Health*Connect* Systems Architecture Project

Phase 2 – Systems Architecture Development

Financial Business Model

Version:	**0.9**
Issued:	**July 2003**
Status:	**Draft**

Health*Connect* is a joint Australian, State and Territory Governments initiative under direction of the Health*Connect* Board.

© Commonwealth of Australia 2003

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without prior permission from the Commonwealth available from the Department of Communications, Information Technology and the Arts. Requests and inquiries concerning reproduction and rights should be addressed to the Commonwealth Copyright Administration, Intellectual Property Branch, Department of Communications, Information Technology and the Arts, GPO Box 2154, Canberra ACT 2601 or posted at http://www.dcita.gov.au/cca .

The views, ideas and opinions expressed by the authors of, and contributors to, this document are their own and do not necessarily represent the views of the Commonwealth Department of Health and Ageing.

First published: July 2003

Requests for copies and inquiries regarding Health*Connect Systems Architecture* can be made to the following address:

Director

Design Section, MDP 25

Department of Health and Ageing

GPO Box 9848

Canberra ACT 2601

Email: healthconnect@health.gov.au

Acknowledgments

This document has been produced under the direction of the joint Australian Government, State and Territory Health*Connect* Program Office, located in the Commonwealth Department of Health and Ageing. The Program Office wishes to acknowledge Coolong Consulting (Australia) Pty. Ltd. as the principal author of this document.

Table of Contents

Table of Contents 3

Table of Figures 4

Health*Connect* Architecture Documents 5

Glossary of Terms 7

1. Introduction 8
   1.1 Purpose of this Document 8
   1.2 Document Structure 8
   1.3 Relationship to Other Documents 8
2. Business/Financial Model Scope 10
3. Business Drivers 12
   3.1 Overview 12
   3.2 Business Drivers 12
      3.2.1 Business Need 12
      3.2.2 Business Case 14
      3.2.3 Primary Business Problem 14
      3.2.4 Secondary Business Problems 14
      3.2.5 System Concept 14
      3.2.6 Business Objectives 16
4. Core Business Model Issues 17
   4.1 Public & Private Investment 17
   4.2 Nature of the Enterprise 17
   4.3 Flexibility 19
   4.4 The Health*Connect* Economy 20
   4.5 Sustainability 20
   4.6 Business Process Change Management 20
5. Business Model 21
   5.1 Functional Overview 21
      5.1.1 Health*Connect* Authority 21
      Approved EHR Manager 22
      5.1.3 Health*Connect* Records Systems 22
      5.1.4 Health*Connect* Data Store & Directory 22
   5.2 Three Level Model 22
   5.3 Implementation 23
      5.3.1 Benefits Realisation 23
      5.3.2 Support Strategy 24
      5.3.3 Implementation Schedule 25

Table of Figures

Figure 1-1 Health*Connect* Systems Architecture Documentation 9
Figure 2-1 Health*Connect* Financial Pathways Model 10
Figure 3-1 Health*Connect* System Context Model 15
Figure 5-1 Business functional Model of Health*Connect* 21
Figure 5-2 The Three Level Business Model... 23

Health*Connect* Architecture Documents

Phase 1 of the Systems Architecture involved the definition of the requirement for the System Architecture project. This was then used in shaping the Systems Architecture Phase 2. The following listed documents form part of the reporting for this second phase of the Health*Connect* Systems Architecture project and are available at www.healthconnect.gov.au.

If you click on the Systems Architecture link on that web page you will be able to obtain the listed documents.

The key Systems Architecture (Phase 2) documents comprise of:

Health*Connect* Architecture Overview	Presents a high-level overview and conceptual model of Health*Connect*.
Health*Connect* Systems Architecture	Defines the Health*Connect* Systems Architecture from the three design viewpoints of Data, Application and Technology. Provides an in-depth description of the Health*Connect* Systems Architecture.
Health*Connect* Implementation Strategy	Describes an implementation strategy for establishing Health*Connect* as a national system of compatible health records systems.

Other System Architecture (Phase 2) documents, available at the above web address, are as follows:

Health*Connect* Architectural Principles	Defines and describes the principles underpinning the architecture.
Health*Connect* Financial Business Model. (This document)	Describes options for the Health*Connect* financial business model and how the business model might operate. It also explores questions like who might own the assets and data, funding sources for implementation and ongoing operations.
Health*Connect* Business Architecture Models	Documents the business models derived from the Business Architecture (see above). The UML (Universal Modelling Language) models were prepared using Popkin's *System Architect* modelling tool. The document provides instruction on how to navigate the *System Architect* encyclopaedia (see below).
Health*Connect* System Architecture Encyclopaedia	Web browser viewable set of the architectural models built using the Popkin *System Architect* tool.
Health*Connect* Current Systems and Technology	Describes application systems and supporting technology currently in use in the health sector.
Health*Connect*	Reviews relevant standards that impact/enable Health*Connect*.

Standards Assessment	
Next Steps for the Health*Connect* Systems Architecture	Identifies the activities that are required to complete the development of the Health*Connect* architecture to a level of detail sufficient to guide future implementation activities.

