

Health Information Strategy for New Zealand

# ACTION ZONE 1 NATIONAL NETWORK STRATEGY: AN INITIAL VIEW

This document is an initial HISAC view of the “National Network Strategy” Action Zone of the *Health Information Strategy for New Zealand 2005*. It aims to stimulate discussion and responses from health practitioners, providers and funders about the issues and opportunities associated with the better use of existing and emerging information technologies and management systems in the health sector.

If you have a view on the ideas presented below, HISAC wants to hear from you.

While this initial view focuses on a secure, electronic, national health network, the National Network Strategy Action Zone will also look at other opportunities to improve the quality and speed of sector communications, including voice, data, imaging and video.

## A VIEW OF A NATIONAL NETWORK IN THE FUTURE

**VISION:** Participants in the New Zealand health and disability sector can easily, effectively and reliably communicate over a secure network in a secure environment.

**STRATEGY:** Implement a national approach to improving the quality, speed and cost effectiveness of sector communications for voice, data, imaging and video, using secure networks.

### DESCRIPTION OF A NATIONAL NETWORK

HISAC anticipates a National Network for the whole health and disability sector will be a “national health network community”:

- that provides real-time and messaging connectivity between all health practitioners, providers, funders and policy makers to facilitate improvement in health outcomes for New Zealanders by ensuring “the right health information is in the right place at the right time” for clinical, administration, and planning decisions;
- whose sector governance is committed to continual development and upgrading of the electronic network in light of expectations and technology developments;
- which all health practitioners and providers, whether they are large hospitals, independent clinicians, or NGO providers, can join and easily use as necessary to maximise opportunities to improve health outcomes through e-Health.

A “national electronic health network” that meets the performance and security requirements of the “national electronic health network community”, is cost effective, and provides an infrastructure that encourages the development, and use, of applications by users that will achieve the network’s objectives.

### FEATURES OF A NATIONAL NETWORK

HISAC anticipates that a National Network for the whole health and disability sector may include:

1. A common underlying infrastructure for secure, reliable, cost effective, easy-to-use connectivity between all health and disability sector participants in New Zealand.
2. An environment that fosters collaboration and information sharing between hospitals, general practitioners, laboratories, pharmacies and other health providers and funders.
3. Effective governance and management processes that ensure implementation of appropriate standards, policies and audit procedures to ensure ongoing confidence in the infrastructure by the community of participants.

4. Appropriate privacy, authentication, and security processes.
5. Commitment to the review and implementation of future technologies and services as they become available.
6. Inclusion of alternative services for telehealth and the use of alternative devices such as PDAs.
7. Provision of the underlying connectivity layer to facilitate sharing health information with examples including but not limited to:
  - the ability to easily and reliably communicate information in a pandemic situation to all health practitioners;
  - providing connectivity of general practice to the rest of the health sector for administrative and clinical transactions;
  - the ability to easily add and deploy health applications across the network in a controlled and secure manner;
  - the ability to easily and reliably make available applications such as telemedicine and voice;
  - the ability to make available to sector participants solutions that address key clinical end points such as chronic disease programmes;
  - improved delivery of information and reporting to sector individuals and systems with appropriate role-based access controls;
  - delivery of key event summaries to point of need/care;
  - allowing for significant value to be delivered to the aged care sector and community care workers, while reducing acute care costs by allowing increased opportunity to age-in-place;
  - the ability to deliver connectivity for mobile community care workers;
  - delivery of radiology imaging to point of need or care;
  - an environment to foster education and communication of health professionals, especially in remote locations, thus encouraging longevity of tenure and lower staff turnover;
  - supporting service reconfiguration within regions or sub-regions by providing the necessary infrastructure to ensure the required exchange of health information can be delivered;
  - supporting improved chronic disease management, eLearning, reduced costs, telemedicine, and ultimately better patient outcomes.

### BENEFITS

HISAC has identified the following potential benefits to stakeholders from the implementation of the National Network Strategy.

1. Increased ability to deliver on health and disability strategies requiring health sector collaboration,

health sector information sharing and improved information delivery at point of care.

2. Improved collaboration between health practitioners leading to better coordination of care.
3. The ability to communicate rapidly, efficiently and effectively, with all sector stakeholders, ensuring consistency of information and that all health workers are always working with up-to-date information.
4. Greater sharing of information and knowledge within the sector with information accessible where and when it is needed in a secure and reliable manner.
5. Potential cost savings from the ability to increase speed, efficiency and effectiveness of systems and reduce the use of paper-based transactions.
6. The effective delivery of eLearning and other on-line services to assist and support rural health provision.
7. A wider scope for the development and deployment of more, and enhanced, user applications.
8. The ability for health practitioners and patients to remotely access their information in a secure manner (e.g. from home).
9. Consumers receiving better value from a health and disability sector that has access to accurate information when required to support their treatment and services.

