

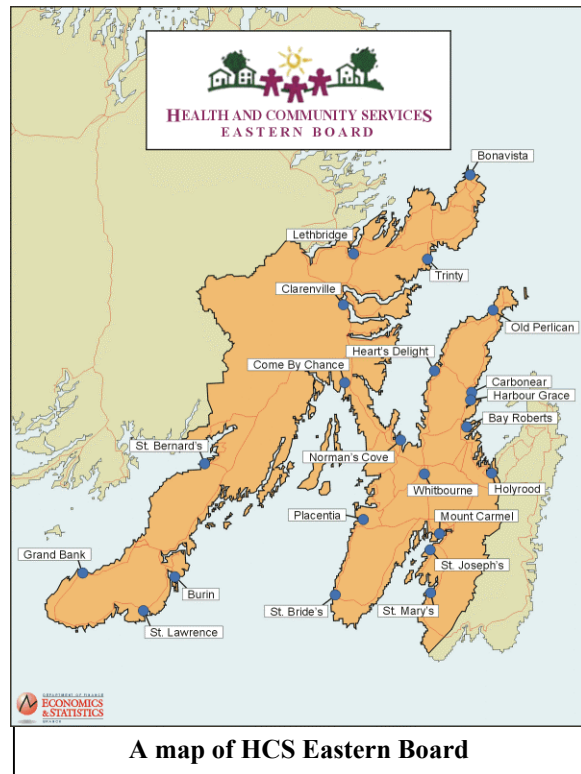
## E<sup>3</sup> – Enabling the Electronic Health Record

### Introduction

A few short years ago Health and Community Services Eastern (HCSE) had virtually no Information Technology (IT) infrastructure - no networks, no Electronic Health Record (EHR), no e-mail, no Internet. Now HCSE is perhaps the most connected Health organizations in NL with the largest Wide Area Network (based on number of sites) in the Health Sector, the highest ratio of fully IT enabled staff, and the highest provincial utilization of the Client Referral Management System (CRMS) EHR application.

The lack of regional connectivity created serious problems for HCSE. For example, unless all staff had access to CRMS, the system was impractical to use and actually increased workload through fragmented (part electronic and part manual) client records. In addition, HCSE needed information systems and the tools, databases, and applications it would support to enable informed management and clinical decision making. In short, as an organization of professionals, everyone at HCSE needed to be IT empowered to effectively perform their jobs and better serve clients.

As HCSE is a decentralized organization (approximately 300 staff scattered over almost 30 sites in rural Newfoundland) there was a basic need to enhance overall communications to bring people together and provide timely access to client information. If we could save money in the process then all the better.



## E<sup>3</sup>

Early in 2002 a vision of full regional connectivity called E<sup>3</sup> was born. E<sup>3</sup> was a commitment to connect Everyone to Everything Everywhere - full connectivity for all staff at all sites to all required computer resources. No possibilities were to be eliminated and there was to be no retreat – no surrender. As the E<sup>3</sup> logo started popping up around the region it became a symbol for a sort of *Brand-Awareness* at HCSE.

## The Challenges

The challenges of implementing **E<sup>3</sup>** were considerable. HCSE was essentially operating in an environment with all the standard indicators of complexity:

- Many programs and services to deliver;
- Multiple sites across a large geographic region;
- A dispersed rural client population;
- Limited and costly network options (where and if they existed);
- Requirement for high system availability;
- Remote access;
- Security to prevent unauthorized access to sensitive data;
- Limited IT Staff to implement and support systems.

As with any health services organization, there were also conflicting priorities to deal with. Do we hire a new front line worker or an IT worker? Do we put more money into IT infrastructure or front-line programs?

And finally, there was practically **NO** IT Budget! That's one thing that still hasn't changed much!

## Overcoming the Challenges (No Retreat, No Surrender)

It's important to realize that IT is not about technology for technology's sake. This is particularly true in health services where IT has to be viewed as an “*enabling technology*” rather than an isolated project. Technology is really part of a corporate e-Health strategy that supports organizational objectives, introduces operational efficiencies, improves patient care, and facilitates organizational progression to the Pan-Canadian EHR vision.

In response to these challenges HCSE developed a set of guiding principles designed to make IT a part of organizational philosophy and support the Board's overall Mandate and Vision.

Key principles included strategic planning to gain executive support and adoption of project management methodologies to ensure success. There was also a significant dominant constraint: There was no real IT budget for **E<sup>3</sup>**.

### **Guiding Principles**

- Employ Strategic Planning;
- Gain executive support;
- Make connectivity part of organizational philosophy;
- Adopt Project Management;
- Create excitement via “Branding”;
- Ensure interoperability with partner organizations;
- Funded through communications and cost savings;

So how do you implement a project like E<sup>3</sup> without funding? You can't. But since there were no new dollars available to implement or sustain E<sup>3</sup>, funding "HAD" to be found from existing budgets and cost savings.

Then we had an epiphany of sorts:

### *Voice = Data*

No matter how remote or how small the site was, it would be ludicrous to put staff in the field without a desk and a telephone and expect them to function. So why put them in the field without data access? It was decided we wouldn't do that either. Voice = Data...

After a consultative process that challenged our vendors and partners to work with HCSE on a cost effect solution we eventually shaped a connectivity scenario that made sense. Thus the connectivity project was approved and the E<sup>3</sup> project was launched.

