

# Evaluation Report of the “Clinical Networks and the Role of ICT” Forum

VERSION:

Clin\_Networks\_ICT\_Evaluation\_Final.doc

DATE:

25 September 2008

REPORT PREPARED BY:

Dr Christopher Bain  
MBBS, Master Info. Tech, MACS  
Information Manager,  
Western and Central Melbourne Integrated Cancer Service

**Forum Co -Hosted by DHS Victoria and  
the Centre for Health Innovation,  
Alfred Hospital, Prahran, Victoria.**



## TABLE OF CONTENTS

<b>ABBREVIATIONS AND ACRONYMS.....</b>	<b>4</b>
<b>EXECUTIVE SUMMARY .....</b>	<b>5</b>
<b>INTRODUCTION.....</b>	<b>6</b>
CLINICAL NETWORKS .....	6
THE PROBLEM .....	6
A FORUM – FIRST STEPS TOWARDS A SOLUTION .....	7
<b>THE FORUM.....</b>	<b>7</b>
THE PARTICIPANTS .....	7
THE FORMAT .....	7
THE EVALUATION PROCESS .....	8
<b>THE RESULTS.....</b>	<b>8</b>
OVERVIEW .....	8
QUESTION BY QUESTION RESPONSES .....	8
<i>How well does current health ICT support the objectives of clinical networks?</i> .....	8
<i>What are the key areas in which ICT could be improved to support clinical networks?</i> .....	10
<i>What are the measures you think should be used in the future to establish and monitor the effectiveness of ICT in supporting service provision (including clinical care) in a clinical network model?</i> .....	14
<i>Do you feel today’s presentations and demonstrations have been valuable in informing your thinking of how clinical networks can help your clinical area/ work at your health service?</i> .....	16
<i>To what extent do you agree with the following statement “I have learned things from today’s forum that can be acted on by my organization tomorrow to improve ICT in support of clinical networks”?</i> .....	16
<i>Do you have any other comments regarding today, or the problem of how to better support clinical networks through ICT?</i> .....	18
<b>DISCUSSION.....</b>	<b>19</b>
OVERVIEW .....	19
WHAT DID PARTICIPANTS HAVE TO SAY? .....	19
<i>The Ability of the Current ICT Environment to Support Network Objectives</i> .....	19
<i>Standards</i> .....	19
<i>Support for Local Innovation</i> .....	20
<i>Seed Funding</i> .....	20
<i>Consumer Input</i> .....	21
<i>Organizational silos and hierarchies</i> .....	21
<i>Workload Reductions</i> .....	21
<i>Metrics of Success</i> .....	22
<i>Useful Technologies</i> .....	22
<i>Scheduling in Support of Coordinated Care</i> .....	22
LIMITATIONS.....	23
<b>CONCLUSIONS .....</b>	<b>23</b>
OVERVIEW .....	23
IMPLICATIONS FOR THE WHOLE OF HEALTH ICT STRATEGY DEVELOPMENT .....	23
IMPLICATIONS FOR IMMEDIATE ACTION .....	26

<b>REFERENCES.....</b>	<b>28</b>
<b>ACKNOWLEDGMENTS.....</b>	<b>29</b>
<b>APPENDICES.....</b>	<b>30</b>
FORUM PROGRAM.....	30
EVALUATION FRAMEWORK.....	32

# ABBREVIATIONS AND ACRONYMS

Below are listed the relevant abbreviations and acronyms used throughout the document.

- CDM - Chronic Disease Management
- CEO – Chief Executive Officer
- CHI – Centre for Health Innovation
- CIO – Chief Information Officer
- CN - Clinical Network
- CPCU – Cancer and Palliative Care Unit
- DHS – Department of Human Services
- ED - Emergency Department
- EDIS - Emergency Department Information System
- EHR - Electronic Health Record
- EMR - Electronic Medical Record
- GP – General Practitioner
- ICS – Integrated Cancer Service
- ICT – Information and Communications Technologies
- MD - Multi-disciplinary
- MDT - Multidisciplinary team
- OHIS – Office of Health Information Systems
- OP- Outpatients
- PACS – Picture Archiving and Communication System
- UR - Universal record
- USB - Universal serial bus
- WCMICS – Western and Central Melbourne Integrated Cancer Service
- WHICTS – Whole of Health ICT Strategy

# EXECUTIVE SUMMARY

The “Clinical Networks and the Role of ICT” forum (hereafter “the forum”) was held at the Centre for Health Innovation, Alfred precinct, Prahran on July 24-25 2008. The aim of the forum was to identify the key roles that Information and Communications Technologies (ICT) could have in supporting clinical networks (CNs), through a facilitated series of demonstrations and discussions with health leaders in ICT, CNs and health service management. More specifically, the aim was to provide input around CN ICT requirements into the development of the next Whole-of-Health ICT strategy (WHICTS) being developed by the Office of Health Information Systems (OHIS) in the Department of Human Services (DHS).

**The following points summarize the key outcomes of the evaluation of the forum:**

- **The attendees were very clear in endorsing the statement that the current health ICT environment is distinctly unsupportive of the objectives of CNs.**
- **The attendees supported the encouragement of local innovation especially where systems are embedded and being successfully used.**
- **The attendees supported the role of standards**
- **The attendees were very supportive of the views put forward by the consumer representative, and of using the consumer view of the “6 things to get right “in relation to the health journey, as a frame of reference to assess proposed ICT solutions in support of CNs.**
- **The attendees noted that financial support for existing ICT solutions in support of CN principles had in most cases been provided privately or philanthropically, not through government, and that this must change in order for functional solutions to be more broadly implemented.**
- **The attendees were strongly supportive of DHS urgently developing guidelines around sharing of identifiable information across health services, to facilitate services and clinicians in developing processes and systems that appropriately addressed privacy regulations.**
- **The attendees highlighted some practical steps that could be taken immediately, for example, for DHS to allow and promote access to Healthnet immediately.**
- **The attendees also suggested that some already successful initiatives and projects could be shared more broadly through the sector quite quickly.**
- **There were some important key messages delivered by attendees around key metrics (especially metrics relevant to clinicians) of success in ICT developments in support of CNs, for example, workload reduction for clinicians.**

# INTRODUCTION

## Clinical networks

CNs are key reforms for the Victorian health sector (DHS 2008). They have the broad aims of improving the quality of care through clinician engagement in the health policy and planning process, and in providing a platform through which clinical groups aligned with networks can work, with DHS support, to improve dissemination and uptake of good practice and reduce unnecessary variations in care.

While CNs are relatively new entities in Victoria, they have been established over a number of years in many Australian states (NSWHealth 2008) (NSWHealth 2008) (DOH 2008) and internationally (StC Hamilton, Sullivan et al. 2005) (Baxter and Tait 2001) (Baker and Wright 2006), albeit with differing approaches and objectives. In Victoria, the following objectives were agreed to by Government for the establishment of CNs:

- Increase clinician participation in decision making and policy development
- Increase dissemination of evidence-based practice
- Decrease variations in clinical practice
- Improve system monitoring and performance benchmarking
- Improve integration of continuous quality improvement activities
- Improve effectiveness of service delivery

CNs in cancer (DHS 2008), emergency, stroke, renal and maternity/neonatal have been established in Victoria. The networks have different focuses around achieving the agreed objectives, reflecting the differing clinical issues in each as well as the existing programs in place to support these areas.

