Managed Health Network Grants Program

Prepared for

Department of Health and Ageing

Final Evaluation Report

27 August 2009
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Document details

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• Cathie O’Neill, Executive Manager, Communio

Document Information

The following table provides details about this document and file.

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<td>Version</td>
<td>Final</td>
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<td>Author</td>
<td>As above</td>
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<td></td>
<td>Content</td>
<td>Final Report</td>
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<td>Approval</td>
<td>Cathie O’Neill</td>
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Document Layout

This document comprises the following sections:
• Executive Summary – a brief summary of the Program and evaluation findings;
• Section 1 – Program Overview – a more detailed overview of the program, evaluation and findings, including lessons learned;
• Section 2 – Seeding Grant Summaries – a summary of each of the projects funded as seeding grants;
• Section 3 – Application Service Provider (ASP) Grant Summaries – a summary of each of the projects funded as application service provider grants; and
• Section 4 – Development Grant Summaries – a summary of each of the projects funded as development grants.

Evaluation Method

Communio was contracted to undertake an evaluation of the appropriateness, efficiency and effectiveness of the Managed Health Network Grants. In doing so, Communio met with Departmental officers, reviewed Program documentation, individual project documentation and a technical assessment provided by Dialog Information Technology. Communio also contacted the project organisations by telephone or email to obtain supplementary information and confirm the project summaries contained in Sections 2, 3 and 4 of this Report. The Evaluation, therefore, comprises a synthesis of that information, based on which conclusions have been drawn.
## Abbreviations

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAPM</td>
<td>Australian Association of Practice Managers</td>
</tr>
<tr>
<td>ACCHS</td>
<td>Aboriginal Community Controlled Health Service</td>
</tr>
<tr>
<td>AMA</td>
<td>Australian Medical Association</td>
</tr>
<tr>
<td>APNA</td>
<td>Australian Practice Nurses Association</td>
</tr>
<tr>
<td>ASP</td>
<td>Application Service Providers</td>
</tr>
<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>CNS</td>
<td>Computer Network Systems</td>
</tr>
<tr>
<td>COAG</td>
<td>Council of Australian Governments</td>
</tr>
<tr>
<td>CPE</td>
<td>Customer Premises Equipment</td>
</tr>
<tr>
<td>CSN</td>
<td>Collaborative Services Network</td>
</tr>
<tr>
<td>CUCRH</td>
<td>Combined Universities Centre for Rural Health</td>
</tr>
<tr>
<td>DBCDE</td>
<td>Department of Broadband Communication and Digital Economy</td>
</tr>
<tr>
<td>DNeH</td>
<td>Divisions Network eHealth</td>
</tr>
<tr>
<td>DoHA</td>
<td>Australian Government Department of Health and Ageing</td>
</tr>
<tr>
<td>EGRRS</td>
<td>Eastern Goldfields Regional Reference Site</td>
</tr>
<tr>
<td>EPC</td>
<td>Enhanced Primary Care</td>
</tr>
<tr>
<td>GP</td>
<td>General Practitioner</td>
</tr>
<tr>
<td>GPDWA</td>
<td>General Practice Division of Western Australia</td>
</tr>
<tr>
<td>HCPs</td>
<td>Healthcare Providers</td>
</tr>
<tr>
<td>HIC</td>
<td>Health Insurance Commission</td>
</tr>
<tr>
<td>HPI</td>
<td>Healthcare Provider Identifier</td>
</tr>
<tr>
<td>HRX</td>
<td>Health Record Exchange</td>
</tr>
<tr>
<td>ILM</td>
<td>Investment Logic Map</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
</tr>
<tr>
<td>IM</td>
<td>Information Management</td>
</tr>
<tr>
<td>IM &amp; T</td>
<td>Information Management and Technology</td>
</tr>
<tr>
<td>ISP</td>
<td>Internet Service Provider</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>LAN</td>
<td>Local Area Network</td>
</tr>
<tr>
<td>MBS</td>
<td>Medicare Benefits Schedule</td>
</tr>
<tr>
<td>MHN</td>
<td>Managed Health Network</td>
</tr>
<tr>
<td>MHNG</td>
<td>Managed Health Network Grants</td>
</tr>
<tr>
<td>OATSIH</td>
<td>Office of Aboriginal and Torres Strait Islander Health</td>
</tr>
<tr>
<td>RACF</td>
<td>Residential Aged Care Facilities</td>
</tr>
<tr>
<td>RACGP</td>
<td>Royal Australian College of General Practitioners</td>
</tr>
<tr>
<td>RCS</td>
<td>Royal Clinical School</td>
</tr>
<tr>
<td>SACR</td>
<td>Security Awareness &amp; Conformance Report</td>
</tr>
<tr>
<td>SEHR</td>
<td>Shared Electronic Health Record</td>
</tr>
<tr>
<td>SOE</td>
<td>Standard Operating Environment</td>
</tr>
<tr>
<td>VPN</td>
<td>Virtual Private Network</td>
</tr>
<tr>
<td>WACRRM</td>
<td>Western Australian Centre for Remote and Rural Medicine</td>
</tr>
<tr>
<td>WAN</td>
<td>Wide Area Network</td>
</tr>
</tbody>
</table>

See also Tables of grant recipients for abbreviations of organisations and projects.
### Grant Recipients

MHNG grant categories

**Table 1**: Identifies organisations that received Seeding Grants

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Number of Projects funded</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal Medical Services Alliance Northern Territory</td>
<td>1</td>
<td>Darwin, Northern Territory</td>
</tr>
<tr>
<td>Adelaide Northern Division of General Practice</td>
<td>1</td>
<td>Adelaide, South Australia</td>
</tr>
<tr>
<td>Barwon Division of General Practice</td>
<td>1</td>
<td>Barwon, Victoria</td>
</tr>
<tr>
<td>Capricornia Division of General Practice</td>
<td>1</td>
<td>Queensland</td>
</tr>
<tr>
<td>Church Resources</td>
<td>1</td>
<td>Crows Nest, New South Wales</td>
</tr>
<tr>
<td>Cradle Coast Authority</td>
<td>1</td>
<td>Burnie, Tasmania</td>
</tr>
<tr>
<td>GP access</td>
<td>2</td>
<td>Newcastle, New South Wales</td>
</tr>
<tr>
<td>General Practice South Australian Inc.</td>
<td>1</td>
<td>Adelaide, South Australia</td>
</tr>
<tr>
<td>Great Southern General Practice Network</td>
<td>1</td>
<td>Albany, Western Australia</td>
</tr>
<tr>
<td>Kimberley Division of General Practice</td>
<td>1</td>
<td>Broome, Western Australia</td>
</tr>
<tr>
<td>MacIsaac Informatics</td>
<td>1</td>
<td>Canberra, Australian Capital Territory</td>
</tr>
<tr>
<td>Monash Division of General Practice</td>
<td>1</td>
<td>East Bentleigh, Victoria</td>
</tr>
<tr>
<td>Nganampa Health Council</td>
<td>1</td>
<td>Alice Springs, Northern Territory</td>
</tr>
<tr>
<td>Northern Rivers General Practice Network</td>
<td>1</td>
<td>North Coast, New South Wales</td>
</tr>
<tr>
<td>General Practice Queensland</td>
<td>1</td>
<td>Brisbane, Queensland</td>
</tr>
<tr>
<td>Riverina Division of General Practice &amp; Primary Health</td>
<td>1</td>
<td>Wagga Wagga, New South Wales</td>
</tr>
<tr>
<td>Southern General Practice Network</td>
<td>1</td>
<td>Moruya, New South Wales</td>
</tr>
<tr>
<td>University of Western Australia</td>
<td>1</td>
<td>Geraldton, Western Australia</td>
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</tbody>
</table>

*Continued on next page*
Grant Recipients, *Continued*

**MHNG grant categories, Continued**

Table 2: Identifies organisations that received Application Service Provider (ASP) Grants

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Number of Projects funded</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal Medical Services Alliance Northern Territory</td>
<td>1</td>
<td>Darwin, Northern Territory</td>
</tr>
<tr>
<td>Bayside Health – The Alfred</td>
<td>1</td>
<td>Melbourne, Victoria</td>
</tr>
<tr>
<td>Central Highlands General Practice Network</td>
<td>1</td>
<td>Gisborne, Victoria</td>
</tr>
<tr>
<td>Goldfields Esperance General Practice Network (GEGPN)</td>
<td>1</td>
<td>Kalgoorlie, Western Australia</td>
</tr>
<tr>
<td>GP Connections and Southern Queensland Rural Division of General Practice</td>
<td>1</td>
<td>Toowoomba, Queensland</td>
</tr>
<tr>
<td>General Practice New South Wales</td>
<td>1</td>
<td>Sydney, New South Wales</td>
</tr>
<tr>
<td>GP Partners</td>
<td>1</td>
<td>Brisbane, Queensland</td>
</tr>
<tr>
<td>Precedence Healthcare</td>
<td>1</td>
<td>Kalgoorlie, Western Australia</td>
</tr>
<tr>
<td>Royal Australian College of General Practitioners</td>
<td>2</td>
<td>Melbourne, Victoria</td>
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</tbody>
</table>

Table 3: Identifies organisations that received Development Grants

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Number of Projects funded</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal Medical Services Alliance Northern Territory</td>
<td>1</td>
<td>Darwin, Northern Territory</td>
</tr>
<tr>
<td>Central Victoria General Practice Network</td>
<td>1</td>
<td>Bendigo, Victoria</td>
</tr>
<tr>
<td>General Practice Queensland</td>
<td>1</td>
<td>Brisbane, Queensland</td>
</tr>
<tr>
<td>Great Southern General Practice Network</td>
<td>1</td>
<td>Albany, Western Australia</td>
</tr>
<tr>
<td>Royal Flying Doctor Service-South Eastern Service</td>
<td>1</td>
<td>Sydney, New South Wales</td>
</tr>
<tr>
<td>Smart Internet Technology</td>
<td>1</td>
<td>Sydney, New South Wales</td>
</tr>
<tr>
<td>Townsville General Practice Network</td>
<td>1</td>
<td>Townsville, Queensland</td>
</tr>
<tr>
<td>Widelinx Pty Ltd., GP links Wide Bay</td>
<td>1</td>
<td>Fraser Coast, Queensland</td>
</tr>
</tbody>
</table>
Executive summary

Introduction

The Managed Health Network Grants (MHNG) Program was announced on 1 December 2005. The MHNG provided funding support to organisations to establish sustainable managed health network solutions based on advanced broadband services with the capacity to support secure electronic messaging and other electronic health (eHealth) activities. MHNG built on the activity of the Australian Government Broadband for Health Program that promoted take-up of business grade broadband services through incentives.

MHNG built on the lessons learned from the Eastern Goldfields Regional Reference Site (EGRRS) and was closely linked to the Connect Australia communications package, managed by the Department of Communications, Information Technology and the Arts (now, the Department of Broadband, Communications and the Digital Economy (DBCDE)), in particular, the Clever Networks’ program. The MHNG Program concluded in June 2008.

Project Types

The MHNG program allocated funding for three types of projects:

• **Seeding Grants** – aimed at the development of a business case for future eHealth activity, up to a value of $100,000;

• **Application Service Provider Grants** – innovation grants available to developers of products that add value to new or existing health networks, up to a value of $1 million; and

• **Development Grants** – available to develop infrastructure to establish a managed health communications network or to extend an existing network, up to a value of $1.5 million.

A total of thirty-seven (37) projects were funded and have been assessed through this evaluation, nineteen (19) Seeding Grants, ten (10) Application Service Provider Grants and eight (8) Development Grants.

Considerable geographical coverage was achieved through the program, with all jurisdictions benefiting. Three projects had a focus on national availability.

Continued on next page
Achievements  The Department’s investment in Seeding, Application Service Provider (ASP) and Development Grant projects was appropriate and timely and stimulated health service delivery via electronic systems in local settings in a manner that addressed local needs.

The projects funded have variously contributed to meeting the overall Program objectives in that:
- infrastructure was developed to establish managed health communication networks, or extend existing networks;
- products (including software applications) were developed that add value to new or existing health networks;
- electronic communications were adopted in particular areas of the health sector; and
- healthcare providers access to clinical information across and between provider groups and regions was increased.

The program provided a unique opportunity to improve relationships between the healthcare sector and IT vendors. Collaborations were formed which provided support for the projects and contributed to the Program’s success. Key stakeholders included:
- clinicians and associated staff;
- IT personnel and administrative staff;
- professional associations; and
- software vendors.

Many of the business cases developed provided the platform for organisations to obtain agreement to fund projects and supported business decisions. As a result, 40% of the business cases developed led to securing funding and subsequent implementation.

The majority of projects funded as ASP and Development Grants have been sustained or progressed beyond the grant funding period. Projects have identified perceived benefits at the service, health professional and patient levels. Significant knowledge has been gained that will continue to inform the eHealth agenda moving forward.
Conclusion

The program aimed to stimulate innovation and move forward the capacity of the health sector to use eHealth tools. Through implementation of the projects, the MHNG Program has achieved this.

As with new initiatives in many sectors, national leadership was required to stimulate innovation, demonstrate the benefits of investment and work practice changes, and to support the often resource intensive start-up and transition phases to allow early adopter systems to become self-funding. For this program, the Department has provided the required funding opportunities and leadership.

The projects funded under this program have identified many benefits, however they have also highlighted that the future of eHealth in Australia will rely upon the development of national standards for interoperability, patient and provider identifiers and the establishment of other national foundations for eHealth.

Continued on next page
Executive summary, Continued

Recommendations  Reviewing the benefits and barriers arising from the MHNG projects it is recommended that as a result the Department consider:

- Supporting the sharing of project methods, business cases (excluding any commercial in-confidence material) and outcomes so that others have the opportunity to learn or collaborate.

- Assisting the providers/developers of clinical desktop software to provide interoperable interfaces for both input and output of data, through standards.

- That government agencies consider secure interfaces to support confirmation of appropriate agency level information, for example eligibility for particular rebates.

- Continuing to provide national leadership consistent with the National E-Health Strategy on:
  - expansion of successful projects;
  - facilitation of further collaboration and problem-solving between the different sectors required for successful eHealth adoption;
  - progression of an interoperability framework and testing approach.

- That the critical success factors highlighted in this report are taken into consideration as part of the application process of any similar future funding models.

- That the Department consider the expansion of appropriate rebates for telehealth consultations across the health continuum.
Section 1

Managed Health Network Grants

Program Overview
Program Overview

Introduction

Communio was contracted by the Department of Health and Ageing (DoHA) to undertake an evaluation of the MHNG Program.

The purpose of the evaluation was to review thirty seven (37) of the projects funded under this program to determine how effective it was in achieving its objectives of:

- developing infrastructure to establish managed health communication networks, or extending existing networks;
- developing products which add value to new or existing health networks;
- encouraging adoption of electronic communications throughout the health sector; and
- increasing health care provider access to clinical information across and between provider groups and regions.

Background

The MHNG Program was a complementary extension to the Australian Government’s Broadband for Health Program that aimed to encourage the take-up of secure, business-grade broadband for general practitioners (GPs), Aboriginal Community Controlled Health Services, general practice (GP) After Hours locations, Royal Flying Doctors Service and community pharmacies nation-wide.

The MHNG Program extended the Broadband for Health Program from individual broadband connections to divisions of general practice, private entities, professional bodies and IT and telecommunication providers by supporting innovation and encouraging the adoption of electronic communications across the healthcare sector.

The program commenced in December 2005 and concluded in June 2008. This program sought to support the establishment or extension of sustainable managed health network solutions, based on advanced broadband services, that would enable –

- improved communications between health service facilities;
- the transmission of electronic health records and images;
- remote diagnosis and treatment; and
- the provision of professional support and development opportunities for healthcare workers.

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Recognising that healthcare service providers and software and communication providers were at varying stages of developing their capability to take advantage of this initiative, three types of grants were made available through this program, namely:

- **Seeding Grants** (offered for the development of businesses cases), up to a value of $100,000;
- Application Service Provider Grants (offered for the development of value-adding products) up to a value of $1 million; and
- **Development Grants** (offered for the development of infrastructure to establish or extend a managed health communications network) up to a value of $1.5 million.

One hundred and twenty (120) applications seeking funding totalling approximately $70m were received during the submission period.

Nineteen (19) Seeding Grants, ten (10) ASP Grants and eight (8) Development Grants were funded and these are included in this review.

