


COACH eSafety

Embracing eSafety Heard about it? Now doing it!

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Elizabeth Keller
COACH Board Director, National Chair eSafety
VP Product Management & Operations, OntarioMD




Where are we today with eSafety in Canada?

Who is leading the way in trialing eSafety in Canada?





Learning Objectives


1. Understand the foundations of eSafety and how Canada is leading globally in the development of needed Guidelines as a risk and change management tool and approach
2. Identify practical approaches to designing and delivering an eHealth safety program
3. Understand your role (as a Health Informatics Expert) in applying these leading practice Guidelines in your organization
4. Learn how the COACH Guidelines are being used and applied in Canada



The eSafety Program & Guidelines are ready for use



- Based on Program Plan and Advisory Input
- Developed with the help of a national team of health informatics professionals and clinicians
- Trialed with 8 volunteer organizations on current eHealth projects



Trial Participants

Project: Centricity Perinatal Information System



Project: ACD Bariatric Interdisciplinary Assessment Notes



Project: Personal Computer Video Conferencing (PCVC)




Project: Hospital Report Manager Solution



Project: Clinical Data Integrity (DIS)



Project: NWT Xero Viewer




Involvement...





Internationally, COACH has been led the development of ISO 17791, Guidance on standards for enabling safety in health software, and engaged with healthcare experts from the NHS, Australia and the USA.


Domestically, COACH has been working intensively with senior leaders and SMEs from the public and private sector, including Infoway, ITAC, CIHI, ISMP, CPSI as well as NLCHI, the NorthWest Territories, Department of Health, OTN, OntarioMD, GE Healthcare, AGFA Healthcare, Healthtech Consultants, and many more.

eSafety Key Messages

1. **eSafety is coming to the forefront of healthcare delivery – in Canada and internationally**
2. **New national eSafety Program and Guidelines, developed with partners, now available**
 - Integral component of patient safety programs
 - Leading practices based method for managing safety risks
 - Practical approach integrated into standard project processes
3. **COACH eSafety Guidelines are foundation to public / private sector organization eSafety programs and support patient safety with safer eHealth systems**



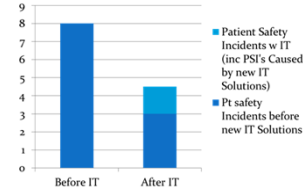

Refresher: Why is eSafety important again and what other jurisdictions did we learn from?



The Opportunity & The Challenge

“There was a high rate of system-related errors for both hospitals accounting for **35%** of prescribing errors in the intervention wards in the **post period**”.


-(Australian research study on effects of two commercial electronic prescribing systems on prescribing error rates in hospital in-patients)



Period	Pt safety Incidents before new IT Solutions	Patient Safety Incidents w/ IT (inc PSI's Caused by new IT Solutions)
Before IT	8	0
After IT	4	0

In the UK, there are an average of 35 documented software safety incidents reported every month; while a large number resulted in no harm, without appropriate attention to root cause and action to prevent re-occurrences, patient safety could be compromised.


-NHS Report



eSafety: Adverse Event Examples

- System fails to produce appropriate alert for patient
- Patient mis-identification
- Software maintenance update not fully tested and causing patient lab results going to wrong physician
- Drug mapping errors or errors in displaying data in the correct context
- Incorrectly computed ages for pre-natal screening
- Data migration errors in converting data from one system to another
- RX system-to-EMR interfaces misfire
- Pathology results dropping from EMR results review or original results not being replaced by secondary reviews
- Stat results not being picked up by physicians because their MD inbox function only displays them passively (rather than via an alert)

NHS identified “e” related adverse event examples



eSafety: NHS England’s Clinical IT Safety Program

Leading practice in training/certification programs


- NHS England has been offering education and training to clinicians across the UK in principles, safety and risk in health IT since 2005. They have also embedded patient safety into their risk management and conformance testing processes.

1,000+ accredited clinicians across the UK focused on:

- Safe implementation – Clinical champions at the local level, who are certified and responsible to sign off systems as ‘ready for clinical use’ in their organizations
- Human factors, which are an important element of the risk profile, are taken into account
- Working with IT leaders to ensure clinical risk factors are identified and mitigated systemically

Strong practical use of standards as tools/guidelines

- Prior to go-live, local health delivery organizations must accept responsibility for any adverse events to patients, so following best practices is important:
- Two specific UK standards (started within ISO) define required best practices for:
 - Application of clinical risk management to the manufacture of health software
 - Management of clinical risk relating to the deployment and use of health software



