"CUTTING THROUGH"

Using Health Information Technology for Effective Chronic Care Delivery

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THE HEALTH INFORMATION
EXCHANGE PROJECT

Prepared by Information Integrity Solutions
for the Health Information Exchange Sub-Committee to report to
the Australian National Consultative Committee on e-Health

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TABLE OF CONTENTS

1 INTRODUCTION

1.1 BACKGROUND TO REPORT

This report was prepared by Information Integrity Solutions (IIS) for the Health Information Exchange Sub-Committee to report to the Australian National Consultative Committee on e-Health (ANCC on e-Health). It was prepared in response to the increasing need to cut through the difficult issues arising in relation to chronic care and to find a sustainable, effective and efficient solution. This solution has so far eluded the many organisations and interests, including government despite significant funds and effort being exerted on the problem. Global Access Partners (GAP) facilitated and oversaw the stakeholder consultation process and IIS conducted the research and prepared the report. The members of the Health Information Exchange Sub-Committee are listed at the back of this report.

1.2 CONTEXT

The biggest problem facing health ministers in the current environment is the sustainability of the health system. The major strain on funds for government and health insurers is chronic disease in all its forms. In the past, the focus of the health system has been on acute care. Indeed, with ageing populations in many countries, the care of people with chronic conditions has become a major concern of governments globally.

This has come about for a number of reasons. A key reason is people are living longer and expecting to receive 21st century outcomes from their health care. Most people over 65 are on more than one medication and have at least 2 diseases. They expect to be active, mobile and working well into their 60s. Many of these people are being cared for in the acute care system which is very expensive and not necessarily the most efficient way of managing their care. The problems are exacerbated by a shortage of all types of medical specialists caused by the aging workforce, longer education processes required to qualify and the feminisation of the workforce.

With an appropriate model and support from information technology it is possible to treat more people in the community and reduce the demand on acute care facilities. This is a hospital avoidance strategy. With proper support people will be able to deal with their disease themselves or with the assistance of a range of health providers in the community. This would save very significant resources and help enable a sustainable health system.

There are many initiatives underway to address the issue, for example, in both public and private sector, IT departments, research and development departments, and the CSIRO are working on different aspects. These include ehealth records, telemedicine, and self monitoring devices. States and Territories are developing chronic care models in an effort to deal with these challenges. A nationally agreed framework is being developed and was due for release in December 2008. Nehta is working on a number of aspects of a shared electronic health record and individual and provider identifiers. There are many small scale pilots being conducted in hospitals, area health services and the community.

However, so far none of these have achieved a coherent approach which can scale up to adoption on a national level to alleviate the chronic care problem significantly. Some of the initiatives are too "big picture" and seek a rigid and centralised approach that is not consistent with the current more flexible and decentralised approach to online service provision. They depend on achieving upfront agreement between all stakeholders, including State and Territory Governments, GPs and hospitals. They often require governments to engage in large scale technology projects which are risky from a political, a financial and supplier point of view. Others are too small and localised, and while successful on a small scale, are unlikely to succeed on a larger scale for a range of reasons. Some are too IT focussed and do not address the way health care providers operate or the constraints and incentives that affect whether or not providers will engage with a new way of providing services. Very few of these projects focus on the incentives, concerns and attitudes of the entity for whom the whole health system exists – the health consumer. Neither do they consider the potential to simplify many of the complexities and conundrums around ehealth information that can arise if the consumer is placed at the hub of control over the flow of their information.

This project assumes that the technologies and processes engaged in ehealth can address many of the problems of managing chronic care if the interests of the stakeholders are respected and they are given persuasive reason to participate in better arrangements. But technology must be based on a framework that describes the principles and processes that are needed to have a significant impact on the chronic care problem.

This project seeks to pull together the technology that could support the key components of chronic care. It seeks to identify how modern information technology can be used to support a more effective and efficient, appropriate, safe, consumer centred, and accessible health care system.