Continued on next page
## Program Overview, Continued

### Table 1: Overview of 19 Seeding Projects Funded

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Project Name(s)</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal Medical Services Alliance Northern Territory (AMSANT)</td>
<td>Patient Information Recall System</td>
<td>To develop a business case that addresses the results of a study regarding management of IT environments conducted by AMSANT, to investigate the viability of establishing a shared patient information recall system.</td>
</tr>
<tr>
<td>Adelaide Northern Division of General Practice (ANDGP)</td>
<td>Gawler Managed Health Network</td>
<td>To develop a business case to support secure electronic messaging, shared electronic health records and other electronic health activities.</td>
</tr>
<tr>
<td>Barwon Division of General Practice (BDGP)</td>
<td>Northern West Managed Health Network</td>
<td>To investigate the feasibility and cost effectiveness of creating a managed health network between three Divisions of General Practice including Barwon, New England and North West Slopes.</td>
</tr>
<tr>
<td>Capricornia Division of General Practice (CDGP)</td>
<td>CQ e-link Project</td>
<td>To conduct a 6 month pilot project to implement the CQ e-Link project that would enable the secure exchange of discharge summaries, referrals and patient status reports.</td>
</tr>
<tr>
<td>Church Resources (Church)</td>
<td>Broadband for Health – Easy Aged Care IT</td>
<td>To develop a business case that outlines establishing a managed software service for the aged care sector, enabling facilities to access a range of applications and support for a subscription fee.</td>
</tr>
<tr>
<td>Cradle Coast Authority (CCA)</td>
<td>Cradle Coast Authority Managed Health Network</td>
<td>To develop a business case that investigates and recommends a suitable managed health network.</td>
</tr>
<tr>
<td>GP access (GPA)</td>
<td>Hunter Clinical Messaging Framework</td>
<td>To scope and analyse a clinical messaging framework that will transfer clinical information between GPs, specialists, the Area Health Service and Aged Care facilities in the Hunter Region.</td>
</tr>
<tr>
<td>GP access (GPA)</td>
<td>Hunter Community Managed Network</td>
<td>To develop a business case that outlines steps required to implement a centrally hosted aged care system for aged care medication management.</td>
</tr>
<tr>
<td>General Practice South Australian Inc. (GPSAI)</td>
<td>SADI Managed Health Network</td>
<td>To develop the technical specifications, create the business model and specify the functional outcomes that a Managed Health Network would produce for the general practice and primary healthcare sector in South Australia.</td>
</tr>
</tbody>
</table>
Program Overview, Continued

Table 1: Overview of 19 Seeding Projects Funded, Continued

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Project Name(s)</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great Southern General Practice Network (GSGPN)</td>
<td>Great Southern GP Managed Health Network</td>
<td>To develop a business case that explores the parameters for a managed network infrastructure that will enable electronic health records to be successfully implemented in the region with ensuing benefits to healthcare providers in having access to high speed, high band width broadband technology.</td>
</tr>
<tr>
<td>Kimberley Division of General Practice (KDGP)</td>
<td>Kimberley Managed Health Network</td>
<td>To develop a business case that would cover secure messaging to providers throughout the Kimberley Region.</td>
</tr>
<tr>
<td>MacIsaac Informatics (MacIsaac)</td>
<td>A Scalable Cooperative Network to manage Electronic Referrals for Prescriptions, Pathology, Diagnostic Imaging and Hospital Discharge in the Australian Capital Territory</td>
<td>To investigate and recommend how to create an accurate needs analysis/scope to produce a progressive and innovate e-Health Development Plan.</td>
</tr>
<tr>
<td>Monash Division of General Practice (MDGP)</td>
<td>Southern Managed Health Network</td>
<td>To develop a business case that investigates the feasibility of electronically connecting primary, secondary and tertiary health services in the southern region of Melbourne.</td>
</tr>
<tr>
<td>Nganampa Health Council (NHC)</td>
<td>Communicare</td>
<td>To pilot a customised indigenous health record and population analysis and reporting system.</td>
</tr>
<tr>
<td>Northern Rivers General Practice Network (NRGPN)</td>
<td>North Coast Health Network</td>
<td>To develop a business case that identifies the initial stages of implementing a network within the primary healthcare community in the Region.</td>
</tr>
<tr>
<td>General Practice Queensland (GPQ)</td>
<td>Health Hub</td>
<td>To investigate models of managed health networks that will support interoperable and secure electronic communication between local health care providers in Queensland.</td>
</tr>
<tr>
<td>Riverina Division of General Practice and Primary Health (RDGP&amp;PH)</td>
<td>Riverina Murrumbidgee Information Exchange Network</td>
<td>To develop a business case that identifies best practice approaches to implementing a WAN.</td>
</tr>
</tbody>
</table>

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Program Overview, Continued

Table 1: Overview of 19 Seeding Projects Funded, Continued

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Project Name(s)</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern General Practice Network (SGPN)</td>
<td>Virtual Private Network</td>
<td>To develop a business case that incorporates secure messaging, an electronic service directory, remote access to GP workstations and video conferencing.</td>
</tr>
<tr>
<td>University of Western Australia (UWA)</td>
<td>The Wound Witch: A Regional Integrated Wound Management Project</td>
<td>To develop a business case that recommends practical processes required to create an integrated, electronic patient information exchange and expert review system to facilitate better quality management of chronic and complex wounds and improve clinical outcomes.</td>
</tr>
</tbody>
</table>

Continued on next page
## Program Overview, Continued

### Table 2: Overview of 10 Application Service Provider (ASP) Projects Funded

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Project Name(s)</th>
<th>Project Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal Medical Services Alliance Northern Territory (AMSANT)</td>
<td>Shared Managed Indigenous Health Services Network</td>
<td>The project sought to implement Intranet and email services that would be provided from a secure data centre, support operation of IT Help Desk Services and allow the addition of new network and Patient Information Recall System (PIRS) users.</td>
</tr>
<tr>
<td>Bayside Health – The Alfred (The Alfred)</td>
<td>Cystic Fibrosis Service</td>
<td>To provide a specialist network to Cystic Fibrosis service providers to reduce timeframes for diagnosis and treatment by using videoconferencing and other tools.</td>
</tr>
<tr>
<td>Central Highlands General Practice Network (CHGPN)</td>
<td>Central Highlands Online for Improved Clinical Engagement</td>
<td>To provide SEHR facilities to this region, including the eRedbook system being developed and described under the RACGP project.</td>
</tr>
<tr>
<td>Goldfields Esperance General Practice Network (GEGPN)</td>
<td>GoldHealth Shared Electronic Health Record</td>
<td>To provide a SEHR for use by services in the Kalgoorlie region and to provide information to general practice with information on chronic illnesses, such as Diabetes.</td>
</tr>
<tr>
<td>GP Connections, Southern Queensland Rural Division of General Practice (GPC, SQRDG)</td>
<td>Health Hub</td>
<td>To develop an electronic Health Hub for the Toowoomba region by providing secure electronic communications between all levels of health services within the region.</td>
</tr>
<tr>
<td>General Practice New South Wales (GPNSW)</td>
<td>Healthgrid</td>
<td>To provide a secure WAN to all providers of primary health care throughout NSW.</td>
</tr>
<tr>
<td>GP Partners</td>
<td>Health Record eXchange</td>
<td>To implement a SEHR for use by services in the South Eastern Region of Queensland, particularly GPs, hospitals, health providers and community health centres.</td>
</tr>
<tr>
<td>Precedence Healthcare (Precedence)</td>
<td>Intelligent Disease Management Services (IDMS)</td>
<td>To manage the care of people with chronic conditions in the Eastern Goldfields region, through initial focus on diabetes. To provide a registry of patients with chronic illnesses and allow care plans to be created and maintained centrally.</td>
</tr>
<tr>
<td>Royal Australian College of General Practitioners (RACGP)</td>
<td>eRedbook; and My Practice Team (My PT) – Desktop Portal for Practice Managers and Practice Nurses</td>
<td>To provide on-line system resources and advice to general practice including reference materials and journals; patient information fact sheets; and infection control measures. MyPracticeTeam extends this to the general practice environment.</td>
</tr>
</tbody>
</table>
**Program Overview, Continued**

### Table 3: Overview of 8 Development Projects Funded

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Project Name(s)</th>
<th>Project Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal Medical Services Alliance Northern Territory (AMSANT)</td>
<td>AMSNet</td>
<td>To develop a support network to health providers in the indigenous areas of the Northern Territory (NT) and linked to the already developed NT SEHR.</td>
</tr>
<tr>
<td>Central Victoria General Practice Network (CVGPN)</td>
<td>Central Victorian Managed Health Network</td>
<td>To implement a carrier independent, &quot;whole of health&quot; centrally managed health network to connect a range of public and private healthcare providers located in the City of Greater Bendigo.</td>
</tr>
<tr>
<td>General Practice Queensland (GPQ)</td>
<td>iHealth Care</td>
<td>To provide Help Desk support services for QLD GP Networks.</td>
</tr>
<tr>
<td>Great Southern GP Network (GSGPN)</td>
<td>Great Southern GP Managed Health Network</td>
<td>To develop a secure health messaging system that will reduce paperwork passed between providers.</td>
</tr>
<tr>
<td>Royal Flying Doctor Service-South Eastern Section) (RFDS-SES)</td>
<td>Centralised Electronic Medical Records</td>
<td>To provides the Royal Flying Doctor South Eastern Service staff with remote access to clinic records.</td>
</tr>
<tr>
<td>SMART Internet Technology (SMART)</td>
<td>Online Wide Area Network Test Centre for Collaborative Service Networks</td>
<td>To develop and provide a secure and centralised test “sand-pit” over the Internet for other health system providers and essentially test interoperability between the different systems.</td>
</tr>
<tr>
<td>Townsville General Practice Network (TGPN)</td>
<td>Centralised Information Management System</td>
<td>To establish an enterprise grade solution for the community of health service providers that would facilitate eHealth activities, including records sharing.</td>
</tr>
<tr>
<td>Widelinx Pty Ltd, GP links Wide Bay (Widelinx)</td>
<td>Fraser Coast Managed Health Network</td>
<td>To implement a VPN linking the local medical community eg GPs, allied health including aged care and provide a managed broadband service to identified health sites, including videoconferencing, email, internet, IT support, phones</td>
</tr>
</tbody>
</table>

*Continued on next page*
Program Overview, Continued

Outcomes

The MHNG Program has been successful in that there is demonstrated evidence of the program objectives having been met. Individual projects are able to variously demonstrate having contributed to:

- developing infrastructure to either establish managed health communications networks, or extended existing networks;
- developing products (including software applications) which that add value to either new or existing health networks;
- encouraging adoption of electronic communications throughout the health sector; and
- increasing healthcare provider access to clinical information, both across and between provider groups and regions, such as the online delivery of referrals and test results resulting in reduced duplication, greater efficiency and improved patient care.

The program has brought together a variety of disparate organisational groups for a common purpose. On a practical level, this investment across a diverse range of organisations and settings has resulted in the implementation and extension of the transmission of electronic health records and images, discharge summaries, referrals, status reports, remote diagnosis and treatment and the provision of professional development and support for health workers.

There is now infrastructure in these organisations to enable the secure sharing of patient data between services and health professionals including across ACCHS, pharmacies, pathology, diagnostic imaging, hospitals, community health services, medical specialists and allied health professionals.

The efficiencies and improvements gained from this investment have resulted in simplified data reporting and sharing, equitable access to cost-effective reliable electronic operating environments, IT programs and services. Organisations have established or expanded upon electronic health-service delivery capacity within their region that may not have been achievable without the support of government funding.

Some projects have anecdotally reported that for patients this has resulted in improved delivery of care (particularly for people with chronic disease), especially in rural and remote communities by enabling online interaction and collaboration between the patient, the GP and the care team.

Specific project level quotes that support the program as having met its objectives are shown in the following table.

Continued on next page
### Table 4: Project Statements supporting Program Objectives

<table>
<thead>
<tr>
<th>Program Objective</th>
<th>Quotes from Project Managers indicating successes</th>
<th>Organisation</th>
</tr>
</thead>
</table>
| Developing infrastructure to establish managed health communication networks, or extending existing networks | *The project has progressed well with innovative technical work, including the use of cost effective consumer grade connection, with appropriate security levels.*  
*Implementation of the network has increased security, improved confidentiality, produced financial savings, reduced workloads and allowed efficient sharing of information.*  
*Implemented a carrier independent, centrally managed health network to facilitate the delivery of affordable, commercial-grade, secure broadband services to all health service providers in the region.*  
*The network provides a scalable infrastructure that can facilitate reliable and secure electronic communications between primary health care operators in NSW and has multiple functionalities.* | AMSANT  
GSGPN  
CVGPN  
GPNSW |
| Developing products that add value to new or existing health networks             | *eRedbook can be used to interoperate with clinical desktop systems to deliver validated reminders for preventive care.*  
*The system provides GPs a mechanism for efficient claiming of Enhanced Primary Care items supporting chronic disease, care planning and management.*  
*Many participating GPs and all Allied Health participants reported an improvement in timely and secure access to patient information as result of the implementation of an expanded version of the EHR solution known as the Health Record eXchange (HRX).*  
*Established a directory of health providers in Queensland and enabled the adoption of one secure messaging provider.* | RACGP  
Precedence  
GPP  
GPQ |
| Encouraging adoption of electronic communications throughout the health sector    | *This project has embraced web based video-conferencing, saving travel costs and time and will soon be extended for clinical consultations.*  
*Substantially increased the take-up of evidence-based care plans, collaboration across the care team and care plan attendance.* | BH-TA  
Precedence  
TGPN |
| Increasing health care provider access to clinical information across and between provider groups and regions | *This project achieved the integration of lung function tests results in a shared electronic format.*  
*Medical officers can view patient information even when undertaking telephone consultations off-site.*  
*Stimulated the interest of a number of practices to examine their data and to look at implementing additional population health activities.*  
*The Integrated Disease Management System has substantially increased the take-up of evidence-based care plans and collaboration across the care team.* | BH-TA  
NHC  
CHGPN  
Precedence |
Program Overview, Continued

Business Cases

In addition to the Development/ASP grants, Seeding Grants supporting the development of business cases for future eHealth activity were awarded to those organisations that demonstrated a need to test the feasibility or commercial viability of establishing or extending a managed health network in their local area/division.

The vast majority of business cases focused on the establishment and/or implementation of managed health networks.

Many of the funded organisations had limited capacity to efficiently develop effective business cases and this funding option allowed such organisations and partnerships to secure expert input. This not only resulted in the development of sound business cases that allowed some organisations to subsequently source funds for their projects, but has also allowed them to build internal capacity regarding the need for and the process in developing professional, robust business cases required for the investment of significant resources.

Many of the business cases that were developed can provide useful resource material for similar organisations that embark on such endeavours in the future. At the time of the evaluation, 40% of the business cases resulted in funding to progress to implementation, either through a subsequent Development / ASP grant with the MHNG Program or through an alternative funding source.

National Coverage

Maps have been included in the ASP and Development Grant project summaries to indicate geographical coverage achieved through these projects. Collectively they illustrate where managed health networks were established (or extended), as a result of collaboration and communication between health professionals, patients and partner organisations. Considerable national coverage has been achieved through the utilisation of the funds allocated for this program.

In addition, three projects had national focus through their member organisations (such as portals or other nationally accessible applications).
**Critical Success Factors**

The analysis of the implementation of projects under this Program identified some consistent lessons for the future, arising from both the successes and challenges of these projects, namely the need for:

- clear goals;
- appropriate timeframes;
- stakeholder engagement;
- vendor management;
- eHealth infrastructure; and
- eHealth standards.

**Clear Goals**

The establishment of clearly articulated project goals with defined boundaries of scope assisted in garnering stakeholder support and avoiding scope creep. The importance of a clearly articulated end vision, one that is not solely focused on the technology, was demonstrated in several projects.

Where projects did not have a tightly defined scope, it resulted in time delays, inefficient resource utilisation, change fatigue and an inability to achieve the level of outcome within the defined project timeframe. For example, project quotes include:

- ‘Scope creep was a consistent barrier to progress’ (MyPractice Team);
- ‘There was difficulty in identifying the right consultants due to being new to the project and not having a good understanding of what was trying to be achieved’ (TGPN); and
- ‘The project went through a number of re-scoping exercises in order to accommodate the needs of as many stakeholders as possible, thereby limiting actual implementation time’ (Healthgrid).

Continued on next page
Critical Success Factors, Continued

Timeframes

General feedback indicated that timeframes for project implementation were too short. This demonstrated that program and project planning phases needs to account for the significant time it can take to:
- engage stakeholders;
- identify and agree on scope;
- engage clinical staff who are under workload pressures so that they can participate in planning and training and to change work practices to effect change and realise benefits;
- undertake contract negotiation with the Department and vendors;
- troubleshoot and manage emerging issues; and
- manage projects particularly with the lack of project management and administrative capacity in most health services for such projects.

Stakeholder Engagement

Stakeholder engagement is a key component of any project. Key requirements highlighted through the implementation of the MHNG projects included the:
- the importance of open communication;
- the need to have broad and sustained support from stakeholders;
- the requirement for early and ongoing engagement particularly in relation to the identification of needs, problems or risks; and
- the recognition of the need for training that may be adapted relative to the situation and user confidence.

Several grant recipients learned through their project implementation about resultant business take-up and human resource development that can drive the most benefits from the effective use of technology advances.

Feedback from grant recipients included:
- ‘Benefits realisation requires significant workflow redesign and this cannot be adequately addressed in the absence of a consistent, ongoing approach’ (Bayside Health – The Alfred); and
- ‘Strong support from stakeholders aided project progress’ (CVGPN).

Continued on next page
Critical Success Factors, Continued

Vendor Relationships

Vendor (subcontractor) relationship management is pivotal to project success in technology-related projects. There is a need to ensure open and frank discussions with vendors particularly in relation to scope and budget. This assists in ensuring the smooth running and timely delivery of projects, as evidenced by those projects that featured strong relationships with vendors and service providers and resulted in smooth development and implementation. This is particularly so whilst the health environment is at various stages of technology take-up.

EHealth Components

Feedback from project managers revealed that the lack of standardised eHealth components would continue to impede the full integration of eHealth strategies, specifically patient identifiers and a comprehensive provider directory. The lack of a provider directory inhibits efficient collaborative eHealth initiatives, as it takes an enormous amount of resources to create these directories independently. The lack of a patient identifier similarly restricts systems ability to integrate and transfer data from multiple service providers and systems.

Lack of interoperability between various software platforms also impeded some projects, whilst others were able to apply a more flexible approach that incorporated different programs. Goldfields stated that ‘a key factor in success was ensuring flexible interfaces for use by practices using different software applications’.

