# Doing the Right Things – Not Just Doing

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Recent newspaper headlines have caught almost everyone's attention. In Ontario: "eHealth Operation Bled $1B" (The Toronto Star, Sept. 30/09), "Top Ministers Okayed Untendered eHealth Contract". (The Toronto Star, Oct. 1/09), "eHealth Fallout: We will do Better, McGuinty Promises". (Oct. 8/09), "…Steps Down Amid Controversy". (Oct. 8/09), and in British Columbia: "Man at Centre of Health Scandal was Under House Arrest". (Vancouver Sun, Oct. 9/09). But news like this does not just come from Canada. Significant issues gave been raised in the U.K., Australia and other countries.

## Why is this happening?

Why are we hearing so much bad news so loudly trumpeted?

Related to what some have termed the "ehealth debacle", I am sure that there are at least as many opinions regarding causal factors as there are people opining. However, an understanding of our situation and what we are trying to do through ehealth certainly leads to some reasonable hypotheses about why things are not entirely copacetic. Consider the following possibilities: (1) the lack, or inadequate quality, of oversight, (2) less than full accountability, (3) the sometimes 'bum's rush' to get ehealth projects underway and get EHR components in place…although perhaps not always the right components given true needs, (4) the 'fire hose' of funding from which only consultants seem to be able to drink, (5) the absence or weakness of the business case for, and of the evidence of the proven value of, ehealth with the consequent challenge of deciding in what invest, how much, and what's enough, (6) the reticence to recognize the magnitude of the ehealth challenge and what we will need to invest to realize our dreams, and (7) the dearth of fully qualified ehealth professionals. It is around this latter point that I will focus.

I personally believe that each of these contributes to the current embarrassing situation. A perhaps very important factor is that we have not yet recognized the magnitude and dimensionality of the challenges we face…in other words, we don't fully comprehend the problem we are confronting.

## Why did we not see this coming and prevent it?

The truth is that some did have prescience and questioned how we were proceeding. There are many possible reasons, though, that not everyone saw that not all was well and that clouds could appear on the horizon of our sunny vision of ehealth.

Firstly, very few competent evaluations of the impacts of our ehealth developments have been done and the results of available evaluations have not been well-communicated to our community. We have not heard much about our difficulties and failures. This is sort of like planes crashing and no one seeing and hearing them or reading about them in the newspaper. We fail, but we can't learn from our failures, so we can't "fail our way to success" (1).

Secondly, few, other than deep experts in our field, recognize the dearth of evidence of value of ehealth and operate on belief. It just must be good! Further, many do not recognize that even well-designed systems that deliver value in one dimension can also cause unintended consequences in another, like producing new types of errors, alienating the people they impact, and creating new work. These unintended consequences must be understood and proactively addressed, much like we do with a powerful medication. We don't always take into account that ehealth is a two-edged sword, or a scalpel that can do damage as well as good.

Thirdly, although we have begun to identify and address the matter of ehealth competency, the definition of domains of practice with their competencies is still weak. We often limit our thinking re Health Informatics (HI) the competencies associated with 'health information technology' (HIT) and not the full breadth and depth of Health Informatics (HI) competencies. HI is not equal to HIT! The CPHIMSS exam, for example, tests for and certifies competency in "Healthcare Information and Management Systems", while full HI competency inevitably involves much more and includes credentialling in an HI education program, usually for at least several years. Although we now have reasonably useful definitions of competencies of various members

of the ehealth team (like health informaticians), we still have a great deal of work to do in promulgating these definitions to recruiters and employers.

Fourthly, few, if any organizations hiring ehealth professionals require candidates to be certified by a professional body, and, in the case of true Health Informatics, there is, as yet, no certification process.

Fifthly, there is still confusion regarding the boundaries (and overlaps) of the various disciplinary areas of the contributors to the ehealth team. Health Information Management (HIM) professionals are not the same as Health Informatics professionals and they in turn are not the same as HIT professionals. There are real differences and these must be recognized and we must select the appropriately-trained individuals for various roles. This does not say that one cannot start out in one of the disciplinary areas, for example HIM, and then acquire the competencies of HI, but this is a journey and it is not trivial. Fuzzing the boundaries will not help us improve the match between the capabilities of individuals and the requirements of roles. A person trained adequately to be a CIO, will not function well in a medical records department coding charts. However, there are examples of HIM professionals acquiring the competencies needed to be CIOs. Similarly, a Health Informatician might be an expert in creating vocabularies or coding systems, but not be competent to code charts or be a CIO. We have got to get this right! To try to begin addressing this, we have defined the ehealth team as comprising: Health Informaticians (mainly Applied HI), Technical Professionals (e.g., database and networking experts), HIM Professionals, User Specialists, Other eHealth Professionals (this includes people from the 'back-office' disciplines, for example), and Informatics-Enabled Users (e.g., 'Superusers', liaison staff, etc.). But much, much more work must be done.

## The Realities of eHealth

Consider the following realities that we face in trying to incorporate ehealth into our health system:

**Reality 1:** Implementing systems in a way that addresses actual needs of various stakeholders is a significant challenge. Many systems have been discarded or are under-utilized because they did not satisfy needs of certain stakeholders or are difficult to use.

**Reality 2**: Realizing measurable value from systems is elusive. Projected benefits are often not achieved and/or costs are way beyond what was planned. What's more, objective evaluations are challenging to design, as is running an evaluation trial that even has the potential of showing valid and believable patient outcomes.