## The problem

Networked approaches to healthcare implicitly recognise multi-agency involvement in health service provision for patients with complex conditions, spanning the interface between the acute and primary settings, and a range of individuals and institutions. To meet the objectives of CNs, tools are required to support communication between and collaboration of clinicians, to facilitate dissemination and uptake of information into clinical practice, and to monitor and assess utility and outcomes. A key challenge for CNs in developing ICT capacity to support their objectives is that solutions are required to be functional across organizational boundaries. This is in contrast to acute health service governance structures that are organizationally focussed.

ICT development in the Victorian acute setting has been driven over the last five years through the HealthSMART strategy (OHIS 2008). While this is having significant impacts on ICT capacity within health services, the role of ICT at a state-wide and organizational level in supporting CNs remains unclear. In particular, HealthSMART and other activities do not directly address how ICT innovations will support patient centred service models, and reflect contemporary care pathways for patients across a range of community and acute services, as well as differing intra-institutional environments (ward admitted, day admitted, outpatient active treatment such as radiotherapy, outpatient management such as VACS clinics) and specialties.

## **A Forum – First Steps Towards a Solution**

In late 2007 the need for awareness raising, and steps towards planning for solutions was raised by the sector with DHS, and specifically the Cancer and Palliative Care Unit (CPCU) of DHS. The CPCU is the departmental area with oversight of the Integrated Cancer Services (ICS'), the initial operational implementation of the cancer CN. The CPCU subsequently engaged with the Office of Health Information Systems (OHIS) regarding how it could assist in moving this agenda forward.

The forum was subsequently arranged and co-hosted by the DHS and the Centre for Health Innovation (CHI) at the Alfred Hospital, with several aims in mind:

- To raise the profile of these issues with all stakeholders
- To establish from the forum some key lessons for government, service providers and the IT industry in moving forward to meet the needs of evolving services – and specifically to feed in to the next WHICTS (OHIS 2008) so as to guide IT planning and investment decisions in a way capable of meeting the needs of CNs.

## **THE FORUM**

### **The Participants**

Participants invited to the forum included:

- Chief Information Officers (CIOs) (or delegates) of public and private hospitals in Victoria
- Chief Executive Officers (CEOs) (or delegates) of public and private hospitals in Victoria
- DHS ICT representatives
- OHIS representatives
- ICS representatives
- DHS and clinical representatives from each clinical network activity area
- Health service ICT staff
- Technology representatives from major vendors
- CHI representatives
- Biogrid representatives

### **The Format**

The forum was held over 2 days at CHI. On day one the audience were primarily clinicians and CIOs. They heard about the CN's from DHS, and about the consumer's perspective on how ICT should support coordinated care. They also saw several demonstrations of currently working technologies in support of the objectives of CN's. The evaluation from day 1 was

fed back on day 2, when the participants were primarily CEOs (or delegates), CIOs and network leaders. This second day focused on the strategic directions for ICT in CN's.

## **The Evaluation Process**

The evaluation consisted of survey (see Appendices) and was designed to elicit feedback from the more operationally focused day 1 of the forum. The evaluation was:

- used as an input into decision making processes on day 2 (more strategic and executive audience), and for inclusion into the process of developing the next WHICTS, and
- documented in a robust fashion to act as a reference point for subsequent activities in the ICT domain that are aimed to support the objectives of clinical networks

# **THE RESULTS**

## **Overview**

**The response rate for the survey was 74% (25/34 attendees).** Most respondents were male (60%, n = 15) and worked in the metropolitan setting. **Most were between the ages of 35 and 54 (80%, n=20).**

**The main networks represented by respondents were Cancer (predominantly), Emergency and Renal. The respondents were mainly from a clinical background:** 45% had a skill set in medicine or nursing. However, **many professional skill sets were represented** amongst respondents including Medicine and Nursing, ICT technical, Management, Business and Public Health.

## **Question By Question Responses**

This section of the document will outline the key findings of the evaluation on a question by question basis.

### **How well does current health ICT support the objectives of clinical networks?**

The 4 primary objectives of the cancer clinical networks (DHS 2008), also have significant overlap with those of other clinical networks, particularly the objectives of reducing unwanted variation in care and improving co-ordination of care between care providers. When asked about how well these objectives are served by the current health ICT environment, respondents felt that in each case, the current environment was somewhat or totally unsupportive. More specifically for each of the objectives the results were:

- Co-ordination of care – 72 % - unsupportive (totally or somewhat)
- Multidisciplinary team (MDT) based care- 64%
- Reducing unnecessary variations in practice – 72%
- Equity through population based services - 60%

The reasons identified for this relative inability to support the objectives of CN’s were quite consistent (45-50% of cases) across the various dimensions:

- Organizational hierarchies and silos
- Time pressures on clinical staff

**REASONS FOR POOR CURRENT ICT SUPPORT OF CLINICAL NETWORK OBJECTIVES ACROSS KEY DIMENSIONS**

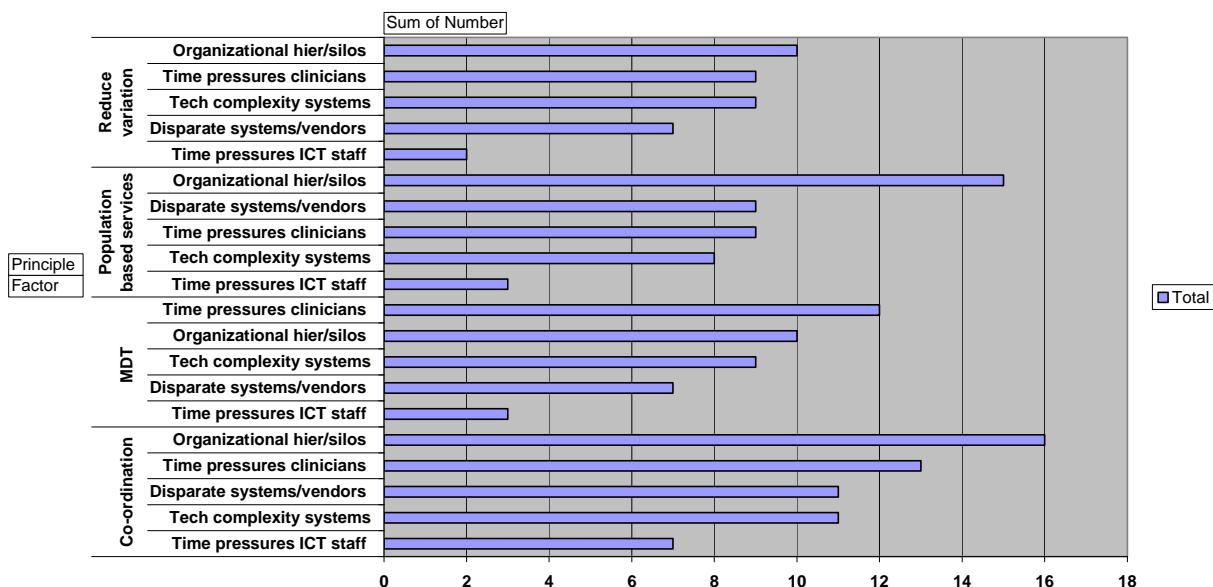


Chart 1 – Reasons for poor current ICT support for CN objectives.