The ability to easily access information regarding a patient’s eligibility for receiving an Enhanced Primary Care item rebate was raised by one project. This rebate item depends on prior claims and the information is currently available by phone call. It would be beneficial for eHealth initiatives if such information was available via a secure web service.

Continued on next page
Critical Success Factors, Continued

**eHealth Standards**

The NeHTA work program is progressing many integral pieces of eHealth infrastructure that hinge on the implementation of national standards. The absence of these continues to impede integration and consistency across the eHealth environment in Australia.

While the projects’ funding agreements required compliance with NeHTA standards current at the signing date of the agreement, at the time, there were limited standards for projects to use. There is now a focus on compliance with emerging standards.

Many projects kept abreast of NeHTA developments and where appropriate forged close working relationships. Ongoing relationships between the practical setting and the standards-setting body are very beneficial to ensure that the standards reflect the needs of the industry. For example:

- ‘Several positive discussions have been held with NeHTA and the team looks forward to testing some their methodologies and products in a live environment’ (GP Partners); and

- ‘Initial tests were performed with Australian Healthcare Messaging Laboratory and NeHTA to ensure the Test Centre met their preliminary requirements’ (SMART Internet Technology).
Sustainability and, Scalability

At the time of program inception there was limited innovation and collaboration occurring in the development of shared eHealth networks and applications. The project funding model used by the Department is a proven approach in achieving ‘bottom up’ engagement, building capacity, encouraging innovation and development and collaboration.

The biggest risk of this approach, however, is that once the project funding ceases so can the effort and focus. In addition without strong governance of project objectives across the program, many projects can end up developing very similar ‘products’ – albeit in different contexts. In the case of MHNG, the government has initiated and funded an increase in, both, the number of platforms and understanding of the benefits of eHealth.

Some projects (for example, Goldfields and GP Partners) had strong leadership and governance and began planning for sustainability early in their projects. They have consequently been able to secure ongoing funding from various sources to continue project development and implementation. Others were not so proactive and the ongoing sustainability of those projects will be highly variable.

Scalability or spread refers to the extent of coverage of project applications or the ability of the project design to be applied in other environments. With respect to eHealth this may be based on geographical coverage, diverse environments or across patient / disease types (or a combination). The project funding approach necessarily limits project scope and hence spread. In order for project design, lessons and outcomes to be considered for further spread or scalability, the Australian Government and eHealth governance bodies will need to exhibit further leadership. This may be achieved through, assisting or jointly publishing the successes to make them more widely known or providing ‘scalability’ opportunities in order that some of the projects have the ability to demonstrate how and to what extent spread can be achieved beyond original project boundaries.

Any future programs will need to be consistent with the National E-Health Strategy released in 2008 which identifies key areas of action being centred around:

- **Implementing the national ‘health information highway’** infrastructure and rules to allow information to be seamlessly accessed and shared across the Australian health system.
- **Stimulating investment in high priority computer systems and tools** that can deliver tangible benefits to Australian consumers, care providers and managers.
- **Encouraging health sector participants to adopt and use high priority systems and tools** as they become available.
- **Establishing an E-Health governance regime** to enable effective coordination and oversight of national E-Health activities.

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Conclusion

Conclusions

The MHNG Program was envisaged and implemented at a time when the benefits of eHealth initiatives were conceptually sound but were significantly limited by the lack of demonstrated outcomes and practical application. Building on the Broadband for Health Program, the MHNG Program allowed these 37 projects to investigate the benefits of shared health networks and collaborative applications. In this regard, the program has been a success. In addition, at both the individual project and program level, there have been significant lessons learned that can be used to inform further developments in this sector.

A number of overall conclusions can be drawn from the final project reports for the future of eHealth:

• with appropriate planning and resources, the move to electronic health records can bring significant benefits to both clients and service providers;
• integration and interoperability remains an issue with the constant evolution of standards, technology and software;
• benefits are enhanced when clinical staff are appropriately supported to optimise the transition from paper systems to electronic health records;
• strong relationships with vendors and service providers assisted in ensuring the smooth development and implementation of eHealth projects;
• high level clinical leadership and key stakeholder engagement is key in the move towards eHealth initiatives; and
• project funding provides the impetus for time limited focused activity that can generate considerable outcomes.

Should the Department seek to undertake further health initiatives of this nature, consideration should be given to the critical success strategies detailed in this document.

Moreover, to further develop eHealth in an integrated fashion, any future programs aimed at the operational level should be targeted at building on appropriate and successful work already undertaken through these (or similar) projects to ensure wise use of public money, promote synergistic future outcomes and reduce duplication.

The recommendations presented in the Executive Summary section of this report have been informed by these conclusions.
Section 2

Managed Health Network Grants

Seeding Grants Summaries
**Seeding Grant Summaries**

**Introduction**

The following seeding grant summaries have been compiled and edited based on information provided by the grant recipients to the Department as part of their reporting requirements and from supplementary material provided in the Dialog Technology report, organisation websites, and project documentation.

Seeding grant summaries were then provided to project managers for verification.
Patient Information Recall System (PIRS)

Aboriginal Medical Services Alliance Northern Territory (AMSANT)

Overview
The business case aimed to build on the results of an earlier study conducted by the Aboriginal Medical Services Alliance Northern Territory (AMSANT), to investigate the viability of establishing a shared infrastructure for the delivery of Patient Information Recall Systems (PIRS) and administrative systems over WAN infrastructure.

Outcomes
The result of the project has been the development of subsequent Development Grant and Application Service Provider Grant applications based on a well informed business case.

The business case identified that a managed WAN network was required, to deliver PIRS and secure messaging capabilities from a secure data centre. The establishment of ICT and managed network Help Desk services was also required.

PIRS has evolved into a comprehensive population health care tool with a focus on chronic disease management through the use of care plans and automated recalls. They are designed to organise health care delivery with an emphasis on regular screening, surveillance and other illness prevention activities. The systems use both demographic and clinical information entered for each patient known to the health service to determine individual life-long health care plans that include prompts to indicate when a particular health check or intervention is due.

Consequently, AMSANT’s two funding applications, for Development and ASP Grants were supported by the Department and these linked projects are discussed in Section 3 of this report under Project Summaries.

The Office for Aboriginal and Torres Strait Islander Health (OATSIH) provided funding for the introduction of PIRS into Aboriginal and Torres Strait Islander Community Controlled Health Services (ACCHS).
Gawler Managed Health Networks

Adelaide Northern Division of General Practice (ANDGP)

Overview
The business case focused on improving health outcomes for patients by supporting eligible healthcare organisations to establish advanced broadband services with the capacity to support secure electronic messaging, shared electronic health records and other electronic health activities.

Outcomes
Implementation of secure e-messaging did not meet its full potential due to integration issues with stakeholders and end-users. The practice to provide a fixed solution that does not follow an adaptive process, compatible with a wider range of users and providers, can have an adverse affect on the main driver (increasing quality of patient care).

Some key findings of this project are:

- The process of including end–users as decision makers in the project reduced the amount of manipulation and patches, normally required at the implementation stage. A proof of concept project can be replicated using the same project plan as this and can expect to generate similar results, provided an adequate level of participation is achieved;
- The secure messaging provider was chosen based on pricing and advice from neighbouring Divisions;
- Many secure messaging packages were not interoperable. The implementation of this project noted that encouraging one provider in the market could be a pitfall. This was addressed by contacting relevant stakeholders to ensure that communication was as widespread as possible; and
- The project’s focus was on rural health, that in itself, addresses a huge need but neglects to take into account, the population shift through urban areas. People are now more mobile than ever and tend to move frequently within the same city, to urban or rural areas or interstate. This places a limit on the information being shared. It also neglects the fact that people from rural and remote areas often visit specialists in urban locations to gain access to treatment that they cannot otherwise receive in their home location.
Northern West Managed Health Network

Barwon Division of General Practice (BDGP)

Overview
The business case aimed to explore the creation of a secure business-grade broadband connection for GPs to share patient data with Aboriginal Controlled Community Health Services (ACCHS), pharmacies, pathology, diagnostic imaging, specialists and other healthcare providers and provide telemedicine and videoconferencing to remote practices and healthcare providers.

Three divisions of General Practice formed a consortium to undertake this project. Consortium members are Barwon Division of General Practice (project lead agency), New England Division of General Practice and North West Slopes Division of General Practice in partnership with the Collaborative Centre for eHealth.

Outcomes
The project resulted in the development of a business case that was based on an extensive feasibility study.

The preferred option for the development of a managed health network (MHN) for the joint divisions of General Practice required the use of the Internet as the network infrastructure and the use of outsourced provider tools to supply and manage the delivery of services. This is referred to as the divisional model.

The three divisions of General Practice involved in the project agreed that this would be best managed and operated through a separate legal entity that would be responsible for the management of all process in the provision of these services. Any MHN entity established would be responsible to the combined divisions of General Practice. The MHN entity’s role would be to assist the user through management of connectivity and interfaces that are essential for the service and to provide technical support that would ensure optimal ease of use, security and reliability.

It became obvious from investigations throughout the development of the business case that there was a considerable lack of electronic transfer of healthcare information apart from pathology and radiology reports. There was a large gap in the capacity of pathology, radiology and other healthcare providers to meet the requirements of electronic transfer of healthcare data between all necessary providers. This is being addressed through the work of NEHTA but it is likely to be two to three years before this MHN would have the benefit of this information.
CQ e-link Project  
Capricornia Division of General Practice (CDGP)

Overview
This grant enabled the commencement of a 6-month pilot project that aided collaboration between the Capricornia Division of General Practice (CDGP), Mercy Health and Aged Care, Ramsey Healthcare, Queensland Health and Computer Network Systems (CNS) to implement the CQ e-Link project.

With the commitment from all stakeholders, it was agreed that secure patient reports in the following formats would be utilised:
- discharge summaries from the pilot site of the surgical unit, Rockhampton Hospital, Queensland Health to the pilot GPs;
- referrals from GPs to the outpatients department, Rockhampton Hospital, Queensland Health; and
- status reports (in the forms of pre-admission, admission, cancellation of admission, transfer, and discharge) from Mater Rockhampton, Mercy Health and Aged Care to the pilot GPs.

CNS was chosen to supply and implement e-Link software due to their involvement in other Health Service pilots. Their product ‘Division Report’ was customised to be known as the ‘Capricornia Report’ for the purpose of roll-out in the area serviced by the division. Twelve general practices with forty-three GPs were keen to participate in the pilot program. The participating practices were selected with consideration of the hardware and software necessary to transfer secure clinical information.

Outcomes
The pilot implementation of a secure messaging solution for GPs and health services in the Capricornia region improved the timeliness and security of receiving patient information. The use of a point-to-point secure system as well as practice management processes where clinical documentation can be easily integrated into practice information systems, has enhanced the ability to share and deliver clinical information.

Broader strategic benefits have been realised through this project. This pilot supported the role of clinicians, enhancing partnerships in the region and supporting patient health outcomes through a more effective and secure method of patient information exchange.

Based on the outcomes of the pilot the CDGP recommended proceeding to the next stage of the CQ e-Link project within central Queensland by incorporating additional GPs and other divisions of General Practice, particularly from within the Central Health Service area. This could extend to the installation of the Capricornia Report for specialists, Allied Health professionals and other healthcare providers. The Division recommended that the implementation of the Capricornia Report to other sites within the Central Health Service Area facilities and to increase the range of templates available for transmission of clinical data.
Broadband for Health – Easy Aged Care IT

Church Resources

Overview
The business case outlines the establishment of a managed software service for the aged care sector (particularly small facilities with little IT knowledge or infrastructure), enabling facilities to access a range of applications and support for a subscription fee.

The principal objective of the pilot study was to determine the feasibility and ongoing sustainability of building and maintaining a centrally hosted applications and network service for small to medium aged care facilities in the Australian not-for-profit sector.

Outcomes
The benefits of a shared aged care network for this market segment that have emerged from the pilot study include:

- greater business functionality with no capital investment;
- access to high level IT knowledge and skills;
- evidence that record keeping needs to be held at facility level rather than by individual visiting GPs in rural areas to ensure better access; and
- evidence to show that a strong collaborative approach to IT critical in aged care sector.

This project has since moved on to receive funding from the Australian Government under the Clever Networks program (Department of Broadband, Communications and the Digital Economy) and is called the ConnectCare project. Through a consortium of industry partners Church Resources is facilitating development of an enterprise grade infrastructure platform and leverages leading-edge solutions that are enjoyed by larger facilities. In February 2009, the project was 8 months into implementation.
Cradle Coast Authority Managed Health Network

Cradle Coast Authority

Overview
The business case investigates and recommends a process to develop a managed health communication network within the Cradle Coast region. The evaluation undertaken in order to produce the business case, comprises of four sets of activities, namely:
1. analysis of demand for a managed health network;
2. analysis of information sources and communication technology services for health providers;
3. analysis of the gap between supply and demand; and
4. forward planning, as a result of the findings.

Outcomes
The analysis undertaken confirmed that health providers in the Cradle Coast region were experiencing significant problems in relation to the interoperability of data. These issues are well understood and, for the most part, are being addressed through a variety of interventions and initiatives.

The health community in Cradle Coast met the success factors identified for other similar projects and there is a desire within healthcare providers to expand their organisations by increasing their efficiency through ICT usage.

The analysis recommended the development of a managed health network that extended an existing provider directory to a community health portal. However, given that state and national ‘standardisation’ initiatives were pending, it was decided not to proceed with further stages of development.
SADI Managed Health Network

General Practice SA Inc (formerly, South Australian Division of General Practice Inc. (SADI))

Overview
This business case sought to develop the technical specifications, create the business model and specify the functional outcomes that a managed health network would produce for the general practice and primary healthcare sector in South Australia.

The proposed network would interconnect GPs, Divisions of General Practice, non-government organisations, pharmacy, aged care facilities, Aboriginal Health and allied health services to allow for secure data transmission and information sharing within a managed environment. The network would need to have gateways to other networks such as hospitals, South Australia’s Department of Health and the Internet.

Outcomes
The business case outlined a business model that included proposed governance and operational management of the network and approaches to installation, training, services and support.

The business model identified that SADI, as a health provider organisation dedicated to providing secure information solutions, was best placed to fulfil the operational management of the managed health network in South Australia.

The SADI Managed Health Network would offer the following services:
- secure gateway services;
- consultancy services;
- facilities management;
- certification services;
- training services; and
- system integration.
Great Southern GP Managed Health Network

Great Southern GP Network (formerly, The Great Southern Division of General Practice)

Overview
This business case sought to explore the parameters for a managed network infrastructure that enables electronic health records to be successfully implemented in the region with ensuing benefits to health care providers in having access to high speed, high band width broadband technology.

Outcomes
The division undertook the following key activities as part of its exploration:
• completion of a needs analysis and scoping of health services in the Great Southern area;
• development an e-Health Plan, informed by research and consultation; and
• establishment of a working relationship with local IT/Broadband service providers to plan construction of network architecture that would enable services such as telemedicine and teleconferencing, between health professionals.

The needs analysis and scoping exercise informed the production of an e-Health Development Plan in consultation with health providers, consumers, and broadband suppliers. It established that over 160 healthcare providers (servicing over 70,000 people in the region) would be impacted, and would benefit from implementation of a managed health network (MHN).

To progress implementation of a MHN for the Great Southern Area, the following components were identified that would ensure the construction of a secure, reliable managed health network to facilitate the efficient exchange of information between health practitioners and their customers in the Great Southern region:
• installation and configuration of information technology and communications infrastructure to form the backbone of the managed health network;
• monitoring and maintenance of the installed infrastructure;
• education and training to ensure that health practitioners understand the benefits provided by the infrastructure, and to allow them to access those benefits with a minimum of discomfort;
• support for the health practitioners that use the infrastructure; and
• identification and planning of future requirements for improvements to the infrastructure.

This preliminary work led to a successful application for a Development Grant that is discussed in Section 4 of this Report.
Hunter Clinical Messaging Framework

GP Access (formerly, Hunter Urban Division of General Practice)

Overview
This business case sought to scope and analyse a clinical messaging framework that would transfer clinical information between GPs, Specialists, the area health service and aged care facilities in the Hunter region, using the Healthlink application messaging system.

Outcomes
The scoping exercise involved a clinical messaging review at the national level by research and at locations on site at Central Coast (NSW), Sunshine Coast (QLD) and the Hunter area (NSW). An evaluation of messaging providers was undertaken resulting in the development of a business model for implementation. This process revealed the significant tangible and non-tangible benefits of clinical messaging for GPs and Specialists.

The benefits for GPs relating to clinical messaging include improved administrative efficiency, ease of access to patient information and an ability to refer and correspond directly with specialists. The benefits for Specialists include increases in administrative efficiency and the provision of secure transfer of clinical information.

Selection criteria including clinical and medico-legal issues were determined and documented and messaging providers were subsequently assessed for suitability. Medical Objects was identified as the suitable messaging provider.