IOM Report on Health IT & Patient Safety


Institute of Medicine. (2011). *Health IT and Patient Safety: Building Safer Systems for Better Care.*

Health IT and Patient Safety
Building Safer Systems for Better Care

"To fully capitalize on the potential that health IT may have on patient safety, a more comprehensive understanding of how health IT impacts potential harms, workflow, and safety is needed" (p. 49)

Recommendation 6: *The Secretary of HHS should specify the quality and risk management process requirements that health IT vendors must adopt, with a particular focus on human factors, safety culture, and usability.*


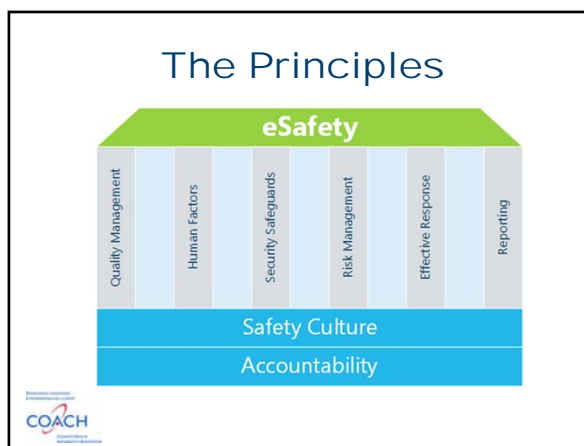
Recommendation 7: *The Secretary of HHS should establish a mechanism for both vendors and users to report health IT-related deaths, serious injuries, or unsafe conditions.*

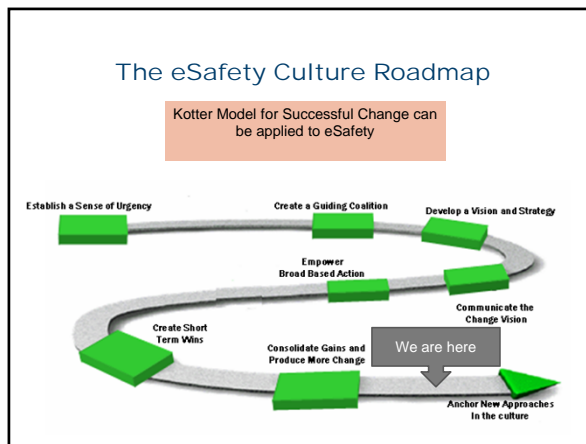
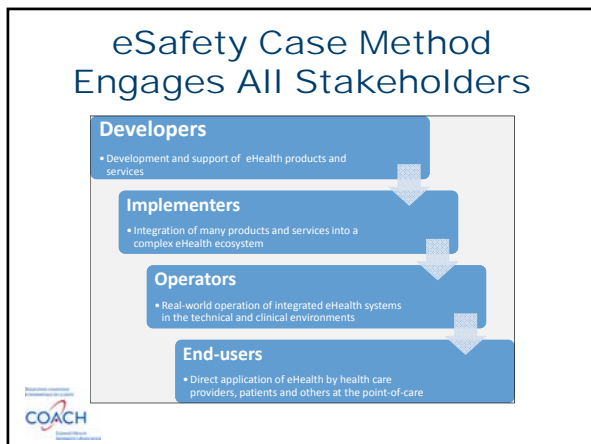



The Premise of eSafety

Why COACH Guidelines & Professional Practices?

- To protect patients against risk and harm due to unintended safety risks introduced through the development, implementation and use of 'e' systems
 - Being proactive / building trust with all stakeholders
- Backed by NHS evidence and 2011 IOM Report which provides strong evidence that action is required to ensure 'e' systems are well-designed, well-implemented and safe.
- Reinforces priority of qualified HI Professionals



How do you leverage your org culture to adopt eSafety?

COACH
Continuous Guidance and Updates

- ### How do you start changing the culture?
- **Start pragmatically**
 - Identify the few critical behaviour changes that will raise performance (reduce adverse patient events) and resonate in the exiting culture
 - Identify target group whose behaviour needs to change and bring the necessary changes to life by demonstrating them
 - **Reinforce behaviours through formal and informal means**
 - (Rational) Formal metrics, incentives, process guidance and training that lead people to practice new behaviours until they experience value.
 - (Emotional) support groups, testimonials, peer leaders, etc.
 - **Seek out role models for the new behaviour**
 - The most effective practitioners, the "pride builders" who distinguish themselves by the way they act
 - Get them to help you find ways to get others to adopt new behaviours
 - **Enlist your current cultural carriers (the lynchpins to spread adoption)**
 - Get them to identify barriers and ways to overcome them
 - **Use the culture that already exists**
 - Stay away from the essential tenets of the culture
 - Understand the reason for current processes before you change them (process discipline and vision)
 - **Visible and consistent role modeling**
 - Leaders need to walk the talk
 - **Clarify the implications of this new behaviour**
 - Continuous guidance and updates
- COACH
Continuous Guidance and Updates
- 20

