



Driving Clinical Adoption and Change with Physicians

Terri Lefort
Partner

Canadian EMRAM Scale Statistics

- As of 2015 Q3, there are less than 10% of hospitals in Canada with an EMRAM score of Stage 4 or higher
- Few Canadian hospitals have made the leap towards implementing Computerized Provider Order Entry (CPOE) with order sets and Physician Documentation

HIMSS Analytics
Database 2014

Canada EMR Adoption ModelSM

STAGE	2015 Q2	2015 Q3
Stage 7	0.2%	0.2%
Stage 6	0.9%	0.9%
Stage 5	1.1%	3.1%
Stage 4	3.4%	1.7%
Stage 3	30.9%	31.3%
Stage 2	30.7%	31.3%
Stage 1	14.2%	14.1%
Stage 0	18.6%	17.5%

N = 641

N = 640

Retrieved from: www.app.himssanalytics.org/emram/scoreTrends.aspx

Value of Climbing the HIMSS EMR Adoption Model (EMRAM) Scale

HIMSS EMRAM Model measures the progressive adoption and productive use of technologies in clinical systems (from a paper-based to paperless hospital), resulting in increased clinical quality, patient safety, and operational efficiencies



Cumulative Capabilities	Stage	Benefits	Operational Efficiencies
Complete Electronic Medical Record Continuity of Care Documents shared Data Warehousing Data continuity w/ ED, Ambulatory, Outpt, Inpt	7	Sharing paperless patient charts across the continuum of care	↑ Patient information and coordination across the continuum of care
Physician documentation Full Clinical Decision Support Full Radiology Picture Archiving & Communication System (PACS)	6	Improved outcomes and advanced clinical workflows	↑ Clinical workflow efficiency ↑ Clinical workflow alerts ↑ Research data
Closed loop medication administration	5	- Reduced errors in administering medication - Increased nursing efficiency	↓ Medication administration errors ↑ Nursing efficiency (eMAR)
- Computerized Physician Order Entry - Clinical Decision Support (clinical protocols)	4	Reduced errors in ordering	↑ Adherence to best practice ↓ Medication ordering errors
- Nursing documentation - Clinical Decision Support (error checking) - e-Medication Administration Record - PACS outside Radiology	3	- Improved access to images - Improved safety of medications	↑ Access to images ↑ Access to nursing documentation
- Clinical Data Repository w/ controlled vocabulary - Clinical Decision Support (rules) - Document imaging	2	Centralized access to results, orders, and conflict checking	↑ Access to clinical information
- Laboratory - Radiology - Pharmacy	1	Improved departmental efficiency	↑ Efficiency of departments
Paper-based workflows	0		