The business case that was developed included four specific phases:

**Phase 1** installation of messaging software for GPs - This phase would see the completion of the implementation of clinical messaging between GP Access After Hours and GPs, with consultation summaries sent electronically;

**Phase 2** messaging from Specialists and area health services to GPs - This phase would include intensive marketing to promote clinical messaging and collaboration with the area health service to facilitate messaging to GPs;

**Phase 3** messaging from GPs to Specialists and area health services - This phase would include marketing to GPs and installation of additional software to enable referrals to Specialists; and

**Phase 4** feasibility study for expanding messaging framework in other Divisions within the Hunter New England Area Health Service - This phase would include extensive consultation to identify the costs required to extend messaging in the area.
Hunter Community Managed Network

GP Access (formerly, Hunter Urban Division of General Practice)

Overview
The business case outlined the steps required to implement a managed health network in the Hunter Urban Division and includes:

- implementation of a centrally managed and secure system for GP remote access to information stored remotely;
- implementation of a centrally hosted aged care system for aged care medication management. The proposed solution would support a deployment with a maximum of twenty (20) concurrent users;
- implementation of remote IM & T support to GPs; and
- expansion of managed broadband services in order to provide safe and high speed access to the Internet.

Outcomes
As part of the feasibility process for this business case, the Hunter Urban Division of General Practice and Area Health Service piloted a centrally managed remote access environment.

Results from the project evaluation showed GP time savings on average at 2.3 hours per week per GP. GPs also reported that the system improved ability to provide patient care and gave options to improve work lifestyle and practice efficiency through efficient access to information.

It was envisaged that more benefits accrue when access to aged care medication management software was implemented.
Kimberley Managed Health Network (KMHN)

Kimberley Division of General Practice (KDGP)

Overview
The business case identifies that through leveraging an existing managed health network, funded by the Department of Health and Ageing in the Great Southern region of Western Australia, (Great Southern Managed Health Network (GSMHN)), a cost-effective extension of this network may extend to the Kimberley.

This would provide secure electronic messaging for all health professionals in the Kimberley, specifically those in the private sector (allied health professionals, pharmacists, GPs, specialists), the WA Country Health Service (doctors, pathology, radiology, allied health professionals, specialists, aged care workers), as well as the Aboriginal Controlled Community Health Services (ACCHS) and the Kimberley Aboriginal Medical Service Council (KAMSC).

The Kimberley Managed Health Network (KMHN) would also seek to deliver a shared patient register application for the incidence and treatment of acute rheumatic fever, rheumatic heart disease and renal support services. Software would be used to provide the integration and sharing of immunisation information. Finally, the KMHN would assist all health professionals in the region in moving to electronic patient records.

Outcomes
In order to validate the premises for this business case, a pilot trial was undertaken that provided access to secure messaging, online forms, access to electronic pathology results, a prototype chronic disease register and electronic clinical management functionality. The pilot has helped to refine functional requirements for all participants in the area and has highlighted the need for training and coordination. That there is a need for the managed health network in the Kimberley is beyond doubt, as are the clear benefits of such infrastructure. The principal benefit of the work in the area of managed health networks in Western Australia is the ability of the GSMHN to provide infrastructure and a coordinating role across organisations and individual health professionals in WA (and potentially beyond).

In the first part of 2008, the GSMHN, with the support of a number of GP divisions and Networks, commenced roll-out across other areas of Western Australia (Pilbara, Mid West, Wheatbelt and Perth). Efforts to coordinate the take-up of the GSMHN across the state are progressing. The GSMHN has also been leveraged in other government-funded projects, such as the Australian Better Health Initiative.

The KDGP and GSMHN’s work within the Kimberley, via the development of this business case and pilot trial, has made clear in-roads into delivering a fully functioning network of connected health professionals. Continuation of this project would likely include concentrating on further functionality covering other chronic disease registers, referral pathways and shared care plans, as well as and team care arrangements.
A Scalable Cooperative Network to manage Electronic Referrals for Prescriptions, Pathology, Diagnostic Imaging and Hospital Discharge in the Australian Capital Territory

MacIsaac Informatics

Overview
This business case sought to scope the development of a scalable health referral network to manage electronic referrals of pathology and radiology requests, prescriptions and hospital discharge summaries.

Outcomes
The research and consultations undertaken as part of this scoping exercise identified a number of key elements that would inform the scope, design and implementation process of such a network including:

- maintenance of existing referral processes, such as provider specific referral forms, to minimise business impact for providers and use of the same service for routing of radiology, pathology and prescriptions thereby achieving economies of scale and avoidance of duplication;
- support for telephone bookings in radiology where errors and miscommunication are common and would be avoided by having the request available at the time of booking;
- maintenance of patient choice to proceed or not to proceed with the referral or prescription, while providing referrers with feedback on non-attendance that would support continuity of care and adequate consumer information regarding these choices;
- minimal requirement for change in end-user applications and e-requests would build on existing capacity to computer generate referral forms; and
- use of international standards based eHealth communication architecture and components, from Integrating the Healthcare Enterprise (IHE) would result in more reliable and cost effective implementation, enable choice of vendor solutions, and provide local vendors with the capacity to engage in international markets.

The outcome of the scoping study identified that the e-referral model to support the community based electronic referrals of pathology and radiology requests, prescriptions and hospital discharge summaries is technically feasible and affordable however, it does need to be proven in practice within a representative region prior to being made available for extended use.
Southern Managed Health Network

Monash Division of General Practice (MDGP)

Overview
The business case objectives, in the context of the managed health network, included:

- investigation of the feasibility of electronically connecting primary, secondary and tertiary health services in the southern region of Melbourne;
- exploration of other benefits of a ‘managed health network’, such as sharing of electronic health records between health sectors and obtaining access to clinical resources, electronic web-enabled services, telephony and videoconferencing;
- development of a business case for a virtual private network (VPN), as well as other options to connect primary, secondary and tertiary health providers within the southern metropolitan region;
- the documentation of the political, social and cultural factors relevant to reaching an agreement related to electronic data exchange in the region; and
- the recommendation of ‘next steps’ along the road to e-connectivity in the region.

Outcomes
The business case made several recommendations to the healthcare groups in the region (hospital networks, Primary Care Partnerships and divisions of general practice). These assume an incremental approach to the implementation of electronic communication and that ‘point-to-point’ messaging will be more readily adopted than an interoperable ‘managed service’ run by a separate entity however, short term ‘point-to-point solutions should keep in mind longer-term aims through the adoption of standards-based systems.

The principal recommendation was to obtain additional resources in order to initiate a strategic regional coordination entity (i.e. a coordinator and administrative support) in order to foster:

- ICT capability within the region and assist the regional initiatives with technical changes;
- coordination between initiatives, vendors, state and federal groups, NeHTA, Standards Australia and other stakeholders to assist with the implementation of e-connectivity and interoperability solutions;
- the development of a regional ‘roadmap’ of improvements, anticipated timeframes and dependencies;
- education of groups in the requirements to take advantage of ICT improvements; and
- an interface between Commonwealth, state and local initiatives to minimise duplication of effort.
Communicare

Nganampa Health Council (NHC)

Overview
The Nganampa Health Council (NHC) received funding for the pilot deployment of Communicare, a customised Indigenous health record and population analysis and reporting system. This project incorporated the main office in Alice Springs, the busiest clinics at Iwantja in remote northern South Australia and several remote working health professionals on the eastern seaboard.

The intention of the project was to:
- establish a secure, reliable and functional managed network in what must be considered a low bandwidth, underperforming telecommunication environment;
- encourage the use of Communicare by clinical staff and look to establish a high level of competence in the use of the system;
- establish a basis for extending the use of Communicare in eight other remote clinics;
- establish procedures for ensuring data is properly managed, and secured with a strong emphasis on client confidentiality; and
- make significant use of a range of eHealth system capabilities including HIC online, Medicare, pathology online and the eHealth NT (formerly HealthConnect) program and point-to-point secure messaging in the Northern Territory.

Outcomes
The pilot project achieved the objectives listed above and succeeded in implementing a specialised reporting system to improve health outcomes for Indigenous Australians in the project’s target area.

In addition to the work specifically funded by this program, Communicare is now being used at five other regional clinics.

The project has also investigated other services that can be provided to complement the technology introduced. “Webex”, a platform providing the framework to merge collaborative applications with business software has been used and has enabled training to be provided to clinical staff from offsite locations.

The NHC has continued to work with the Office for Aboriginal and Torres Strait Islander Health (OATSIIH) and the Aboriginal Medical Services Alliance NT (AMSANT) regarding non-pilot site remote end network set up.
North Coast Health Network (NCHN)

Northern Rivers General Practice Network (NRGPN)

Overview
The business case outlined the proposed North Coast Health Network (NCHN) to provide a staged and scalable approach to services deployment, to support the user base and to serve as a change management environment for new approaches to health service delivery within regional areas.

The business case identified the initial stages of the NCHN for the implementation of a number of services that rely on the existing broadband infrastructure being utilised by the primary health care community within the region, including:

- secure messaging capability – supporting electronic transfer of referrals, pathology orders and test results;
- integration with the North Coast Area Health Service – supporting the electronic transfer of electronic discharge summary reports from hospitals to GPs;
- on-line resources and directory services;
- hosted application services;
- remote back-up services and storage services; and
- procurement services – combining the purchasing power of the user base to procure other services such as ICT support services, upgraded broadband services and IP telephony services.

The business case proposed that the initial infrastructure services would include the establishment of a secure data centre to support these services. The second stage would see the establishment of a second data centre to replicate and back-up the functions and operation of the first and provide a high level of network and service resilience.

Outcomes
The business case indicated that the need and demand for the introduction of the NCHN had been validated and an approach for its implementation in accordance with DoHA’s requirements was identified.

The NCHN aimed to leverage previous Australian Government investments in eHealth and health services improvement programs within the region, such as Broadband for Health, the National Primary Care Collaborative Program, the Practice Incentives Program and the Clever Networks Program. The NCHN could provide both a service delivery platform and act as a catalyst for health providers on the NSW North Coast to further develop “practices of collaboration” by enabling the secure sharing of information, resources and capacity to achieve more effective health service delivery in the face of growing health workforce pressure.

The initial platform of services could provide the change management support necessary to reach financially sustainable operation.
Riverina-Murrumbidgee Information Exchange Network (RMIEN)

Riverina Division of General Practice and Primary Health (RDGP & PH)

Overview
The Riverina Division of General Practice and Primary Health Ltd. (RDGP) have developed a business case for the Riverina-Murrumbidgee Information Exchange Network (RMIEN).

The RMIEN business case was developed using a five-step process:
1. conduct Investment Logic Maps (ILM) sessions with healthcare groups in the region to identify the drivers, benefits and business changes necessary to implement the RMIEN;
2. undertake a benchmarking exercise to identify best practice approaches to implementing a wide area network (WAN);
3. develop cost estimates of current spending on information communication technology (ICT) based on a sample survey of healthcare providers in the region;
4. undertake an Expression of Interest (EOI) to identify the costs of implementing a WAN based on the functionality identified in Steps 1 and 2 above; and
5. complete the business case using the information obtained from steps 3 and 4 above.

Outcomes
The business case identified a preferred option, the Shared Medical Intervention Record that was supported by the project steering committee. The recommended option addressed the three main drivers identified by healthcare groups in the ILM sessions as follows:
- inability to access relevant and timely information including records of treatment by other health care;
- significant amount of time staff spend managing paper records including clarifying meaning and scanning; and
- lack of access to local program data for evaluation and program management.

The business case provided a detailed analysis of sustainability issues and the preferred option identified that ongoing costs in 2009 and 2010 would be substantially lower making membership costs much more affordable to health care providers in the region.

The Shared Medical Intervention Record application would provide substantial benefits to all participating health care providers. At the time of submitting, the final business case to the Department the division anticipated that 100 health care providers’ organisations would be prepared to join the RMIEN ensuring its long-term financial viability and providing the critical mass required to make the RMIEN self-sustaining.
Virtual Private Network

Southern General Practice Network (formerly, South East NSW Division of General Practice)

Overview
This business case sought to undertake an audit of Information Technology (IT) infrastructure in all general practices in the region, as a first step in developing a comprehensive ICT Strategy for the network.

Outcomes
The audit identified the specific ICT needs of GPs, including:

- secure messaging between GPs and pharmacists, specialists, acute and community services other health providers, avoiding the need for scanning and faxing so many documents;
- remote access to the GP desktop at all work locations (e.g. hospitals, aged care facilities, methadone clinics);
- access to an electronic address directory for other health professionals, especially for specialists; and
- access to the ANU network for the 40-plus practices in the division who are closely involved with teaching medical students.

Further analysis and consultations with stakeholders revealed that generally speaking, practices have the IT platform to enable a virtual private network (VPN) to be connected. While most practices have relatively up-to-date practice IT infrastructure, these practices are small and would benefit from assistance to access the infrastructure and IT support to meet recommended security standards for a managed health network. Aged care facilities often lack the necessary hardware and IT support to enable reliable remote access connections.

GPs were interested in trialling the secure messaging of discharge summaries at one regional hospital however, there is a need for greater ICT support to facilitate access for interested GPs.

Overall it was determined that the connection of a VPN would provide immense benefits to time-poor GPs in terms of reducing rework, improving electronic exchange of patient information and hence patient care and providing improved teaching opportunities for rural medical students.
The Wound Witch: A Regional Integrated Wound Management Project

University of Western Australia (UniWA)

Overview
The purpose of this business case was to ascertain and recommend the practical processes required to create an integrated, electronic patient information exchange and expert review system to facilitate better quality management of chronic and complex wounds and improve clinical outcomes.

Outcomes
This project developed and tested a model of care using a digital imaging system for wound care with the dual purposes of improving the sharing of medical information across a range of primary care sites and of increasing the use of expert review.

In a relatively short period, the trial demonstrated the value of an imaging and medical record system that enables access to expert review and shared records. With small modifications to the software and strategies to engage management and staff, it is expected that a system such as Wound Witch, could bring about improved health and a net savings in health care costs.

After the trial, several sites expressed interest in continuing to use the system. Arrangements were made to extend the software license and to continue to provide IT support and expert clinical review. Despite support from the Combined Universities Centre for Rural Health (CUCRH) and the offer of funds from the state health Department, one year after the trial only one site, a residential aged care facility, was still using the system.

CUCRH discussed the potential for extending the trial to all aged care facilities in the region with Midwest GP Network. This would have had the immediate benefit of improving wound care in those services and would engage the general practitioners who are responsible for medical care at those sites. Unfortunately, logistic and workforce issues meant that this project was not undertaken.

Key lessons and benefits derived from this project are as follows:
• residential Aged Care Facilities (RACF) and some public out-patient services were most successful in adopting the system because they have a higher proportion of clients with chronic wounds and they are resourced per number of patients rather than occasions of service;
• severe workforce shortages, especially in rural and remote clinics, made it very difficult for those facilities to be able to release staff for training or to maintain the use of the system; and
• it is unlikely that GPs will continue sustained, widespread participation in this project. A key issue for some telehealth applications is that there are few Medicare item claim numbers for telehealth consultations. For wound care, there are the additional barriers of inadequate reimbursement of nursing time and lack of provision to charge for dressings and other wound care products.

Continued on next page
The Wound Witch: A Regional Integrated Wound Management Project, *Continued*

- most services in rural areas are not autonomous. The need to seek permission from distant IT managers to install software and alter firewalls to allow data to be stored and retrieved from an independent server caused considerable delays.

The analysis of the 15-week trial identified a number of features that affected the success of sites in adopting the system, including workforce stability. A web-based system would address the challenges of over-coming firewalls and multiple levels of approvals that were required to enable access to a shared record system based on a secure, external server.

Through the experiences of implementing the system across twelve sites, eleven recommendations were developed to guide implementation of other eHealth innovations in rural and remote primary care settings. Specifically, the recommendations from the trial informed the development of a state-wide wound care program, Wounds West. The findings of the trial have also been disseminated to wider eHealth, wound care, primary care and rural health care networks through conference presentations and a paper accepted for publication in *Rural and Remote Health* (www.rrh.org.au).
Section 3

Managed Health Network Grants

Application Service Provider Grant Summaries
Application Service Provider Grant Summaries

**Introduction**

The following Application Service Provider Grant Summaries have been compiled and edited based on information provided by the grant recipients to the Department as part of their reporting requirements and from supplementary material provided in the Dialogue Technology report, recipient organisation websites, and project promotional material.

Grant summaries were provided to corresponding project managers of each of these projects for verification.
Shared Managed Indigenous Health Services Network

Aboriginal Medical Services Alliance Northern Territory (AMSANT)

Project Summary
The project sought to implement Intranet and email services required to setup a secure data centre, support operation of IT Help Desk Services and allow the addition of new network and Patient Information Recall (PIR) System users.

Organisation/Network Overview
The Aboriginal Medical Services Alliance Northern Territory (AMSANT) is the peak body for Aboriginal Community Controlled Health Services (ACCHS) in the Northern Territory. It provides a forum for community controlled health services in the Northern Territory to lobby for positive changes to the health of Aboriginal people and aims to improve the health of Aboriginal people in the Northern Territory through promoting and extending the principle of local Aboriginal community control over primary health care services to Aboriginal people. AMSANT supports twenty three diverse member organisations across the Northern Territory. These organisations can be small remote clinics of three to four staff to larger urban based services with over eighty staff. Some of these services have only been in existence for two years and others for over thirty.

Project Background
A detailed study by AMSANT revealed that the majority of ACCHS within the Northern Territory had been experiencing significant difficulties in managing their IT environment, in particular maintaining reliable and secure access to:
- PIR systems including management of that data once it has been collected; and
- Email, Intranet and other mission critical IT services.

A high level review of work practices was undertaken and identified that the existing system was not meeting requirements either from a functional or system performance/reliability basis.

A managed network accessing a high redundancy, secure data centre with specialised user access controls and with associated IT Help Desk and network monitoring was seen as an affordable and viable option for delivery of shared PIR systems and Intranet, email and other critical systems including remote IT management services.