The following documents available at the indicated web addresses are referenced in the draft Systems Architecture (Phase 2):

A Health Information Network for Australia	The report of the National Electronic Health Records Taskforce published in July 2000. The recommendations of the taskforce led to the initiation of the Health*Connect* project. This document is available on the internet at: http://www.health.gov.au/healthonline/publications/publications.html#Pub00
Health*Connect* Interim Research Report	The report comprises three volumes: Volume I, which provides an overarching view of the Project achievements and findings to date, and recommends a way forward for this important national project; and Volumes II and III which contain a number of research reports, case studies and evaluation reports as background materials. www.healthconnect.gov.au
Health*Connect* Business Architecture	Describes the business requirements for Health*Connect*. It was the starting point for the development of the Systems Architecture. Version 1.0 is being published in the Health*Connect* Interim Research Report, which is being released at the same time as the Systems Architecture. www.healthconnect.gov.au

PLEASE NOTE

As well as being available on the web site www.healthconnect.gov.au all the Health*Connect* Architecture documents and Health*Connect* Interim Research Report are available on CD.

Printed versions of the Health*Connect* Interim Research Report and Health*Connect* (Phase 2) draft Systems Architecture document are also available.

If you would like a CD or printed document please send your request to healthconnect@health.gov.au or phone 02 6289 7716.

Glossary of Terms

Term	Definition
API	Application Program Interface
BEA	J2EE compliant platform vendor.
DSTC	Distributed Systems Technology Centre
EHR	Electronic Health Record
HL7	Health Level 7. (Health messaging standards)
HRS	Health*Connect* Records System
HRSA	Health*Connect* Records System Application
ISO/WD	International Standards Organisation Working Draft
J2EE	Java 2 Enterprise Edition (A standard application deployment platform.)
SOAP	Simple Object Access Protocol
XML	EXtensible Markup Language

1. Introduction

1.1 Purpose of this Document

This document is the Financial Business Model Options Report for the Health*Connect* System Architecture Development Project. This report explores the key issues in relation to the modelling and costing of the Health*Connect* enterprise. It also presents the generic financial model (Excel spreadsheet). Resolution of the defined issues and actual option costings are presented in the supporting architectural subsequent reports.

The Financial Business Model defines how the business might operate and answers questions like who might own the assets and data, funding sources for implementation and ongoing operations.[1]

1.2 Document Structure

This document is structured into four sections:

1. **Introduction,** which describes the purpose and structure of this document and its relationship to the other Health*Connect* Systems Architecture documents.
2. **Business Financial Model Scope,** which discusses the scope and boundaries of the business and financial modelling for Health*Connect*.
3. **Business Architecture,** which provides a top level business view of Health*Connect* identifying the major business drivers influence the Health*Connect* business financial model.
4. **Core Business Issues,** which identifies and discusses the core business issues that may impact on the successful operation of Health*Connect*.
5. **Business Model,** which provides an overview of the Health*Connect* business model options and describes the proposed structure.

1.3 Relationship to Other Documents

The relationship of this document to the other Health*Connect* Systems Architecture documents is shown in Figure 1-1.

[1] Systems Architecture Development Project RFT 33/0203, Part B Statement of Requirement.

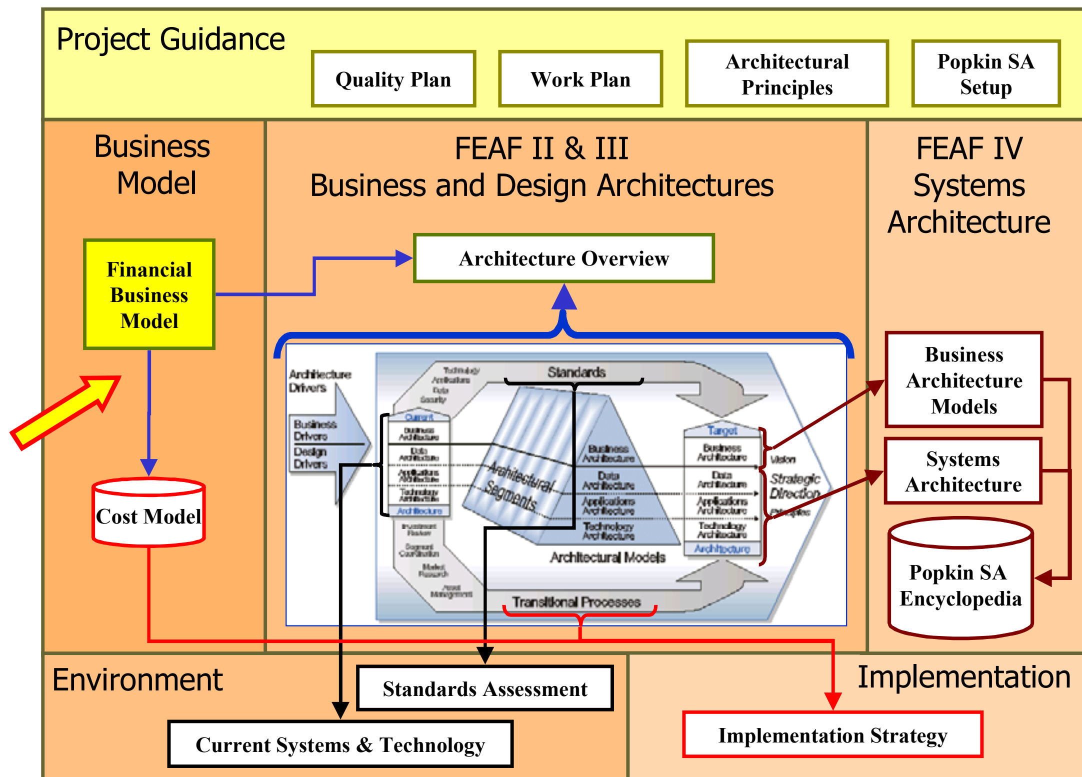


Figure 1-1 Health*Connect* Systems Architecture Documentation

2. Business/Financial Model Scope

The Health*Connect* enterprise will impact on the operations of many health service delivery entities and the lives of consumers. Beyond its own immediate operations, its impacts will reach into many other organisations in both the public and private sectors.