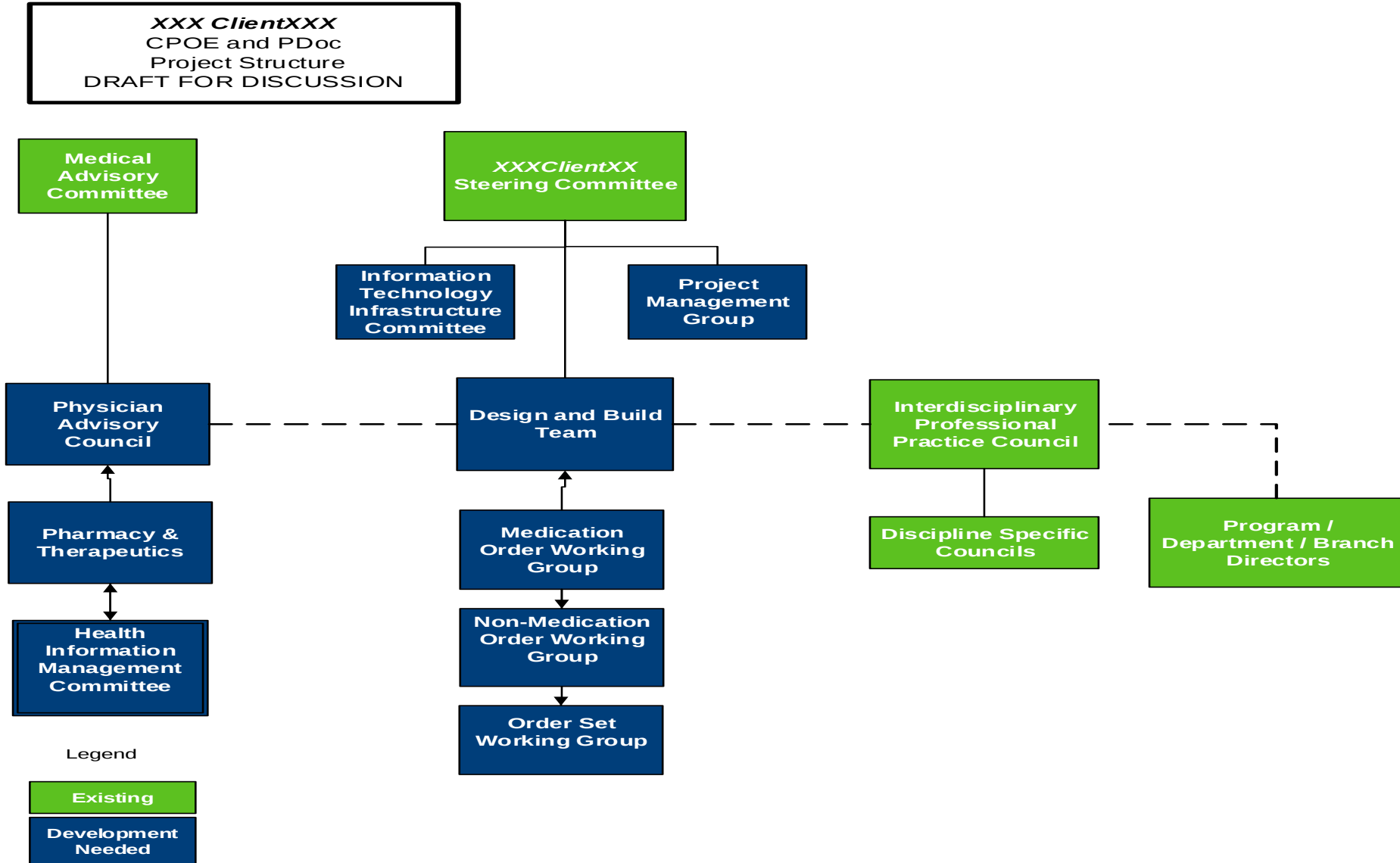
Key Concepts to Driving Adoption & Change

1. Strong leadership at the Physician Level
2. Ensuring that there is value from the physicians perspective
3. Strong communication & adoption plan in place
4. Managing expectations
5. Device strategy that supports workflow
6. At the elbow support during transition phases

Strong Leadership at the Physician Level

- Establish a Governance structure to support the project that has the backing from the Senior Management Team
- Ensure there is a strong CMIO who supports MD's but understands organization goals and vision for implementing CPOE
- Choose a physician champion to work with the Project team that is;
 - Actively & visibly involved in the project
 - Well respected by their peers both clinically & professionally
 - Understands the needs of the physicians overall
- Recruit a team of physician advocates to support all areas
 - Respected clinicians who are interested in the project
 - Represent a mix of all programs
 - Will be actively involved in design and testing
 - Will be actively involved in the working committee

Sample Governance Structure



Value from the Physicians Perspective

Physicians are motivated by improved workflow, better outcomes for patients and access to clinically relevant information.

Ensure that the system shows physicians that there is value in using it.

The system should;

- Be a strong communication tool between physicians
- Clinical decision support built into the system
- Supports documentation that eliminates duplicate entry - information documented flows from admission to discharge
- Documentation supports regional & provincial reporting
- Documentation & order sets work together
- Physicians have the ability to pull in documentation from other disciplines such as nursing

Implementing Clinical Decision Support

Implementation in early stages uses first level decision support. With increased adoption and system utilization more advance decision support is added. With more clinical data available in a data repository clinical business intelligence strategy can be defined.



Data Source	▪ CIS standard content databases and settings	▪ System data to feedback to clinicians for continuous quality improvement	▪ Data repository information to support decision making & research
Decision Support	▪ Allergies and drug interaction checking at order entry ▪ Alerts with defined thresholds (severe, moderate, low) for provider type (physicians, pharmacists, nurses)	▪ Evidence based order sets that are diagnosis specific ▪ Responses in documentation trigger treatment suggestions	▪ Historical and predictive views of care quality and outcomes to inform CDS
Clinical Impact	▪ Improves patient safety ▪ Prevents patient harm	▪ Improves patient outcomes ▪ Streamlines care delivery ▪ Supports decision making at point of care	▪ Improve patient outcomes ▪ Predictive surveillance ▪ Patient focused medicine ▪ Performance monitoring ▪ Select organizational priorities
HIMSS Stage	2 – 4	4 – 5	6 – 7

Building a Foundation for CDS

For CDS to be effective organizations must be strategic in selecting and developing the content of the CIS system. This includes considering evidence based standards, quality based procedures and care pathways while minimizing alert fatigue.

Identify Areas of Priority

- Standard alerts: drug/drug interactions, allergy/drug interactions
- Diagnosis-based: Typically top 5 to 10 admit or discharge diagnosis
- Quality-Based Procedures (QBP)-based
- Care Pathway-based

Determine Initial Source of Evidence-Based Data

- Purchasing external vendor content can streamline development of evidence based decision support
- External vendors provide the updated evidence but there must be an internal organizational process to review and update content in the CIS (or on paper)

Leverage Data for CDS

- Order set – supported by other vendor content are easy to incorporate but this is a pull type CDS strategy and MD's must remember to use the order set
- Alerts from documentation and discrete data entry-alerts to order a set or treatment based on responses in documentation can be highly successful

Evaluation & Sustainability: Requires an ongoing team to adapt to changes in evidence and practice, to measure levels of adoption and effectiveness, and to expand areas of application

Communication & Adoption

- A strong communication strategy must be in place to encourage adoption and attendance in training
- Messaging from leadership must always include the key expectations of the return on investment for the project including:
 - Supporting Professional Practice Standards and requirements;
 - Improving the quality of documentation
 - Improving the ability to show adherence to best practices
 - Improving the ability to find information in the patient record to support clinical decision making thereby improving patient outcomes; and
 - Improving patient safety by reducing order entry and transcription errors and reducing medication related incidents.

Communication & Adoption

- Use the competitiveness of MD's to gain project momentum & ensure buy in at all levels
 - Engage CMIO or Physician Champion to generate idea amongst teams to compete for training levels
 - “Ice bucket” type challenges between teams (i.e. Surgery completed training and challenges Medicine to do the same)
 - Publicized donations to the hospital foundation once milestones completed
 - Post training rates in physician lounges to create awareness and competition amongst teams

- Post go live monitor metrics such as
- **CPOE**
 - % of Orders Entered via Ordering Provider
 - Reduction in Telephone/Verbal/Fax/Written Orders (Individual statistics)
 - Reduction in Adverse Events related to Order Entry or Transcription Errors
 - Alert Interactions: Monitoring the actions taken after Clinical Decision Support Alerts are triggered – i.e. was a Medication Order Changed due to an allergy or interaction alert? Did a dose range checking alert result in a change to dosage of a medication before reaching Pharmacy?
 - Order Set Utilization

Communication & Adoption

- Post go live monitor metrics such as
 - Documentation

Type	Handwritten	Dictation / Transcription (Back End Transcription)	Dictation/ VR (Narrative Templates)	Electronic Structured Forms (with or without VR integration)	Electronic Structured Forms with Discrete Data
History and Physical	%	%	%	%	%
Progress Notes	%	%	%	%	%
Consult Notes	%	%	%	%	%
ED Documentation	%	%	%	%	%
Discharge Notes	%	%	%	%	%
Problem List	%	%	%	%	%
Diagnosis List	%	%	%	%	%

Managing Expectations

This is one of the most challenging aspects of the project

It is imperative that the team can manage the expectations of Physicians regarding

- ❑ System capabilities – what is can and cannot do
- ❑ Timelines – what pieces will be completed at what point in time
- ❑ The amount of education that will be required
- ❑ The amount of time it will take to become competent with the system

Device Strategy That Supports Workflow

Device strategy is an important part of the physicians buy in and workflow

Physicians need a variety of devices that support their workflow

Suggestions:

- Encourage organization to support a bring your own device policy “BYOD”
 - Gives physicians the flexibility to chose the device that works best for them
- Ensure there are adequate desktops available in key areas for physician use
 - Nursing stations
 - Hallways
 - Patient Rooms
 - Physician & Pre Op lounges
- Ensure that there are availability of mobile carts for physicians that want to round

Go Live Support

- Ensure adequate support is available for physicians around the clock
- Have confident well trained “at the elbow support”
- Healthtech suggests having a support team in place that is only for physicians
 - Recruit the best candidates possible
 - Conduct training on physician modules
 - Hold a physician trainer “boot camp”
 - Identify program issues
 - Have trainers trial working through issues
 - If possible, hold a drop in session prior to go live to give trainers a dry run
- At the end of go live support, monitor physician on call schedules and ensure all physicians have had 1;1 support and are comfortable using the system
 - Plan on having physician trainers on site / on call for 1-2 months post go live