It seeks to build on the best thinking on chronic care: what is likely to work and what does not. It seeks to take into account the people issues as well as the IT issues. Through its work, the project seeks to provide a prototype for how to develop and implement IT solutions that achieve real outcomes for chronic care on a national basis using a "think globally; act locally" approach.

For this project we bought together a group of people working in the field of health and ehealth to brain storm solutions taking into account their experience in the health field and their knowledge of what works and what does not. In conducting the project the group:

- Developed a common understanding of the key elements of a chronic care framework;
- Identified the aspects of a chronic care framework that it will be most useful to focus on for the purposes of developing a project that could give rise to a prototype for the use of modern IT systems in chronic care;
- Developed some metrics for outcomes sought from a chronic care focussed IT project;
- Developed some additional metrics that will be needed to select the right project to demonstrate the value of the prototype;
- Canvassed what technologies and projects are already available that could inform or be part of the solution;
- Selected a project on which to focus.

This paper documents the thinking that is the outcome of this process.

2   WHAT IS A CHRONIC DISEASE?

The World Health Organisation (WHO) defines chronic diseases as having one or more of the following characteristics: they are permanent, leave residual disability, are caused by non-reversible pathological alteration, require special training of the patient for rehabilitation, or may be expected to require a long period of supervision, observation or care. Increasingly, people with chronic disease are being managed in primary care by general practitioners and other primary care professionals often in collaboration with specialised services.

3   CHRONIC CARE MODELS

3.1   INTERNATIONAL

3.1.1   WHO AND THE ICCC

The WHO report *Innovative care for chronic conditions: building blocks for action* (ICCC) provides a comprehensive global framework for the prevention and management of chronic disease. It identifies eight essential elements:

(1)   Support a paradigm shift from acute episodic care to a system of care that is more suitable for the needs of those with chronic conditions;

(2)   Manage the political environment to ensure commitment across all levels with information sharing;

(3)   Build integrated healthcare to ensure that information is shared across services, providers and time;

(4)   Align sectoral policies not only with health but also comprehensively across other areas such as education, workforce etc;

(5)   Effective use of health care personnel in order to maximise the roles of all those involved in care of patients and recognise the importance of their roles in the management of chronic disease;

(6)   Centre care on patient and their family with a shift from the patient as a passive recipient of care to a model where the patient takes some responsibility for their care. This is important when lifestyle factors play an important role in chronic disease particularly prevention;

(7)   Support patients in their communities with programs that span health care organisations and the wider community;

(8)   Emphasize prevention.

These elements combine to form a triad of care between the health care organisation, the patient and their family and the community.

The organisation of health care systems is discussed in terms of macro, meso and micro levels and how they contribute to the management of chronic disease.
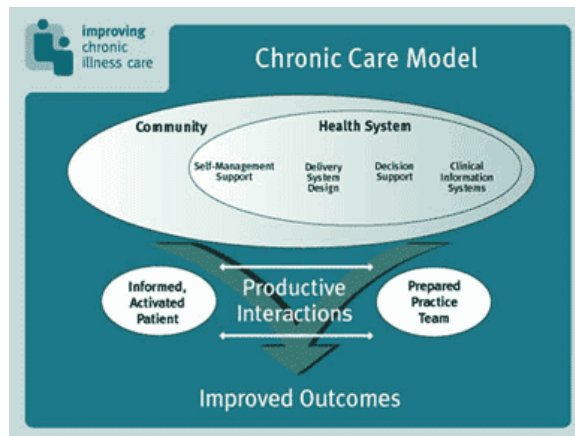
- At the **macro** level governments need policy for preventing and managing chronic disease that includes both high and low technology approaches with the avoidance of fragmented financing and misaligned incentive schemes without regulation or monitoring of standards.

- At the **meso** level there should be systems to manage care over time as opposed to acute episodic care. This will involve education of health care professionals, evidence-based guidelines, prevention strategies, information systems and linking with community resources.

- At the **micro** level there must be development of skills for individuals to prevent and manage their own health.

In developing the ICCC the WHO drew from the Chronic Care Model (CCM) developed by Wagner and colleagues and expanded this model for use particularly in developing countries.