Project Effectiveness
The project called AMSNet, has been successful in achieving improved overall usage and reliability of IT systems, extending distributed access to health data and providing secure access from anywhere. The project is providing capabilities well beyond what was originally envisaged and positioning the sector well for broader and more extensive deployment.

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Shared Managed Indigenous Health Services Network, Continued

During a 12 hour outage in the Northern Territory and northern South Australia AMSNet users were able to immediately continue operation using failover satellite links. Similarly during a medical evacuation all IT communications failed, but the evacuation was able to continue as re-establishment of a satellite link was possible. Email services have been linked with the Intranet development. Secure messaging has been integrated with the delivery of Communicare Services and virtual desktop infrastructure has been implemented. Full desktops are now provided to users allowing thin client access and off site storage of information.

Issues
Due to competing priorities in the Northern Territory, health services have had little time to focus on other initiatives. Services have not been well placed to migrate to new IT operating environments pending the merging of smaller community controlled health services to regional community controlled health services.

Delays in integration and procurement of the token security system impacted on the implementation schedule. Significant problems were encountered with incompatibilities between the primary healthcare system software Communicare and the delivery platform.

Despite these issues, usage levels are in order of 130 staff across 25 remote sites and a number of remote clinicians operating out of the southern and eastern states. Take-up is expected to continue to grow by up to 50 users over 3-4 sites, and a greater increase in the next 12 months as regionalisation plans are put into effect.

Project Strategies
Project governance has been highly successful with very good levels of participation from health services and related organisations.

Sustainability and the Future
Healthcare services that have a primary contractual relationship with providers rather than with AMSANT.

The availability and cost of telecommunication services needed to support the delivery of AMSNet remains a problematic issue as there are difficulties in securing the adequate bandwidth at a reasonable price. Until good quality, reliable terrestrial solutions are available in remote locations this will continue to be an issue.

NB: It is acknowledged that both this ASP Grant in combination with AMSANT’s Development Grant provided funding for one integrated program. As such, the Development Grant summary contained in the next Section of this report contains some duplication of information.
Cystic Fibrosis Service

Bayside Health, The Alfred

Project Summary
The Adult Cystic Fibrosis Service engaged Smart Health Solutions to develop an electronic health record solution for cystic fibrosis and to implement it, on a limited scale, within the Cystic Fibrosis Clinic at The Alfred.

Project Background
There are up to twenty (20) healthcare practices providing specialist care to over 2500 people with cystic fibrosis around Australia, with fifteen (15) of these operating in major metropolitan hospitals. Each patient is typically seen by many members of a specialist medical, nursing and allied health team, around four times a year. In between these visits, patients living in rural or remote areas rely on local healthcare providers for emergency or ad-hoc care.

The management of a complex multi-organ disease such as cystic fibrosis results in the accumulation of enormous volumes of multidisciplinary, clinical data. As many as a dozen volumes of paper files may be required by the time a patient reaches their early teens, which, then needs to be summarised at transfer to the adult care facility. A typical visit to the outpatient clinic results in a minimum of six health professional encounters, each contributing to the overall plan of management but with each encounter recorded as a separate clinical note in the paper file.

This program began several years ago when Telstra provided seed funding for the initial development of an eHealth solution to support cystic fibrosis patients that are treated at the The Alfred’s Adult Cystic Fibrosis Service. The program is an extension of a chronic disease information management initiative that had previously commenced at The Alfred Hospital several years ago and was supported by a complementary South Australian Health funded program called the Cystic Fibrosis on-line Electronic Health Record.

Project Effectiveness
The project has successfully developed and implemented an electronic health record solution for cystic fibrosis within the Cystic Fibrosis Clinic at The Alfred, providing clinicians with the ability to capture patient information during weekly reviews. Patient records may then be projected onto a large screen during the team meeting and a Bluetooth wireless keyboard allows the appropriate clinician in the room to update the patient record.

The solution is now being used by selected clinicians at The Alfred to manage clinical records of patients accessing specialist Cystic Fibrosis care. It has also been implemented in specialist rooms in three regional centres, Ballarat, Sale and Geelong.

One of the most valuable aspects of this project is the ability to capture patient information during weekly reviews when the clinical team meets. Previously, these reviews were conducted without access to patient notes and depended on the memories and notes of the participating clinical staff. Reviews are now conducted in a collaborative setting that is supported by an appropriate clinical information support tool.

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Cystic Fibrosis Service, Continued

This project has embraced the Royal Australian College of Physicians’ personal computer, web-based video-conferencing solution (Attend Anywhere) which is now used for stakeholder meetings, saving travel costs and time. It is intended to be used for clinical consultation.

Cystic Fibrosis Australia Data Registry Reporting has previously required manual data entry of summary data for over 250 patients annually. The application developed as part of this project allows for the export of de-identified annual summary data directly to the database, which results in significant staff resource efficiencies and reduced reporting error. The application also vastly improves the capacity to conduct local quality assurance audits and clinical governance activities (eg. risk management) and to monitor outcomes against key performance indicators both nationally and internationally.

This project has achieved extensive and significant IT systems integration to support health record interoperability. This also includes the innovative integration of lung function results. Health record interoperability achievements include automated real-time export of HL7 compatible pathology results, diagnostic imaging results and administrative messages (admission, discharge and transfer). The applications have been installed without complication at physicians’ private rooms and on hospital IT networks. Access is via a secure Medicare Australia individual certificate on a card and requiring a card reader (standard on new computers).

Key factors influencing the success of this project can be attributed to:

- extensive and significant IT systems integration to support health record interoperability;
- communication and cooperation between key stakeholders; and
- consumer support.

Issues

A small number of barriers and challenges were faced during the conduct of this project including:

- difficulties associated with engagement and adaptation of different healthcare IT platforms to accommodate a common application. There appears to be no consistent approach to health information management across healthcare networks and scant resources to support/develop system integration;
- while lead clinician buy-in was relatively easy to gain based on the appreciation of the potential efficiencies, implementation was hampered by competing clinical and research priorities;
- human resource shortages in teaching hospitals that provide multi-disciplinary clinical care and are also lead centres in clinical research, pose challenges;
- poor access to the electronic record was hampered in some sites across the participating institutions due to the absence of card readers; and
- benefits realisation require significant work flow redesign and this cannot be adequately addressed in the absence of a consistent, ongoing approach to change management.

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Cystic Fibrosis Service, Continued

Project Strategies
Key participants included the Alfred Hospital CF service, Royal Children’s Hospital, Monash Medical Centre, CF Victoria, Gippsland Health Alliance, Ballarat hospital, Grampians Health Alliance, Southwest Alliance of Rural Health, RACGP, Biogrid/Victorian Partnership for Advanced Computing, Smart Health solutions and Department of Human Services.

Stakeholders reported difficulties in regards to integrating with hospitals in that access to the program required work from the IT Department and as the program was not ‘proven’ in IT terms and was not part of hospital policy, it was often not seen as a priority.

Rural sites were particularly keen to progress the project as the potential benefits were readily recognisable to these isolated services.

Significant communication to external stakeholders occurred during this project including demonstrations and conference abstracts.

Sustainability and the Future
Enhancements include PC videoconferencing, specifically targeting rural patients will reduce travel.

The patients are very supportive and have a high capacity to self-manage, particularly with improved access to information.

Adequate staff resources are a prerequisite for rapid take-up of this technology. There is currently no centralised body for health IT in Victoria to coordinate/facilitate these types of programs and all regional health areas have their own programs. This solution is currently only being used by CF clinicians, further resources would enable further roll-out to other client types.

The solution is still at the project level and not yet adopted as hospital policy, which limits scalability. District Health Services are very interested and keen to comply with Commonwealth eHealth standards to assist in ensuring sustainability.

The Cystic Fibrosis Service at The Alfred is conducting a review process for the project that will take some months to complete, including pre and post implementation surveys of clinicians and patients along with analysis of patient attendance data and clinical indicators. It is anticipated to continue to expand the network based on the outcomes of the evaluation.
Central Highlands Online for Improved Clinical Engagement (CHOICE)

Central Highlands General Practice Network (formerly, Central Highlands Division of General Practice)

Project Summary
The Central Highlands Online for Improved Clinical Engagement (CHOICE) System allows for the electronic collection of data from practice clinical software. The data can be uploaded to the Central Highlands Division of General Practice (CHDGP) database for collation and analysis, prior to data having been provided back to a practice. CHDGP provides practices with de-identified data (practices can re-identify their own data) to benchmark their activities with others in the network while tracking clinical improvements and changes in their practice populations. It supports a practice population approach by assisting General Practitioners and practice teams to analyse and understand its specific patient population.

Organisation / Network Overview
The CHDGP is located immediately to the North of greater Melbourne and, while it is mostly rural, contains an increasing proportion of 'urban fringe' areas. The Division contains a number of sizeable towns but no major regional centres. The division has 225 general practitioner members across 42 practices. The size of the division presents challenges in providing services, particularly to outlying areas.

Project Background
The CHOICE project focused on the development of a population health database to enable the collation and use of practice data to improve performance of prevention services and quality of service provision and patient outcomes.

Project Effectiveness
Implementation has resulted in the establishment and deployment of a Population Health database, informed by an agreed set of health observation archetypes and terminology.

Extensive training activities with CHDGP staff have been completed and included the development and provision of technical and functional documentation. Practice profiles and assessment for 10 pilot medical practices were completed and 10 CHDGP Practices were recruited for participation in Phase 1 and Phase 2 of the CHOICE project.

Key factors influencing this Project’s success included effective marketing, communication and key stakeholder engagement strategies. Effective promotion and marketing of the CHOICE project stimulated the interest of a significant number of CHDGP practices to examine their data and to look at implementing additional population health activities.

Continued on next page
Central Highlands Online for Improved Clinical Engagement (CHOICE), Continued

Issues

Changes in project management structures and personnel made project management difficult during some stages of Phase 1 of the CHOICE project. The reporting required was considered a burden adding to the project workload and the project period did not allow for optimal testing.

More face-to-face meetings of the governance committee and members of both project teams may have been useful in resolving some of the technical issues in a timely manner. Concerns regarding firewall and privacy issues prevented two practices participating.

The project was unable to secure the participation of any of the local community health services and hospitals by the end of Phase 1. A barrier reported by staff was that Commonwealth and state IT/IM policy initiatives and systems did not seamlessly interface with the medical software utilised by general practitioners participating in the CHOICE project. Private allied health professionals were unable to participate in the pilot because of the lack of appropriate IT infrastructure and non-use of Medical Director Software, consistently used in the practices.

Project Strategies

Key participants included the governance committees, consumers/community members, other divisions of general practice, the CEO of CHGPN, the software vendor, GPs and practice staff, health professionals and IT consultants contracted to undertake the technical work. Improved recruitment strategies for allied health practitioners were required to support the project.

The key lessons learnt from this project, includes the importance of open communication, specifically, the need to ensure that team members actively identify potential issues and problems and engage with the project sponsors.

Sustainability and the Future

This project will achieve further benefits over time and needs to be viewed as a change management and capacity building project within general practice. A commitment to the program will see the long-term benefits realised through integration into the Division’s core business.

The integration of new disease management data items will improve patient clinical coverage. There is a need to maintain and strengthen project management and communication processes and streamline reporting. In future more extensive testing would improve roll out into practices.

The project has the support of a number of local GPs; however, the group is reluctant to extend into new sites until the software is working optimally.
GoldHealth Shared Electronic Health Record

Goldfields Esperance General Practice Network (GEGPN)

Project Summary
This project aimed to develop a Regional Shared Electronic Health Record (SEHR) on the existing GoldHealth Network using a secure, high-speed virtual private network (VPN) connecting 100% of the GP Practices across the region. Participants include:

• three Medical Specialists;
• two Aboriginal Community Controlled Health Services;
• one region hospital;
• one district hospital;
• radiology and pathology;
• the royal Flying doctor’s Service;
• the Rural Clinical School;
• three pharmacies; and
• one aged care facility.

The GoldHealth Network in Kalgoorlie and Esperance is ‘owned by the region’; funded by the participants and supported by the Goldfields Esperance GP Network (GEGPN).

The project was conducted in three distinct phases: identification of resources, planning and roll-out.

Organisation / Network Overview
The Goldfields Network was formed in 1994 and has a main office in Kalgoorlie-Boulder (596km from Perth) and a second office in Esperance (394km from Kalgoorlie). Project staff are employed throughout the region.

The socio-demographics within the Eastern Goldfields region are quite diverse. While long distances between communities, individuals and services are common to all remote communities, the communities can differ markedly in function and infrastructure from being a coastal fishing port and harbour, a farming community, a mining town or an Aboriginal Community. The level of isolation and impact on health by environmental conditions is often greater than seen in rural and metropolitan communities and the low population density has important implications for the type and range of health services available, as well as for staff recruitment and retention.

The network works collaboratively with key stakeholders including the Department of Health and Ageing, Goldfields South East Health Region (GSEHR) - Department of Health, Western Australia, Aboriginal Medical Services, community leaders, and other health and social service providers in the region. Strong links are also essential with other organisations including the Rural Clinical School (RCS), Western Australian Centre for Remote and Rural Medicine (WACRRM), the Royal Australian College of General Practitioners (RACGP), General Practice Divisions of Western Australia (GPDWA), and the Australian Medical Association (AMA).

Continued on next page
GoldHealth Shared Electronic Health Record, Continued

Project Effectiveness

Overall, the roll-out and implementation of this complex project, while challenging, has gone relatively smoothly. Each practice conversion was unique and provided learning opportunities along the way.

The project has allowed GPs to share critical clinical information, including electronic discharge summaries and electronic reports with other health professionals on a patient’s care team in a secure fashion with the patient’s consent.

The Shared Electronic Health Record (SEHR) has been well received by GPs. To date the take-up has included approximately 150 users since December 2008. It is anticipated that 250-300 users will be linked to the system in the near future. Further benefits will be realised when other regions are able to link to the same system.

Technical achievements include:

- upgrade of thirteen sites to Medical Director 3 and PracSoft practice management software;
- the development of an interface tool capable of providing access to the SEHR by Aboriginal health organisations using the ‘Communicare’ software system;
- development of an interface tool capable of connecting practices using ‘Practix’ software to the SEHR;
- deployment of a live Shared Electronic Health Record;
- development of a collaborative partnership with Precedence Health Care to implement and trial their Chronic Disease Management Service (CDMS), also known as Intelligent Disease Management Services (IDMS) tool for creating and managing care plans. The strategy looks at using the CDMS tool to create care plans for lodgement in the SEHR;
- identification of training and technical support requirements and providers; and
- a ‘sample’ database that enables GPs and practice staff to familiarise themselves with the software prior to going live was installed after hours in order to avoid down time for practices.

The key factor influencing the success of this project can be attributed to the Chronic Disease Management Plan that was deployed at the same time as the SEHR project. This was particularly beneficial as the cohort of these two groups was very similar and one project therefore complemented the other. Flexible interfaces were built to enable use of the Chronic Disease Management Plan with a variety of practice software.

Issues

The SEHR modifications were initially only undertaken with a specific practice management software and version. Some practices were uncomfortable with the change and therefore chose not to proceed with the specified software. A range of mitigation strategies to avoid this issue were implemented including a comprehensive communications strategy for participants, reference group meetings, practice staff meetings, general ongoing communication, site visits and follow-up training.
GoldHealth Shared Electronic Health Record, Continued

A prolonged roll-out phase, due to sign-off timeframes and geographical distances, resulted in slower than anticipated buy-in from the community and consumers. More targeted mitigation strategies were implemented including engagement and involvement of community representatives in all aspects of the project and a specific media strategy for consumers.

Project Strategies
Key participants included Extensia Health solutions, Medical Director 3 and PracSoft, GP practices, IT support services, Aboriginal health organisations, Services providers, Higher-Reason, Health Communication Network, Health Industry Technology, Esperance IT and Precedence Health Care.

Engagement of the community representative from GEGPN’s Board to participate in regular monthly interviews on local ABC Radio assisted in broader community engagement.

Sustainability and the Future
The individual champions at each site were key to the success of these projects.

This project will be sustainable with interfaces having been built to link with the Precedence Health Care Chronic Disease Care Plan system, Communicare and practice management software systems.

The agreement with Extensia continues until September 2009. At this time it is expected that the system will be well embedded and doctors will see value for money in continuing. The Board is strongly committed and may consider subsidising this in the future.

The SEHR will continue to operate in the Goldfields Esperance region with practices paying a monthly connection fee. The GEGPN is investigating the feasibility of subsidising the SEHR and offering it to practices as part of their connection to the GoldHealth network.

Discussions are underway between GEGPN and three other regions in WA to extend the GoldHealth network and SEHR into these regions, resulting in approximately two-thirds of WA being connected to the SEHR.
Health Hub

GP Connections and Southern Queensland Rural Division of General Practice (GPC, SQRDGP)

Project Summary
GP Connections and Southern Queensland Rural Division of General Practice (SQRDGP) undertook a project to extend the secure networking of all health professionals in the diverse area of Southern Queensland that covers approximately 20% of the State.

The Health Hub project sought to implement an email solution that enabled the interaction of all health professionals via secure means; this was to be available to both public and private health practices, allowing all service providers to easily share care plans and referrals.

Implementation was to be conducted in two stages:
- Installation of the Argus secure email service across over 150 locations, enabling access to over 600 users of the product, including GPs and Specialists, Pharmacists, Allied Health Professionals, Private Hospitals, Dentists and Healthcare workers; and
- Training of 600 participants through a number of approaches including one-on-one and train-the-trainer.

