

Health Information Strategy for New Zealand

## ACTION ZONE 5

# eLABS: AN INITIAL VIEW

This document is an initial HISAC view of the “eLabs” 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 this part of 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 community diagnostic laboratory tests, the eLabs Action Zone will also look at opportunities for eLabs in secondary care and other parts of community care, including long term/residential care and midwifery.

HISAC sees eLabs being delivered through a cohesive and efficient set of standards, electronic systems, decision support systems and business processes that will work with the results of the other Action Zones to enable improvements and efficiencies in the use of laboratory tests in health care. The eLabs scope may also include monitoring and reporting clinical and population-based diagnostic laboratory test health information.

## A VIEW OF eLABS IN THE FUTURE

**VISION:** Diagnostic laboratory test ordering and reporting information is easily accessed and shared on a secure and timely basis.

**STRATEGY:** Standards-based, electronic systems are established to enable all appropriate health practitioners, laboratories and patients to appropriately and securely order laboratory tests, monitor the associated processes, and securely access and share diagnostic laboratory test information.

### FEATURES OF eLABS

HISAC anticipates that eLabs may include:

1. Health practitioners and other involved parties, including the patients themselves, will have access to complete electronic diagnostic laboratory test result histories, including NHI, relating to individual patients, at the point of care, as a form of Event Summary, as appropriate and within agreed privacy rules.
2. Diagnostic laboratory test ordering and reporting and other information sharing that is based on an in-built standard laboratory test terminology and standard schedule which is updated monthly.
3. It will be possible to review and monitor hospital and community diagnostic laboratory test ordering and reporting.
4. All test results of all patients will potentially be available to all health practitioners and health workers, within privacy rules.
5. Laboratory test orders and results will be communicated electronically between health practitioners and laboratories, including:
  - a. automation of processes enabling smarter transactions;
  - b. on-line ordering of laboratory tests;
  - c. electronic receipting of authenticated laboratory test orders at laboratories;
  - d. electronic confirmation that a laboratory test order has been received by a specific laboratory;
  - e. electronic distribution of laboratory test results to the health practitioner.
6. People will be able to continue to choose their preferred laboratory collection depot for their laboratory tests.
7. eLabs may well be used to analyse information (orders and results) at local, regional and national

levels, including analysis of longitudinal records for individual patients and groups of patients within agreed privacy, authentication and security framework (PAS) for both clinical care and, in an unidentified form, for health planning.

### BENEFITS

Patients, people in care and different parts of the health sector will benefit from eLabs in different ways.

Patients and people in care will benefit by:

- reduced risk of incorrect laboratory tests being undertaken and reported on through the use of standard laboratory test codes;
- being able to recall laboratory test histories when seeing a different health practitioner;
- being able to have laboratory tests undertaken and reported on by any laboratory collection depot;
- having laboratory test results available more quickly through more efficient processes;
- needing fewer laboratory tests because health practitioners will have better access to the results of earlier tests.

Health practitioners who order laboratory tests will benefit through:

- better access to decision-support systems when ordering laboratory tests and reviewing results;
- easier matching of orders and results, enabling follow-up if patients have not had tests done.

Laboratories will benefit through:

- all health practitioners using standard laboratory test terminologies;
- improved authentication of the legitimacy of laboratory tests;
- more efficient business processes;
- better collaboration on patient care between community and hospital laboratories.

Organisations that fund the health and disability sector will benefit through:

- more efficient and effective test ordering and reporting processes leading to reduced costs;
- less wastage from ordering duplicate tests.

Organisations responsible for the delivery of health care results through population-based strategies will benefit through:

- health practitioners having immediate access to high-quality laboratory test decision-support systems;

- increased confidence that patients and people in care in their region are receiving the best possible utilisation for laboratory tests for their condition;
- health practitioners in their sector having ready access to information about patients' medical and laboratory test results histories.

## WHAT HAPPENS TODAY

Ordering, reporting and recording diagnostic laboratory tests in New Zealand is generally a mix of manual and computer-supported processes. Transmitting test results to general practitioners and hospital clinicians is generally well supported by electronic processes, but other practitioners, such as midwives, experience delays in getting results.

Typically for laboratory tests ordered and reported on in the community:

- a health practitioner will assess the patient and may order laboratory tests;
- the health practitioner prepares a laboratory test request form, usually electronically, prints it and gives it to the patient;
- the health practitioner may take a sample which is sent directly to the laboratory;
- if the sample has not already been taken the patient takes the laboratory test request form to a laboratory collection centre;
- the laboratory nurse or technician, in the case of a blood test, collects the blood samples from the patient;
- the laboratory nurse or technician re-enters information from the request form as part of the transaction record in the laboratory's own information system and the sample is transferred to the laboratory for analysis;
- when the analysis is complete, the test results are sent electronically by the HealthLink system to the practice management system of the ordering health practitioner and integrated into the patient's electronic notes;
- the laboratory creates a record of all laboratory tests completed and sends a record of subsidised tests to HealthPAC for payment;
- a national database of laboratory tests claimed for is kept for planning and funding decisions in a laboratory data warehouse.

## AREAS FOR IMPROVEMENTS

HISAC has identified the following areas where strengthening information systems and processes could deliver benefits in the health and disability sector.

1. There are currently few approved, integrated, electronic clinical decision-support systems related to laboratory test ordering, available for health practitioners. This limits the opportunities to support best-practice clinical care.
2. Incomplete patient laboratory test histories, at point of care, may result in health practitioners making decisions without being able to consider relevant factual information.
3. Limited opportunities for sharing laboratory test and result information between primary and secondary care providers can be a barrier to managing patient care in a fully coordinated fashion.
4. Patients may not receive the medical treatment they need if they misplace their laboratory test request form before they get to the laboratory collection centre.
5. There is a lack of effective authentication for diagnostic laboratory test requests. Laboratory nurses and technicians cannot be assured that they are undertaking legitimate tests requested by legitimate health practitioners.
6. There are opportunities for transcription errors in end-to-end processes such as during the re-entry by the laboratory of data from paper laboratory test requests.
7. A significant amount of information about individuals' laboratory test results exists in the electronic health records held locally by general practices and laboratories and in the claim information provided to HealthPAC, but it is not structured or accessible for clinical purposes.
8. By not having easy and immediate access to previous and recent tests for patients ordered by other clinicians, health practitioners frequently repeat tests at additional cost and introducing further delay.
9. There is potential to improve the efficiency of clinical and business processes so that quality processes are not thwarted by fragmented manual and computerised processes. By reducing administration and compliance costs the sector can be more efficient and achieve better health outcomes.
10. While laboratory code sets have been developed, and improved communication standards are currently being developed to enable more effective electronic transfer of laboratory test information, they have yet to be implemented. The lack of a common language acts as a barrier to sharing information electronically between different systems and health providers.

11. There is no common, complete, accurate, comparable and timely electronic laboratory test schedule or catalogue to support eLabs and the sharing of laboratory test information.
12. There is a lack of agreement between providers, health practitioners and patients about the need for clinical data repositories at local, regional, or national levels.
13. The limited systems available for reporting laboratory test information for clinical quality, population health, and funding purposes limits the ability to target resources to those most at need, and this reduces the potential for getting the best health outcomes from finite health resources.
14. There is a need for pharmaceutical processes to systematically support issues around patient health benefit entitlement. Patient entitlement processes should be equitable and not introduce barriers to the delivery of care when the patient is entitled to care.

## 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 health practitioners' priorities for improvements. If you have any ideas as to how the eLabs initiative could be developed, please communicate with HISAC through [enquiries@hisac.govt.nz](mailto:enquiries@hisac.govt.nz) or write to:

The eLabs Coordinator  
 HISAC  
 c/- Ministry of Health  
 Private Bag  
 Wellington.

17 May 2006

## AN INDICATIVE DIAGRAM OF PART OF A FUTURE eLABS SCENARIO

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