Participation in Health*Connect* will require investment of time and/or financial resources for participants of all types – consumers, providers, institutions, State/Territory Governments, the Commonwealth and others. Health*Connect* will also offer benefits to these participants. The individual response to reconciliation of these costs and benefits will determine the rate and mode of participation and, therefore, the success of the Health*Connect* initiative.

There will be many business processes and costs that, while not directly attributable to the Health*Connect* enterprise, are nevertheless, genuine costs of participation.

A simple analogy is a person joining a social club. For the club, the revenue and expenditure related to this increase in membership can be well understood and easily calculated and budgeted. For the new member there may be other costs (and benefits) that are not directly visible to the club. An example might be the need to purchase new clothes so as to meet the club dress code. This is a real cost to the participant and part of the participant's cost-benefit assessment of joining the club. However, it is not a cost to the club nor one that it could forecast with any useful degree of accuracy.

It will be important in developing the various cost scenarios for Health*Connect,* to be clear about which costs are included and, where possible, identify which costs are not covered.

The general approach will be to include in the financial model those costs that are directly attributable to the creation and operation of the Health*Connect* national system. Those costs that are consequential, but incurred by other participating entities, will be noted and quantified where possible, but not included in the model.

Figure 2-1 presents a perspective of three levels of involvement in the Health*Connect* financial pathways.

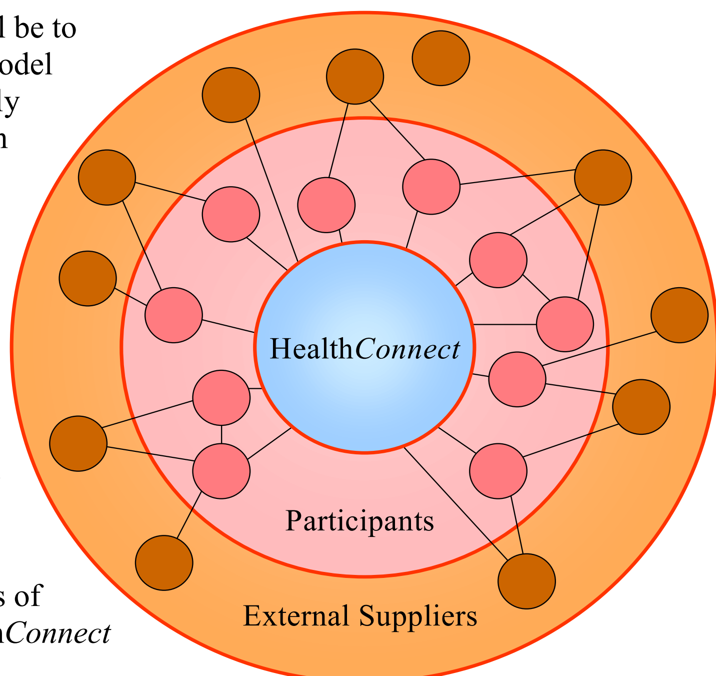


Figure 2-1 Health*Connect* Financial Pathways Model

There is a core of Health*Connect* costs that directly relate to the development and operation of the enabling systems and processes.

Participants will incur costs of their own in setting up their systems and processes for Health*Connect* interoperation. Health*Connect* may support some costs for some participants, and these then become Health*Connect* core costs. However, it is highly unlikely that all such costs could be covered. Participants will include a wide range of individuals and organisations with very different degrees of requirements and solution sophistication.

The outer level of the schematic shows the rest of the world, ie those suppliers who support both Health*Connect* and the direct participants. These will be people such as IT vendors, health product and services suppliers etc.

Within and between these three layers there will be a complex web of financial transactions reflecting the complex nature of the national health care economy.

3. Business Drivers

3.1 Overview

Health*Connect* is not an IT system. Although effective IT will be critical to its success, the compelling reasons for the development of Health*Connect* relate to the improvement of the health of Australians and the cost-effectiveness of the health care system. Health*Connect* is designed to facilitate the cost-effective flow of health information and the consequent improvement in consumer health outcomes.

Health*Connect* will provide a framework under which health information can be exchanged. Over time new systems and capabilities will be added with the intention of building a complete picture of an individual's health history and enabling delivery on the Health*Connect* enterprise mission.

Health*Connect* will also provide the governance that will allow consumer health data to be shared amongst the consumer and the members of his/her health team.

3.2 Business Drivers

The Business Drivers are expressed below in terms of the:

- **Business Need,** a statement of the background to the business drivers.
- **Business Case,** a statement of the top-level business case.
- **Business Problem,** a statement of the primary and secondary business problems.
- **System Concept,** a statement of the concept of what the system is.
- **Business Objectives,** a statement of the business goals, purposes, outcomes, and objectives of the system.