3.1.2 CHRONIC CARE MODEL

The Chronic Care Model (CCM) was developed in the USA after an extensive review of the literature and is the most widely known model of care for people with chronic conditions. The model describes the elements essential for improvements in the care of people with chronic conditions with a focus on primary care. The overall aim of the CCM is to develop well-informed patients and a healthcare system that is prepared for them. The six elements of the CCM are:

- Delivery System Design (DSD): The structure of the medical practice is to create teams with a clear division of labour and separating the acute from the planned care. Planned visits and follow up are important features.

- Self Management Support (SMS) collaboratively helping patients and their families to acquire the skills and confidence to manage their condition. It involves providing self management tools, referrals to community resources, routinely assessing progress but with continued electronic or personal access to their doctor.

- Decision Support (DS): Involves integration of evidence based clinical guidelines into practice and reminder systems. The guidelines are reinforced by clinical "champions" providing education to other health professionals.

- Clinical Information Systems (CIS): There are three important roles of computer information systems: a reminder system to improve compliance with guidelines, feedback on performance measures and registries for planning the care for Chronic Disease.

- Community Resources (CR): This involves linkages with hospitals providing patient education classes or home care agencies to provide case managers and linkages with community based resources – exercise programs, self help groups, and senior centres.

- Health Care Organisation (HCO): This involves the structure, goals and values of the provider organisation and its relationship with purchaser, insurers and other providers underpins the model.

3.2 NATIONAL

There are also a number of Australian national projects including:

- The imminent COAG chronic disease management model of care due for release in December 2008;

- Australian Better Health Initiative (ABHI);

- The National Chronic Disease Strategy (NCDS) – Department of Health & Ageing (Fed) 2005, www.health.gov.au/internet/main/publishing.nsf/Content/7E7E9140A3D3A3BCCA257140007AB32B/$File/stratal3.pdf;

- National Strategic Framework for Aboriginal and Torres Strait Islander Health 2003-2013;

- National Health and Hospitals Reform Commission;

- Research on chronic funded by the Federal Department of Health, including the research reported in a special supplement to the Medical Journal of Australia edition of 17 November 2008 titled "Optimising care for people with chronic disease", MJA 2008; 189 (10 Suppl): S1-S32 www.mja.com.au/public/issues/189_10_171108/contents_171108_suppl.html.

3.3 STATE AND TERRITORY STRATEGIES/POLICIES/PROJECTS

Key initiatives are:

- New South Wales Chronic Disease Strategy 2006-2009 and New South Wales Chronic Disease Prevention Strategy 2003-2007;

- Chronic Disease Management Program Guidelines for Primary Care Partnerships and Community Health Services. Also, the Integrated Health Promotion Resource Kit 2003 (Victoria) www.health.vic.gov.au/communityhealth/downloads/cdm_program_guidelines.pdf;

- Queensland Strategy for Chronic Disease 2005-2015;

- Chronic Disease: Prevention and Management Opportunities for South Australia, 2004;

- Chronic Conditions Framework for Western Australia 2005-2010 (unpublished) and a range of other initiatives supported by the ABHI;

- Northern Territory Preventable Chronic Disease Strategy;

- Strengthening the Prevention and Management of Chronic Conditions – Policy Framework from Tasmania; and Development of a Chronic Disease Strategy for Tasmania: A comparison of Australian and International Chronic Disease Policy & Models of Care, July 2008 www.dhhs.tas.gov.au/__data/assets/pdf_file/0017/32327/Chronic_Disease_Strat_Background_Paper_July_2008.pdf;

- ACT Chronic Disease Strategy 2008-2010.

The Chronic Disease Strategy for Tasmania in particular is a very good summary of chronic care frameworks nationally and internationally developed as a basis for developing Tasmania's strategy. It includes a table of elements to compare.

4   BACKGROUND – COMMON ASPECTS OF CHRONIC CARE MODELS

Using the comparison tables offered in the Tasmanian background paper (see pages 17-19), the project identified some common aspects of Australian and international chronic disease models/policy taking into account the best elements. This is set out in the following summary.