The chart above outlines this finding in more detail. A minimal number of other reasons were stated in free text responses.

Interestingly this chart also illustrates how time pressures on clinicians are a particular concern in the area of ICT support for MDT care (the predominant vehicle that will be reflected here is most probably MDT meetings given that most respondents had some involvement in cancer care). Interestingly, we know from work overseas that there are significant impositions on participants time from the MDT meeting model (Kane, Luz et al. 2007), and that software can have a role in improving the efficiency of these meetings, although the evidence is limited (Nouraei, Philpott et al. 2007).

## What are the key areas in which ICT could be improved to support clinical networks?

The table below outlines the responses in this regard:

Category	Comments
<b>Data usage</b>	information to patient management and flow
	interact with research bodies - they should not be considered separate to clinical entities
	provide quality metrics from EDIS (Emergency Department Information System)
<b>Incentives</b>	incentives for accuracy of data entry
	incentives for organizations to introduce ICT that will enhance the success of clinical networks
	little incentive for them (hospital CEO's and boards) to embrace regional issues/responsibilities
<b>Investment</b>	(provide) access to seed funding to "prove" the value of ICT systems to networks
	convince hospital CEO's and Boards to invest in IT
	flexible seed funding that supports new models of care that are underpinned by the use of ICT to support MDT meetings across multiple sites
	funding to implement already existing IT systems
	lowering the cost of infrastructure to improve telemedicine availability for all areas of health care ie GP (General Practitioner), specialists, Private, public
	sufficient ICT investment for innovations and sustainability
<b>Policy, Governance and Management</b>	adapt to changes in models of care
	ameliorate IT fiefdoms in health institutions
	development of state wide plan with recognition of existing best practice that is in place at regional and local organizations an a strategy to move to a more integrated approach
	DHS leadership and facilitation - especially to support agreements between organizations
	DHS policy
	many excellent programs already exist within different areas of existing networks- we don't need to reinvent the wheel from an ICT perspective – we need to LINK all of the wheels with ICT technology to allow sharing and flow of data between groups
	recognize that networks are organic and therefore clinical networks need to be flexible - to bridge health care providers across the state

Category	Comments
	<p>should networks be legal entities?</p> <p>some way of integrating the management of the clinical networks into management processes that are happening within regions and hospital statewide overarching management eg- HealthSMART with more formal links to regional/metro organizations to influence decision making</p>
<b>Privacy and Security</b>	<p>audit trails/access/legal trails</p> <p>consented open access by health professionals to patient data</p> <p>privacy/ethics approval process - ? Opt out rather than opt in?</p> <p>pt privacy will come to the fore</p> <p>solve issues related to privacy to enable a longitudinal health record across organizations and services</p> <p>Some pragmatic clarity about privacy, privacy laws and the (sometimes perverse) interpretation of these. This may require some "protocols" - needs to be simple and unambiguous</p>
<b>Sharing of information (including EHR, PHR, generic issues)</b>	<p>Must have access to other hospital networks and interstate capabilities</p> <p>ability to gain clinical information from other health services</p> <p>ability to upload and download data from different hospitals within a network, all of which have their own unique characteristics</p> <p>access to data across organizations within the networks is key to enabling a truly integrated approach to care of patients. Ie - for pts to experience "seamless and coordinated care", information has to be available to everyone, anywhere that cares for them. It would appear web based information systems are an important way to achieve this</p> <p>avoid silos of information in different organ areas</p> <p>central repository/portal of patient data - via integration/warehousing</p> <p>communicate with outside providers (GP, specialists, community service providers)</p> <p>Communication between public and private providers eg – private path results drawn directly into hospital record- not just "scanning" of paper results form private pathology providers</p> <p>integration of disparate clinical systems to support the development of the EHR (Electronic Health Record)</p> <p>patient access to own data, treatment plans etc</p> <p>promote sharing of information - hospital to hospital and GP to hospital specialists</p> <p>shared care record (or patient held care record)</p> <p>shared data storage by using indexed data warehouse to point to pt records across sites</p>

Category	Comments
	<p>sharing of electronic records across all (of) health sector</p> <p>sharing of patient information within and inter organizations including GP services</p> <p>systems that enable the networks to talk together to be able to share information</p> <p>upgrading of current databases – CLINICAL - to allow sharing between health services and primary care</p> <p>utilize available technology for pt sharing- eg smartcard, USB (Universal serial bus) etc to store critical pt data to get started</p>
<b>Specific technologies/problem contexts</b>	<p>access to all results for one pt -eg – radiology, pathology, cardiac results- instead of having to access many databases - bring up pts UR (Universal record) which automatically collates results.</p> <p>avoiding duplicating inputs</p> <p>facilitate MD (multi-disciplinary) care</p> <p>ICT should facilitate data collection at point of care</p> <p>link emergency network into the others</p> <p>priority for integration of chronic or complex disease management applications over scanned record systems</p> <p>provide a common platform for communication across a network - eg - a bulletin board</p> <p>provide hosted website for best practice guidelines</p> <p>provide links to regional centers for referrals/case discussions</p> <p>reduce need for double entry of data</p> <p>supporting technologies/point of care input</p> <p>teleconferencing</p> <p>teleconferencing</p> <p>video conferencing /telemedicine</p> <p>voice activated software for correspondence</p>
<b>Stakeholder Engagement</b>	<p>adequate clinician and consumer input</p> <p>clinician engagement</p> <p>even if have good infrastructure hard to get good clinical leverage if uninterested</p>

Category	Comments
<b>Standards</b>	ability for networks to communicate with each other – sharing the data, standards applied/benchmarks
	common pt identifier
	developing data set that has administrative and clinical information combined
	full bidirectional interfaces and unified data
	Using standardized messaging format eg HL7 to transfer data between applications. Many legacy systems currently will not accept HL7, so need to be updated
	national ID is essential
	needs to be an agreement of standardized and minimal dataset
	open interfacing with government networks
	provide minimal guidelines for joint systems in ED (Emergency department)
	single unique identifier for patient/provider
	SINGLE UNIQUE PATIENT IDENTIFIER <i>(author – original hand written in capitals)</i>
	standardized terminologies
	standards for exchange of appointment information to schedule patient visits
	standards for exchange of clinical datasets for network participants
<b>Technical considerations</b>	address the challenge of connectivity
	challenge of connectivity
	ensuring equitable access to necessary IT infrastructure. Is this the same in rural areas versus metro, my understanding is not
	improved ICT architecture to allow increased speed of access to data – many hospitals have slow networks and backbones need upgrading
	specific institutional IT systems to communicate with those in other institutions
	sufficient bandwidth to deliver data
	increased connectivity between hospitals to improve transfer of data

Category	Comments
Training, Education	provision of training and support
Workload implications	provision of sequestered time for clinicians to use the systems
	support workload reduction - eg - voice recognition, EMR (Electronic Medical Record)
	time support for clinicians
Other	make quality care an inbuilt goal in software design

## What are the measures you think should be used in the future to establish and monitor the effectiveness of ICT in supporting service provision (including clinical care) in a clinical network model?