3.2.1 Business Need

Health care services in Australia are provided by a large number of largely independent organisations. A key theme that has emerged in health care reform over the last decade is the need to integrate and better coordinate the delivery of care across the full range of health care providers. Such integration will require the establishment of a loose, broadly-based enterprise in which the many health care organisations coordinate their functions in pursuit of a common set of objectives aimed at a healthier Australia.

Achieving such integration, however, depends upon relevant information about an individual being readily available at every point of care. Currently, health records are kept in a variety of formats at different locations across the system – ie in 'information silos'. The situation is further compounded by existing organisational and professional boundaries and barriers that impede information sharing.

Not being able to readily access critical information can result in:

- adverse events arising from drug treatment errors including drug interactions, duplications or inappropriate treatments being given based on incomplete information;
- providers and consumers spending additional time chasing up information;
- individuals falling through 'cracks' in the system due to information not being passed on; and
- tests being unnecessarily duplicated when previous results aren't available.

Clearly, this is a quality and safety issue that needs to be addressed through a system wide approach. New technologies, such as an electronic health records network, offer unprecedented opportunities to improve the flow of information across the health system. If managed wisely, such systems can ensure that the providers and consumers have access to the information they need for better decision making.

Accordingly, a National Electronic Health Records Taskforce was set up under the auspices of the National Health Information Management Advisory Council in November 1999, to recommend to Australian Health Ministers a way forward for implementing a national approach to electronic health records.

In its July 2000 report to Health Ministers[2], the Taskforce outlined the following objectives for achieving a national network, namely:

> *"Improved delivery of health care and better quality of care, consumer safety and health outcomes for all Australians while enhancing the privacy and respecting the dignity of health consumers by:*
>
> - *empowering consumers to be able to take a greater responsibility for their own health care and be better informed about the choices available to them in respect of their health care;*
> - *ensuring better decision-making which is shared by both consumers and health providers at the point of care;*
> - *providing a flexible, seamless and integrated process of care through the improved delivery of health care and better quality of care, consumer safety and sharing and better exchange of information;*
> - *providing better access to health care, particularly in rural and remote areas;*
> - *building a best-practice, evidence based health system;*
> - *encouraging better, more targeted health initiatives; and*

2 A Health Information Network for Australia, National Electronic Health Records Taskforce, July 2000

- *informing research, learning and training;*

through developing a nationally coordinated and distributed system of electronic health records, which is based on the greater use of online technologies."

3.2.2 Business Case

Following extensive research and consultation, the Taskforce concluded that a sufficiently strong business case exists for proceeding with a national EHR system such as Health*Connect*. Health*Connect* has the potential to substantially improve the quality of care and patient safety across the health sector thereby generating substantial savings both in terms of human and financial costs. Based on conservative estimations, the Taskforce calculated that the proposed network could also generate savings in the order of $300m a year. This would be achieved through reduced hospitalisations; reductions in unnecessary duplication of tests; reductions in support necessary for people left with disability as a result of mistakes in the provision of health care; and an increase in productivity arising from reductions in time off work.

3.2.3 Primary Business Problem

The primary business problem that Health*Connect* aims to address is to facilitate access by providers and consumers to timely, relevant, summary information relating to the health status, treatment and events of individuals, at the time of care, to assist decision making.

3.2.4 Secondary Business Problems

The secondary problems that Health*Connect* is intended to assist with resolving include:

- creating a best practice, evidence based health system through generation of new knowledge and better education and professional development of health care providers, planners and policy makers;
- improving utilisation of health resources and access to health services through implementation of better, more targeted health initiatives and better planning;
- improving safety of health care services through activities such as enabling rapid response to treatment and device failures;
- supporting research and education; and
- detecting outbreaks of disease.

3.2.5 System Concept

Health*Connect* is conceived as a national system of EHR that is accessible to all participating consumers, health care providers and health care organisations subject to security and privacy constraints. Health*Connect* is intended to support four primary user groups:

- **Primary Users.** The Primary function of HealthConnect is to enable the exchange of EHR amongst:
  - **Consumers** of health services who may wish to review and adding to their own health records; and
  - **Providers** of health services (including doctors, nurses, pharmacists, allied health, community health, aboriginal health and public health professionals) seeking information about the consumer they are treating.
- **Secondary Users.** There will be a range of secondary users seeking to conduct analysis and research to support several of the objectives set out by the National Electronic Health Records Taskforce. The provision of data for secondary uses will only be allowed under strict protocols. These will include information being aggregated or de-identified and ensuring authorisation has been given for the requested use. Secondary users are expected to include:
  - **Researchers** (including clinical, health service, administrative, statistical, consumer, epidemiological) seeking information to assist clinical decision making, and
  - **Managers** (including administrators, planners, policy makers, funders) seeking information to assist management decision making.

Health*Connect* will interface with the existing end user IT systems wherever practical. This relationship is illustrated in the system context model in Figure 3-1.