Organisation / Network Overview
GP Connections (Toowoomba and District Division of General Practice) offers support to GPs in the Toowoomba and Darling Downs area, including Gatton, Highfields, Crows Nest, Goombungee, Pittsworth and Oakey. GP Connections was established in 1993 and covers a geographical area of 9756 sq. km. This includes, both, RRMA 3 and RRMA 2. SQRDGP offers support to GPs in rural and remote Southern and South West Queensland and covers a geographical area of 422,325 square kilometres that includes areas from RRMA 4 to RRMA 7.

Project Effectiveness
Health Hub has enabled the connection via secure email of every health professional and organisation in southwest Queensland: GPs, allied health, pharmacies and private hospitals. As of February 2008, Health Hub had 632 users.

Its development was informed by the identification of the following needs:
- Ability to send secure messages;
- Need to reduce practice workload;
- Need to increase efficiency; and
- Need to fit into a technologically conservative environment.

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With the introduction of the secure email, all service providers can easily share care plans and referrals as records are readily available to all members of the care team.

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2 RRMA – The Rural, Remote and Metropolitan Areas system is a classification system describing the areas of medical practice in Australia.

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**Health Hub, Continued**

A large number of project participants have benefited from its use, particularly, in relation to:

- Reducing paper based faxes and associated scanning;
- Increasing secure electronic communications significantly between allied health professionals;
- Significant cultural changes in many practices with the adoption of digitally focused work practices;
- A desire to be involved in the project as a result of the influence of positive reports from peers and perceived benefits; and
- An understanding of future direction with an acceptance that this is enabling technology and there is more to come.

Key success factors of the project include leveraging existing relationships and previous project successes that ensured credibility with stakeholders.

**Issues**

There was some lack of interoperability and this was difficult to resolve as the issues were inherent in a commercial product over which the grant recipient had little or no influence.

The training provided was face-to-face and was made available to all relevant staff. However, the efficacy of this system varied from practice to practice, depending on whether the staff participated in the training. Face-to-face support provided crucial assistance to those who lacked confidence and or an ability to understand technology.

**Project Strategies**

Stakeholder engagement was effective. The reluctance of some in participating in the project was largely addressed through communication and training.

Key stakeholders included the local medical association, Queensland Health, private and public hospitals, pharmacies, pathology, residential aged care facilities and GPs.

**Sustainability and the Future**

The project is a work in progress. The level of ICT usage and skill within the practices does mean that a period of time will elapse before the benefits of the project can be fully realised. The level of support from many practices is high. The continued support and extension of the user population by the divisions would ensure that satisfaction levels remain high and the project will continue to be a success.

The Division continues to support the project at a minimum level. The Health Hub could be applied at the national level.
Healthgrid

General Practice NSW Ltd (formerly, Alliance of NSW Divisions Ltd)

Project Summary
The Healthgrid project is a wide area network (WAN) that supports secure and reliable communication of data, voice and video over Internet protocol. It provides a scalable infrastructure that can facilitate reliable and secure electronic communications between primary healthcare providers in NSW. Healthgrid has the following functionalities:

- Online backup
- Reliable business grade bandwidth
- Managed virtual private network
- Terminal services
- Web hosting/content management system
- Email hosting
- Corporate grade centralised security
- Reliable platform to host Open Knowledge Network (OKNet) - range of online tools
- Video conferencing service
- Service provider directory

Organisation / Network Overview
General Practice NSW Ltd (GPNSW) is a state-based organisation for Divisions of General Practice in NSW. Formerly known as the Alliance of NSW Divisions Ltd., General Practice NSW was incorporated in 1998 and supports 34 Divisions across NSW.

Project Effectiveness
A secure WAN for primary healthcare in NSW was decided based on an environmental assessment of IT needs of the Divisions of General Practice and the primary care sector in consultation with stakeholders.

This project has provided a cost-effective, reliable operating environment through which divisions can run their local projects without the overhead caused by purchasing and managing expensive equipment, including:

- Northern River Division Shared Electronic Record project (Wedgetail);
- Murrumbidgee Division project (aiming to provide Healthgrid users with an affordable teleconferencing service via voice over internet protocol);
- migration of existing infrastructure of other divisions to Healthgrid to overcome equipment obsolescence and reduce operating costs; and
- deployment of new projects and systems in a more effective way, reducing implementation time and costs, operating and maintenance costs and providing the opportunity of working in a highly scalable environment.

Key factors influencing this project’s success related to the flexibility of the infrastructure and cost-effective implementation strategy. An organisation can progressively migrate their current infrastructure and services across or simply use Healthgrid to replicate their infrastructure in order to increase its availability and reduce possible downtime.

Continued on next page
**Healthgrid, Continued**

**Issues**
The project went through a number of re-scoping exercises in order to accommodate the needs of as many stakeholders as possible, leaving very little time at the end for the actual implementation. Had more time been available, it would have allowed for:
- development of the service provider directory in-house;
- exploration of the possibility to provide a wider range of connectivity options to make the product more appealing to a wider range of customers; and
- more rigorous processes in selecting vendors and contractors.

Major integration issues identified related to dealing with obsolete technologies, for example, backward compatibility with legacy videoconferencing systems based on Integrated Services Digital Network or dealing with technologies that have been recently developed and therefore not well established. The main gaps were considered to be caused by lack of interoperability and standards.

Most issues could have been prevented through:
- a longer implementation timeframe and/or tighter scoping;
- implementation of marketing strategy and material;
- development of adequate legal documentation, such as a Service Level Agreement, User Acceptance Policy and Privacy and Security policy;
- provision of more connectivity options;
- running a more scrupulous process to select vendors; and
- better understanding of users’ expectations.

**Project Strategies**
There was initial resistance and diffidence amongst divisions toward this project. GPNSW reassured divisions that despite the fact that GPNSW was the fund holder, the divisions were in control of the project. In the future Healthgrid will be an independent company (subsidiary of GPNSW).

Initial work undertaken by an external consultant was not as effective as required and resulted in the project being taken through another re-scoping exercise. Consequently, more consultation was conducted before entering into the implementation stage.

Key participants included GP Partners, GPs, practice nurses, admin staff, consumers, NSW Health, potential funding providers and vendors, allied health providers, including community services, local hospitals and divisions.

**Sustainability and the Future**
Healthgrid provides a platform on which to base all potential future divisions’ eHealth projects and initiatives. A single platform enhances efficiency of implementation and ensures cross-compatibility and interoperability between systems. Sustainability can be achieved by enlarging the customer base, therefore providing services specifically tailored to emerging user needs. Healthgrid has the potential to offer corporate grade services to small to medium organisations and operators at an affordable price. A consultant was engaged to assist in developing marketing strategies around the existing system and infrastructure.
Health Record eXchange (HRX)

GP Partners

Project Summary
The Health Record eXchange is an electronic health record that allows health professionals to share patient information. GPs are alerted when other health professionals view patient records. The process of sharing patient health information between healthcare providers is still evolving. The shared electronic health record (SEHR) is available to GPs, Hospitals, Health Providers and Community Health Centres. Efforts have been focused on change management and user education to achieve success.

Organisation / Network Overview
GP partners is one of the largest divisions of general practice in Australia, representing more than 800 GPs and more than 200 general practices in Brisbane's northern and western suburbs. In undertaking this project GP Partners worked with a range of external organisations including The Prince Charles Hospital, Royal Brisbane and Women’s Hospital, Greenslopes Private Hospital, Wesley Hospital, State and Federal Government and the HRX team.

Project Effectiveness
GP Partners has fully developed, implemented, tested, demonstrated, marketed, operated and supported an expanded version of the Electronic Health Record (EHR) solution known as Health Record eXchange (HRX). The HRX project has been a significant project and a major exercise in change management requiring the cooperation of a wide range of stakeholders.

An increased number of healthcare organisations, healthcare providers and patients beyond that supported by the original Department of Veteran’s Affairs (DVA) coordinated care trial that looked at improving DVA patients health outcomes through service coordination supported by an electronic health summary shared record are now using HRX including:
- 59 HRX GP Practices
- 1144 HRX patients
- 3 Major Private and 3 Major Public Hospitals.

GP Partners stated that 33% of GP respondents and all Allied Health respondents reported a definite improvement in timely and secure access to patient information. This survey result represented the expectation and perception of connected participants to a fully functioning and universally acceptable HRX. Although the HRX is fully functional as per the scope of the project it lacks the footprint of a ubiquitous Australia wide shared electronic health record system. This results in a need to manage user’s expectations.

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Health Record eXchange (HRX), Continued

Pre and post project surveys undertaken by GP Partners indicated that 53% of connected HRX Healthcare providers reported an increased understanding of a shared electronic health record, and GP partners suggest this result reflects the increased maturity of the eHealth environment in Australia. 76% of HRX registered patients who are receiving co-ordinated care have a management plan uploaded to the HRX.

Technical achievements include:

• the secure electronic sharing of patient clinical information between all participating healthcare provider organisations using HeSA PKI Certificates;
• the number of general practice clinical software applications communicating interoperable messages with the HRX increased from one to three;
• the HRX server incorporated a VeriSign Security certificate to authenticate all communications between the HRX and the Medicare HeSA root authority servers. This solution solved the problem of HeSA not having Server Authority Certificates to validate the HeSA Security cycle; and
• the HRX accepts the uploading of PDF discharge referrals which is currently operating from one public hospital.

Key factors influencing the project’s success related to change management and user education including:

• new procedures implemented within General Practice to incorporate the accurate, secure and timely sharing of patient information;
• ongoing support and training for all HRX users; and
• focused and consistent marketing of the HRX to a wide range of stakeholders.

Issues
Healthcare Provider Identifier (HPI) and Individual Healthcare Identifier (IHI) systems have not been developed and thus have not been able to be tested during the project period. Subsequently the HRX used its own patient identifier and Healthcare provider identifiers.

The project team identified that live patient data presents some of the biggest challenges with common standards in both messaging and communication. Understanding of users’ requirements and their drivers allowed the team to apply HRX in the most beneficial way.

Sharing patient health summaries across multi-sector care teams introduces a number of different barriers and challenges. Only a small number of GP clinical software vendors are represented in the Division, the major suppliers being Health Communication Network and IBA Health Group. There were longer than anticipated delays in identifying, registering and obtaining consent from eligible patients. There were also delays and issues with identifying and sharing potential patient registrations from connected hospitals with the recruitment team.

Project Strategies
Stakeholders were kept abreast of project developments and informed about the project on a regular basis through communication strategies and stakeholder reference group sessions.

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Health Record eXchange (HRX), Continued

A shared electronic health record requires a large amount of hands-on time for all involved and valuable GP time is required for implementation, training and recruiting patients onto the HRX.

The success of the early GPpartners SEHR implementation can be attributed to:

- **Connectivity** - the focus was to connect as many providers as possible including GP partners, GPs, practice nurses, admin staff, consumers, Queensland Health, potential funding providers and vendors, Allied health providers (including community services), Local hospitals and Divisions of General Practice;
- **Interoperability** - the system linked with GP clinical desktop applications, provided automated event notification and allowed all care team members to access and input events;
- **Change management** - approximately 80% of resources was allocated to change management including integrating new eHealth procedures into clinical practice, supporting providers, deploying dedicated hospital and general practice liaison officers, informing and managing patient and provider expectations and focused marketing;
- **Clinical leadership** - clinicians supported the HRX as it addressed an identified clinical need. These clinicians acted as “champions” both within general practice and hospital settings;
- **Targeted patient involvement** - the HRX targeted high needs patients with complex healthcare needs and used an opt-in informed consent model. A consumer advisory group provided input into all stages of the project;
- **Information at the point of care** - the project focused on sharing high value patient health summary information with the capacity to share structured clinical data as well as unstructured documents; and
- **Governance** - the project and system were managed by a trusted entity that leveraged existing relationships in a grass roots, bottom-up approach.

**Sustainability and the Future**

Over the last 12 months, use of the HRX system has quadrupled and will continue to grow subsequent to the MHNG program. Funding has been obtained from the Australian Better Health Initiative Primary Care Integration Program to keep expanding the HRX. The team will also leverage the outcomes achieved by the General Practice Queensland’s MHNG iHealth Care project with the future growth of the HRX.
Intelligent Disease Management Services (IDMS)

Precedence Health Care (Precedence)

Project Summary
The Intelligent Disease Management Services (IDMS) project sought to create a web-enabled collaborative care environment that is focused on chronic disease management. IDMS’ aim is to assist the care team to create, share and track collaborative care plans and enable the patient to adhere to these care plans by sending appropriate reminders and alerts.

Organisation / Network Overview
Precedence is a private company that aims to transform the management of chronic disease and wellness. It has developed proprietary information technologies and broadband and mobile services to assist with evidence-based practice, care coordination, wellness monitoring, patient self-management and performance analysis. The IDMS project was trialled in the Eastern Goldfields region of Western Australia.

Project Effectiveness
Precedence indicated that the design, development and testing of IDMS worked well. This outcome was the result of using a proven project management methodology and strong project management. The quality and functionality of the resulting system exceeded expectations of all the consortium partners.

All GPs who were recruited to the system agreed that it saved time, made the creation of care plans easier and enhanced collaboration with the care team. There was enthusiastic support from allied health providers for the system.

Every GP practice in the region with the required practice management system has adopted the IDMS system. Precedence stated in February 2009, that there are currently more than 350 care plans have been created and these continue to be created at a rate of approximately 10 per week. GPs are voluntarily contributing information to the record.

IDMS has substantially increased the take-up of evidence-based care plans, collaboration across the care team and adherence to care plans. The project has aimed to meet the intermediate targets of the COAG National Reform Agenda in regards to chronic disease management. In particular, it has:

- increased the proportion of GPs who comply with clinical guidelines in treating patients with diabetes;
- increased the proportion of eligible newly diagnosed patients who effectively self-manage;
- increased the completion of Annual Cycle of Care (Medicare Benefits Schedule (MBS)) and the utilisation of related MBS (chronic disease management) items for diabetes by GPs; and
- facilitated GPs to develop and complete a care plan that includes a referral to a self-management intervention.

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Intelligent Disease Management Services (IDMS), Continued

Issues
The Goldfields Shared Electronic Health Record (SEHR) project and the IDMS project ran concurrently in the region. While this had substantial synergistic benefits, the coupling of the projects meant that IDMS was dependent on the roll-out of upgraded clinical desktop software under the SEHR project. This roll-out suffered delays that also impacted the implementation of the IDMS project.

Recruitment of GPs and encouraging them to use IDMS was more difficult than expected. This was in part due to the very short duration of the project, which was beyond Precedence’s control.

Most GP desktop systems were not configured to send electronic referrals. Configuration and testing of this fundamental infrastructure for each GP required significant project resources. It is anticipated the changes in the Practice Incentive Program would encourage practice change in this area.

The regular monthly project reports highlighted issues and resolution strategies. The relevant templates provided by DoHA were helpful.

Project Strategies
Involvement of external stakeholders was effective. Engagement with internal stakeholders was less effective due to the busy nature of General Practices where time was not always readily available for project activity. The willingness and ability of the nurse engaged for the project to work out of hours with practices was critical to the success of the project.

Key participants included WA Health, Goldfields-Esperance GP Network, Bega Garnbirringu Health Service, Diabetes WA, WA Health Endocrinology network, WA Health Ambulatory Care Clinical leads and a range of health providers in the region including private providers and Kalgoorlie hospital.

There were some GPs that did not believe that care plans were of benefit to their patients, and others who believed that they could do an adequate job using document templates. However, most GPs were supportive, and all allied health providers approached in WA to-date have been enthusiastic supporters of the system.

Sustainability and the Future
The lesson learnt is that adequate resources and sufficient time are required to effectively roll-out the services across primary care practices. The local Aboriginal Medical Service has only recently been engaged due to local organisational issues and are keen to begin using IDMS.

There are also a number of key eHealth infrastructure components that would improve future implementations include patient identifiers and a comprehensive provider directory.

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**Intelligent Disease Management Services (IDMS), Continued**

The system offers GPs an opportunity to access to efficient claiming of the Enhanced Primary Care (EPC) items supporting chronic disease, care planning, and management. The sustainable business model is to charge GPs a subscription equivalent to a portion of their EPC payment to support the service. The sustainability of the business therefore depends on the incentives provided to GPs via the EPC payments.

The outcomes of the project have the potential to transform the management of chronic disease. This could lead to reduced hospital admissions, shorter waiting lists, greater quality and safety of care, increased access and reduced adverse events, morbidity and mortality. The collaborative environment will additionally enable greater and more sustainable participation of the wider healthcare workforce in delivering health care.

This project has demonstrated that technology is an important enabler of primary healthcare reform. Precedence suggested that further education and training regarding care team management of chronic disease would be beneficial.

The project evaluation indicated that locally, the project has significantly increased the creation of care plans and take-up of MBS items by 400%. Follow up and review of care plans, which is critical for achieving the benefits of disease management, has increased from a very low base of 1 in 10 plans being reviewed to 5 in 10 for GP management plans and from an even lower 0.4 in 10 to 4 in 10 for team care arrangements.

