HIMSS Analytics EMRAM Stage 7: Ontario Shores First in Canada

Ontario Shores
Centre for Mental Health Sciences

Discovery. Recovery. Hope.

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Objectives

- Gain understanding in the organizational strategies towards achieving HIMSS Stage 7 designation

- Be aware of the importance and benefits of being a HIMSS Stage 7 organization

- Become familiar with key outcome measures contributing to HIMSS Stage 7 designation

Ontario Shores at a Glance

- Teaching hospital specializing in comprehensive mental health care and addiction services
- 1300 employees; 328 inpatient beds; over 50,000 outpatient visits
- Recovery-oriented care provide to a wide range of services: Adolescents to Geriatrics
- Meditech 6.0 and EMRAM HIMSS Stage 7 – first in Canada and first mental health facility in the world

Electronic Medical Record Adoption Model (EMRAM)

Stage	Cumulative Capabilities	2010 (CA) Final	2013 (CA) Q3	2013 (US) Q3
Stage 7	Complete EMR; CCD transactions to share data; Data warehousing; Data continuity with ED, ambulatory, OP	0.0%	0.0%	2.2%
Stage 6	Physician documentation (structured templates), full CDSS (variance & compliance), full R-PACS	0.2%	0.5%	11.1%
Stage 5	Closed loop medication administration	0.2%	0.2%	20.9%
Stage 4	CPOE, Clinical Decision Support (clinical protocols)	2.2%	3.8%	15.1%
Stage 3	Nursing/clinical documentation (flow sheets), CDSS (error checking), PACS available outside Radiology	33.0%	32.0%	31.9%
Stage 2	CDR, Controlled Medical Vocabulary, CDS, may have Document Imaging; HIE capable	23.5%	27.9%	8.4%
Stage 1	Ancillaries - Lab, Rad, Pharmacy - All Installed	12.1%	15.5%	3.5%
Stage 0	All Three Ancillaries Not Installed	29.0%	20.0%	6.9%

Why Continue to Advance towards Stage 7?

- EMR is adopted to:

  - Enhance **quality of care**

  - Advance and ensure **patient safety** through analytics

  - Create **access** and **efficiencies** in care

  - Increase utilization of **evidence-based tools** and **clinical decision supports**

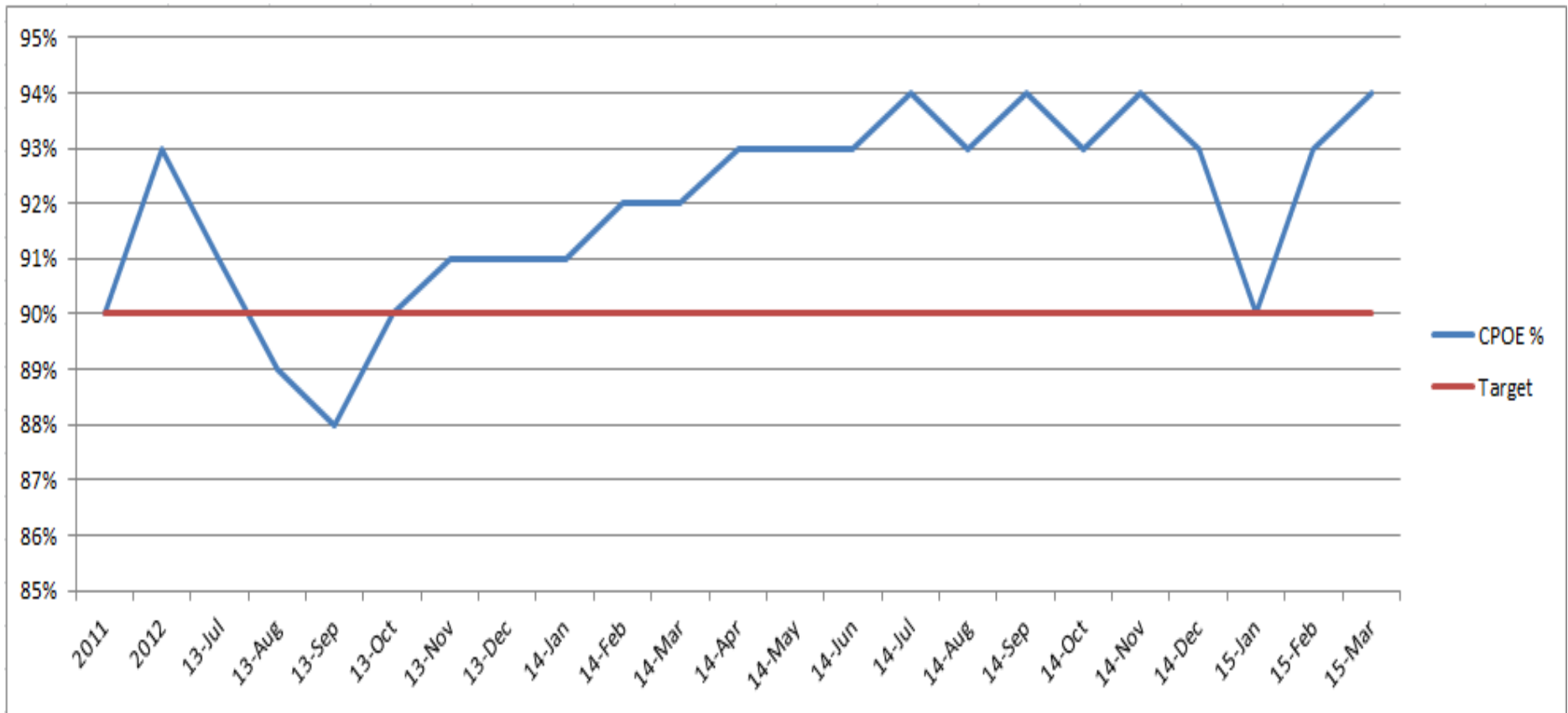# System Overview:
Overall Timeline for EMR Implementation