## WHAT HAPPENS TODAY

The Ministry of Health, ACC, DHBs, hospitals, PHOs, 30 percent of general practice, and other primary care organisations, over 600 organisations in total, are subscribing to and using the New Zealand Health Network. This consists of virtual private networks (VPNs) operating and linked nationally under the Health Network Code of Practice standards.

- There is a high level of connectivity in the sector, but it is disparate, not well orchestrated, and limited to discrete uses.
- The New Zealand Health Network supports a range of sector transactions. For a variety of reasons, the sector is not utilising all the available facilities nor reaping all the benefits. Affordability and availability in some areas continue to be issues. The current high cost of higher bandwidth (ie >2Mb/sec) is a barrier to the adoption of the New Zealand Health Network for a range of applications such as application hosting, video-conferencing and voice. In the area of community care, increased investment in thin client technology will be a prerequisite to connectivity.
- Further national infrastructure investments are required to ensure access to the 'doorstep' in a number of rural and remote communities. Similarly the sector needs to coordinate and leverage whole-of-government initiatives, such as PROBE, that

seek to enable electronic service delivery in New Zealand.

- While the availability of expanding and alternative technology such as wireless has been acknowledged, the current standards for the use of secure networks have not been reviewed to take advantage of this technology.

## EXISTING HEALTH NETWORKS

As well as the New Zealand Health Network, the New Zealand health and disability sector is using a number of other electronic health networks, in particular:

- *HealthLink* – this extensive New Zealand-wide EDI network connects the majority of primary and secondary providers and funders and is used for claims and exchanging laboratory and x-ray results, and discharge summaries.
- *NZ Telepaediatric Services Network* – a dedicated video conferencing system connecting some 50+ end points.
- *Mobile Surgery Services* – a fixed radio-based network connecting various health providers for telepresence video conferencing.
- Various ISDN networks for video conferencing are in place.
- Various provider-based networks (Hawkes Bay, Mid-central, Lakes District Wireless Primary Care Network, Pegasus primary health care networks).
- Various inter-regional DHB networks typically based on fixed high-speed connections.
- Multiple intra-DHB networks utilising various mediums. Fixed (layer 2/3 carrier services, dark or grey fibre), mobile (cellular), wireless (paging, Wifi, limited WiMax) and a variety of radio and microwave technologies.

## AREAS FOR IMPROVEMENT

This initial outline of current weaknesses is derived from HIS-NZ as published in August 2005 and from further stakeholder feedback and discussion. Some of the problems are generic to the health system as a whole and others are specific to the National Network Strategy Action Zone.

While the weaknesses can be regarded as national, there are some local environments that display good examples of overcoming them.

1. Current electronic health network options available provide varied features, capability, applications, integration, interoperability and levels of security with varying approaches to design, implementation and costs. There is fragmented sector adoption of connectivity and disparate uptake of broadband and applications across the sector.
2. Because of this disparate uptake across the sector, the value proposition of the current secure broadband electronic health network (New Zealand Health

- Network) is not accepted nor understood by all participants in the sector. As a result, the sector is not able to maximise the opportunities of the latest network technology and service offerings.
3. The current New Zealand Health Network governance, standards, security policy, implementation, audit processes and capabilities will not support a next-generation whole-of-health electronic network.
  4. The current New Zealand Health Network design, architecture, investment, procurement, implementation, management, support and marketing approaches will not support a next-generation whole-of-health network.
  5. Current networks are not all compatible with each other, and in some cases their “proprietary” nature may hinder the interoperability necessary to achieve the desired real-time transaction and communication capabilities necessary to support the delivery of a wider range of services and exchanges of information across the whole health sector. An overall interoperability framework is required to ensure the sector gets what it needs.
  6. The Health Network Code of Practice needs to be reviewed, the privacy, authentication and security framework (PAS) needs to be implemented, and other standards are required to put in place the overall interoperability framework.
  7. Appropriate levels of security are not implemented universally across the whole health sector; nor are there effective mechanisms in place to assist and encourage participants to implement appropriate security solutions or comply with sector standards.
  8. Realising value from a national electronic health network is dependent on the availability of network applications for users. These applications will only be developed and implemented when the network is extensive. This “chicken and egg” situation requires sector leadership and investment in applications ahead of demand.
  9. Within the health and disability sector the value of the Health Network does not always accrue where the costs are incurred.

## WHAT HAPPENS NEXT

Responsibility for implementing the *Health Information Strategy for New Zealand* lies with the whole health and disability sector under the leadership of HISAC. During 2006, HISAC will work closely with the sector and its representatives to prepare more detailed descriptions of current problems and practitioners’ priorities for improvements. If you have any ideas as to how the National Network Strategy initiative could be developed, please communicate with HISAC through [enquiries@hisac.govt.nz](mailto:enquiries@hisac.govt.nz) or write to:

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17 May 2006

## AN INDICATIVE DIAGRAM OF A VIEW OF FUTURE CONNECTED HEALTH

This indicative diagram represents a particular view; final versions of a future state diagram may show different attributes.