Implementation of a system following on from that developed for the IDMS project is underway as part of a demonstration project in a region of Victoria. Marketing of the service through divisions of general practice, health services and to large corporate practices has commenced. However, the larger roll-out of IDMS to achieve sustainability and to realise the benefits across Australia requires:

- resources to assist health practitioners adopt collaborative models of care and rationalise their management of their chronically ill patients; and
- resources to assist practices to undertake clinical data cleansing and be trained in the use of IDMS.
eRedbook (eRB)

Royal Australian College of General Practitioners (RACGP)

Project Summary
As part of the General Practice Computing Group (GPCG) Phase Two Work Program, Pen Computer Systems (PCS) were contracted to develop an electronic prototype version of the Red Book, known as the ‘eRedBook’. The scope of this project was to demonstrate that the eRedBook, or other guideline of this type, could be used to interoperate with clinical desktop systems to deliver validated reminders for preventive healthcare.

In 2006-07, the Royal Australian College of General Practitioners (RACGP) sought to further develop the eRedBook within the MHNG. In addition to the further development of the eRedBook, it was recognised that the RACGP required the tools to update the eRedBook. An eGuideline Editor was developed that will enable non-IT staff to update the eRedBook as new evidence becomes available.

Organisation / Network Overview
The RACGP is the professional organisation that focuses on the safety and quality of general practice. The college has over 19,000 members and over 6000 members in its National Rural Faculty. The college is the largest general practice representative body in Australia and the largest representative body for rural general practice.

Project Effectiveness
The first stage of the eRedBook was completed with all Red Book 6th edition information entered and is interoperable with specific software. The specifications are available that will allow all clinical desktop vendor systems to interoperate with the eRedBook software and guideline material and an XML version of the eRB has been developed for clinical vendors.

The RACGP has accepted the eGuideline Editor that can demonstrably update eRedBook content.

Key factors influencing the project’s success related to project management. The implementation plans for MyPracticeTeam (refer to following ASP summary) and eRedBook were conducted in slightly different ways. As PCS applied the PRINCE2 methodology, this followed specific guidelines as to what the implementation plan should address and used a specific language to discuss project needs.

Strong working relationships were developed with various GP experts in the field of IT/IM, preventive healthcare and decision support. Links with clinical software vendors have been productive and will continue to build.

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3 PRINCE2 (Projects IN Controlled Environments) is a process-based method for effective project management.
eRedbook (eRB), Continued

The eRedBook and eGuideline Editor projects have built on the standards direction followed by PCS for several years.

**Issues**
The development, testing and refinement of a software package within a short timeframe was challenging, particularly when considering the implementation of clinical subject matter that requires specialist translation of materials and wide-scale user testing. However, testing of this nature is critical to producing a tool that contains safe and viable health information.

A significant set back during the project was the reliance on Microsoft content controls. In order for usability to be retained by non-IT RACGP staff, redevelopment of the eGuideline Editor had to be factored into project timelines.

As the eRedBook interacts with desktop software, the functionality is reliant on the capabilities of the package that it interacts with. For example, many software packages do not allow for the recording of family histories of various diseases (eg. cancer).

In order to develop fully interoperable decision support tools, further work needs to be completed in relation to the functionality of the underlying clinical software systems used in general practice. Work in this area is likely to highlight the need for functional specifications to address inconsistencies between GP desktop software systems and inadequacies in system architecture.

**Project Strategies**
Key participants included, Project Board – task force chair, IT/IM GP expert, PCS, Task Force – various universities, private practice representatives and the RACGP.

**Sustainability and the Future**
The eRedBook and eGuideline Editor are complete; however, as the software relies on clinical desktop vendor uptake, the RACGP and PCS still need to complete critical work ensuring licensing and technical alignment.

Redbook is currently free, so the aim is to provide the e-version free as well. Sustainability is supported by a small licensing cost paid by software vendors. However, as there is no specific requirement for take-up there are some challenges in convincing vendors of clinical software to integrate their products with the program.
My Practice Team (My PT) – Desktop Portal for Practice Managers and Practice Nurses

Royal Australian College of General Practitioners (RACGP)

Project Summary
The project aimed to expand the functionality of MyGeneralPractice for Practice Managers and Practice Nurses by creating a new support desktop portal to include:
- eProcurement exchange for online ordering of medical and practice consumables;
- a range of practice management tools and resources (MBS Online, PBS Online);
- DoHA Practice Management Resource Kit;
- employment kits;
- other HR toolkits; and
- an online survey tool.

Organisation / Network Overview
The RACGP is the professional organisation that focuses on the safety and quality of general practice. The college has over 19,000 members and over 6000 members in its National Rural Faculty. The college is the largest general practice representative body in Australia and the largest representative body for rural general practice.

Project Effectiveness
My PT encouraged practice nurses and managers to use and explore IT services built specifically for them.

The My PT system scope was successfully implemented so that eProcurement exchange (GPDirect) had been piloted with a number of practices and was successfully incorporated into the My PT portal. The system makes use of a wide range of practice management tools, resources and links (including human resources and employment resources, along with other clinical resources). An online survey tool has been integrated with the system and this shows great promise for future online surveys and research in general practice.

Key factors influencing the project’s success related to the strategy and implementation plan for roll out. My PT was launched in a three stage process, with pre-registration being offered to RACGP affiliate members, the Australian Practice Nurse Association (APNA) and the Australian Association of Practice Managers (AAPM) members.

Strong working relationships were developed with APNA, AAPM and Australian General Practice Network (AGPN) and these relationships will be ongoing through the further development and refinement of the My PT portal.

Continued on next page
My Practice Team (My PT) – Desktop Portal for Practice Managers and Practice Nurses, Continued

Marketing of My PT was conducted throughout the project period, including (but not limited to) demonstrations at conferences, magazine articles and direct advertising through Royal Australian College of GPs, AAPM, APNA and other channels.

Issues
Contractual arrangements for the Clinical Audit Tool, secure messaging and Secure Vault took longer than expected. Timeframes for pilot phases for My PT, GPDirect and Secure Vault were revised due to issues of coordinating participating practices. Scope creep was a recurrent barrier throughout the life of the project. This issue was dealt with by reflecting on whether the changes were necessary or merely desirable ensuring the way forward.

Problems and issues were identified and referred to the governance group to make a judgement, based on budget and timelines, as to whether the function would be implemented or relegated to a stage two scoping exercise.

Project Strategies
Engagement of stakeholders was effective. Key participants included the Project Board – task force chair, IT/IM GP expert, Medseed (software vendor), Task Force – various universities, private practice representatives, RACGP representative. While membership of the governance group enabled specific and informed feedback, it was difficult to find suitable meeting times and gather feedback.

A three tiered process to identify needs was conducted as follows:
1. **Proof-of-concept phase** – this was a small group of five practice nurses and five practice managers who looked at the larger concepts grounding the project and provided feedback. This phase addressed issues such as the correct groupings of resources and the configuration of the portal on screen.
2. **Pilot 1 phase** – this involved ten practice nurses and ten practice managers installing and testing the portal and providing feedback. This phase addressed content and system issues such as correct labelling of resources and tabs, identifying further resources and installation difficulties.
3. **Pilot 2 phase** – this involved a further ten practice nurses and ten practice managers installing and testing the portal and providing feedback. This phase addressed ‘look and feel’ aspects.

Sustainability and the Future
Over time, the technology that underpins the My PT portal may be altered. For example, it may be deemed appropriate to move to a web-based portal rather than a desktop portal for ease of use. The need to change the technology driving the portal will be discussed within the RACGP when this occurs. Consultation with the membership base and Project Governance Committee will be sought prior to any changes being made.

A number of components have been identified as additional services that may be developed beyond the project period. While these services were not offered at project closure, progression of a number of these items has occurred including secure messaging, data transfer between other portals and RACGP eHealth policy.
Section 4

Managed Health Network Grants

Development Grant Summaries
Development Grant Summaries

Introduction

The following Development Grant Summaries have been compiled and edited based on information provided by the grant recipients to the Department as part of their reporting requirements and from supplementary material provided in the Dialogue Technology report, recipient organisation websites, and project promotional material.

Grant summaries were then provided to each project manager for verification.
AMSNet – Shared Health Network Project

Aboriginal Medical Services Alliance Northern Territory (AMSANT)

Project Summary
Aboriginal Medical Services Alliance Northern Territory (AMSANT), the co-ordinating peak body for Aboriginal Community Controlled Health Services (ACCHS) of the Northern Territory, implemented a managed network (AMSNet) across very remote areas of Australia where telecommunications are of very poor quality. Central to the initiative was simplification of remote end local area network (LAN) infrastructure, creation of managed redundant communications environments and the use of a high-availability data centre. Remote access was facilitated by client level Internet services with sophisticated security using authentication.

The project involved setting up the infrastructure in the data centre using an innovative virtual desktop technology as the platform for delivery and Microsoft SharePoint to enable an intranet and enhanced communication between remote areas.

Organisation / Network Overview
AMSANT provides a forum for community controlled health services in the NT to lobby for positive changes to the health of Aboriginal people. AMSANT aims to improve the health of Aboriginal people in the Northern Territory through promoting and extending the principle of local Aboriginal community control over primary healthcare services to Aboriginal people. AMSANT is an incorporated body under the NT Incorporations Act and operates as a not for profit organisation.

Project Background
AMSANT, on behalf of its members and AMSNet participating health services including Nganampa Health Service (South Australia) and Ngaanyatjarra Health Service (Western Australia), sought to improve network connectivity and reliability, particularly across their remote health clinics. Participating health services involved in population health-related programs have been using some form of electronic records for 10 years with the use of electronic systems embraced particularly where chronic disease indicators are used.

Attention to simplification of local infrastructure, including a thin client based standard operating environment (SOE) and appropriate help desk structures was critical, as IT support is very difficult to secure in rural and remote locations. Together with this was delivery of services from a secure AS/NZ 7799 standard high availability data centre alongside the establishment of a robust wide area network (WAN) management capability.

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AMSNet – AMSNet – Shared Health Network Project, Continued

Project Effectiveness
- The infrastructure has been established with services across 25 sites currently using the system and several more in 2010;
- The services online are regular users and see access to these systems as being critical seven days a week. In many instances access to data is made outside of the ‘managed’ clinic environment where clinicians may be undertaking consultations from anywhere;
- Implementation across the health services was tailored to the specific needs of each service;
- The project progressed well with innovative technical work, including the use of cost effective consumer grade connection with appropriate security levels; and
- The use of virtual desktop infrastructure has had a dramatic impact on system architecture underpinning the simplification of a SOE and enabling the centralisation of data and the adoption of Intranet facilities like Sharepoint.

Issues
- Change management was difficult when services are under-resourced for dedicated administration support. The technical development also took more time than anticipated;
- While technically successful, achieving the required practice changes was more challenging due to the complexity of this component; and
- The short timeframe limited training opportunities. Staff in some services required extra support as they had low levels of computer literacy.

Project Strategies
Key participants included the project team and Steering Committee, AMSANT Committee and participating services. Each was generally supportive of the project.

Involvement of stakeholders was very effective, though due to timeframes change management was not adequately addressed. Good mentoring, strong support, education, and training are required to affect the desired outcomes into the future.

Sustainability and the Future
- From a financial perspective, the program is sustainable with firm, affordable contracts in place with service providers. Resources are required by AMSANT if it is to extend its reach which is essential for its on-going development and sustainability;
- The investment has highlighted the opportunity on offer to ACCHS to further realising the benefits of ICT to the sector; and
- Lack of availability of telecommunications in remote areas will continue to challenge services, particularly in relation to affordability and quality of bandwidth.
Central Victorian Managed Health Network (CVMHN)

Central Victoria General Practice Network (CVGPN) (formerly, Bendigo and District Division of General Practice)

Project Summary
The aim of the Central Victorian Managed Health Network (CVMHN) project was to implement a carrier independent, centrally managed health network to facilitate the delivery of affordable, commercial-grade, secure broadband services to all health service providers in Bendigo and broader Central Victoria region.

A consortium including Central Victoria General Practice Network (CVGPN) as lead agency, Bendigo Community Telco (BCT) and involvement of an Internet Service Provider with technical expertise was formed to manage this project. This consortium proposed the development of a ‘whole of health’ network based on a seven-layer network architecture that would support access to a range of generic commercial telecommunications services (such as Internet protocol telephony, email and instant messaging, video conferencing and a range of facilities management services) within a single network service.

In doing so, it was proposed to provide a range of managed service options to enhance existing applications and service take-up and establish a framework for expediting the introduction of future federal and state health application initiatives. It also sought to provide a test-bed for health application providers seeking to develop their applications for use in an integrated health environment.

Organisation / Network Overview
The CVGPN (formerly Bendigo and District Division of General Practice) is based in the regional centre of Bendigo, where the majority of the population of the Division resides. It is surrounded by several small towns whose population ranges from a few hundred to a maximum of 7,000 persons. There are a total of 35 practices with 102 GPs in total and 17 of these practices are solo practitioners.

Project Effectiveness
The project delivered broadband services to the full range of health service providers, including pathologists, GPs, specialists and hospitals, at an affordable cost, in a format appropriate for their individual needs and their local application environment. It supported the use of mobile technologies across the large geographic area covered by GPs and specialists and has achieved productivity benefits through enhanced and secure communication, enhanced security with practice systems backed up to a secure offsite server.

The project has increased the awareness of, and options available for managing patient information. A pre-connected customer base will facilitate the take-up of electronic messaging (local, state and national) in due course.

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Central Victorian Managed Health Network (CVMHN), Continued

Success can be attributed to open communication between the project team and DoHA, the establishment of relationships with equipment suppliers allowing them to negotiate with vendors about input and pricing outcomes, and leveraging other established “community” assets.

Project Strategies
Involvement of stakeholders was effective. Local input was sought and needs identified by engaging a diverse range of stakeholders, including Project Steering Committee Chair, Project Director, General Manager Technology (BCT), General Manager Customer (BCT) General Manager Sales (BCT), Health Service providers, Central Victorian General Practice Network and private practitioners. Strong support from stakeholders assisted to progress the project.

Issues
Working with application developers was challenging due to variations exchange of information policy nationally and at state level. This policy gap meant that there was a lack of clarity about standards.

Providing a sound business case of demonstrated benefits to engage stakeholders to participate was a challenge. The project team worked with local hospitals and pathologists to create a critical mass of information that would make participation of smaller organisations worthwhile as some smaller clinics were more critical of the cost benefit issues when a more complete suite of information was not available.

A late change in the availability of key personnel led to delays in Phase 2 implementation of the project. Integration issues that had not been considered in the original project scope were resolved through consultation with DoHA and a broader stakeholder group. This impacted on the system design and resulted in additional implementation delays.

Sustainability and the Future
Services that have engaged with this project have indicated their intention to continue using the services as well as further expanding their functional requirements into the future.

The key lesson learned from this project is the need to have a clearly defined vision for the project and effectively communicating this vision to a range of stakeholders in order to obtain broad and sustained support. Clear and detailed discussion with vendors is particularly important in relation to scope and budget, with a focus on commercial outcomes as well as technology requirements.

Careful planning and scoping of projects of this nature is required in order that objective can be achieved in the required timeframes. The Internet Service Provider maintains the network on the project’s behalf, and can also leverage it for non-GP purposes. Involvement of the ISP through a Memorandum of Understanding (MOU) can support sustainability.
iHealth Care

GP Queensland (formerly, Queensland Division of General Practice (QDGP))

Project Summary
iHealth Care sought to implement two initial services:
- the iHealth Care Directory, that lists contact details of health providers in Queensland (providing better, safer, faster distribution of clinical healthcare information to GPs, specialists and allied health professionals); and
- a secure messaging service provided by Medical-Objects.

Organisation / Network Overview
The GP Queensland supports 18 of Queensland’s Divisions of General Practice. As a peak body for primary healthcare in Queensland, GP Queensland provides government and other stakeholders with an effective channel for comprehensive consultation and communication. GP Queensland works collaboratively with its many members and stakeholders to deliver mutually acceptable outcomes for general practice, primary healthcare and ultimately community health in Queensland.

Project Background
iHealth Care was established to support a better-connected health system in Queensland. Divisions who had previously been unclear about which secure messaging provider to support, have been given a direction and a preferred provider has been selected for Queensland.

Project Effectiveness
The iHealth Care project has contributed to a better-connected health system in Queensland by establishing a directory of health providers in Queensland and enabled the adoption of a single secure messaging provider. These initial services were established following a robust development, consultation and scoping process undertaken by the iHealth Care Project team.

While designed to be a state-wide project, implementation at the local level enabled divisions to actively engage with their member practices and offer the iHealth Care project as a local value-adding eHealth project within their division. It has established a state-wide two-year license with Medical-Objects to provide a secure messaging platform for primary healthcare providers in Queensland and has engaged 18 divisions of General Practice as change agents to foster sign-up of GPs and other primary care providers to the directory and secure messaging.

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iHealth Care, Continued

Key factors influencing the projects success include:
• a highly effective governance arrangement for the iHealth Care project – a multi-
  stakeholder project governance committee and a technical advisory group governed the
  iHealth Care project;
• the governance groups provided invaluable support to GP Queensland around the scoping,
  development and implementation of the iHealth Care project;
• the iHealth Care project was underpinned by a strong focus on stakeholder engagement
  strategies and strong collaborative relationships with a range of stakeholders were
  developed; and
• The governance model ensured that the technical advisory group and the governance
  group addressed any identified issues quickly. As these were representative groups, the
  issues were dealt with in an open and transparent manner that expedited the process.

Issues
The main challenge for GP Queensland in the implementation of iHealth Care was in the
 timing of the grant in comparison to that of the other Queensland divisions. Concurrent
 planning and implementation would perhaps have resulted in a more seamless approach to
 these activities. Most issues were related to the different models that were put on the table for
 the governance groups to consider.