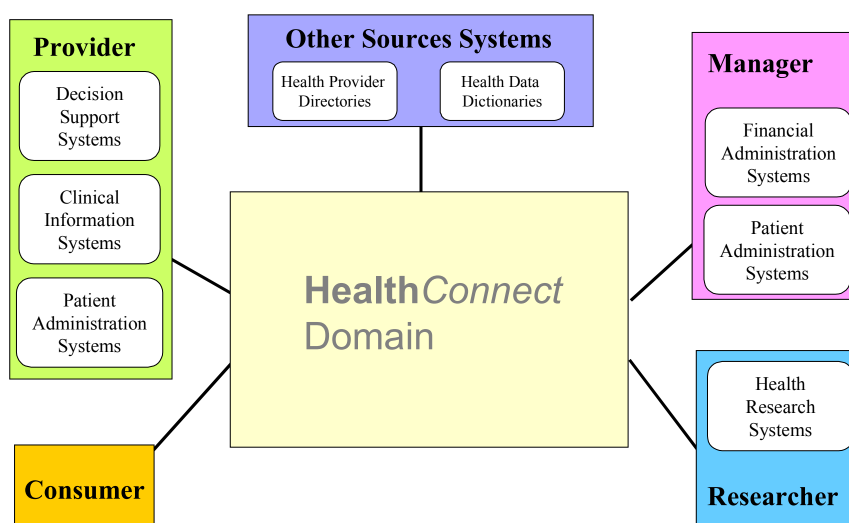


Figure 3-1 Health*Connect* System Context Model

The Health*Connect* service is conceptually similar to a library service, with users adding, searching and retrieving documents from the library subject to a set of access rules. In this case the documents in the library will be

consumer EHR. Access to the library will be via users existing systems (as far as possible) or a general purpose computer interface (Web Browser).

Health*Connect* will provide the capability to store, retrieve and search the documents, conduct registration of users, perform enforcement of security and privacy rules and provide standard interfaces to end user systems. Health*Connect* will not subsume the functions of the end user systems.

3.2.6 Business Objectives

The Health*Connect* Business Objectives are stated in Table 3-1.

Goal(s) (ie the higher order objective(s) to which the project contributes)	➢ Improved health outcomes. ➢ Improved health care delivery. ➢ Improved participant (consumer and sectoral stakeholders) satisfaction with the health system.
Purpose(s) (ie the direct effect(s) or impact(s) of the project)	➢ Improved knowledge creation and employment of same. ➢ More informed consumers. ➢ Less time and resource wastage, including reduction in duplication of information/tests. ➢ More appropriate health care delivery and decision making. ➢ Better informed, planned and coordinated care. ➢ More empowered providers, consumers and planners. ➢ More effective targeting of resources (people, services, dollars etc).
Outcome(s) (the deliverables of the project)	➢ A national system of EHR available to authorised consumers and providers. ➢ Availability of the best health information (clinical, evidence and service) to the right people, at the right time and place, and in appropriate forms – targeting the needs of a range of end-users ie consumers, health care providers, managers. ➢ Confidence in a national health information network in Australia (privacy, information storage and retrieval, governance etc). ➢ Improved quality (scope and nature) of health data holdings. ➢ A sustainable business model (eg incentives framework). ➢ Better equipped health workforce – ie information use, decision making etc.
Principles (guidance for the development of the system)	➢ HealthConnect shall be accessible to all health providers and consumers of health services within Australia. ➢ HealthConnect shall build upon and interface with rather than replace end-user health information systems. ➢ HealthConnect shall have a minimal impact on the time require to complete clinical business processes. ➢ HealthConnect will only perform simple clinical decision-support and analysis functions.

Table 3-1 Statement of HealthConnect Business Objectives

4. Core Business Model Issues

The brief for this report is to analyse how the business might operate and address questions about ownership, governance and funding for implementation and ongoing operations. In this section the core business issues are outlined in this context. The core issues addressed are:

- public & private investment,
- nature of the enterprise,
- flexibility,
- the Health*Connect* economy,
- sustainability, and
- business process change management.

4.1 Public & Private Investment

Implementation of Health*Connect* will cost a great deal – ultimately measuring in many millions of dollars over a decade or two.

> "…there have been a number of significant projects in which the private sector has funded the establishment of an infrastructure, solutions and services environment to service an eGovernment requirement, on a "pay for use" basis. Almost without exception these initiatives have failed, costing the private sector collectively well over $100 million."
>
> NOIE, "What Role Should the Private Sector play in Health*Connect*?", January 2003.

Considerations of public versus private funding for development of Health*Connect* brings into sharp focus the differing investment assessment models used by the two sectors. The public sector is looking for policy outcomes that cost-effectively improve the lives of Australians in general. Whilst not without altruistic objectives, the private sector focuses on commercial returns on its investment.

If the Health*Connect* benefits are mainly for the "national good", then investment will have to come from Government. If business can see a ROI then it will invest. If consumers can see a real personal benefit then they will pay. The balance of the cost-benefit equation may change over time giving rise to changing responses to the opportunity to invest in Health*Connect*.

4.2 Nature of the Enterprise

It is important to derive an agreed understanding of the nature of the Health*Connect* enterprise. The broad range of options might be seen to be:

1. An organisation that is effectively "Health*Connect* Pty Ltd"; a private sector organisation working in a fully commercial mode developing business operations and IT infrastructure "under licence" from the public sector. (A variation on this construct would be for the Government to be the shareholder).

2. A public policy based initiative that facilitates and encourages participants in the health services sector to share information on a consistent basis, but does not build IT infrastructure and related systems and services.

3. A blend of the above options with a Government entity maintaining a policy control role and delivery being effected via a private sector (or private sector like) entity.

A review of these nominal modes of operation is presented below.