### **E<sup>3</sup> Today – A Dream Realized!**

Today "Everyone connected to Everything, Everywhere" is a reality. E<sup>3</sup> has reached over 99% of HCSE staff and supports our applications such as CRMS, Meditech, Internet and Intranet, E-mail and Groupware systems, CPS, and many other applications.

Post implementation costs of connecting everyone at HCSE works out to about \$39 per month per staff person - about the same as a telephone on the corner of a desk (excluding long-distance charges).

Some measures of our success include:

- Number of Intranet hits per year – 60,000 plus.
- Number of e-mails per year - 2,000,000 plus.  
(remember we only have 300 staff)
- CRMS utilization went from lowest to highest in province.
- Helpdesk requests increasing, indicating increasing staff utilization of IT
- Our financial costs are neutral.
- Achieving E<sup>3</sup>.
- And our Accreditation success (more below).

In addition, E<sup>3</sup> has enabled us to move other important cost saving and productivity enhancing initiatives forward. For example, our regional videoconferencing project enables efficient use of professional staff time and promotes workplace safety thru avoidance of travel. The network also enables centralized server-based computing resulting in better application performance, enhanced security, better helpdesk

*"Keep up the good work!"*

Accreditation Surveyor comment  
during 2003 Accreditation de-briefing

capabilities, consistency in applications suites, rapid deployment of updates, and overall cost savings through lower TCO (total cost of ownership).

The 2003 Board Accreditation survey indicated great confidence in the Information Management Team and the IT Department. During the post-accreditation briefing, the work of the team was remarked as being a key accreditation success factor. One surveyor commented that her only recommendation for IT was to **“Keep up the good work!”**

### **Lessons Learned and Where to from Here?**

Some of the pertinent lessons learned from E<sup>3</sup> include:

- **Organizational buy-in is a must.** Obvious, but having everyone on board from the frontline to the CEO is critical.
- **A champion at the senior level.** Having a champion at the senior executive table ensures IT is viewed as the Healthcare enabler mentioned above. This champion must not only promote IT to the rest of the organization but must also challenge the IT Department to create opportunities that introduce technology into the organizational fabric wherever possible.
- **IT resources and end-user supports must be in place.** No matter how dedicated your IT staff may be (and ours are to the *N<sup>th</sup>* degree), you have to have enough people to support the growth. Likewise, end users have to be supported with Helpdesks, training facilities, orientation, etc.
- **Find creative ways to use IT.** This helps with the “buy-in”. One “fun” example of this was distributing low-end digital cameras to our larger centres. This encouraged staff to take pictures of events around the region and have them posted on our Intranet site. This increased user acceptance of technology and created even more excitement. Recently these cameras have been used in clinical situations.
- **Give staff a say (IMTAC).** Meeting quarterly, our Information Management Technology Advisory Committee serves in an advisory capacity to the Department of Information Management Technology on matters concerning information technology in the Board. This facilitates two-way communication between the implementers of technology and the end users.

On the anecdotal side, there are other lessons for the IT Department itself:

- Be careful what you ask for! You may become a **“Victim”** of your own success.
- The reward for “Work Well Done” is **MORE WORK!**
- In IT the only real limiting factor is your own imagination.

### Sharing the Story – E-Health 2004

On May 10<sup>th</sup>, 2004 HCSE’s IT Department had the unique opportunity to present and share its **E<sup>3</sup>** experiences in the national health informatics spotlight at the *e-Health 2004 Conference* in Victoria, BC.

e-Health was an opportunity to share their own experiences as a case study to encourage and help others facing similar challenges. It was also a validation of their dedicated work and the success of the **E<sup>3</sup>** vision.



### Some Acknowledgements

HCSE’s IT Department realizes that stakeholders and partners are important in our past and future success. Enabling IT depends on the cooperation of many “friends.” Now it’s time to acknowledge these:

- **The Board of Health and Community Services Eastern, the Senior Executive team, and frontline staff** – for unwavering support, realizing the value of IT, and providing atmosphere conducive to growth.
- **The Department of Health and Community Services** – for leading CRMS development, supporting our vision, and having confidence in our abilities.
- **The Newfoundland and Labrador Centre for Health Information** – for provincial leadership on many groundbreaking healthcare IT initiatives.
- **Our private sector partners** – for working with us to achieve **E<sup>3</sup>**.
- **Our other partners:**
  - Community Health and Institutional Boards
  - The Newfoundland and Labrador Health Boards Association
  - The Department of Human Resources and Employment

## **About Health and Community Services Eastern Board**

Health and Community Services Eastern Board, one of NL's Health and Community Services Boards, provides a broad range of health and social work services and programs to its communities. The region comprises 300 communities on the Bonavista and Burin Peninsulas and most of rural Avalon (approx. pop. 123,000)

HCSE's 300 devoted professional Health Services staff provides services and programs to its clients from almost 30 sites scattered across the region. These programs and services include: Community Health Nursing; Health Promotion and Protection; Child, Youth and Family Services; Community Support Programs; Child Care and Intervention Services; Mental Health and Addictions; Community Corrections; and Residential Services.

## **BIOGRAPHICAL SKETCH OF THE AUTHOR**

### **Kevin B. Durdle**

Kevin is currently Director of Information Management Technology for Health and Community Services Eastern Board. Prior to this, he also worked in various other information technology and financial services positions in the NL Health Services sector.

Kevin also serves as the PACS Project Manager for the Department of Health and Community Services and in this capacity has represented NL at the provincial, Atlantic, and national levels. He is also involved in several other provincial health IT initiatives.

A native of Bonavista, NL, Kevin has worked approximately 15 years in the Health Services environment.