



HealthConnect
A HEALTH INFORMATION NETWORK FOR ALL AUSTRALIANS



HealthConnect – an overview

updated December 2004

HealthConnect is a joint Australian, State and Territory Government initiative

AUSTRALIA'S NATIONAL HEALTH INFORMATION NETWORK



Information technology is revolutionising the way in which the health care sector manages consumer health information. Many doctors, hospitals and pharmacies are well on their way to implementing computer-based records, to increase efficiency and accuracy.

This technology has great potential to save lives as well as money, with the benefits far outweighing the initial implementation costs. However, these potential benefits can only be realised if the various systems in place across the country can 'talk' to each other. The challenge, therefore, lies in developing a national framework for infrastructure, privacy and security and common standards to support the reliable flow of information across the health sector.

HealthConnect is a new national network that, with consumer consent, will allow the electronic exchange of clinical information between health care providers. Everything from hospital discharge summaries and prescriptions to pathology results will be readily available when it is needed, where it is needed, at the click of a mouse.

HealthConnect involves the electronic collection, storage and exchange of consumer health information via a secure network and within strict privacy safeguards. Consumer and provider participation in the system will be voluntary.

A summary of health-related information about consumers will be collected in a standard format at the point of care – such as a hospital or general practitioner's surgery. This information will be held in secure storage facilities around the nation. It can then be retrieved whenever it is needed and exchanged via a secure network between authorised health care providers.

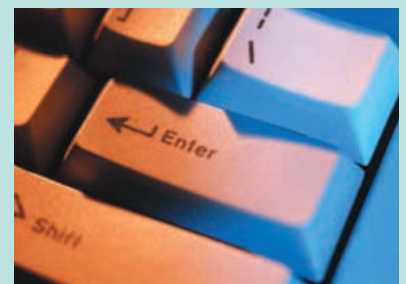
HealthConnect trials currently being conducted in a number of locations around Australia have already provided early evidence of the value of a national health information network.

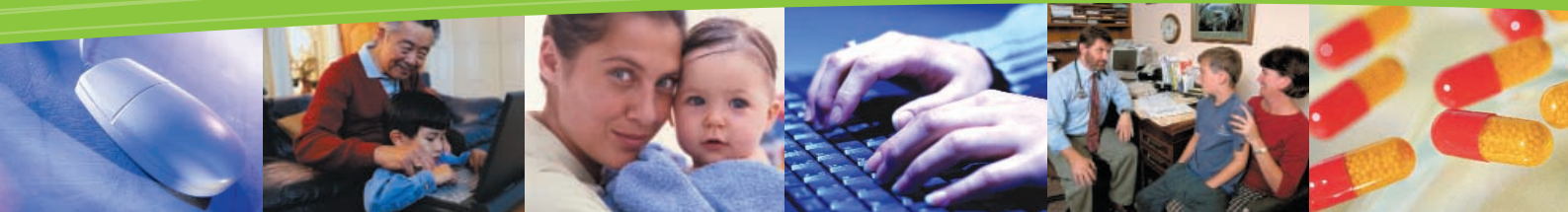
In full consultation with consumer and health provider groups, work began on a staged implementation of HealthConnect in July 2004. Tasmania, South Australia and the Northern Territory will be the first states involved in the implementation of HealthConnect project.

HealthConnect, in a cooperative venture between the Australian, State and Territory governments, will help make this country a world leader in what many experts believe is currently the most significant contributor to health care reform – that is, better health information.

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■ Why do we need HealthConnect?

A significant cause of preventable death and serious illness is inappropriate treatment based on poor or insufficient information about consumers' medical history.

The need to integrate and better coordinate the delivery of care across the full range of health care providers has emerged as a key theme in health care reform over the last decade.

Achieving such integration, however, depends on relevant information about an individual being readily available at every point of care.

Nearly every Australian has medical information on record somewhere. But, at present, clinical information is collected by providers when they see patients and kept in their own records. For any one patient, information may be held in a variety of formats and a wide range of locations – including GP and specialists' surgeries, pharmacies, hospitals and their emergency departments, allied health provider practices and pathology laboratories.

The problems and frustrations of current health information management practices are well recognised by health consumers, providers and governments. They include:

- the occurrence of errors, adverse events (including deaths), and inappropriate treatments because of incomplete information;
- consumers not accessing and managing their own health information and therefore being excluded from fully participating in decisions about their own health care or accessing and managing their own health information;
- providers and consumers having to spend time chasing up information;
- individuals falling through 'cracks' in the system due to information not being passed on; and
- tests being unnecessarily undertaken when previous results are not available or other relevant information is not available, and the costs of these duplicate tests to consumers and the health system at large.

These problems are having a real and damaging impact.

The findings and implications of the 1995 *Quality in Australian Health Care Study* suggest that hospital errors are responsible for up to 18,000 deaths annually in Australia.¹ Similarly, the 2002 *Second National Report on Patient Safety – Improving Medication Safety* reported that it is estimated that around 140,000 hospital admissions each year in Australia are associated with the use of medicines.²

These findings mirror the US experience where medication errors alone have been shown to account for three of every 1000 patient deaths and an additional one in 1000 patients sustaining permanent disability, with 78% of these deaths being avoidable by the use of more sophisticated information systems.³

The electronic nature of HealthConnect will help to reduce the incidence of these errors by enabling consumer health information to be more readily shared. The system will provide important medical information where it is needed, at the point of care, potentially saving time, money and most importantly, thousands of lives every year.

Based on conservative estimates, HealthConnect could bring benefits of approximately \$500 million per year to the Australian health system.⁴ This would be achieved through:

- reduced cost of treating adverse events, including hospital, residential care, medical and pharmaceutical treatment;
- reduced duplication of treatment and testing through improved coordination of care, especially for complex and chronic conditions; and
- improved medication management, which is likely to yield direct savings as well as adding to the safety and efficacy of care.



■ Who will benefit from HealthConnect?

A wide range of people, organisations and industry groups will participate in, and benefit from the national implementation of HealthConnect.

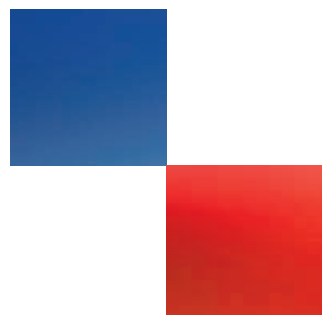
HealthConnect benefits for consumers

- HealthConnect will empower consumers by providing them with greater control over who has access to their health information and how it can be used for their benefit.
- HealthConnect will enable a person's health information to be accessed where and when it is needed – at the point of care.
- Consumers will be able to access and read their own personal health information and therefore be better informed and empowered to manage their own care.
- Consumers will not need to recall the finer details of their medical history each time they see a different health care provider.
- By improving access to a consumer's health information, HealthConnect will improve patient safety and reduce adverse events, including adverse drug events.

HealthConnect benefits for health care providers

HealthConnect will give health care providers quick and ready online access to a comprehensive range of important information about an individual's medical history and also provide them with a reliable means of exchanging information with other providers via consumers' records. For example:

- GPs will have timely access to clinical information from other providers such as hospital discharge summaries and diagnostic test results via their desktop practice management systems when it is needed – for example, during a consultation;
- prescribed medicines information automatically transmitted to HealthConnect from a GP's desktop system could be downloaded directly into pharmacy dispensing computer systems, removing the need for pharmacists to key in this information and reducing transcription errors;
- hospitals will be able to access consumers' pre-admission health information and then provide electronic discharge records to GPs and other community-based allied health care providers. This will help improve the coordination of care from the time of referral, through hospital admission and during the post-discharge care period; and
- through the greater availability of information, and by facilitating improved communication between providers, HealthConnect will provide for the enhanced management of chronic and complex diseases.





HealthConnect benefits for all Australians

- The safety, quality, effectiveness and efficiency of the Australian health care system will be improved through the use of the information held in HealthConnect.
- By providing access to clinical information, HealthConnect will significantly improve the level and quality of data available for health policy and planning purposes. Most data is currently obtained from administrative collections.
- Researchers will be able to establish a more detailed picture of Australians' health using de-identified HealthConnect information. This will lead to advances in the treatment of illnesses and improvements in the day-to-day and long-term care of all Australians. Any research projects requiring access to identified information will be limited to special circumstances and subject to stringent requirements, including assessment by appropriate ethics committees.

- Other benefits include reduced incidence of unnecessary duplication of services, greater portability of health records for an increasingly mobile population and reduction in overall health care costs.

Overall, a national HealthConnect network is expected to realise significant health sector savings for the Australian, State and Territory governments by contributing to safer, more efficient and more effective health care.



■ What information will be part of a HealthConnect record?

The information about a consumer's health will take the form of standardised 'event summaries'. These summaries, extracted from the health care provider's electronic record of a consultation, will include current and historical information such as results of pathology tests, diagnostic test results, hospital discharge summaries, chronic illness monitoring, current medications, allergies, immunisation information and principal diagnoses.



■ How will HealthConnect work?

The network will operate on a voluntary basis for both consumers and providers with strict privacy and security arrangements in place.

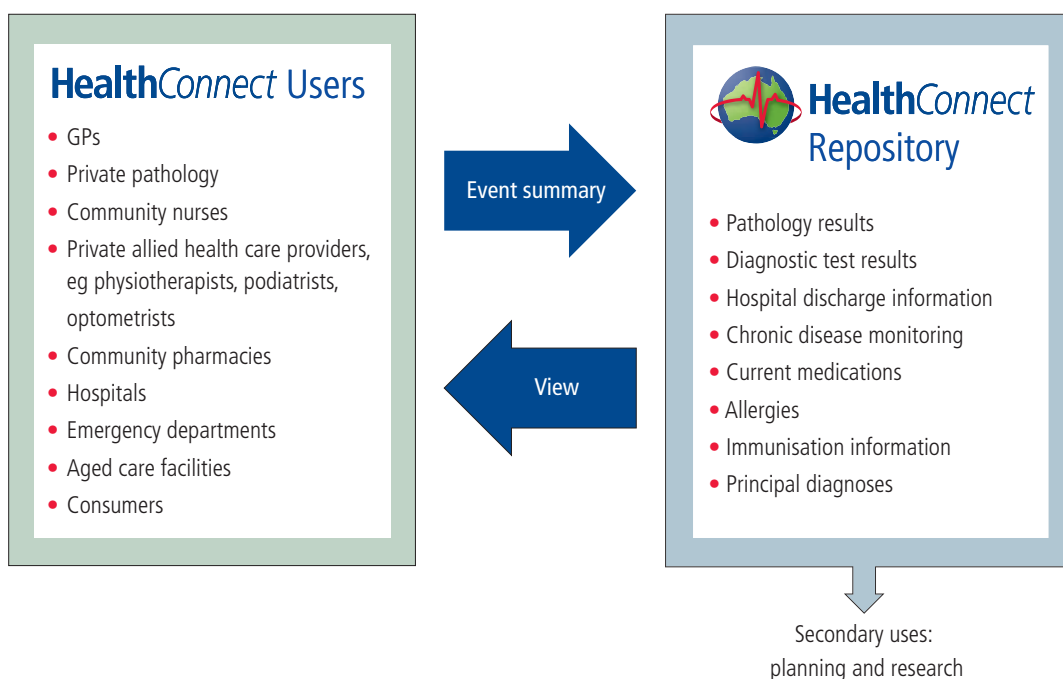
Clinical information will be collected in an automated way through the health professionals' desktop computer, in a standard electronic format or event summary. This will occur at the time of the service and at the point of care, for example, during a GP consultation or when diagnostic test results are recorded by a pathologist. Providers will not have to key in more information than they do now in using their practice management systems.

Information will then be safely transferred to, and held in a secure, shared storage facility where, with consumers' consent, authorised health care providers can access it when it is needed.

Event summaries will be added to a person's HealthConnect record in a way that will allow authorised users to rapidly retrieve the information they need.

A person's record will be presented in a variety of formats, or 'views', to quickly meet the needs of different users. This means that a user will not need to explore the entire record to find what they want, but rather, will simply view what they require. For example, an emergency physician may want to view a person's allergies, current medications and principal diagnoses or a GP may want to view a graph which presents the results of a particular pathology test over time, no matter which clinician or organisation ordered or performed the tests. A consumer may wish to view his or her record or check progress against key self-management observations such as blood pressure, weight or blood glucose levels.

The HealthConnect model is represented diagrammatically below.



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■ What will HealthConnect look like from a technical perspective?

HealthConnect will enable providers in both the public and private health sectors to seamlessly exchange consumer health information easily and safely. Rather than replacing the existing computer systems being used by these providers across the health care sector, including systems established and managed by state and territory governments, HealthConnect will work in conjunction with them.

To achieve this, the HealthConnect network will consist of three layers.

HealthConnect Records Systems layer: this layer will consist of the regional storage repositories to store the summary consumer health information that will form consumers' HealthConnect records.

User or source system layer: this layer will contain all the computer systems software that will interface with HealthConnect to allow providers to either view/review HealthConnect records or add new event summaries to records. This includes desktop systems used by doctors and pharmacists and in hospitals, and a web-based system that will allow consumers to review and add to their own HealthConnect record.

National coordination layer: this layer will link all regional storage repositories and also provide the link between these repositories and user/source systems, allowing people to use their record throughout Australia. The two important components of this layer include the management of the HealthConnect network (governance) and the development of standards to ensure the secure, accurate transmission of health information across the HealthConnect network. These include:

- robust privacy and security standards;
- unique identification, so that providers can be certain that the information contained on a record belongs to the consumer they are treating;
- clinical terminologies, which will address the differences between providers' descriptions of the same thing; and
- messaging standards, that allow clinical information from thousands of sources to be appropriately and safely transferred and stored so they may be retrieved in formats tailored to meet user needs.





■ What is the implementation plan for HealthConnect?

Plans for implementation of HealthConnect are being developed in close consultation with every state and territory government and other key stakeholders. Implementation strategies will fit with each state and territory's needs and readiness.

The first stage of implementation has begun in Tasmania, South Australia and the Northern Territory – Tasmania because of its involvement with the HealthConnect and MediConnect trials. Its size also makes a state-wide implementation manageable. South Australia already has in operation an integrated hospital information network which is a key feeder system for HealthConnect.

Implementation in Tasmania and South Australia will be staged geographically, commencing in major urban areas, at first linking key sectors such as hospitals, GPs and community pharmacies, then expanding to all parts of the health sector across each state. While implementation planning has begun, HealthConnect services will be introduced progressively once agreement is reached with stakeholders and systems are ready for implementation.

In the Northern Territory, the current HealthConnect trial centred in Katherine will expand to become a regional implementation of the system, covering the entire Katherine region with a view to further expansion across the Territory in the future.

HealthConnect trials scheduled to begin in South Brisbane and New South Wales during 2004-05 are expected to continue as learning trials or may become the starting points for implementation of HealthConnect in those states. The current HealthConnect trial being conducted in North Queensland will continue in its current format in the short to medium term. All of these trials will continue to provide valuable information for the design and implementation of HealthConnect.

Implementation activity timeframes include:

- during 2004
 - implementation activities started in Tasmania, South Australia and the Northern Territory;
 - implementation projects identified in other states and territories;
- during 2005
 - consumers and providers in Tasmania able to participate in an integrated HealthConnect/MediConnect network, focusing on specific areas such as hospitals, general practice, pharmacy and pathology;
 - implementation of HealthConnect to commence in metropolitan Adelaide, also in a specific, initial focus;
 - implementation projects to be developed in other states and territories where agreed; and
- during 2006
 - consumers and providers in most of Tasmania and South Australia able to participate in HealthConnect.





■ What is the future for MediConnect?

The implementation of HealthConnect will include the integration of MediConnect, the national electronic medication record system designed to help improve the quality and safety of medication management in Australia. MediConnect will form the medicines component of HealthConnect to help improve management of medicines and reduce the incidence of adverse events resulting from the use of medicines. This means that MediConnect will now not be implemented as a separate system. The functions that MediConnect was designed to perform will be incorporated into HealthConnect.

MediConnect was field tested as a stand alone system in Launceston and Ballarat during 2003-04.



■ How is HealthConnect developing?

Since late 2002, HealthConnect has operated several live trials as part of its research and development phase. Three HealthConnect trials, in Tasmania, the Northern Territory and North Queensland, have been conducted to demonstrate the value, feasibility and acceptability of HealthConnect, and to test important components such as consent, privacy and integration of HealthConnect with existing work practices in health service organisations. They have informed the preferred model for HealthConnect.

Consultation with key stakeholders, research and information has been brought together in the production of a number of major documents to inform the development and implementation of HealthConnect. These include the Business Architecture, Indicative Benefits Report, Benefits Realisation Framework, Legal Issues Report and the Implementation Approach. These documents are in addition to the HealthConnect Systems Architecture and the HealthConnect Interim Research reports which were released in September 2003.

Most of these documents are available from the HealthConnect web site at www.healthconnect.gov.au or from the HealthConnect Program Office, Australian Department of Health and Ageing, MDP 25, GPO Box 9848, Canberra, ACT 2601. The Benefits Realisation Framework, Legal Issues Report and Implementation Approach will be available in early 2005.

HealthConnect will not be a static system. New versions of the system will be implemented as the network matures and is progressively implemented. Improvements identified during implementation and by other electronic health record trials (scheduled to commence in South Brisbane and New South Wales in 2004-05) and projects, will also be integrated into new versions of the national network.

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■ How will privacy and security be managed within HealthConnect?

Ensuring the privacy, confidentiality and security of personal health information is paramount to both consumer and provider acceptance of HealthConnect. A multi-layered privacy approach is being developed that includes:

- national privacy rules – expected to include the proposed National Health Privacy Code being developed to specifically cover the handling and management of personal health information in the public and private sectors, as well as specific HealthConnect protocols and rules;
- technical and security measures – a national security framework is being developed to cover identification/authentication, access control mechanisms, message protection, monitoring and detection mechanisms, and audit/logging processes; and
- organisational practices – such as staff training, to ensure that high security standards including an organisational culture which upholds privacy, are maintained by participating organisations.

A safe and unambiguous system of consumer identification is essential to ensure the accurate transfer of clinical information. The current HealthConnect trials use local level identification of individuals. Identification arrangements for the implementation phase of HealthConnect are still being investigated, but could include a health smartcard.



■ How will HealthConnect be managed?

The Australian Health Ministers' Advisory Council (AHMAC) has recognised the need for a national entity to oversee and manage health information management and information and communications technology (IM&ICT). In July 2004, the council endorsed the immediate establishment of the National E-Health Transition Authority. Over a 12-month period, the authority will oversee and progress national IM&ICT priorities that underpin HealthConnect.

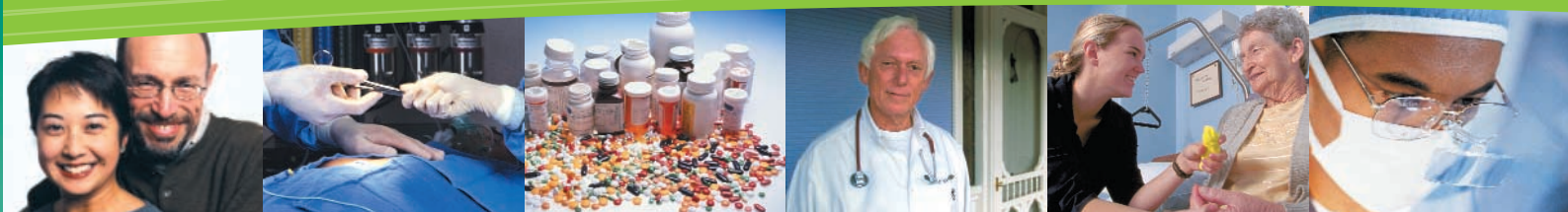
Meanwhile, the governance of HealthConnect is currently under review. AHMAC will consider revised governance arrangements for HealthConnect in 2005. Until that time the HealthConnect implementation team will continue to report to the HealthConnect Board.

¹ 'Quality in Australian Health Care Study – Final Report', Australian Quality in Health Care Consortium, 1995.

² 'Second National Report on Patient Safety – Improving Medication Safety', Australian Council for Safety and Quality in Health Care, July 2002.

³ Raschke et al., 'A computer alert system to prevent injury from adverse events: development and evaluation in a community teaching hospital', *Journal of the American Medical Association*, Vol 280, 1998, pp 1317-20.

⁴ Australian Government Department of Health and Ageing, 'Indicative Benefits Report', February 2004.



■ Further information

If you would like more copies of this publication or for further information about *HealthConnect*, you can:

- visit the *HealthConnect* website at www.healthconnect.gov.au
- or contact the *HealthConnect* Program Office at the Australian Department of Health and Ageing
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