The table below outlines the responses in this regard:

Category	Measure
Financial metrics	reduction on data management costs by 30%
Information access metrics	ability to share data across sites – % occur real time
	ability to share data across sites – access
	Communications documented with other health care providers
	monitor number of images viewed by external referrers, specialist (eg in PACS)
	Monitor use across variety of healthcare providers – ie not using system is a negative KPI
	number of pathology reports and other reports viewed by specialists
Other/Unclear	Better/more research /benefits realization studies
	quality of data /standardization
	Start electronic health record a birth and simultaneously with niche “doable” cohorts (clinician /patient with chronic disease)
	statewide policies
	Obviously, outcomes of treatments that have a high ICT content
Patient service and outcome metrics	number of presentations or reduction in critical illness or deaths as a result of shared data- lives saved !!!
	proportion of patients adhering to management plan
	Reduced travel requirements
	specific measures – pt transfers for example

<b>Category</b>	<b>Measure</b>
	ultimate measure is improve outcomes – but they will take a long time 5-10 yrs – to be measurable
	use of physical transport vs use of videoconferencing (trips/calls)
<b>Quality metrics</b>	number of unread abnormal results
	patient safety – adverse events – medium term measure
	risk reduction monitoring
<b>Satisfaction metrics</b>	consumer survey/consumer input
	pt satisfaction and sense of control of treatment path
	user acceptability trends are absolutely critical – unless this is collected at the point of care, this will not occur
	Utility of the systems – need a parameter of user friendliness
<b>Service development metrics</b>	equalization of medical care – ie access to specialty care in regional areas
	increase in cases treated in regions
	Increase in expertise provided in regions
<b>Systems delivery metrics</b>	% of population covered
	90% of patients have maternity electronic record
	availability of shared EHR for at least 50% of pts for a paperless electronic medical record
	for all MDM to have an electronic record
	proportion of patients having an + % of those with full electronic record
	proportion of patients having full electronic management plan
<b>Workforce/efficiency metrics</b>	clinician time efficiency – medium term measure
	time to access path or imaging results

## Do you feel today's presentations and demonstrations have been valuable in informing your thinking of how clinical networks can help your clinical area/ work at your health service?

The table below outlines the results in this regard:

Valuable	Number	Percentage
1	1	4.55
2	0	0.00
3	2	9.09
4	12	54.55
5	7	31.81
<b>Total</b>	<b>(n = ) 22*</b>	<b>100</b>

\* 3 blank responses received

Thus, of the 22 responses received, **86% said that the day had been valuable (4 or 5)** in terms of "informing their thinking of how clinical networks could help their clinical area/work at your health services". The 3 non respondents were in a range of work roles.

## To what extent to you agree with the following statement "I have learned things from today's forum that can be acted on by my organization tomorrow to improve ICT in support of clinical networks"?

The table below outlines the responses to this question:

Act tomorrow	Number	Percentage
1	0	0
2	2	10
3	12	60
4	6	30
5	0	0
<b>Total</b>	<b>(n = ) 20*</b>	<b>100</b>

The majority of people (**60%**) were **more neutral or cautiously in agreement (30%)** in their responses in this regard. Again the non respondents (n = 5\*) were in a range of work roles. Interestingly, one respondent actually stated, when asked regarding other comments about the day (see Question 15 – below): **"(it's) difficult to know where to start and in the end comes down to funding"** and another stated: **"I'm left wondering how I go forward with any of it"**.

These findings pose some interesting challenges in terms of next steps.

Where respondents provided examples of ways that organizations could act on this agenda “tomorrow”, the following table outlines the responses:

<b>Comments</b>
Some current technologies being used – eg Cisco – Webex ( <i>Author – one of the Demonstrations</i> ) and St Vincent's Oncology Information System ( <i>Author – one of the Demonstrations</i> )
Have a number of department/service based systems as demonstrated - raise the issue of integration of these systems with generic EPR currently being developed
better awareness of activity in different areas
more certain about need for digital input as initial step in developing electronic record
I'm left wondering how I go forward with any of it
we need a one stop shop - similar to VERDI ( <i>Author – one of the Demonstrations</i> ) to display all round patient picture, rather than users clicking and opening various applications, this needs also to be able to display data from other sites
video - virtual meetings
Cisco- MDT Virtual meetings
clinical communication across boundaries ( <i>Author – one of the Demonstrations</i> )
MDT Management system

## Do you have any other comments regarding today, or the problem of how to better support clinical networks through ICT?

The following table outlines the comments received by participants:

Comments
Need to address issues of investment by health services
as a clinician I feel I have good ideas about what is needed in ICT systems that will assist patient care, but it is very difficult to find a forum to discuss these ideas. To date any initiatives have been local. There needs to be a national body that helps develop solutions
it has been a very informative day, one of the most useful aspects has been meeting other people in networks - relationships need to precede use of IT
need to start process of electronic data entry before have retrieval system at sophisticated level
value of consumer view emphasized
Communications between various networks that allow sharing of ideas
A need for secure, appropriate connectivity
Need a process - eg - provide a clinical summary of episodes of care form different systems into a central location with clinical access across locations to enable clinicians to get a comprehensive picture of patient health issues and status
difficult to know where to start and in the end comes down to funding
excellent
Shows that the challenges faced by health are not technology related. They are cultural, bureaucracy and inertia
ICT to be given a priority for funding by providers
there needs to be a network wide map of ICT capacity and moves towards integration of existing programs. DHS must undertake to support this for any progress to be made by networks
DHS commitment to support clinical systems policy of supporting existing proven systems and adapting to local services requirements. National agreement on data definitions, Australia wide unique identifiers and across Australia sharing and access to patient records

# DISCUSSION

## Overview

As stated previously, the establishment of CNs in health care represents a significant challenge for all stakeholders – including clinicians of all types, hospitals – both public and private, providers of investigations and the agencies supporting the functioning of networks.

## What did participants have to say?

### **The Ability of the Current ICT Environment to Support Network Objectives**

The responses of participants clearly indicate that **up to 72% of them feel that the current ICT environment (in its broadest sense) is somewhat or totally unsupportive of the objectives of CN**, depending on the dimension measured.

**That is a message that those responsible for current and future planning, funding and implementation decisions must listen to.**

The reasons for this lack of support were predominantly organizational hierarchies and silos and time pressures on clinical staff. Other important reasons were the technical complexity of having systems interrelate and disparate systems and vendors.

## **Standards**

There is no doubting the importance of standards in our efforts to support clinical networks with ICT. This is an accepted and common approach in ICT, the participants of the forum supported this approach (see comments under **“What are the key areas in which ICT could be improved to support the objectives of clinical networks?”**), and work from around the world – including the US (MGH 2008), England (NHS 2008) and Scotland (NHS 2008) – is supportive of such approaches. Interestingly also, when asked about reasons why current ICT does not support clinical networks well – **“technical complexity of having systems interrelate”** and **“disparate systems and vendors”** were both identified as important factors. Both can be overcome in whole or part by the better use of standards.

The NEHTA web site puts the case for standard succinctly (NEHTA 2008): “Standards are relevant to all areas of NEHTA's work, and provide rigor as well as a means of validation with external expert groups.