2007/2008 Planning	2009/10 Phase 1	2010/11 Phase 2	2011/12 Phase 3	2012/13	2013/14	2014/15 Planned
• RFI and Vendor Shortlist • RFP and Vendor Selection • Business Case Approved • Contract Signed • Project resource Plan Developed • Core Team Assembled	Live Oct.: • ADT • Pharmacy • Finance • Material Mgmt. Live Dec.: • HR/Payroll • Staff Scheduling • ACS Readiness Assessment	Live Oct./Nov.: • Clinical Doc • Physician Doc • Order Entry • Enterprise Medical Record • Transcription Live Dec.: • Data Repository	• RAI Implementation • Outpatient Implementation • Meditech 6.06 full system upgrade	• Achievement of HIMSS Stage 6 • Plan of Care Optimization	• CPGs • IAR • Outpatient, CWS, Lab Optimization • Smoking Cessation • Business Intelligence • Meditech 6.07 full system upgrade	• Patient Portal • CPGs • LOCUS • Front End Speech Recognition • OCAN • QRM Optimization • Connecting GTA (cGTA)

Ongoing Support, Maintenance and Optimization
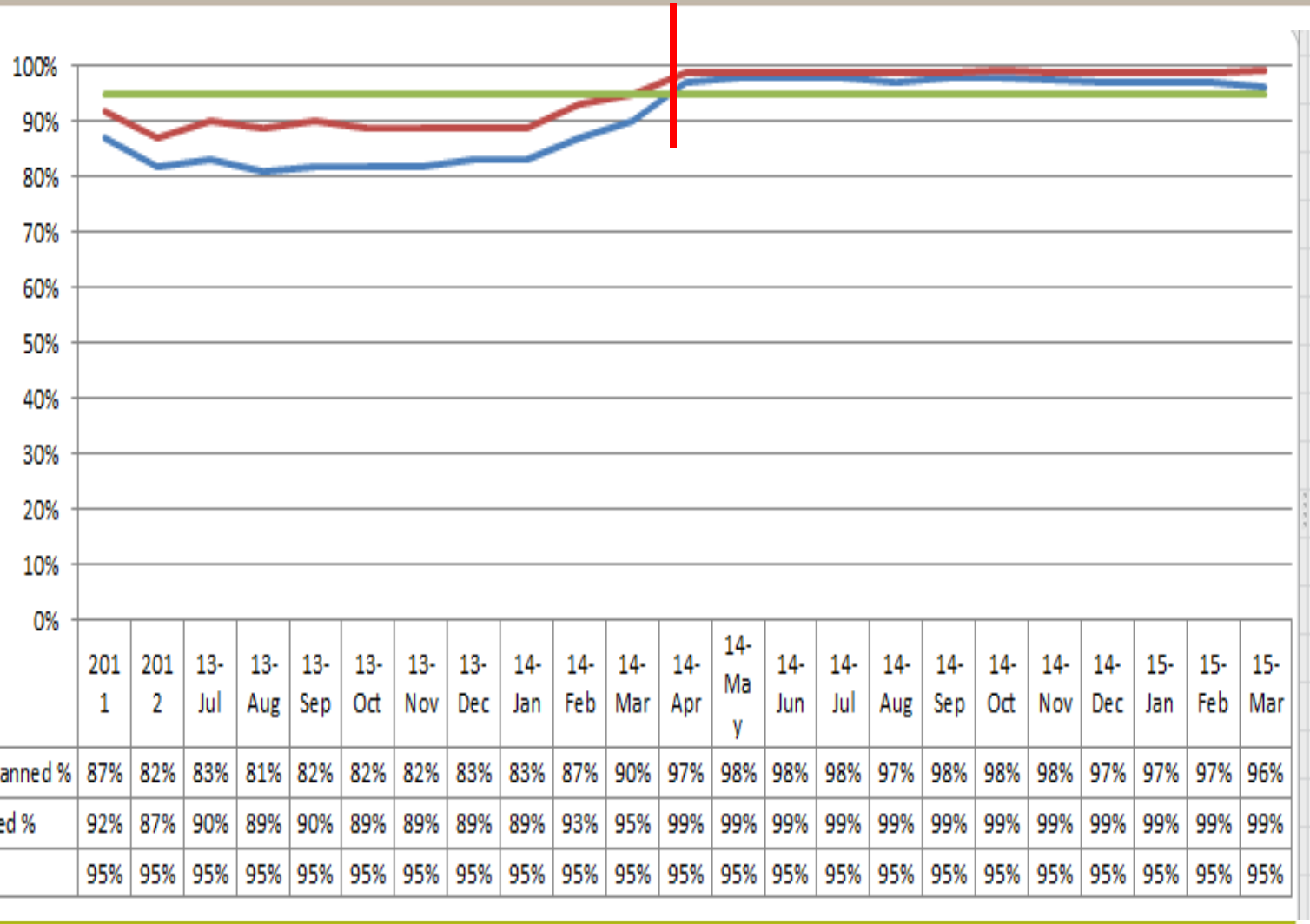
System Overview:
Change Management Framework

Canada Health Infoway. (2011). A Framework and Toolkit for Managing eHealth Change: People and Processes

Pervasiveness of Use:
BMV/eMAR Medication and Patient Scanned

