

## Health Information Strategy for New Zealand

### HISAC, THE HEALTH INFORMATION STRATEGY ACTION COMMITTEE

## Action Zone 12 - The Anchoring Framework

### An Initial View

This document is an initial HISAC view of the 'Anchoring Framework' Action Zone of the *Health Information Strategy for New Zealand 2005 (HIS-NZ)*. Its purpose is to stimulate discussion and responses from health and disability sector practitioners, providers and funders, about the issues and opportunities associated with the improved use of existing and emerging information technologies and information management systems in the health and disability sector.

This Initial View is a HISAC informed 'Straw Man' and it does not claim to represent the final direction of the Action Zone. The Initial View is a starting point for the sector informed Preliminary Scope and Approach currently being prepared, by proactive engagement with the sector, for each Action Zone.

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

This initial view focuses on a framework to enable improved information sharing and interoperability within the sector, supporting interactions that are appropriate and meaningful, as well as consistent, reliable, secure and cost effective.

The framework focuses on the 'what' not the 'how' i.e. it identifies the platform or framework but does not necessarily prescribe how the platform will be used.

It underpins all other HIS-NZ Action Zones by identifying and incorporating the architectures and standards required to support their implementation.

## A VIEW OF THE ANCHORING FRAMEWORK

### VISION

Improved health information through an information sharing framework comprising agreed principles and standards.

### STRATEGY

Develop and implement a framework for the identification, prioritisation, coordination and governance of key enablers for information sharing and interoperability within the Health and Disability sector, including (but not limited to) standardised architectural and data models, business processes, information technologies and usage principles and policies.

## RELEVANT HIS-NZ THEMES

A key message that can be derived from HIS-NZ is 'the right information, provided to the right people, at the right time, in the right place, in the right format, at an efficient cost'. Themes that emerge from HIS-NZ in support of this, relevant to the Anchoring Framework, are:

- Shared distributed electronic health information
  - A large, single system or database for health information operating at a national level is not considered desirable or attainable in the near future. Information is captured (acquired and stored) at varying levels of detail according to the decisions that need to be supported at the local level. Different electronic medical record systems are used across the sector.
  - Appropriate re-use of information captured at point of care (or entry) is desirable. Health Event Summaries (HESs) related to individuals' and patients' health care events are the starting point for improved information sharing with appropriate views of HES information, accessible by authorised parties within and across organisational boundaries – for care delivery (an individual's health status and history), for health administration and management, planning and funding, analysis and research, policy development, etc.
- Interoperability
  - Consistent clinical and non-clinical processes supported by consistent data content.
  - Standards that enable effective information sharing, cross-referencing and interaction in a common language and in a consistent way across different parts of the sector.
  - Secure and appropriate access to and exchange of health information between different sources within the sector.

## FEATURES OF THE ANCHORING FRAMEWORK

HISAC anticipates that the Anchoring Framework may include these features:

1. Guiding principles for health information capture (acquire and store) and sharing (access or exchange).
2. A framework for interoperability defining the systems, information and organisation (process / business practice) requirements.
3. Definition of core components such as:
  - A high level data model for shared sector data as the basis for data collection and exchange<sup>1</sup>;
  - High-level conceptual process, information, and systems architectures, including mapping linkages and dependencies between the Anchoring Framework and the other HIS-NZ Action Zones;
  - Standards required to support a shared health information environment, including subject-area data dictionaries for information such as key HESs and the other HIS-NZ Action Zones.
4. A blueprint / road map which identifies priority standards, an implementation approach, key dependencies, and linkages to initiatives in the sector that can assist with implementing the framework.
5. Governance of the Anchoring Framework.
6. An approach to funding Anchoring Framework related change.
7. A communication plan to foster awareness and debate within the sector and the wider public.
8. Alignment with the New Zealand e-Government Interoperability Framework (e-GIF<sup>2</sup>) where appropriate.
9. Ensuring that the Anchoring Framework is, as far as possible, independent of the care delivery/business model and technical implementation, i.e. it supports the coexistence of different business and technical environments.
10. Ensuring that the Anchoring Framework is sufficiently flexible to support further development of 'joined up' health information systems as they emerge over time, recognising the possibility of information sharing with non-health agencies in the future.

## BENEFITS

The example benefits stated below have been limited to those most relevant to the Anchoring Framework. As the Anchoring Framework is an enabler for the other Action Zones, this section should be read in conjunction with the benefits sections of the Initial Views that have been developed for the other Action Zones.

Patients and individuals will benefit as:

- The use of standards to create a sector-wide view of an individual's health record, no matter where their interaction with the health system took place, will help bring together a more complete, accurate picture of a person's health status and history when they want or need health care services.
- There should be less need to recall or restate the key events or important factors in their health care history when seeing different health practitioners.
- They will receive care that is better targeted and co-ordinated as their practitioners are better informed.
- Their health care will include timely and appropriate diagnosis and intervention decisions based on the full context of their health care status.
- Duplication of investigations may be reduced if results of earlier investigations are more easily obtainable.
- They can access and contribute to their own health information as appropriate.
- A consistent approach will make it easier to communicate with health practitioners and organisations online.
- As information management becomes standardised it will be easier to create health event summaries that can be available wherever the patient needs them.

Health practitioners will benefit as:

- They will have accurate and relevant information to assist with evidence-based health care decisions.
- Collaboration with other professionals will be easier.
- Time management will be more effective as less time is wasted either searching for information or re-entering information.
- They will be able to better inform their patients and enjoy greater collaboration in multi-disciplinary management of long term conditions.