The lack of clear standards makes it difficult for vendors to develop software applications that can support a broad range of communication within the health community. Vendors face developing their own solutions and accepting the risk of industry adopting a different approach. Where widely supported standards are available to vendors, the lack of agreement at a national level about their use can preclude their adoption.

Standards also benefit those who purchase and implement health software applications. Knowing which software products conform to agreed standards can greatly simplify the purchasing process, and increase purchaser confidence that the selected product will be fit-for-purpose. Standards also offer the potential to avoid vendor “lock-in”. (NEHTA 2008)

There is certainly work going on around the world that acknowledges the role of standards and seeks to improve and operationalise them (Román, Calvillo et al. 2008) (Ryan and Eklund 2008), and SNOMED CT (IHTSDO 2008) and HL-7 (HL7.org.au 2008) are well recognized and established vehicles for standardization in their different domains. In Victoria, the Victorian Admitted Episode Dataset (VAED) and the Victorian Emergency Minimum Dataset (VEMD) are both data standards, and a key part of reporting frameworks, mandated by the state. Software vendors and those who implement the relevant systems (both public and private hospitals) must remain compliant with these latter standards.

## Support for Local Innovation

Based on anecdotal feedback from participants, as well as comments regarding the demonstrations on day 1, there are a number of islands (or possibly some small continents) of successful innovation embedded in organizations that support the objectives of CN’s.

Some interesting quotes from participants allude to this also. Notably, one stated **“Many excellent (computer) programs already exist within different areas of existing networks- we don't need to re-invent the wheel from an ICT perspective- we need to LINK all of the wheels with ICT technology (sic) to allow sharing and flow of data b/n (between) groups.”**

Another suggested the **“development of state wide plan with recognition of existing best practice that is in place at regional and local organizations as a strategy to move to a more integrated approach”**

Another requested **“DHS commitment to support clinical systems policy of supporting existing proven systems and adapting to local services requirements”**. In relation to existing local innovation, one participant made an excellent suggestion that could act as positive first step to understanding such innovation: **“there needs to be a network wide map of ICT capacity and moves towards integration of existing programs.....”**

Importantly, these feedback statements support the argument made above regarding the need for standards. True interoperability and seamless flow of patient information, as well as data collection in support of valid comparisons, can only be supported by implementing published standards if one is to also allow and promote local innovation.

## Seed Funding

Several respondents indicated that they would like to see opportunities provided to them and their organizations as innovators by seed funding. Some commented to this effect requesting: **“funding to implement already existing IT systems”** as a way in which ICT could be improved to support network objectives. Similarly, another suggested: **“(provide) access to**

seed funding to "prove" the value of ICT systems to networks" as a way to improve ICT support for networks.

## Consumer Input

The following checklist of "6 items to get right" was provided by a consumer representative to give a "health users" perspectives of how information and ICT could better serve networked approaches to care:

- 1 = Unified View of Data
- 2 = Sharing of Unified Data
- 3 = Enhanced Medical Team Interaction
- 4 = Accessing Specialists Live
- 5 = Scheduling
- 6 = Proactive Patient Management

This perspective was well received by participants on the day and endorsed as a useful checklist against which to consider proposed ICT solutions in support of clinical networks. One respondent stated that the "**value of consumer view (was) emphasized**" for them by attending the day. In addition, when considering what metrics may be useful in the future to monitor the effectiveness of ICT in supporting service provision in a network model, a number of participants suggested the need for consumer involvement and consumer relevant metrics.

## Organizational silos and hierarchies

Clearly from Chart 1, organizational silos and hierarchies were identified as one of the key reasons why the current ICT environment does not support CN approaches to care. Importantly, this finding was also supported by participant feedback. One participant suggested that in order to improve ICT in support of clinical networks, we needed to "**ameliorate IT fiefdoms in health institutions**" and another requested "**DHS leadership and facilitation - especially to support agreements between organizations**" as a means to move forward

## Workload Reductions

Time pressures on clinicians was one of the key reasons identified as to why ICT does not currently support the objectives of CN's well. The clear implication is that technologies in support of CN's must also seek to reduce clinician's workload and to free up some time in their busy schedules.

Comments in the evaluation form and on the day support this. For example, one respondent stated the need for technologies that "**support workload reduction - eg - voice recognition, EMR**"

## Metrics of Success

There were an interesting range of metrics suggested by participants that could be useful to measure the effectiveness of ICT, and hence investment, in support of clinical networks. Clearly many of these bear further scrutiny, but they include:

- information access metrics eg – level of access of hospital held PACS (Picture Archiving and Communication Systems) images and path reports by non-hospital partners in care
- systems delivery metrics- eg – number of patients discussed at MDT meetings who have a full electronic record
- patient service and outcome metrics – eg – avoided transfers between facilities, % of patients having a full electronic management plan
- service development metrics – eg – increase in expertise provided in regions
- workforce metrics – eg – improvement in workloads of clinical and non clinical staff
- financial metrics – eg- reduction in data management costs
- satisfaction metrics – eg – consumer satisfaction
- quality metrics – eg – reduced risk (author - dimensions not stated but clinical risk would be a good starting point)

## Useful Technologies

In relation to supporting CN's, a number of useful technologies were highlighted by participants in both the formal and informal feedback elicited from day 1. These technologies included:

- shared (across organizations and geographies) EHR's – various models
- teleconferencing and telemedicine
- portal technologies giving unified views of patient related information for clinical care
- technologies that allow the delivery/extraction of data for quality, service improvement and research purposes as well as for clinical purposes
- meeting support technologies- including synchronous MDT meetings both for co-located and geographically dispersed participants
- (chronic) disease management, and management planning, systems
- technologies that support simple transmission of electronic data and information across organizational and geographical boundaries eg – simple email encryption systems
- technologies that facilitate informal case discussions
- technologies that can support changes in models of care
- technologies to support CN functioning – separate of direct care needs. For example, technologies to document, publish and share best practice guidelines.

## Scheduling in Support of Coordinated Care

An important area identified by consumer input and supported by participants and the presentations on the day, was that there are currently gaps in ICT support of networked approaches, and specifically around the scheduling of planned episodes of care – eg – outpatient (OP) visits or planned surgeries. It could be argued that this is one of the patient (or consumer) facing implementation mechanisms in support of the CN objective of **“coordination of care between healthcare professionals and organizations.”**

## Limitations

Although there were a relatively small number of participants involved in the forum, they represent a selection of experienced and relevant operational staff. However, the forum feedback is **not representative** of the potential responses of:

- younger members of the health care sector (<35 years of age)
- the female (and potentially mobile and part time) health workforce
- the GP community
- the rural sector and
- the Maternal and Newborn, and Stroke CN's in particular

and thus specific efforts must be made to capture input to the WHICTS and next steps from these key stakeholder groups.

## CONCLUSIONS

### Overview

This section of the document will outline the conclusions of the evaluation in 2 dimensions – firstly in relation to actions and learning's that could be incorporated into the DHS Victoria WHICTS; and secondly, immediate actions that could be taken to further the agenda of how ICT can better support CNs.

### Implications for the Whole of Health ICT Strategy Development

This section of the document will deal with the outcomes of day 1 of the forum and of the evaluation, in terms of key findings that should be incorporated into the development of the next DHS WHICTS (“the strategy”).