HEALTH*CONNECT* PTY LTD	
Pros	**Cons**
▪ maximises the involvement of the private sector leading to further Industry Development ▪ minimises the requirement for public funding ▪ optimises business process efficiency because of profit/commercial orientation	▪ minimal, if any, interest in the promotion of national health policy outcomes ▪ requirement for complex regulatory framework to protect the public interest ▪ possible difficulties in reconciling the needs of different public sector jurisdictions

HEALTH*CONNECT* PUBLIC POLICY UNIT	
Pros	**Cons**
▪ minimal requirement for public funding for IT infrastructure ▪ provides a flexible framework in which other public jurisdictions and private sector organisations can develop responses to particular requirements ▪ focus is on the development of environments where public health outcomes are optimised	▪ need to develop and maintain a complex set of interoperability standards ▪ reduced ability to proactively develop national Health*Connect* infrastructure, particularly in the pioneering stages ▪ success dependent on other public and private sector organisations to work cooperatively

HEALTH*CONNECT* PUBLIC POLICY & PRIVATE DELIVERY	
Pros	**Cons**
▪ minimised requirement for public funding for IT infrastructure in the longer term ▪ retains public control over policy outcomes ▪ fosters Australian industry development ▪ allows public and private sectors to contribute in their core experience areas	▪ need for strong contractual and operational relationship with private sector participants ▪ public sector regulatory role might create tension in working relationships ▪ evolving nature of Health*Connect* might cause contractual difficulties and/or excessive costs

Neither the public-only nor the private-modes can be effective as a single long-term approach. It is unlikely that there will be significant short-term interest in taking a commercial risk in an area that so new and unproven. On the other hand, the national benefits of a successful Health*Connect* operation will be difficult to realise simply based on a cooperative model of standards development and adherence.

A model is required that realises the benefits of both approaches. A transitional approach is needed to both facilitate a sound focus on public health outcomes, and at the same time, create an environment where commercial interests will respond positively to the opportunity to further develop the initiative.

In general terms it seems likely that the early stages of Health*Connect* operations will be largely funded by public sector involvement with an increasingly private sector role as the concepts and operational realities are given substance.

The Health*Connect* business model needs to allow for, and promote, this transition.

4.3 Flexibility

Lack of significant change over time in the operation of Health*Connect* would be proof of its failure to realise its full potential as a catalyst for significant change in the way the health of Australians is managed.

The compelling reasons for particular stakeholders to participate in Health*Connect* will change and develop over time in different ways for different people and organisations.

What is implemented in the early years of Health*Connect* will be only a small part of the possible long term vision. Beyond the basic services related to the collection, storage and delivery of EHRs, Health*Connect* might evolve to provide additional services such as:

- practice management systems and services, perhaps via an Applications Service Provider (ASP) model,
- automated intelligence aimed at health status assessment and management strategies,
- services to provide alerts to consumers and providers regarding possible changes in health status,
- services related to the occurrence of life events, and
- information search services where, for example, the system might continuously search electronic sources for information about a particular topic or disease.

To allow Health*Connect* to respond and nurture such change, the business model, as well as the systems and infrastructure, must be flexible. It must be scalable from a pilot to national operation. It must be sensitive to the

changing needs of its stakeholders. It must be responsive to innovative ideas spawned by the existence of electronic health records.

4.4 The Health*Connect* Economy

The Health*Connect* economy will also change dramatically as the implementation develops. In time, every person living in Australia might be involved in Health*Connect*. Even if the consumer takeup rate was quite modest, most if not all providers would be impacted.

Not only would a significant amount be spent on the design, development and operation of Health*Connect*, but a very large web of other elements of the health sector economy would be impacted.

4.5 Sustainability

There are three major pre-requisite outcomes for Health*Connect* to be sustainable:

- stakeholders must continue to believe that it is sustainable,
- there must be demonstrable and appropriate on-going cost-benefits for the key participant groups – governments, consumers and providers, and
- Health*Connect* must continue to grow and evolve new services and innovations building on the availability of EHRs.

4.6 Business Process Change Management

Health*Connect* seeks to make significant change, and be a catalyst for even more change, in the way in which health care services are delivered. It is fundamentally about reengineering important aspects of health care delivery.

It will therefore be important that a lot of attention is paid to the details of these business process changes. A GP's office, for example, will need to change many aspects of business process if the full benefits of Health*Connect* are to be realised. Attention to these details via the conduct of a Health*Connect* business process change program will be an important factor in achieving a successful rollout and operation.

5. Business Model

This section provides an overview of the Health*Connect* business model options. It identifies the key elements of the business model that are reflected in the structure of the financial model.

5.1 Functional Overview

Figure 5-1 below presents a business functional picture of the operation of Health*Connect*. It identifies a number of entities that comprise the general business model for Health*Connect.*