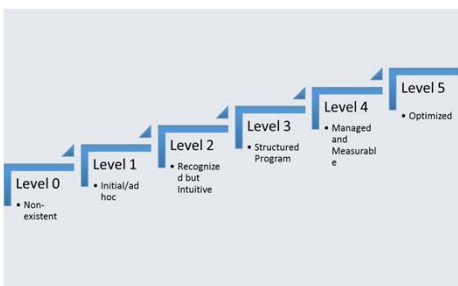
Is your team ready for eSafety?

eSafety culture characteristics include:

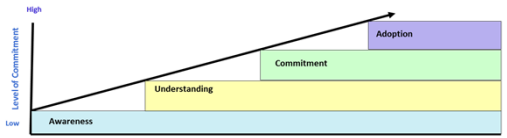
- Senior leadership support
- A learning organization
 - participating in education opportunities
- Strong staff morale
- Adequate resources
- Appropriate autonomy and discretion for individuals
- Commitment to processes and work flow
- Adoption and uptake of guidelines and leading practices




eSafety Maturity Model





Stakeholder Engagement: How we define the Awareness to Adoption path of eSafety



	Low	High	
Stakeholders... <ul style="list-style-type: none"> • are informed • can understand the context, why the change is occurring & the overall benefits • know where to get more information 	Stakeholders... <ul style="list-style-type: none"> • understand the personal impact; their role in the change is more clear • are able to explain the change to others • start to create a bias for action 	Stakeholders... <ul style="list-style-type: none"> • demonstrate a willingness to change; begin to take ownership for the change • have a clear understanding of what must change & what they need to do to prepare 	Stakeholders... <ul style="list-style-type: none"> • are working & behaving in new ways • have internalized the change and made it part of the fabric of how they do what they do • have taken ownership
Possible Approaches <ul style="list-style-type: none"> • broad communications, not customized per stakeholder group • one way communication (with feedback vehicle for more information) • e.g., print, e-mail, voicemail intranet/Internet. 	<ul style="list-style-type: none"> • start to leverage relationships • increased level of targeted messaging for specific stakeholders • e.g. demon, Q&A, targeted posters by stakeholder group • more opportunity for dialogue 	<ul style="list-style-type: none"> • consulting, open dialogue, feedback • focus on hands-on, face-to-face communications/dialogue • ability to touch & test (e.g., walk through contented scenarios, involvement in process changes readiness) 	<ul style="list-style-type: none"> • ownership no longer with the project • consulting/co-creating • leverage testimonials & change champions to gain momentum • establish a new norm (e.g. use new language, model new culture, etc.) • make it clear that old ways are no longer acceptable • provide support, measure results



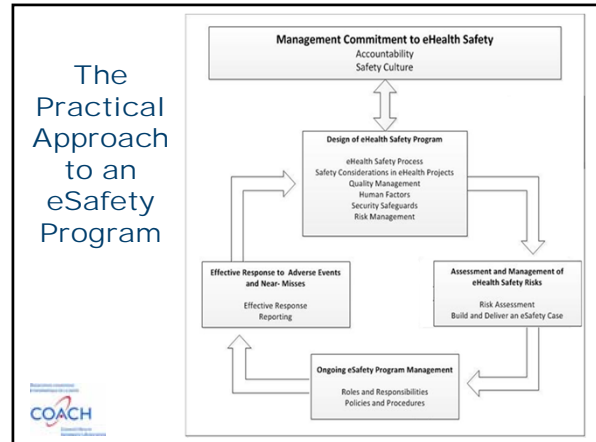
Level	Maturity Characteristic or Trail
Level 0	• Little to no recognition of the need for addressing safety with respect to eHealth systems.
Level 1	• Early recognition of the importance of eSafety, but no formal eSafety management program (eSMP), policy, processes or practices are in place to address eSafety.
Level 2	• High-level eSafety framework is in place, but lacks management support and resources to enforce/enable optimal adoption within the organization.
Level 3	• A formal eSMP is in place and documented.
Level 4	• A formal eSMP, policy and supporting processes are in place and documented. The eSMP, its policy and processes may be integrated into the organization's enterprise risk management and patient safety policies.
Level 5	• A formal eSMP, policy and supporting processes are in place, documented and well integrated into the organization's enterprise risk management and patient safety policies.




eSafety: All of us Working Together

- Ecosystem-based
- Lifecycle approach
- Disciplinary expertise in integrated collaboration
- Roles & Responsibilities for ongoing accountability






Refresher: How do we start doing eSafety within my org again?