Communication between, and access to, information across organizations and environments was an important theme coming from the participants in the forum. The practical instantiation of this theme was well captured by a quote from one participant's written responses: **“access to data across organizations within the networks is key to enabling a truly integrated approach to care of patients. ie - for pts (patients) to experience "seamless and coordinated care", information has to be available to everyone, anywhere that cares for them.”**

With that theme in mind, the strategy can be directly informed by the forum and the evaluation findings in the following ways:

- the results clearly show that the respondents felt that **current health ICT environment is very unsupportive** of the objectives of CN's. The clear implication for the strategy is that it needs to ultimately **deliver a very different environment (not just different technologies)** in relation to health ICT if it is to be supportive of the objectives of CN's. Furthermore, this represents a key challenge for the development of the strategy given the direct and core changes to healthcare delivery

for some very large groups with distinct service needs (including, but not limited to, cancer, emergency, renal and stroke patients) implied by CN's. That is to say – **the future state represents both a technological and a business transformation – and in fact the 2 need to inform each other.**

- significant support was expressed for **standards based approaches** – in relation to
  - a unique patient identifier
  - terminology standards
  - data standards
  - messaging standards and
  - system interfacing standards in particular
  
- this ties also to **support for local innovation** where it exists, is embedded and has been shown to work; particularly given the lessons of attempts to encourage uptake of potentially unwanted solutions with their attendant technical, change management and human resource implications and costs. The synergy here is that appropriately defined and enforced (eg – through funding incentives tied to these) standards will allow CN objectives in support of consumer needs to be met, as well as allowing those local innovations to be encouraged and to diffuse. Another telling comment in this regard from one participant was: **“Many excellent (computer) programs already exist within different areas of existing networks- we don't need to re-invent the wheel from an ICT perspective- we need to LINK all of the wheels with ICT technology (sic) to allow sharing and flow of data b/n (between) groups.”**
  
- This point of integration also aligns with feedback from several delegates regarding the beneficial **opportunities provided to them and their organizations as innovators by seed funding** – particularly as a potential path to more quickly gathered evidence about the benefit of implemented (purchased or locally developed) systems in this space - to in turn justify larger and ongoing investment
  
- the significant value of **the views of consumers**, particularly of those with chronic conditions most likely to benefit from networked approaches to care, was clearly supported, and in fact could be used as an excellent frame of reference for
  - investment decisions
  - systems purchase and/or design decisions
  - developing appropriate metrics for the establishment of an effectiveness baseline, and subsequent systems effectiveness evaluations
  
- the need to address the issues of existing **organizational silos and hierarchies as barriers** to supporting networked models with ICT was strongly supported
  
- the need to support means to reduce the time pressures on clinicians through ICT was clearly supported. Arguably it is not sufficient to show that technologies will have a neutral impact on the workload of clinical (and other) staff – in fact given the levels of cynicism in the sector, it could be reasonably argued that ICT approaches to support CN's, and in fact the CN's themselves, should aim to demonstrate **clear workload reductions** for clinicians in particular
  
- the forum feedback is **not representative of** the potential responses of:
  - younger members of the health care sector (<35 years of age)

- the female (and potentially mobile and part time) health workforce
  - the GP community
  - the rural sector and
  - the Maternal and Newborn and Stroke CN's in particular
- and thus specific efforts must be made to capture input to the WHICTS from these key stakeholder groups.
- There are **a number of categories of metrics suggested** by participants that would be useful to measure the effectiveness of ICT and hence investment in support of clinical networks. Clearly many of these bear further scrutiny and thought as to their direct or indirect applicability as metrics, however, they include:
    - information access metrics eg – level of access of hospital held PACS images and path reports by non-hospital partners in care
    - systems delivery metrics- eg – number of patients discussed at MDM's who have a full electronic record, % of patients with full EHR available
    - patient service and outcome metrics – eg – avoided transfers between facilities, % of patients having a full electronic management plan, % of patients whose care has adhered to that electronic management plan, reductions in presentations for care, increased locally vs centrally managed episodes of care
    - service development metrics – eg – increase in expertise provided in regions
    - workforce metrics – eg – improvement in workloads of clinical and non clinical staff
    - financial metrics – eg- reduction in data management costs
    - satisfaction metrics – eg – consumer satisfaction, user acceptance of developed systems
    - quality metrics – eg – reduced risk (author - dimensions not stated but clinical risk would be a good starting point)
  - the implementation (developed or purchased) of the following technologies received support as being key ways in which ICT could be improved in support of the objectives of CN's (in no particular order)
    - shared (across organizations and geographies) EHRs - various models
    - teleconferencing and telemedicine
    - portal technologies giving unified views of patient related information for clinical care
    - technologies that allow the delivery/extraction of data for quality, service improvement and research purposes as well as for clinical purposes
    - meeting support technologies- including synchronous MDT meetings both for co-located and geographically dispersed participants
    - (chronic) disease management, and management planning, systems
    - technologies that support simple transmission of electronic data and information across organizational and geographical boundaries eg – simple email encryption systems
    - technologies that facilitate informal case discussions (clearly this could include teleconferencing and telemedicine technologies) specifically to avoid patient transfer, unless clearly necessary, as determined by clinical need
    - technologies that can support changes in models of care (as stated by one presenter “*the technology should be the servant not the master*”). The

clear implication here for strategy development is a careful and systematic consideration of current or planned changes in service delivery with at least a 5 year– if not a 10 year – horizon view

- technologies to support CN functioning – separate of direct care needs. For example, technologies to document, publish and share best practice guidelines, patient care and safety alerts, new protocols, new research findings – across a network and between networks for the benefit of all CN participants
- one key area identified by consumer input and supported by participants and the presentations on the day, was that there is currently a gap that the strategy should contemplate filling around the scheduling of planned episodes of care – eg – OP visits or planned surgeries. In an environment where patients of CN's may have a dozen or more health care providers contributing to their care, there is a need to better co-ordination of overlapping elements of care – eg – why should a patient have an anaesthetic for the insertion of a vascular access device one week then sedation for endoscopy the next week, organized by separate specialists, if this can be avoided. Clearly ICT can have a role in improving the efficiency and utilisation of health care resources, but more importantly in minimising duplication of interventions, with their attendant risks, for patients.

## **Implications for immediate action**

This section of the document will deal with the outcomes of day 1 of the forum and of the evaluation, in terms of key findings that could be turned into immediate actions.