Organisations responsible for delivery of health services will benefit from:

- The use of shared health information and improved processes that reduces waste, risk of error and offers increased effectiveness and efficiency.
- The use of standard identifiers and coding structures, along with appropriate access to more complete population-based health information, that will enable more timely and sophisticated monitoring, analysis, planning, and service delivery. They will be better informed about the health status of their populations and the effectiveness of programmes.

Those involved in policy development and research will benefit from:

- Better quality information about populations that will help them plan and understand the impact of interventions.

Those involved in funding information systems will benefit from:

- Easier implementation of new programmes because they will be built on a foundation of consistent standards and processes.
- This contributes to better value for money through faster development times, increased reuse of technology investments, and easier integration of diverse applications.
- Reliance on paper and manual process will reduce.
- The ability to more easily share solutions.

The benefits specific to the Anchoring Framework will be expanded on, quantified and confirmed during the next process, development of the Preliminary Scope and Approach.

## WHAT HAPPENS TODAY

The evolution of information systems within the sector is similar to that experienced internationally and in other sectors. Information systems are initially implemented to meet specific organisational needs. As new or significantly modified business requirements emerge, there has been inevitable pressure to create, modify, or re-use information systems and processes. Many of these are required to be extended beyond department or organisational boundaries to support requirements such as collaborative working, information sharing for trends or outcomes analysis, eBusiness, etc.

Change has largely occurred in the absence of agreed sector wide principles, frameworks, standards or conventions. Consequently there are data quality issues<sup>3</sup>, 'islands of information', many instances of data replication, and challenges getting information, systems, and processes appropriately 'joined up' with information flowing in an effective, efficient and meaningful manner within the sector. Examples include:

- A significant amount of information about individuals' health status or history is held in information systems (and/or in paper form) of organisations that provide health care services, or who support those that provide health care services. This information is not readily available or able to be shared because many of the current information systems within the sector do not make themselves available for outside enquiry, and there is limited capacity to transfer information electronically outside the boundaries of an organisation, and in some cases within an organisation.
- Standards defining clinical data sets and data items are not consistently applied or do not meet the needs of the sector. This means that clinical data may be captured in an unstructured form and replicated in many places.
- Individual implementations of information systems frequently follow their own specific architectures and standards, some with a poor human to system interface.

- There is significant fragmentation of national data collections (with over fifty of these present today) resulting in unnecessary duplication of systems, data and data entry effort.
- Identifiers such as the NHI, that are needed to transfer and index data, are often not captured at a unit data or data set level, or the data in the identifiers is not appropriately validated and is therefore of poor quality.
- There are a number of barriers to the better use of identifiers within local data sets, such as unresolved Health Information Privacy Code constraints.
- There is no commonly agreed governance model to ensure that privacy and confidentiality for individuals is appropriately protected in an information sharing environment.

The Health Information Standards Organisation (HISO) was established in recognition of the important role that standards play in relation to the sharing and exchange of information. HISO is a sub-committee of HISAC and is responsible for standards advocacy and development. Since its inception a number of standards have been endorsed or developed, and a number of standards are being developed.

## AREAS FOR IMPROVEMENT

HISAC has identified the following areas where the Anchoring Framework can strengthen information systems and processes and deliver a range of benefits. This list is not exhaustive and is in no particular order:

1. Get agreement with both the sector and patients about what constitutes 'appropriate use' of an individual's health information and the extent to which it should be shared across organisational boundaries to support care delivery, and administration and management within and across the sector.
2. Ensure that appropriate information sharing does not compromise necessary privacy protection requirements, but that misinterpretation of those requirements does not unnecessarily impede that sharing.
3. Identify, develop and agree conceptual models/architectures to support cost effective information sharing and interoperability (covering system, informational, and process domains).
4. Identifying gaps in current standards that will need to be addressed as part of the Anchoring Framework. For example, identify and prioritise areas where coding standards are required as a key part of a common language, particularly in

<sup>1</sup> A generalised high-level representation of core common shared information, and the meaning of and the relationships between this information. It provides a master reference for those developing solutions that support information sharing.

<sup>2</sup> e-GIF is a set of policies, 'open' (i.e. non-proprietary) international technical standards, and guidelines

relation to clinical information.

5. Ensure common, nationally maintained data dictionaries are standardised, key omissions are addressed, and that these are consistently applied at the collection level throughout the sector.
6. Raise the awareness of electronically published reference information related to sector standards and conventions that support information sharing and interoperability. Improve quality and quantity of reference source content, and include information standards and conventions used regionally and locally within the sector.
7. Ensure consistency across the sector of key, common clinical and business processes so that they can be easily linked to support collaboration or to deliver efficiency gains.
8. Identify mechanisms for improved standards use, in particular identifiers that are needed to relate information.
9. Ensure that design and implementation decisions for information systems and processes will support current and/or future information sharing and interoperability needs of the sector.
10. Provide a standardised method for electronically transferring or accessing an agreed minimum set of an individual's health information, at the request of the individual concerned or an authorised health practitioner, when an individual's practitioner changes.
11. Ensure that there is a clear understanding of the investment, resource implications and benefits of pan-sector information sharing and interoperability, and that the necessary incentives are available for achieving this.

## 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. HISAC is working closely with sector representatives to prepare more detailed descriptions of the current problems and health professionals' priorities for improvements. If you have any ideas of how the Anchoring Framework initiative could be developed, please communicate with HISAC through [enquiries@hisac.govt.nz](mailto:enquiries@hisac.govt.nz) or write to:

The Action Zone Development Leader  
 HISAC Office  
 P O Box 5013  
 Wellington

covering ways to achieve interoperability of public sector data and information resources, information and communications technology (ICT), and electronic business processes.

<sup>3</sup> Data Quality dimensions include Accuracy, Completeness, Consistency, Relevancy, Accessibility, Timeliness, Representation