You start with the eSafety Case

Ask Yourself: What Could Possibly Go Wrong?

- Set a risk tolerance
- Identify the risks
- Determine scope of eSafety Case
- Follow eSafety Case Method





Sample Checklist

#	Guideline Statement	In place		Applies to			
		Yes	No	Developer	Implementer	Operator	End-User
3	Human Factors Principle						
3.1	The application of human factors engineering to eHealth systems and components						
3.1.1	The Organization that develops eHealth systems and components shall employ human factors engineering techniques.			X			
3.1.2	The Organization that implements, operates and/or uses eHealth systems shall employ human factors engineering techniques in the design of clinical and business workflows.				X	X	X
3.1.3	The Organization that develops eHealth systems shall employ heuristic evaluation techniques.			X			

Example Case Studies portraying the eSafety Case Method

- Two "created" eSafety case examples, based on real telehomecare and EMR implementations

- The Happy Valley Regional Health Authority Telehomecare Program
- The Happy Valley Physician Clinic EMR Implementation

COACH
Center for Operations and Cybersecurity Analysis and Health


Enterprise Risk Register

Risk ID	Risk Description	Hazard Code(s)	Impact	Identified	Risk Score (Hazard, Likelihood, Mitigate)	Action	Outcome Measure	Person Responsible	Target Date	Status (Not Started, In Progress, Complete)
R1	Inaccurate test values entered into LIS	4.1.a 4.1.b	H	L	3	Accept Follow up with private lab to confirm training, software licensing. Monitor and report on identified errors and adverse events.	Rare occurrences of operator or machine error	Clinic Manager	1/8/2013	Not Started

COACH
Center for Operations and Cybersecurity Analysis and Health

What are some practical examples of eSafety in Canada?

Tales from the front lines from Ontario, Manitoba and Saskatchewan....




HRM eSafety Case

The HRM eSafety trial focused on applying the COACH eSafety Guidelines to both the Product Enhancements/Upgrades and the Project (deployment/roll-out) to include eSafety considerations and additional risk mitigation prior to go-live.

Benefits of the eSafety Trial for HRM:


- Increased risk mitigation to manage and minimize any potential patient safety risks associated with HRM
- Increased stakeholder confidence in HRM and its ability to improve the continuity of patient care using national leading practice/guidelines in eSafety

As HRM directly deals with patient records by supplying hospital reports associated to a patient, a risk tolerance level of **low** was deemed acceptable and approved



Real Life eSafety Examples

Ontario	Manitoba	Sask
<ul style="list-style-type: none"> • Report sent to wrong physician • Missing hospital name • Reports delayed 	<ul style="list-style-type: none"> • Missing information • Data Quality 	<ul style="list-style-type: none"> • Client and provider identity issues




HRM eSafety Case

Approach

- "What can possibly go wrong?" Workshop
- Walkthrough of the information flow
- Review of the Privacy Impact Assessment (PIA)
- Included many different stakeholders, including product, project, operations, change management, physicians and physician office managers

Findings

- The safety culture was already well established in our organization
- Many existing process and tools were already in place to ensure HRM had minimal risk, including but not limited to:
 - Standardized specifications
 - Legal agreements
 - Checks and balances within the product
 - PIA
 - Stringent operational processes
 - Extensive testing and validation with vendors, data senders and receivers



eSafety Case Method

“The eSafety Guidelines help prevent adverse events as new e-health information systems are introduced. Our product (HRM) enables the secure transmission of hospital reports directly into my EMR; and applying the **COACH eSafety Guidelines** helped increase confidence in the product and the ongoing processes like eSafety to support it.”

Dr. Darren Larsen
HRM Physician Champion
Ontario Medical Association

Next Steps for eSafety in Canada

- The eSafety Guidelines are now available for purchase or license. For more information, please visit www.coachorg.com or email COACH at info@coachorg.com
- Continue to provide education and awareness on how to successfully apply the eSafety Guidelines
- Building adoption, promotion and deployment strategies with key advisors from health ministries, national organizations, clinical professions and key health agency levels through COACH eSafety Council and other forums



Where will eSafety be going next in Canada?



COACH eSafety

Thank You!

Elizabeth Keller
COACH Board Director, National Chair eSafety
VP Product Management & Operations, OntarioMD