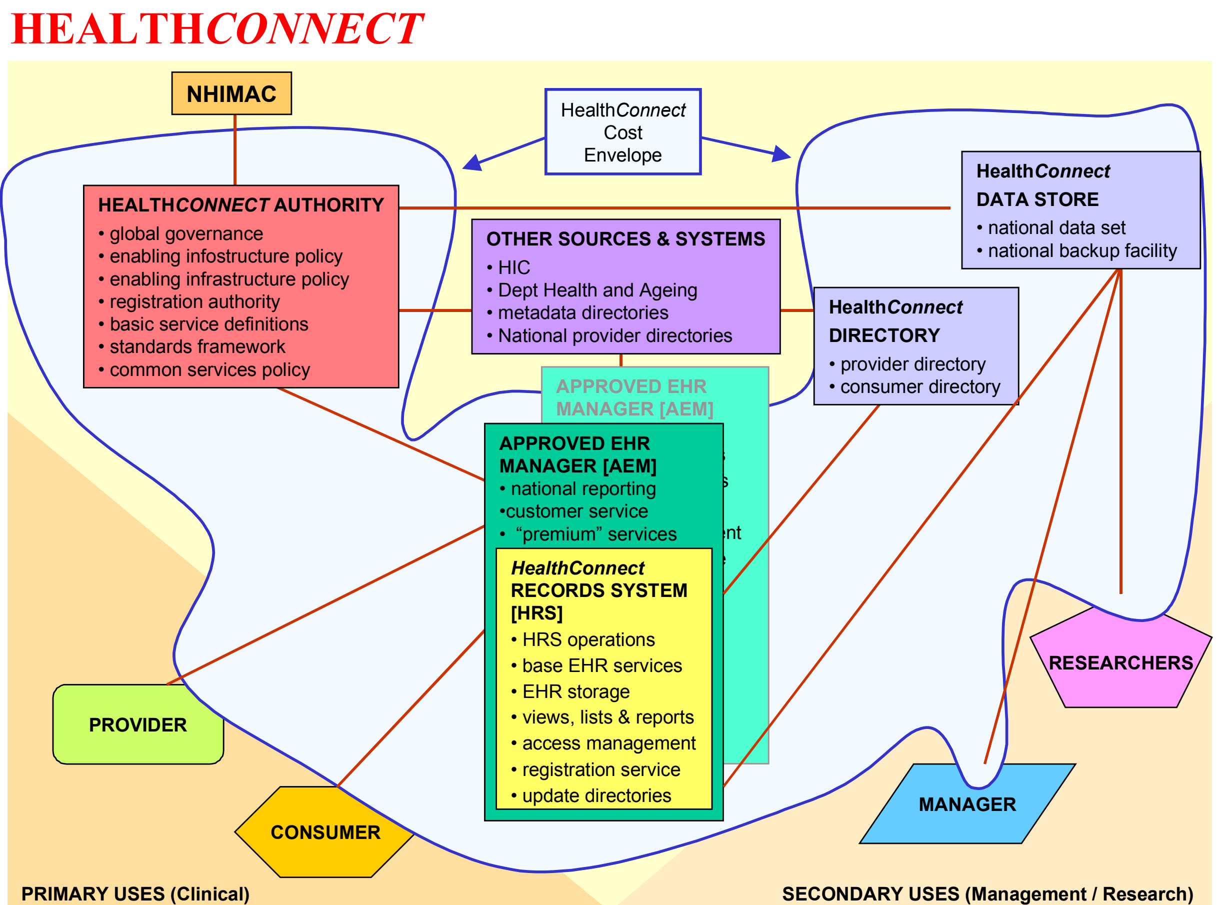
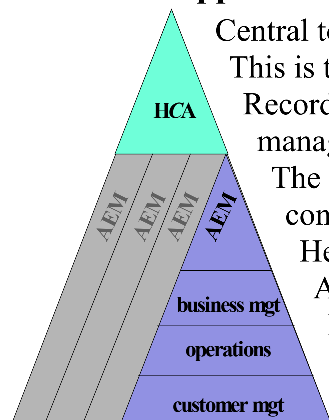


Figure 5-1 Business functional Model of Health*Connect*

5.1.1 Health*Connect* Authority

The Health*Connect* Authority is the entity responsible for overall governance and policy implementation. It is the authoritative source for the development and maintenance of common policies, procedures, operational systems and standards relating to the base Health*Connect* services. It is proposed that the AEM be licensed to operate by the Health*Connect* Authority. Its functions may extend to monitoring AEM service delivery, registration of EHR data formats, resolution of user complaints and coordination and planning of future capability enhancements.

5.1.2 Approved EHR Manager



Central to the model is the concept of the Approved EHR Manager (AEM). This is the business entity(s) responsible for operating the Health*Connect* Records Systems. The AEM is the customer service delivery point, it manages, and encourages, provider and consumer usage of the system. The AEM may choose to provide additional value to providers and consumers by offering "premium" services in addition to the base Health*Connect* services. Ultimately, there may be more than one AEM. An AEM might be a public or private sector organisation. In the initial implementation and for some time thereafter, it is likely that there will be only one AEM and that this will be a public sector entity.

5.1.3 Health*Connect* Records Systems

The Health*Connect* Records System (HRS) is an IT operational element responsible for delivering Health*Connect* services to users. It consists of IT infrastructure (software and hardware), operations staff and facilities. Each HRS is owned by an AEM. The HRS being the operational component and the AEM being the business component. The HRS delivers the services defined in the Health*Connect* business and systems architectures, which include registration of users, storage and retrieval of the event summaries that make up an EHR, and management of security, privacy and consent. An HRS must meet this minimum service baseline, but, an AEM choose to provide additional value added services.

5.1.4 Health*Connect* Data Store & Directory

There will be a requirement for national infrastructure such as a data store, user directory and possibly other information management, security and integrity facilities. These services may be established and operated, as distinct business entities in there own right or alternatively subsumed by one or more of the AEM.

5.2 Three Level Model

The Health*Connect* business model can be seen to operate across three levels. At the national level, the Health*Connect* Authority provides governance and a stable operating framework along with such national IT infrastructure as is required. At the Health*Connect* Records level, the HRS, which are operated by AEM, provide consolidated EHR storage and access services for users. At the User Access level consumers, providers, managers and researchers access the Health*Connect* services in ways appropriate to their needs. The model is illustrated in Figure 5-1.

