Connected Health architecture is divided into three technology tiers:</p> <p>Tier 1: Connectivity – the telecommunications infrastructure for network access and inter network links.</p> <p>Tier 2: Services – the telecommunications infrastructure for network access and inter-network links. Products and services in this tier include private IP telecommunications, connectivity and public broadband access.</p> <p>Tier 3: Applications – provide health care information management, e.g. patient management systems, radiology systems, pharmacy information and claims, GP referrals, hospital discharges, etc.</p>
Industry	All suppliers who provide connectivity products, services, or applications to the health sector.
Internet Protocol (IP)	A widely adopted and standardised computer communications protocol used to enable computers to be networked and to communicate by transferring information between them.
Network-to-Network Interface (NNI)	An interconnection point between IP carrier networks. NNI1 is an interconnection between private networks and NNI2 is an interconnection between private and public networks.
Points of Interconnection (POI)	A peering point for national Telecommunications Service Provider private health networks.
Point-to-Point Tunnelling Protocol (PPTP)	A protocol used to implement virtual private networks.
Post Office Protocol (POP)	An application-layer Internet standard protocol used by local e-mail clients to retrieve e-mail from a remote server over a TCP/IP connection.
Product and Service Certification	<p>The process of confirming a Connected Health product or service meets predetermined specifications for compliance.</p> <p>The Ministry of Health issues a Product or Service Certificate if the product meets the specifications, and the supplier is an Accredited Supplier.</p>
Sector	The New Zealand health and disability sector – wide grouping of organisations involved in the delivery and management of healthcare within NZ.
Telecommunications Service Provider (TSP)	A provider of telecommunications services (Telephone, Network, Internet services etc.) to the New Zealand public, private, commercial and government sectors, and which has a network licence as defined under the Telecommunications Act 2001.
Transit TSP	A TSP that carries network data between POIs.

User-to-Network Interface (UNI)	The connectivity product/service that connects a subscriber to the Connected Health network. This is the physical and logical IP connectivity to the network from one of the end points, such as a single PC or large private network.
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3 Connected Health Principles

There are three groups of Connected Health principles, as follows:

1. **Foundation Principles**, which form the understanding with suppliers about the operation of accreditation and certification. See **Connected Health Foundation Principles** on page 5.
2. **Architecture Principles**, which govern the structure and design of the products and services provided by Connected Health. See **Connected Health Architectural Principles** on page 6.
3. **Implementation Principles**, which must be followed to implement an interconnected Connected Health “network of networks” based on the Connected Health Architectural Framework. See **Connected Health Implementation Principles** on page 8.

In addition, Connected Health products and services must adhere to the **Health Network Code of Practice** (refer section 4.3 for reference) which ensures that suppliers and suppliers products and services adhere to the accepted standard for communicating Health Sector information.

3.1 Connected Health Foundation Principles

The Connected Health foundation principles are:

1. Suppliers agree to adhere to the Connected Health Principles before they can offer certified Connected Health products or services

By signing the Connected Health Accreditation Agreement, suppliers agree to abide by the Connected Health Principles as specified in this document. Once suppliers have signed the Accreditation Agreement they will be accredited and be able to submit products and services to the Connected Health Team or Certification Agencies for certification.

2. Suppliers will follow the Supplier Accreditation and Product and Services Certification processes

Suppliers agree to follow the supplier accreditation process to become accredited and the product and service certification processes to certify products where applicable Connected Health standards exist.

3. The Connected Health Team will undertake audits of Accredited Suppliers' adherence to the principles

Accredited Suppliers agree to undergo audits conducted by the Connected Health Team or external auditors engaged on their behalf, to ensure that they are complying with the accreditation criteria. The supplier and the Ministry will each cover their own costs for any audit. The Ministry will cover the cost of any external audit agency.

4. Certifiable products and services will only be offered to the sector once certified

Suppliers agree not to advertise, market or contract certifiable connectivity products until these products have been certified.

Suppliers agree not to advertise, market or contract products or services to the sector that directly conflict with the goals and objectives of Connected Health.

5. Promotion of Connected Health certification rather than accreditation

Accreditation is between the Connected Health Team and the supplier. Suppliers will not promote the fact that they are accredited, but are encouraged to promote Connected Health certification of their products or services.

6. Public Comment on Connected Health

Suppliers will not make public announcements that conflict with the Connected Health Principles. If difficulties are encountered with any aspect of the Connected Health accreditation framework, then such difficulties should be raised directly with the Connected Health Team.

3.2 Connected Health Architectural Principles

The Connected Health architectural principles are:

1. Disaggregation

Services or products provided across one or more of tier 1, 2 and tier 3 must NOT be delivered in such a way that they provide exclusive services only to those sector organisations that buy bundled or integrated services across any two tiers. All Tier 1 products must have access to all Tier 2 and Tier 3 products/services no matter which supplier supplies the services in any tier.

2. Openness

Any system, product, service, or network, that shares, receives, or transmits health information, is designed on the premise that all applications and services provided on that network are equally available to all participating suppliers and sector organisations. No technology, infrastructure, application, or connectivity capability may be offered that specifically excludes certified products or services, from Accredited Suppliers or sector organisations.

3. Commercial Bundling

Suppliers may market products as bundled offerings, provided there is no conflict with the Disaggregation and Openness principles above. Suppliers will not use market dominance of products or services in one tier or application to leverage custom for products and services in other tiers or in other application specialties. Any bundled products or services must also be available as individual offerings.

4. Integrated Services Access

Sector organisations must be able to access certified services and other non-certified health related network services on a single network service point, should they require it. Examples of non-certified health related network services are: high speed internet, IP voice and point-to-point encrypted links to third party entities.

5. Standardisation

All Connected Health certified products and services will be based on international and/or New Zealand industry standards, as determined by the Ministry of Health.

6. Security

All patient data transported at any point on networks must comply with the Health Network Code of Practice (HNCOP) and the Health Information Security Framework 10029 (HISF) (or their eventual replacement) for encryption, and source and destination confirmation.

7. Authentication and Authorisation

All applications and services that provide any level of access to health information must ensure users and systems are properly authenticated in accordance with the HNCOP and the HISF (or their eventual replacement). Authorisation for access to clinical applications must be provided by the owner of the application.

8. Performance

Network end points need to subscribe to bandwidth and access technologies that reflect the level of service required to either provide or consume services within the sector.

9. Defined Interface points

All connections to telecommunication networks need to use defined interfaces (e.g. UNI, NNI) that determine the minimum interface requirements and the interconnection characteristics associated with that particular level of interface.

10. Availability

End-points must ensure that the reliability, availability and serviceability characteristics of their access to health organisations and applications reflect the nature of the services they use or supply to the sector.

11. Standards based IP Infrastructure

Suppliers must use only best practice implementation of HISO endorsed standards to ensure an enduring core IP infrastructure.

12. Differentiated Services

Health organisations must be able to subscribe only to those services they require and that can be delivered on the telecommunications infrastructure available to them. Organisations must not be forced to subscribe to a high-quality UNI if the services they require do not warrant such connections.

13. Management

Individual services will be managed by accredited service providers. A service management capability must be delivered by these providers, so that levels of service offered are managed to agreed performance targets, security and privacy.

14. Extensibility

The products and services must be designed so that there are no artificial restrictions to expanding available suppliers, services, technologies, and connected sector organisations.

For more details, refer to the Connected Health Architectural Framework.

3.3 Connected Health Implementation Principles

To implement an interconnected Connected Health “network of networks” based on the Connected Health Architectural Framework, a number of key principles must be followed. These are:

1. Telecommunications Service Providers (TSPs) are to be registered

To be accredited to provide products or services using telecommunications networks the provider of that product or service must be a registered network service provider as defined under the Telecommunications Act 2001 (refer section 4.2 for reference) – i.e. a TSP.

2. Only Accredited TSPs are to be used to connect to the Connected Health environment

Organisations of any sort, including application service providers providing services involving transmission or sharing of health information to, or between, health sector organisations, must connect to the Connected Health environment via an accredited TSP.

3. TSPs must support a minimum of one UNI and one NNI

An accredited TSP must support at least one certified UNI and either an NNI 1 or an NNI 2 as appropriate to the UNI types supported.

4. TSPs must be able to route to Connected Health Points of Interconnection (POI)

Any TSP supporting UNI 4 or UNI 5 (as described in the Connected Health Architectural Framework) must support an NNI1 and either connect to all defined Connected Health POIs, or use the NNI1 to connect to an accredited Transit TSP, which by definition connects to all defined Connected Health POIs.

A Connected Health Transit TSP supports NNI1 interfaces and connects to any accredited TSP and all defined Connected POIs.

Any accredited Connected Health TSP can offer transit services on a commercial basis.

4 Reference documents

4.1 Connected Health Architectural Framework

http://www.healthit.org.nz/download/files/CH_Architectural_Framework_v1.0_Published.pdf

4.2 Telecommunications Act 2001

Telecommunications Act 2001 No 103 (as at 07 July 2010), Public Act

http://www.legislation.govt.nz/act/public/2001/0103/latest/DLM124961.html?search=ts_act_Telecommunications_rese&p=1&sr=1

4.3 Health Network Code of Practice

Published by Standards New Zealand (Reference Number: SNZ HB 8169:2002)

Note: the above URLs were verified as correct on 11-May-2010