Key Elements of Chronic Disease Policy/ Strategy	Integrated features – Australia and Overseas
Overarching goal	- Improve health - Prevent ill health/chronic disease - Detect chronic disease - Improve quality of life for those with chronic illness - Reduce health disparities
Scope	- Type 2 diabetes - Cardiovascular disease - Chronic respiratory disease - Cancer - Musculoskeletal conditions - Mental illness - Alzheimer's' and other dementias, renal disease, HIV Aids, Hep B and C, social conditions e.g. family violence, homelessness
Objectives	- Prevent/delay the onset of chronic disease for individuals and population groups - Reduce the progression and complications of chronic disease - Maximise the wellbeing and quality of life of individuals living with chronic disease and their families and carers - Reduce avoidable hospital admissions and health care procedures

	• Implement best practice in the prevention, detection and management of chronic disease • Improve capacity of health system to meet population demand for chronic disease prevention and care (NSW)
Principles/Elements	• Person centred care • Self management / partnership / choice and control (individual, family, carers and community) • Effective evidence-based best practice care • Coordinated and integrated multidisciplinary care across services and settings (right care, right place, at right time) • Prevention / population health (proactive) • Equitable access • Monitoring and evaluation

5   SELECTION OF ELEMENTS ON WHICH TO FOCUS

The project agreed that the 'Principles/Elements' component in the shaded part of the above table would be the most useful to focus on for the purposes of identifying appropriate IT solutions to benefit chronic care.

It further narrowed down the key elements of this component for this project to:

- Self-management / partnership / choice and control (individual, family, carers and community);

- Effective evidence-based best practice care;

- Coordinated and integrated multidisciplinary care across services and settings (right care, right place, at right time).

6   WHAT IS LIKELY TO WORK IN CHRONIC CARE

There is a range of research done on what does and does not work in chronic care. The eMJA supplement mentioned earlier included a number of articles that consider this issue.

For example, one article states:

> *Some of the key insights from the Australian and UK experiences, and to a lesser extent concurrent US and Canadian reports, were that self-management education was most effective when programs were tailored to patients' needs, and were undertaken in collaboration with and integrated into primary care. A further prominent finding was the need for a "critical mass" of patients with chronic conditions ready and able to take part in such programs.* www.mja.com.au/public/issues/189_10_171108/osb11134_fm.html.

In another article in the eMJA supplement, "Enhancing patient engagement in chronic disease self-management support initiatives in Australia: the need for an integrated approach", by Joanne E Jordan, Andrew M Briggs, Caroline A Brand and Richard H Osborne the following conclusion was reached:

> *Although there have been advancements in self-management support at policy and program levels, these initiatives have tended to remain separate from mainstream health care and have had insufficient coordination for effective and sustainable impact, particularly at the primary care level (eg, structured referral pathways for health care providers to refer patients to self-management education programs). To improve integration, self-management support needs to be incorporated as an integral aspect of health service redesign in terms of infrastructure and systems to ensure appropriate uptake and utilisation by key stakeholders (patients, carers, health professionals and health care organisations). Without this, self-management support will remain on the periphery — delivering a small "therapeutic dose" that may be difficult to justify at the policy level, thereby limiting available funding and uptake.* www.mja.com.au/public/issues/189_10_171108/jor10813_fm.html.

Also, the final report of the Federal government's National Evaluation of the sharing Health Care Demonstration Projects published in June 2005 has some significant insights. www.health.gov.au/internet/main/publishing.nsf/Content/B71197DF35CE8CD3CA2570BC0081800 1/$File/Executive%20Summary.pdf

It outlined the following insights about the features of the projects best able to meet the challenges of implementing self-management into the community. These projects:

- Were organisationally mature, with good infrastructure and support;
- Had an strong relationships with key stakeholders (eg community groups and Divisions of General Practice);
- Established or capitalised on pre-existing relationships with a range of health service providers including general practitioners;
- Were very flexible in their approach and design and able to respond to client feedback;
- Employed a variety of approaches to recruitment and implementation, depending on the target group; and
- Built capacity from organisational perspective, most notably in the areas of network partnerships and knowledge transfer.