The following list outlines some immediate actions that could be taken:

- as stated above, significant support was expressed for **standards based approaches** and thus **immediate actions could include:**
  - **collating existing relevant standards that could be adopted in support of the proposed IT agenda in this area and**
  - **outlining the required standards work that is not already being covered by NEHTA and/or other relevant bodies**
- this ties also to **support for local innovation** where it exists, as outlined previously, and thus **immediate actions could include:**
  - **conducting an inventory – in the necessary detail – of what systems are on the ground in use in support of CN's including:**
    - **their broad technical specifications**
    - **function sets and**
    - **compliance with known standards**
  - **with the purposes of both**
    - **understanding the environment better and**
    - **looking at ways to fund, in the short term, worthwhile initiatives and demonstrations**

- the significant value of **the views of consumers**, particularly of those with chronic conditions most likely to benefit from networked approaches to care, was clearly supported, and thus **immediate actions could include:**
  - **directly documenting feedback from other consumer groups – particularly those representative of the chronic disease community**
- the need to support means to reduce the time pressures on clinicians through ICT was clearly supported. Relevant **immediate actions could include:**
  - **an analysis of the greatest opportunities to reduce time impositions on clinicians – thus freeing up their time to participate in networked approaches more effectively, through the selective use of technologies that support these reductions**
- the implementation (developed or purchased) of a range of technologies received support as being key ways in which ICT could be improved in support of the objectives of CN's and thus **immediate actions could include:**
  - **promoting existing underutilised technologies and resources – eg**
    - **providing access to HealthNET**
    - **existing videoconferencing facilities in many institutions and**
  - **funding demonstration projects for, or roll outs of, relevant existing, technologies that work– for example:**
    - **WebEx**
    - **MDT systems**
    - **Chronic Disease Management (CDM) systems**
    - **Portal technologies – eg VERDI**
- one key area identified by consumer input and supported by participants and the presentations on the day, was that there is currently a gap that the strategy should contemplate filling around the scheduling of planned episodes of care – eg – outpatient (OP) visits or planned surgeries. In this regard, **immediate actions could include:**
  - **an examination of synergies with other health system needs – eg:**
    - **OPD redesign**
    - **elective surgery booking redesign**
    - **patient pathways and**
    - **clinical guidelines**
  - **the subsequent description of suitable functionality in this area for dissemination to potential providers of existing or future systems to check for compatibility**

## REFERENCES

- Baker, A. and M. Wright (2006). "Using appreciative enquiry to initiate a managed clinical network for children's liver disease in the UK." Int J Healthcare Quality Assurance **19**(7): 561-574.
- Baxter, J. and J. Tait (2001). Scottish Home Parenteral Nutrition Managed Clinical Network: coordination and standards. The Annual Meeting of the Clinical Nutrition and Metabolism Group of the Nutrition Society with the British Association for Parenteral and Enteral Nutrition, Harrogate.
- DHS (2008). Cancer and Palliative Care Unit Web Site.
- DHS (2008). Clinical Service Network Development Web Site.
- DOH (2008). WA DOH - Health Networks - Collaborative health care planning for the whole community Web Site.
- HL7.org.au (2008). HL7 Australia Web Site.
- IHTSDO (2008). International Health Terminology Standards Development Organisation Web Site.
- Kane, B., S. Luz, et al. (2007). "Multidisciplinary team meetings and their impact on workflow in radiology and pathology departments." BMC Medicine **5**(15).
- MGH (2008). Health Information Technology in the United States: Where We Stand, 2008. D. Blumenthal, C. DesRoches and V. Foubister, Massachusetts General Hospital and School of Public Health and Health Services at George Washington University.
- NEHTA (2008). NEHTA Web Site.
- NHS (2008). e-Health Strategy 2008-11, Scottish NHS.
- NHS (2008). Health Informatics Review Report, Department of Health.
- Nouraei, S., J. Philpott, et al. (2007). "Reducing referral-to-treatment waiting times in cancer patients using a multidisciplinary database." Ann R Coll Surg Engl **89**: 113-117.
- NSWHealth (2008). The Greater Metropolitan Clinical Taskforce - Bone Marrow Transplant Web Site.
- NSWHealth (2008). The Greater Metropolitan Clinical Taskforce - Neurosurgery Network Web Site.
- OHIS (2008). HealthSMART Web Site.
- OHIS (2008). Victoria's Whole of Health ICT Strategy 2009-13 Web Site, DHS Victoria.
- Román, I., J. Calvillo, et al. (2008). "Improving Healthcare Middleware Standards with Semantic methods and technologies." Stud Health Technol Inform **137**: 181-9.
- Ryan, A. and P. Eklund (2008). "A Framework for Semantic Interoperability in Healthcare: A Service Oriented Architecture based on Health Informatics Standards." Stud Health Technol Inform **136**: 759-64.
- StC Hamilton, K., F. Sullivan, et al. (2005). "A managed clinical network for cardiac services: set-up, operation and impact on patient care." Int J Integr Care **5**, e10.

# ACKNOWLEDGMENTS

I wish to acknowledge the efforts of the DHS – in particular those of Peter Williams, Adam Chapman, Stephen Manley, Kylie Mayo, Lesley Thornton and Cathy Purdon in facilitating the successful delivery of this forum and in supporting the evaluation process. I also wish to particularly acknowledge the efforts (both night and day) of Cathie Steele for her leadership, Frank Smolenaers (the technical genius that made the whole event possible from a logistical point of view), Nerida and Connie – all from the Centre for Health Innovation at the Alfred Hospital as forum hosts.

# APPENDICES

## Forum Program

Day 1			
<i>Thurs 24/7/2008</i>	<i>Structured Program</i>	<i>Session</i>	<i>Presenter</i>
	0830 - 0900	Registration	
Early Morning Session	0900 – 0910	Welcome to CHI/ The Forum	Norman Swan
	0910 - 1030	Consumer's Perspective: The 6 items to get right	Clare Fountain – HeartKids Australia
		DHS: Statewide perspective	Chris Brook (DHS)
		DHS Clinical Networks: Directions, Perspectives & Discussion/Q&A	Kylie Mayo (DHS) & questions from floor
		DHS IT: Introduction to ICT Strategy	Peter Williams (DHS)
		Overview: Discussion on early morning session	Norman Swan
<i>Morning tea</i>	1030 - 1045		
Late Morning Session	1045 - 1110	Cystic Fibrosis System	John Wilson – Victorian Cystic Fibrosis Program
	1110 - 1135	Diabetes - CDM-Net: A Broadband Health Network for Transforming Chronic Disease Management	Heather Maddern – CDM Net
	1135 - 1200	Lung Cancer MDT management system	Matthew Conron and David Hart- St Vincent's Hospital
<i>Lunch</i>	1200 - 1300	<b>Vendor presentations</b>	
Early Afternoon Session	1300 - 1350	Demo 1 – MDT virtual meetings	Cathie Steele (CHI) and John Wilson
	1350 - 1435	Demo 2 – Clinical communication across organisational boundaries	Chris Bain (WCMICS) and Frank Smolenaers (CHI)

Late Afternoon Session	1435 - 1520	Demo 3 – Shared electronic medical records	Verdi – Ian Gillies
Afternoon tea	1520 – 1550		
	1550 - 1700	Discussion of demonstrations & Collation of feedback	Norman Swan

Day 2			
Friday 25/7/2008	Structured Program	Session	Presenter
	0900 - 0930	Registration	
Early Morning Session	0930 – 0940	Welcome to CHI/ The Forum	Norman Swan
	0940 - 1000	Consumer’s Perspective: The 6 items to get right	Clare Fountain – HeartKids Australia
	1000 - 1100	Review of Day 1 Demos and Discussion on the Lessons from for Each	Cathie Steele & Chris Bain
Morning tea	1100 - 1115		
	1115 - 1230	DHS IT: Strategic Planning and Next Steps	Peter Williams (DHS)
		State ICT directions	Randall Straw (MMV)
		DHS Clinical Networks: The Future is Now	Fran Thorn (DHS)
		Questions to presenters	
	1230 - 1330	ICT and Clinical Networks: Delegate's input to Whole of Health ICT Strategy 2009-2013	Norman Swan
Lunch	1330 - 1400		
Early Afternoon Session	1400 - 1430	CHI for browsing with facilitators and vendors present and afternoon tea	

# Evaluation Framework

## Clinical Networks and the Role of ICT 24-25<sup>th</sup> July 2008

### Evaluation Framework

Participants are asked to complete the following evaluation at appropriate stages throughout the forum to enable the findings from Day 1 to be fed into Day 2, and from there into IT strategic planning processes at the State level.

Your responses will also form part of a written report that will document the outcome and lessons from the forum. You will not be able to be identified from your responses, and the evaluation forms will be destroyed once the data has been collated.

A reminder regarding some key objectives of Clinical Networks:

- Co-ordination of care between healthcare professionals and organizations
- Engaging and supporting clinicians in multidisciplinary team (MDT) based care
- Reducing unnecessary variations in practice
- Equitable provision of health care through population-based services



<b>Section A. - Generic Pre Forum Questions</b>							
<b>1. Your Age</b> (please circle)	19-34	35-44	45-54	<b>2. Your Gender</b> (please circle)	<ul style="list-style-type: none"> <li>• Male</li> <li>• Female</li> </ul>	<b>3. Primary Location of Work</b> (please circle )	<ul style="list-style-type: none"> <li>• Metropolitan</li> <li>• Rural</li> </ul>
<b>4. Work Role</b> (please circle the <b>single response</b> of best fit in relation to your current role (ie: that requires > 50% of your time)	<ul style="list-style-type: none"> <li>• Clinician – Hospital</li> <li>• Clinician – Non institutional Private Practice</li> <li>• Clinician – Other health</li> <li>• ICT Operations – Hospital</li> <li>• ICT Strategy – Hospital</li> <li>• ICT Operations – Other health</li> <li>• ICT Strategy – Other health</li> <li>• ICT Operations – Other setting</li> </ul>			<b>5. Background</b> (please circle the category or categories on the right that best describe your core professional skill area(s))	<ul style="list-style-type: none"> <li>• ICT Technical or ICT Business or ICT Strategy</li> <li>• Medicine</li> <li>• Nursing</li> <li>• Other health professional</li> <li>• Business</li> <li>• Management</li> <li>• Public Health</li> <li>• Other – Please state _____</li> </ul>		

	<ul style="list-style-type: none"> <li>• ICT Strategy – Other setting</li> <li>• Management – Hospital</li> <li>• Management – Other Health</li> <li>• Management - Government</li> <li>• Other – Please state</li> </ul> <hr/>	<p><b>6. Clinical Network Affiliation</b> (if you are a clinician or involved in health services management or administration, please circle the clinical network(s) on the right that you have most involvement with or will do as they roll out. <b>Otherwise please circle “Not applicable to me”</b>)</p>	<ul style="list-style-type: none"> <li>• All 5 networks</li> <li>• Cancer</li> <li>• Emergency</li> <li>• Maternal and Newborn</li> <li>• Renal</li> <li>• Stroke</li> <li>• Not applicable to me</li> </ul>
--	---	---	--

**How would you rate the ability of the current health ICT environment (in its broadest sense) to support the above network objectives?**

Circle relevant answer	0- unsure	1 – totally unresponsive	2 – somewhat unresponsive	3 - neutral	4 - somewhat supportive	5 -extremely supportive
• Co-ordination of care between healthcare professionals and organizations	0	1	2	3	4	5
• Engaging and supporting clinicians in multidisciplinary team (MDT) based care	0	1	2	3	4	5
• Reducing unnecessary variations in practice	0	1	2	3	4	5
• Equitable provision of health care through population-based services	0	1	2	3	4	5

**If you answered 1, 2 or 3 (but not 0, 4 or 5) above for any of questions 7 to 10 above, then putting aside the critical issue of funding, for each of your answers above, please indicate which reason(s) are the most important in influencing your above answers.**

Circle the relevant reason(s)

For 7. Co-ordination of care between healthcare professionals and organizations	For 8. Engaging and supporting clinicians in multidisciplinary team (MDT) based care	For 9. Reducing unnecessary variations in practice	For 10. Equitable provision of health care through population-based services
---	--	--	--

<ul style="list-style-type: none"> <li>• Organizational hierarchies and silos</li> <li>• Technical complexity of having systems interrelate</li> <li>• Disparate systems and vendors</li> <li>• Time pressures on clinical staff</li> <li>• Time pressures on ICT staff</li> <li>• Other _____</li> </ul>	<ul style="list-style-type: none"> <li>• Organizational hierarchies and silos</li> <li>• Technical complexity of having systems interrelate</li> <li>• Disparate systems and vendors</li> <li>• Time pressures on clinical staff</li> <li>• Time pressures on ICT staff</li> <li>• Other _____</li> </ul>	<ul style="list-style-type: none"> <li>• Organizational hierarchies and silos</li> <li>• Technical complexity of having systems interrelate</li> <li>• Disparate systems and vendors</li> <li>• Time pressures on clinical staff</li> <li>• Time pressures on ICT staff</li> <li>• Other _____</li> </ul>	<ul style="list-style-type: none"> <li>• Organizational hierarchies and silos</li> <li>• Technical complexity of having systems interrelate</li> <li>• Disparate systems and vendors</li> <li>• Time pressures on clinical staff</li> <li>• Time pressures on ICT staff</li> <li>• Other _____</li> </ul>
---	---	---	---

**Section B.- Opinion Dimensions**

The section below provides the opportunity for you to comment on some key dimensions of the issues raised and demonstrations seen today, in a way that can be presented to decision makers tomorrow, and hence fed into the next Victorian Health IT Strategy.

**11. What are the key areas in which ICT could be improved to support the objectives of clinical networks?**

---



---



---



---



---



---



---



---

**12. What are some measures you think should be used in the future to establish and monitor the effectiveness of ICT in supporting service provision (including clinical care) in a clinical network model? (eg- what percentage of patients have a full electronic record of a multi-disciplinary team meeting (MDM) discussion?)**

---



---



---



---



---



---

**Section C.- Generic Post Forum Questions**

These questions are designed to capture your overall opinions about today’s forum, and some information re subsequent actions.

**13. Do you feel today’s presentations and demonstrations have been valuable in informing your thinking of how clinical networks can help your clinical area/ work at your health service? Please circle the number (1-5) that best captures your response.**

**1 – not at all valuable** through to –  
**5 - extremely valuable**

**1            2            3            4            5**

**14. To what extent do you agree with the following statement “I have learned things from today’s forum that can be acted on by my organization tomorrow to improve ICT in support of clinical networks”? Please circle the number (1-5) that best captures your response.**

<b>1 – strongly disagree</b> through to – <b>5 – strongly agree</b>	<b>1</b> <b>2</b> <b>3</b> <b>4</b> <b>5</b>
<b>If you answered 4 or 5 to the above question (14), could you please elaborate on what these things are in the space on the right.</b>	<hr/> <hr/> <hr/> <hr/>
<b>15. Do you have any other comments regarding today, or the problem of how to better support clinical networks through ICT?</b>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>