**Reality 3:** Realizing projected benefits requires investments well beyond those we make in hardware, software and their maintenance. Estimates based on other industries indicate that complementary factors require $3 to $4 per dollar invested in the technology. Complementary factors (or co-factors) include: management of change, process re-engineering, user education and training, role redesign, organizational restructuring, and the like. The 2% to 3% of the operating budget that most of our hospitals invest in ehealth is not adequate to address all of this. We often hear: "we can barely afford the technology". This is like the airline industry saying "we can barely afford the plane let alone the pilots and fuel"!

**Reality 4:** There is lots of talk about the 'EHR' and investment in the 'superstructure': that will enable and support the EHR, but many institutions lack key 'infrastructural' systems (such as departmental information systems, inter-facility communications, and interoperability support) and adequate ehealth human resources. What's more, in some environments, like providers' offices, adoption of systems is underwhelming. Without these systems and appropriate standards in place, the EHR will be clothes with no King!

Reality 5: Not enough time spent really understanding the challenges the health system faces to increase productivity. What I mean here has been called 'comprehensive productivity' that connotes both volume and quality. Unfortunately, not putting adequate time and effort into understanding problems is pathological characteristic of those focusing on technology. Ehealth must 'grok' (from "Stranger in a Strange Land" by Frank Herbert) problems, thereby enabling holistic and in-depth solutions. We need to do the right things, to address real problems, not just do things. Furthermore, Dr. Richard Irving at York University in Toronto has labeled ehealth as a 'Wicked Problem" – one Wikipedia defines as "difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often difficult to recognize". Such problems are characteristically multidimensional (2).

**Reality 6:** Lots of money is being thrown at ehealth at the at least at the 'superstructural' level these days. However, investment at the institutional and practice levels is lacking in magnitude, quality, or both. Particularly lacking is investment in training HI professionals and other key members of the ehealth team. But we're awash in consultants who cost much more than people in the system would cost…and they'd stay with us.

**Reality 7:** We have a major ehealth HR supply problem and many of our solutions depend on solving this problem. We absolutely must address this with alacrity.

## The HR Supply Problem

What can we do about the supply problem?

There are many things that we can do, but it seems to me that the "must do's" include:

1. Create high school reading-level documentation and presentation materials on ehealth careers and give presentations everywhere that will have us. This needs to include high schools, but also must

include non-HI undergrad programs at colleges and universities.

2. Inform schools, teachers, counsellors, parents, students about another interesting career that allows one to get into the health space without becoming a care provider. Also, emphasize that entering ehealth can be through many different doors…you don't have to be a techie or a math and computing wonk.
3. Within our schools, take steps to actually engage students, e.g., in visits to health organizations and businesses, in demos, and in projects. The new Health Informatics Club (UWHIC) created by students at the University of Waterloo in September 2009 already has over 270 members and the COACH/NIHI National Student Forum has about 80 members.
4. Offer comprehensive HI primer programs. In Canada, we have offered the Applied Health Informatics Bootcamp, which, as of November 2009 has educated over 550 regarding the nature of HI. The U.S. has AMIA's 10x10 program.
5. Work with our local colleges and universities to offer HI education and training distance programs. We simply cannot get all the professionals that we need or upgrade the staff that we have via programs that require going to school for 2 or more years. We have to provide education and training for those already employed. If not a fully virtual program, then one that is mostly virtual and only requires episodic physical attendance. Our own Bootcamp is more than 80% virtual, and the Master's program at UVic is almost entirely virtual. But full distance programs are extremely rare.
6. We will also need to create additional programs, and there is a lot of opportunity for diversity in the types and educational objectives of these programs. There just are not enough opportunities right now and we are nowhere near the educational capacity that's needed. Unfortunately, getting qualified faculty who can lead and teach in these programs is creating a bottleneck.
7. I think that most of us are aware that we cannot build adequate capacity unless we also recruit from other disciplines, particularly to access mature individuals with good academic foundations. Although there are a number of candidate disciplines, the one we are focussing on is Health Information Management. We can't though ignore the social sciences, given the many people-related challenges we face in introducing systems, or the health sciences.
8. It is essential that we lobby government for HI education and training funding. Virtually no investment (other than by the schools themselves) has gone into education and training thus far. It will be especially challenging to create high-quality distance programs.

## Some General Comments

We need to promote the opportunities in eHealth to our kids in every way possible.

We also need to deal with the realities that I enumerated. We can do this by reviewing, evaluating and publishing the successes and failures of our projects and programs. We can remember and reinforce the 2-edged aspects of our 'solutions' and not oversell them. We can clarify the various types of contributors that make up the ehealth team and the competencies that each must acquire. We can promote professionalism, professional certification and a code of ethics. We must educate recruiters and employers regarding the types of professionals they need. And we need to work towards the goal of eventually accrediting education and training programs.

But while we pursue these noble actions, we must take a stand: that if ehealth is worth doing, and our taxes are to fund its productive application to our health system, then it should be done carefully, without too much haste, by people who are fully qualified to do it and who are accountable for their results to expert oversight.

This is the only way to ensure that we do the right things and deliver on the trust that has been awarded us. ●

## References:


(1) http://aworldofpossibilities.org/program/failing-our-way-to-success.

(2) http://en.wikipedia.org/wiki/Wicked_problem.