In terms of wider implementation the program characteristics with the greatest potential for increasing effectiveness of self-management it identified include:

- Flexible approaches with tailoring of interventions to meet client need in terms of content and mode of delivery;
- Ability to identify and respond to client need through the use of appropriate planning tools at the start of the program, reinforced by ongoing coaching and follow-up; and
- Ability to provide appropriate and structured support to clients, finding the balance between over-dependence on the support on offer and being isolated from the program.

7 PRINCIPLES AND MEASURES FOR DETERMINING THE SUCCESS OF THE PROJECT

The project also identified a number of principles and measures that would be used to determine whether or not the project is a success. These factors would need to be taken into account in order to successfully identify the best solution for facilitating chronic care. These are that it must:

- Meet the quality care criteria of:

    o Effectiveness;
    o Efficiency;
    o Safety;
    o Appropriateness;
    o Client centeredness;
    o Improved access to evidence based care;
- Be scalable and sustainable;

- Those participating in the project would strongly endorse it to others not participating – new services are likely to be is taken up on a large scale;

- Draw upon technology that people already use and trust, e.g. email, wikis, blogs, mobile phones, etc;

- Be integrated into and build on the existing system (not run parallel with it);

- Build on what other companies do in this area;

- Be interoperable with other applications and services;

- Benefit/provide real value propositions for all stakeholders, not just the system as a whole, or only some stakeholders;

- Improve patient experience;

- Improve clinician experience, for example, it is less boring work and helps outcomes;

- Respect patient and health provider privacy and avoid the "low road" of "blaming it on the Privacy Act" (BOTPA – as identified by the Australian Law Reform Commission in its recent review).

8 ADDITIONAL CRITERIA FOR SELECTING THE RIGHT PROJECT

The project also identified some additional criteria for selecting projects that is most likely to move thinking on ehealth forward in the early stages. These are that the project will:

- Seek to pick 'low hanging fruit' – achieve result most quickly;

- Be likely to produce data of relevance to key stakeholders;

- Focus on aspects of health where the greatest savings can be made;

- Address something that is a problem right now and poses special challenges for the health system;

- Provide incentives for engagement that don't require significant additional funding or for which pathways to additional funding are obvious or easily found;

- Draw upon what works.

- Involve players that are available and ready and willing to play.
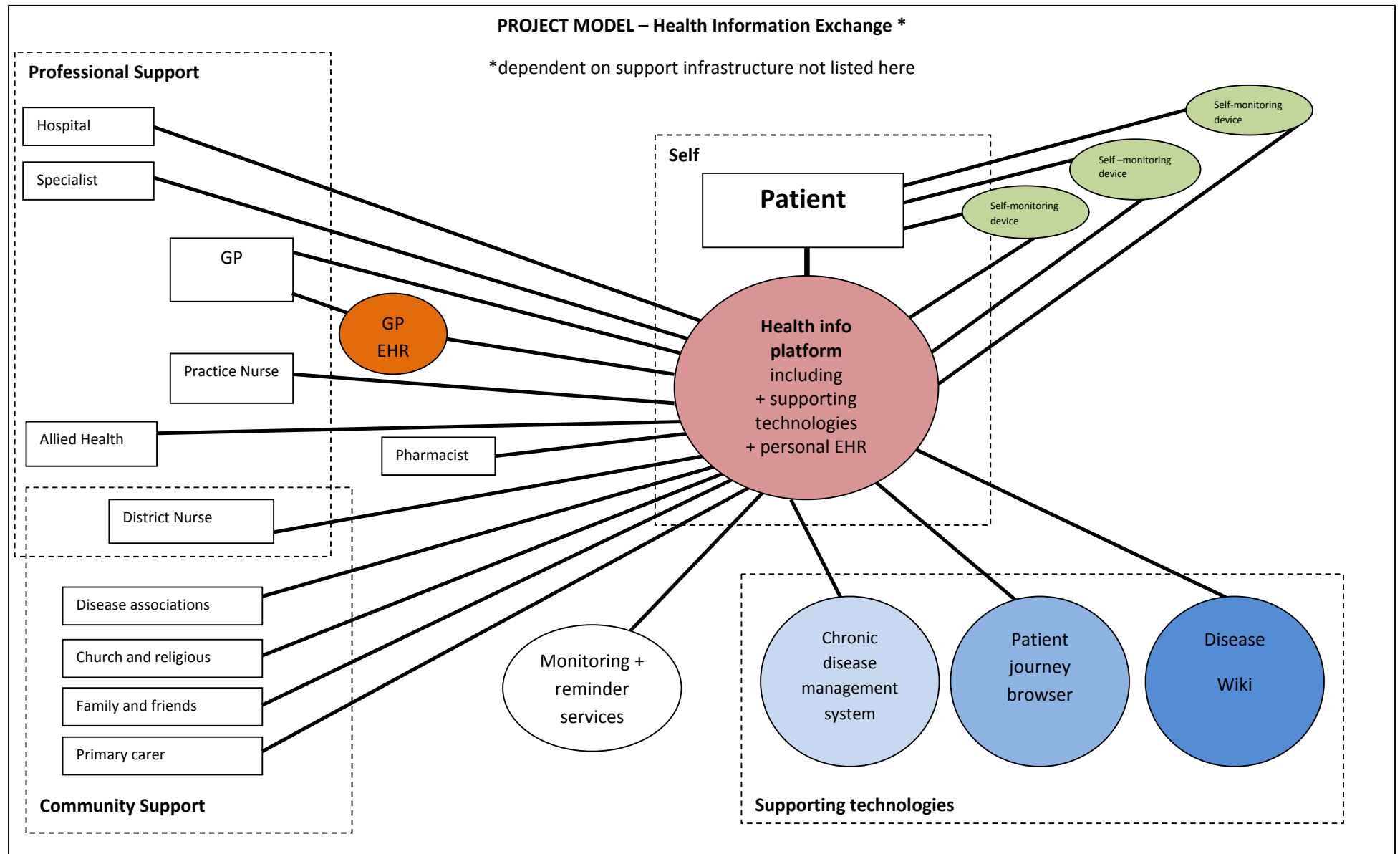
9 SELECTING THE PROJECT TO FOCUS ON

The considerations outlined so far lead to a proposal based on a model which puts the patient in control of their health information at the centre, and which capitalises on the skills and technologies that members of the group can bring to the table. The patient must also be able to delegate or share control with others as suits the circumstances, for example with the GP, or with more immediate carers. Implemented well, this approach inherently addresses privacy issues well by treating control issues as enablers. The model proposed is a work in progress and will benefit from further refinement.
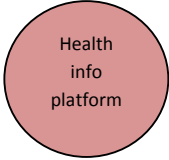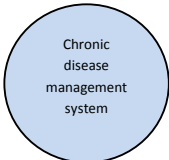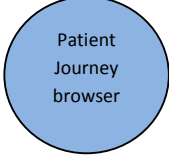
The general model is:

- The patient undertakes as much self care as is possible, with some assistance by other carers in the household if available and necessary;

- The practice nurse provides the support needed to enable this to happen;

- The GP and specialist, supported by pharmacy and allied health provide the higher skilled medical interventions as needed.

The following diagram summarises the proposed model.

PROJECT MODEL – Health Information Exchange *

*dependent on support infrastructure not listed here

Professional Support

Hospital

Specialist

GP

GP EHR

Practice Nurse

Allied Health

Pharmacist

District Nurse

Self

Patient

Self-monitoring device

Self –monitoring device

Self-monitoring device

Health info platform including + supporting technologies + personal EHR

Community Support

Disease associations

Church and religious

Family and friends

Primary carer

Monitoring + reminder services

Chronic disease management system

Patient journey browser

Disease Wiki

Supporting technologies

9.1 DIAGRAM AND MATCHING INITIATIVES, CAPABILITIES AND TECHNOLOGIES

Health info platform	See for example • HealthVault • Dossia • Google Health • HealthBook
Chronic disease management system	See for example: • Barwon pilot • GP Partners, Brisbane
Patient Journey browser	See for example: • CSIRO product
Disease Wiki	See for example: • Oncology Wiki • PatientsLikeMe
Self-monitoring device	See for example: • HealthVault • Barwon pilot • Continua • CSIRO research
GP EHR	See for example: • Medical Director; • Best Practice; • Extensia
*	Supporting infrastructure necessary for implementing the model such as provided by: • Cisco • Intel • Telstra • Southern Pacific Consulting

9.2   BENEFITS OF THIS MODEL

The project concluded that this model could provide a sound and workable approach to solving many of the problems the health care system is currently experiencing in relation to chronic care. The key benefits of this model are:

- It is based on functional examples that are shown to work;

- It uses current technologies and demonstrated capabilities to fill the gaps;

- It provides a coherent model for managing chronic disease which has the following benefits which directly facilitate quality health care:

    o It uses pathways, protocols and guidelines for the provision of chronic care services;

    o It stimulates use of pathways and guidelines;

    o It uses evidence based care;

    o It is a cost effective and efficient use of resources as a result of evidence based approach;

    o It facilitates better access to better health care services.

- It addresses workforce issues, such as the need to make greater use of practice nurses;

- It can be applied across the community, not just in hospitals;

- It is patient controlled, creates awareness and increases self knowledge of disease and allows creation of their own EHR that expands on GP, specialist or hospital EHRs;

- It can facilitate the change in culture surrounding service provision.

It addresses multiple policy issues faced by government:

- It does not require the government to endorse a single provider for ehealth and so significantly reduces the IT risks for government and the community associated with, for example, having to endorse one big multinational provider;

- Government would likely bear only a fraction of the financial cost and risk in the creation of a shared EHR / EMR, because the model creates a market for multiple providers to invest in elements of the platform – (is a Government seeded, commercially augmented EHR);

- It generates a strong hospital avoidance strategy by supporting self-management and care outside hospital and by reducing complications because of evidence based care;

- It avoids adverse public comment that it is privacy invasive or gives inappropriate access to health information because it is patient controlled.

It creates a pathway to gradual change in the current system rather than major upheaval. Everyone opts-in with knowledge and control rather than by government fiat.

9.3   CRITICAL SUCCESS FACTORS

One of the key reasons for failure of a number of pilot programs and initiatives has been the lack of incentives for GPs and health consumers to participate.

The proposed model has two fulcrum points for driving the uptake of chronic disease management processes. These are:

- Having the right Practice Incentive Program payments, given when patients are entered into evidence based chronic disease pathways. These payments would need to make it financially beneficial for GPs and other allied health care providers to enrol their patients, participate in evidence based chronic disease management pathways monitor patients on these pathways with the active participation of practice nurses. (There could be specific payments for nurse monitored pathways) and

- Discounts in health insurance premiums for consumers participating in patient controlled shared EHR processes based on monitored evidence based pathways. These discounts would be provided by health insurers who have much to gain from consumers who engage in such evidence based care which is likely in many situations to be a hospital avoidance activity.

- The incentive mechanisms are under government control and can be tweaked in order to manage costs or behaviour.

The critical success factors related to IT support for this model of care are:

1. Insightful coordination

2. Patient trust/privacy

3. Data analytics

4. Individual Health Identifier

5. Unique Provider Number

6. Legacy system management

7. Broadband

8. Secure communication

9. Interoperability and standards and linking technologies

All these IT support measures are either currently available, or are in advanced planning for introduction across Australia.

10   NEXT STEPS

Having developed the model which we think has significant potential for success there are a number of steps that need to be taken to move the project to the next stage. These are:

- To socialise the model, for example, to explain the model to a range of key stakeholders and gain their views, interest and support;

- To conduct research on the viability and impact of the model in term of:

  o Health policy;

  o Health economics;

  o Service delivery;

- To develop an evaluation plan for each of the above areas researched for the model – to assess whether the processes required to implement the model work (at this point we will assume that better monitoring and following evidence based pathways will improve health care, but this can be tested further down the track);

- To raise funds for these activities and for the project management in the next stage.

These steps can occur in parallel, but the critical step for the project to proceed will be to raise funds. Key sources of funding are:

- Federal government; and

- Health insurers;

- IT companies.

It is estimated that this next phase of the project would be of six month duration, costing approx. $150,000. Components of the funding would cover:

- Project management and coordination;

- Socialisation of the project with key people in the health system;

- Paying for the focused research identified above, to be conducted by academics at various Universities.

11   PARTICIPANTS IN THE PROJECT

The Health Information Exchange Sub-Committee of the Australian National Consultative Committee on e-Health (ANCC on e-Health) was formed in response to the increasing need to cut through the difficult issues arising in relation to chronic health care and to find a sustainable, effective and efficient solution. This solution has so far eluded the many organisations and interests, including government, despite significant funds and effort being exerted on the problem.

GAP, in partnership with IIS, brought together a strategically chosen group of key stakeholders from the public and private and sectors. IIS conducted the necessary research and prepared this report and GAP facilitated and oversaw the stakeholder consultation process. The members of the Health Information Exchange Sub-Committee made significant contribution to the report and are listed below.

- **Prof Bruce Barraclough**, AO Chairman, Clinical Excellence Commission
- **The Hon. Neil Batt AO**, Executive Director, Australian Centre for Health Research
- **Mr Malcolm Crompton**, Managing Director, Information Integrity Solutions
- **Dr David Dembo**, Leader - Health and Human Services, Public Sector Group, Microsoft Australia
- **Mr Peter Fritz**, Managing Director, TCG Group
- **Prof Michael Georgeff**, Chief Executive Officer, Precedence Health Care
- **Mr Michael Gill,** Director, Internet Business Solutions Group, Cisco Systems
- **Dr David Hansen**, CSIRO
- **Mr Robert Lippiatt**, Executive Director, SPC Consulting Group
- **Dr George Margelis**, Industry Development Manager, Digital Health Group, Intel Australia
- **Mr Gary Morgan**, Chief Executive Officer, Australian e-Health Research Centre, CSIRO
- **Ms Robin McKenzie**, Principal Consultant, Information Integrity Solutions
- **Ms Deena Shiff**, Group Managing Director, Telstra Business
- **Mr Greg Stone**, Regional Technology Officer, Microsoft ANZ, Microsoft
- **Mr John Rashleigh**, Managing Director, Navy Health

IIS (www.iispartners.org) is a consultancy with extensive experience in working with government agencies, commercially focused companies and not-for-profit organisations. It provides services in a wide range of areas including identity management, e-business and e-government, e-health, information security, data analytics, risk management and regulatory development. IIS is distinctive because its international connections and deep knowledge of privacy enables them to extend beyond compliance to focus on practical issues that can affect outcomes for organisations and their clients. IIS services include privacy advice and strategies, privacy audit and privacy impact and other assessments, training and thought leadership.

GAP (www.globalaccesspartners.org) is a proactive and influential not-for-profit policy network which initiates high-level discussions at the cutting edge of the most pressing commercial, social and global issues of today. Through conferences, missions, advisory boards and an online think tank, Open Forum (www.openforum.com.au), GAP promotes Australia's capacity to find novel solutions to the challenges facing the global community, and translates these innovative solutions into business opportunities. After a decade-long experience of brokering between business, government, academia and the community for practical economic outcomes, in 2007 GAP has started its 'Second Track' Process programme of initiatives. The success of GAP initiatives demonstrates that these new ways of stakeholder interaction and engagement can be further developed, tested and refined for the public benefit, without putting at risk the core, fundamental machinery of government.