One of the main reasons for the selection of a single secure messaging provider for
 Queensland was that the current vendors in the secure messaging space cannot send messages
 to each other. For this reason, an additional recommendation was made by the iHealth Care
 Governance Committee to continue negotiations with identified vendors to ensure
 interoperability between all messaging providers.

Project Strategies
The engagement strategies for stakeholders were highly effective as they were inclusive and
 provided clear direction for the project.

A more formalised arrangement from the commencement of the project, regarding the
 utilisation of the provider directory, would have been beneficial.

A consultation process was undertaken with Queensland Health and Queensland divisions to
 identify and map key points of interface across the patient continuum, including opportunities
 and gaps and implications of eHealth. Key participants included the GP Queensland Board,
 Queensland Health Executive Management Team, Queensland GP Divisional Network,
 National eHealth Transition Authority (NeHTA) and other General Practice groups.

Sustainability and the Future
A collaborative state-wide approach to eHealth that builds upon and enhances local solutions
 is the optimal way to proceed. The partnership with private enterprise is a model that has
 worked well, and could be scalable on the national level.

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iHealth Care, *Continued*

The main gaps relate to the lack of national, mandatory standards that would contribute to a more integrated and consistent eHealth environment in Australia. The NeHTA work program continues to progress and many other integral pieces of eHealth infrastructure hinge on the implementation of these standards.

The iHealth Care platforms (the directory and secure messaging) align with the work program of the Divisions Network eHealth Program which aims to drive general practice eHealth take-up and capacity. The ongoing maintenance of iHealth Care has been integrated into the eHealth support officers portfolio of responsibility. Alternatively, the responsibility for maintenance of the Directory’s information holdings could be transferred to the division level.

The sustainability option for the Medical-Objects secure messaging service beyond the two-year, fully-funded license period will be to revert to the competitive cost structure that Medical-Objects have in place.

In terms of the state-wide provider and service directory, the possible amalgamation of this into any future national directory could be considered. Queensland, South Australia and Tasmania have adopted directories using similar technology that could be leveraged.
Great Southern GP Managed Health Network

Great Southern GP Network (GSGPN)

Project Summary
Great Southern GP Network (GSGPN) sought to develop a managed health network in conjunction with the University of Western Australia (UWA) to securely connect a range of healthcare providers in both the public and private sector by implementing a secure messaging system.

Organisation / Network Overview
The GSGPN is a network of GPs who work within a geographical area encompassing the Great Southern region of WA. The GSGPN covers an area of approximately 98,374 sq. km of landmass and is located 500 kms South-East of Perth.

Project Effectiveness
The Great Southern Managed Health Network (GSMHN) was originally intended to deliver secure messaging, but through use of the UWA’s MMEx platform has enabled the implementation of fully-electronic clinical management functionality and the sharing of patient information in a number of ways with providers involved in patient care.

This project has met local needs by providing a user-friendly, secure, online communications facility that has low barriers to participation and is inclusive of a wide range of health professionals in a variety of settings within the Great Southern area. Consistent with the local needs identified at the project’s inception, the GSMHN facilitated the secure exchange of patient information between GPs, medical specialists, allied health professionals (both within and outside the Great Southern region) and the local hospital using an appropriate technological platform.

The establishment of a secure network has enabled participant’s access to shared resources and secure messaging. Secure exchange includes information documents (such as discharge summaries and patient referrals), images and emails between health practitioners. Different access levels have been incorporated to suit the IT operating environments and user needs of different participants.

Indications are that implementation of this network has increased security and improved confidentiality of patient information, produced financial savings, reduced workloads and allowed more efficient sharing of information.

When surveyed, 75% of GP respondents reported benefits to their practices from the network. Positive factors included speed, security and financial savings on paperwork such as faxing and mailing.

“Processes are more efficient, less double-handling, more streamlined”

“We anticipate being able to contact mental health and allied health workers in a confidential way. Better to be open on a secure line than having to beat around the bush because you don’t know who is going to see the letter or fax”.

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Great Southern GP Managed Health Network, Continued

Key factors influencing the projects success include:
- significant stakeholder development – specifically the take-up of subscriptions to the GSMHN system among target users categories. In addition, 17 of the 24 GP surgeries subscribed and had IT software and hardware installed;
- the champions for the project, that came largely from the WA Country Health Services; and
- development of linkages between hospitals, GP surgeries and aged care facilities.

Project Strategies
A core of GP practice ‘champions’ drove the implementation of new functionalities and provided leadership in change management. Barriers for some GPs were related to a lack of time to embrace the availability of new functionalities.

Key participants included project team members, subcontractors, project governance Committee members, the University of Western Australia, WA Country Health Service Central, the Department of Health, Western Australia, HealthLink, GP practices, four (4) other GP networks – Midwest, Wheatbelt, Kimberley and Pilbara.

Proactive lobbying from the lead project consultant was required with some key stakeholders in order to seek out opportunities for synergy and expansion of the scope and scale of the GSMHN.

Sustainability and the Future
Having the right project partner on board was of vital importance. Identifying and fostering practice-based “champions” was instrumental to the success of the project.

Sustainability is being achieved through an expansion of the number of paying subscribers both at the State and the National level. This is mainly being done through collaborations with other software and service providers (e.g. HealthLink).

In addition, new services and functionality are being provided that have increased the utility of the network and addressed user needs such as shared patient health records and online versions of the national inpatient medication chart.

The grant funding was successfully applied to the infrastructure that has now enabled rolled out of the functionality across Western Australia and the rest of Australia and into New Zealand. The UWA has recently entered a collaborative arrangement with the State Department of Health to extend the use of MMEx throughout the country health services and possibly into metropolitan Perth.
Centralised Electronic Medical Records

Royal Flying Doctor Service – South Eastern Section (RFDS-SES)

Project Summary
The Centralised Electronic Medical Records project provides the Royal Flying Doctor Service (RFDS) staff with remote access to clinic records. It merged all existing separate databases into one, providing clinicians with access to reliable, patient histories and more complete and consolidated data, with the end result being safer, more effective and efficient care.

Organisation / Network Overview
The RFDS (South Eastern Section) delivers medical services to rural and regional NSW, Victoria, Tasmania, south-west Queensland and northern South Australia.

The service operates at bases at Broken Hill, Dubbo, Bankstown, Mascot, Essendon and Launceston. A total of 203 staff, including 40 doctors, 23 nurses, 6 medical specialists, 2 dentists, 57 pilots, 25 engineers, 2 radio staff and various administrative and fundraising staff are employed to deliver medical services.

Project Background
The project sought to develop and implement a centralised medical record, hardware to store and manage the central records with backup; provision of wireless broadband access; laptops for medical staff to access patient information from remote locations; and subsequently better informed decision making by health care professionals.

The RFDS had not moved to centralised electronic medical records, mainly due to the lack of or limited access from remote locations. In order for centralised medical records to work successfully, access from remote locations such as Wilcannia, Ivanhoe, Tibooburra and White Cliffs was needed.

Access to a centralised medical record would provide medical staff working in remote and rural parts of western New South Wales, eastern South Australia and lower western Queensland, with consolidated patient information, including family history, medications prescribed and any reactions or potential interactions. This would enable a more efficient diagnosis and commencement of treatment plans for patients in remote locations.

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Centralised Electronic Medical Records, Continued

Project Effectiveness
The centralised medical records database was created by merging seven existing Medical Director 2 databases (currently on laptops) into a single Medical Director 2 database. This was then migrated up to Medical Director 3.6 SQL database and then transferred to the central site. Once on the central site, it was available from the RFDS Citrix network wide area network (WAN) and thus accessible from all locations. The main central server is located in Broken Hill as there is a need for the server to be located physically close to the laptops for downloading and uploading patient information. A backup server is located in Sydney and is updated on a regular basis.

The number of clinical patient contacts per year using the centralised medical records system stands at approximately 11,000. The project had the full support of all medical staff who embraced this long awaited technological solution.

Issues
Due to the need for the main server to be physically close to the users, a change was made to the location of the server from Sydney to Broken Hill. This change did not affect the successful implementation of the solution or pose any substantial delays.

Project Strategies
The governance committee were very helpful and positive throughout the project and provided an objective point of view.

Effective partnerships with vendors were established. The RFDS was able to secure a two-year bundling arrangement with Telstra enabling reasonable lead-time to fully embed use of the system in standard operating arrangements.

Minimal training was required as the Medical Director 2 application had previously been used by medical staff.

Sustainability and the Future
The Centralised Medical Records System operates as standard daily practice in the RFDS South Eastern Section. The efficiencies gained from conducting more informed consultations are enormous as medical staff now have patients’ history and pathology results readily available, enabling efficient diagnoses and delivery of prescriptions and treatment plans in real time.

The success of this MHNG project enabled the RFDS to secure funding through the Department of Broadband, Communications and the Digital Economy’s (DBCDE) Clever Networks Program to support further implementation of this solution.
Online Wide Area Network Test Centre for Collaborative Service Networks

SMART Internet Technology (SMART)

Project Summary
This project was undertaken in a two-phased approach.

Phase 1: development of a business case to investigate and recommend how to create a national network roll-out based on an enhancement strategy for services currently available in the Australian market.

Phase 2: implementation of the system including:
- an open Australian National Online Wide-Area-Network Test Centre for Collaborative Service Networks (CSN) to enable eGovernment and eHealth Services to be interconnected in an interoperable and collaborative fashion
- development of a test centre framework, the management of open network interface software and specifications, test cases and test plans, and the interaction with customers and commercial suppliers to establish the CSN marketplace.

Organisation / Network Overview
SMART Internet Technology (Smart) was established in 2001 and is an incorporated joint venture between industry, universities and state governments. Its key purpose is to develop new technologies in the Smart Internet arena and carrying out research into disruptive Internet technologies that have global commercial opportunity.

Project Effectiveness
Project Phase 1 was completed on schedule, including the completion of all committed deliverables and the development of a Health CSN market governance report by Deloitte. An additional deliverable was provided in the form of an International Test Centre Survey. This was a valuable background document to ensure the completeness of the Test Centre requirements as per specifications.

The primary objective of Phase 2 was to develop the Health CSN Test Centre System as specified in Phase 1 and link it to the Smart Internet’s Collaborative Service Network (CSN) Demonstrator for others to test against. The Test Centre System also supports non-CSN network testing.
Online Wide Area Network Test Centre for Collaborative Service Networks, Continued

Issues
It was a challenge to get customers to engage in interoperability testing when standards are still evolving. Further adoption is anticipated after implementation of the project.

Challenges faced in delivering this project on schedule and on budget included supplier delays, high staff turnover in subcontracted labour, components’ failure to meet specifications and unplanned design and implementation issues. Challenges were addressed through contingency plans embedded in the project schedule and legal agreements.

Project Strategies
Key participants included DoHA, Industry Standards Bodies (Industry Positioning & Requirements), AMA, HISA, CSIRO eHealth Research Centre, MSIA, Canada Health Infoway, NeHTA, Continua Health Alliance, HL7, GP Partners and the international standards group IHE ( Integrating the Health enterprise).

Change management costs were low as the customer engagement process was constrained in the project.

Sustainability and the Future
The main post project objective is to increase the adoption of the Virtual Test Centres and achieve self-funded sustainability. To achieve this objective in a constrained economy and with interoperability testing financing minimally available, the sustainability model originally proposed at the start of the project was adjusted.

The approach moving forward, is to use revenue from the international marketplace to cover the costs of operating and refining the system.
Centralised Information Management System (CIMS)

Townsville General Practice Network (formerly, Townsville Division of General Practice)

Project Summary
The Centralised Information Management System (CIMS) was designed to establish an enterprise-grade solution available to the community of health service providers to facilitate eHealth activities, including record sharing and exchange of Health Data.

Organisation / Network Overview
Since its establishment in 1994, the Townsville General Practice Network (TGPN) has been working to support, enhance and develop the activity of GPs to deliver comprehensive, accessible, quality health services to the population of Townsville and Magnetic Island. The TGPN also represents a majority of the GPs of the adjoining cities of Townsville and Thuringowa.

Project Effectiveness
The CIMS provided the first steps to progressing integrated communications between primary health care service providers in the target area and was successfully implemented more than 20 sites, which includes GP practices, pharmacies, and specialists.

It has been effective in engaging with stakeholder groups, such as AARNet (Australia's Academic and Research Network), IBM and CISCO. It has enabled close working relationships with other divisions currently providing Managed Health Network services to the Brisbane South and Mackay Divisions of General Practice. It is anticipated that future activity will include Cairns and North & West Queensland Primary Health Care.

Key factors influencing the project’s success can be attributed to the supportive governance committee that included involvement of the Board, CEO and Senior Managers. The high level of commitment to the project and attribution of core staff at the beginning of the project assisted in delivering project outcomes.

Issues
There was difficulty identifying the appropriate consultants to assist with project planning and scoping due to the specialised skills required in relation to several aspects of the project. Time taken for approval of detailed plans caused project delays, placing extra pressure on staff. Delays in having the CIMS environment up and running made ‘showing and selling’ the solution difficult in a short timeframe.

The 12-month timeline was too short and put pressure on the organisation as a whole. All contractual requirements were met, however, work continues on building the applications required to ensure the GP Managed Health Network is meeting the needs of the end users.

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Centralised Information Management System (CIMS), Continued

Complications were documented in monthly reports and the project team and sponsor resolved most issues. Issues requiring departmental input also caused delays, however, this was also a benefit in that it led to additional attention to detail on particular project components.

Project Strategies
Engagement with stakeholders was effective. Key participants included GPs, specialists, pharmacists, hospitals, information communication technology (ICT) suppliers, Townsville GP Network and other divisions, Queensland Divisions Network, the Commonwealth and project steering committee members and NeHTA.

Sustainability and the Future
The GP Managed Health Network is linked with all programs that TGPN supports and as these grow, so to does the sustainability of the Managed Health Network, which is actively promoted locally and regionally.

Partnering with other organisations such as AARNet to link education and research is an important sustainability strategy, as is the work with the Townsville Health Service District and Queensland Health, linking the use of the managed health network with health system reform initiatives.

The managed health network is designed to be adaptable to take advantage of new opportunities as they present which is important to the long term sustainability of the network.
Fraser Coast Managed Health Network (FCMHN)

Widelinx Pty Ltd, GP links Wide Bay (formerly, Wide Bay Division of General Practice)

Project Summary
The Fraser Coast Managed Health Network (FCMHN) was an initiative of Widelinx Pty Ltd and the Wide Bay Division of General Practice. It sought to connect a number of General Practices, doctors’ homes, medical specialists, regional and district hospitals, Residential Aged Care Facilities, pharmacies and allied health professionals in Hervey Bay and Maryborough.

Specifically, it sought to provide a virtual private network (VPN) to deliver business grade, continuously available broadband, secure email, IP Telephony, videoconferencing, internet and IT support and potentially support other health related applications to the participants in the FCMHN.

The project included the design, implementation, testing and evaluation of the FCMHN, including the provision of the Customer Premises Equipment (CPE). Widelinx and its technical partner, IP Systems Pty Ltd (IP Systems) contracted directly with each participant of the network for the ongoing subscription and use of the network.

Organisation / Network Overview
Widelinx is a licensed telecommunications carrier and a wholly owned subsidiary of the Hervey Bay City Council (now Fraser Coast Regional Council). The Wide Bay Division of General Practice supports 169 GPs across the region. It encompasses the coastal areas from Woodgate in the South to Agnes Water at its northernmost boundary and inland to Childers, Gin Gin, Mount Perry and Miriam Vale. This area covers the towns and shires of Bundaberg, Burnett, Hervey Bay, Maryborough, Isis, Kolan, Miriam Vale, Perry, Biggenden, Gayndah, Eidsvold and Mundubbera.

Project Effectiveness
The FCMHN has provided a managed broadband service to 41 participant health sites and 11 home points (remote access sites). Additional health sites and home points were scheduled to be installed subsequent to the project’s completion date.

Key factors influencing the project’s success related to:
- continual evaluation of the project throughout the implementation and operation of the FCMHN. The impact on the participants and other stakeholders, and lessons learned from the evaluation, were fed back into the relevant aspects of the FCMHN project;
- Widelinx and IP Systems contracted directly with each participant of the network for the ongoing subscription and use of the network allowing secure email, video conferencing, IP telephony; and
- the project design was informed by public meetings with a wide variety of stakeholders: allied health, GPs, the aged care community and the hospital environment.

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Fraser Coast Managed Health Network (FCMHN), Continued

Issues
Videoconferencing was not utilised as frequently as predicted. Difficulties were experienced in relation to patient interviews. Time-poor GPs need training and support to use videoconferencing more frequently. A new technical position was established in the Division of General Practice, which may assist GPs with videoconferencing in the future.

Delivering the project on time was a challenge due to a number of factors. Changes to project personnel of both the department and the FCMHN team resulted in communication issues that effected milestones and equipment ordering. Another factor involved the modification of the scope to include pharmacies and allied health professionals. The time involved in processing this change resulted in the need to extend the timeframe to allow project completion.

Project Strategies
Effective stakeholder management strategies saw health practitioners being involved in the planning and implementation of the project, encompassing the continuum of care, including GPs, allied health, aged care, pharmacies and specialists. This has assisted to ensure that the network will be used to improve health outcomes within the region and meet local needs.

Key participants included allied health, GPs, the aged care community, hospitals, Wide Bay Division of General Practice, iHealth Care consultants, Widelinx and IP Systems.

Sustainability and the Future
The FCMHN project has delivered a secure, robust and high speed technology platform. To maximise its potential it could be used to deliver new value adding services – for example an electronic discharge summary notification to professionals involved in patient care.