The purpose of each layer is summarised in Table 5-1 and the ownership options identified.

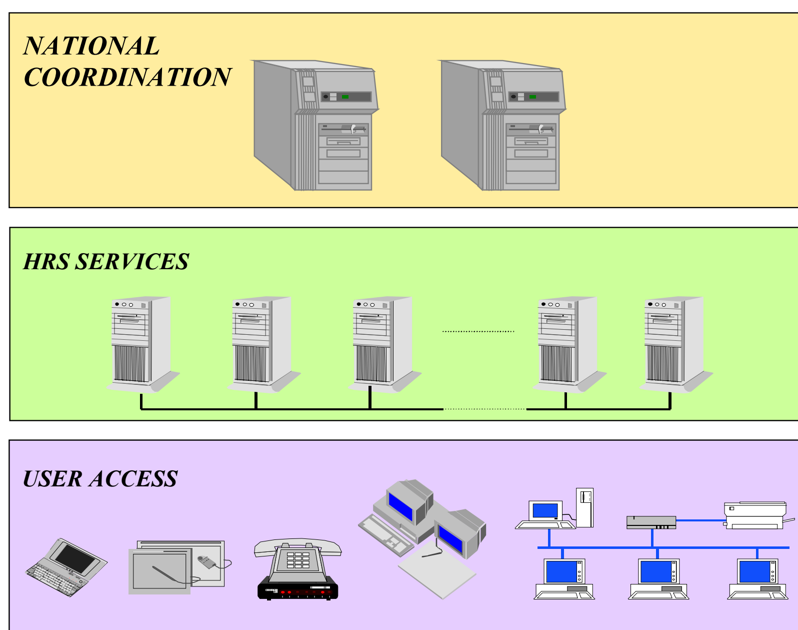


Figure 5-2 The Three Level Business Model

The purpose of each level is summarised in Table 5-1 and the ownership options identified. The technical, operational and legislative aspects of Health*Connect* should be map onto this three level business model.

	PURPOSE	OWNERSHIP OPTIONS
National Coordination	▪ national policy oversight ▪ regulation ▪ national shared infrastructure ▪ national shared infostructure	Public sector
Health*Connect* Records Systems (HRS)	▪ packaging and delivery of users services ▪ aggregation and consolidation of EHRs ▪ registration services	Public/Private sector mix
User	▪ service access ▪ EHR upload and download	User defined

Table 5-1 Summary of the Three Level Business Model

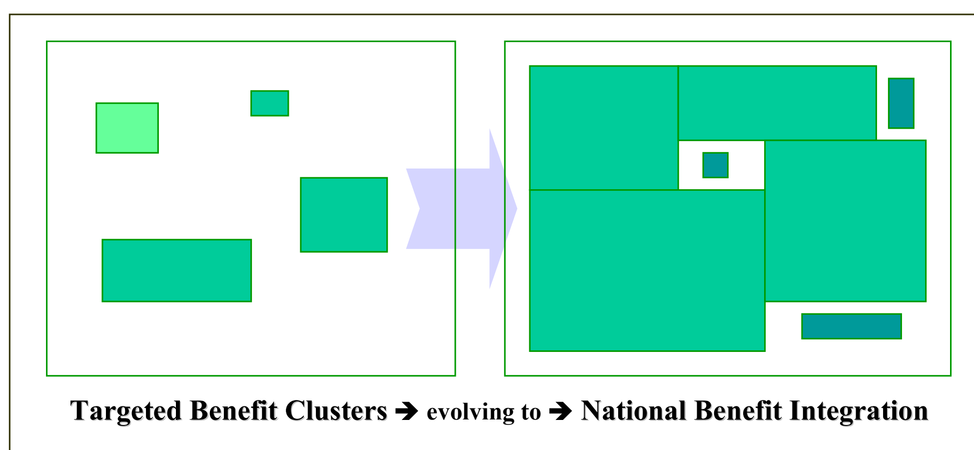
5.3 Implementation

Implementation is covered in detail in the Health*Connect* Implementation Strategy. However, it is useful to briefly discuss some aspects of implementation in the context of the business model.

5.3.1 Benefits Realisation

The key driver in determining the content, focus and geography of the implementation of HealthConnect will be where the most appropriate benefits can be achieved.

The general strategy will need to target benefit clusters that can then evolve into an integrated set of national benefits.



Targeted Benefit Clusters ➔ evolving to ➔ National Benefit Integration

Benefit clusters might be based around health care aspects such as:

- Medication
- GP/Specialist
- Disease Specific
- Chronic and Complex
- Care Plans
- Child Health
- Aged Care
- Indigenous Health.

Further segmentation via geography and/or other demographics will be needed. Final choices in this regard need to be made on the basis of expected health care outcomes. This is beyond the scope of this report. However, it is clear that the business model requires that a rational set of initial benefit clusters be determined and that a clear strategy is articulated for the evolution of these clusters towards the national benefits targets.

5.3.2 Support Strategy

Providers and consumers will need extensive support if Health*Connect* is to achieve it's aims. This support may take the form of:

- extensive printed documentation delivered to homes and available in provider locations
- communication campaigns targeted at specific stakeholder groups
- extensive information available electronically
- contact centres (help desks) to assist users with problems or concerns.

5.3.3 Implementation Schedule

A broadly defined implementation schedule might be as follows: