“Shaken, not stirred.” Towards standardized synoptic reporting in GI endoscopy electronic medical records (EMRs)

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Premise

The purpose of this project was to develop, implement and evaluate Canadian national data models for reporting colonoscopy and upper gastrointestinal endoscopy. The project brought together clinicians from across the country to achieve national consensus on the development of pan-Canadian data models and reporting templates.

Objectives:

- Standardization of clinical content and terminology
- Agreement on performance and data quality indicators
- Improve tracking of patient outcomes
- Alignment with local and international clinical best practices

Methods

Template Development Process

1.Curation of existing endoscopy templates

Templates are helpful for guiding discussions and provide a tangible starting point for the development of a pan-Canadian data model.

2. Determine Pan-Canadian Clinical Group

The investigators established a National Endoscopist Working Group representing academic, community, adult and pediatric practice. Participation from clinicians across the country was solicited to provide key clinical and quality indicators, leveraging the most up-to-date national and international standards.

3. Consensus Meetings & Finalizing Data Model

The group reviewed and incorporated elements and indicators from the Canadian Association of Gastroenterology (CAG) consensus guidelines on safety and quality indicators in endoscopy (January 2012), Clinical Outcomes Research Initiative (CORI), UK Global Rating Scale (GRS), Colonoscopy Reporting and Data System (CO-RADS) and Minimal Standard Terminology (MST).

Participants determined content for inclusion in the endoscopy data model. Data elements were defined and identified as being essential or optional.

Essential: Required for a complete endoscopy report

Optional: Recommended for a complete endoscopy report

Participants were advised to produce data models that could be used generically across technology platforms. Providers and organizations have the ability to adapt the data model by selecting optional data elements for inclusion.

4. Submission of Template for Endorsement

The final template was submitted to the Canadian Society of Gastroenterology (CAG) for review and endorsement. Partnering with a clinical society or national organization provides a mechanism to disseminate the data model and oversight process to regularly review and maintain the content.

Results

Pan – Canadian data models for colonoscopy and upper GI endoscopy were developed using a consensus process. The data elements have been organized into five main sections and identified as being essential or optional within the endoscopy templates. The data models have been reviewed endorsed by the Canadian Society of Gastroenterology.

SECTION	# OF DATA ELEMENTS*		# OF ESSENTIAL		# OF OPTIONAL	
	Colonoscopy	Upper GI	Colonoscopy	Upper GI	Colonoscopy	Upper GI
Administration & Identification	30	30	12	12	18	18
Procedure Planned & Preformed	8	6	7	5	1	1
Pre-Procedure Assessment	19	18	1	0	18	18
Procedure	52	65	14	7	38	58
Completion	8	9	3	3	5	6
TOTAL	**117**	**128**	**37**	**27**	**80**	**101**

* Count of data elements does include associated sub elements

Endoscopy Template Structure

A. Administrative & Identification Details

- Template Administration
- Patient Information
- Provider Details
- Facility Details

B. Procedure Planned & Preformed

- Procedure Administration

C. Pre-Procedure Assessment

- Clinical & Surgical History
- Patient Consent
- Pre-Procedure Preparation
- Physical Exam

D. Procedure

- Procedure Details

Includes sections on: anesthesia/sedation, position, instruments, procedure times, Findings and interventions

E. Completion

- Notable Events
- Follow-up

Conclusions

Data model development was completed in 2014. The Canadian Association of Gastroenterology (CAG) has endorsed and assumed responsibility for ongoing content updates.

Templates have successfully been incorporated in a variety of EMRs and enterprise clinical information systems at multiple sites.

This process can be easily adopted for establishing other clinical procedures

Lessons Learned:

- It is important to distinguish between essential vs. optional data elements
- Essential data elements should support quality indicators
- Participating clinicians must represent appropriate diversity of clinical practice
- Stakeholder contributions should include quality, training, education, research and informatics
- Significant support and benefits are derived from engaging national and provincial professional associations and healthcare agencies
- Development of a synoptic documentation platform could provide scalability and enable the rapid deployment and sharing of clinical data models for other procedures

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