	2011	2012	13-Jul	13-Aug	13-Sep	13-Oct	13-Nov	13-Dec	14-Jan	14-Feb	14-Mar	14-Apr	14-May	14-Jun	14-Jul	14-Aug	14-Sep	14-Oct	14-Nov	14-Dec	15-Jan	15-Feb	15-Mar
BMV/eMAR - Medication Scanned %	87%	82%	83%	81%	82%	82%	82%	83%	83%	87%	90%	97%	98%	98%	98%	97%	98%	98%	98%	97%	97%	97%	96%
BMV/eMAR - Patient Scanned %	92%	87%	90%	89%	90%	89%	89%	89%	89%	93%	95%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%	99%
Target	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%

Pervasiveness of Use:
Documentation Percentages

Type	Handwritten	Dictation/ Transcription	Structure Forms	Structure forms w Discrete Data
H&P	0%	6%	0%	94%
Progress Notes	0%	0%	60%	40%
Consult Notes	0%	85%	0%	15%
Discharge Notes	0%	20%	0%	80%
Problem List	0%	0%	0%	100%
Diagnosis List	0%	0%	0%	100%

Pervasiveness of Use:
Scanned Documentation

Form	Scanning turnaround time
Code white, code blue, Mental Health Act forms	30 minutes
Downtime reports, Electroconvulsive Therapy	4 hours
Ontario Review Board, Integrated Community Access Program referrals	24 hours
Discharge charts	24 hours
All other non-clinical documents	48 hours

Pervasiveness of Use:
Medication Reconciliation on Admission

% Medication Reconciliation on Admission

— % Med Rec on Admission

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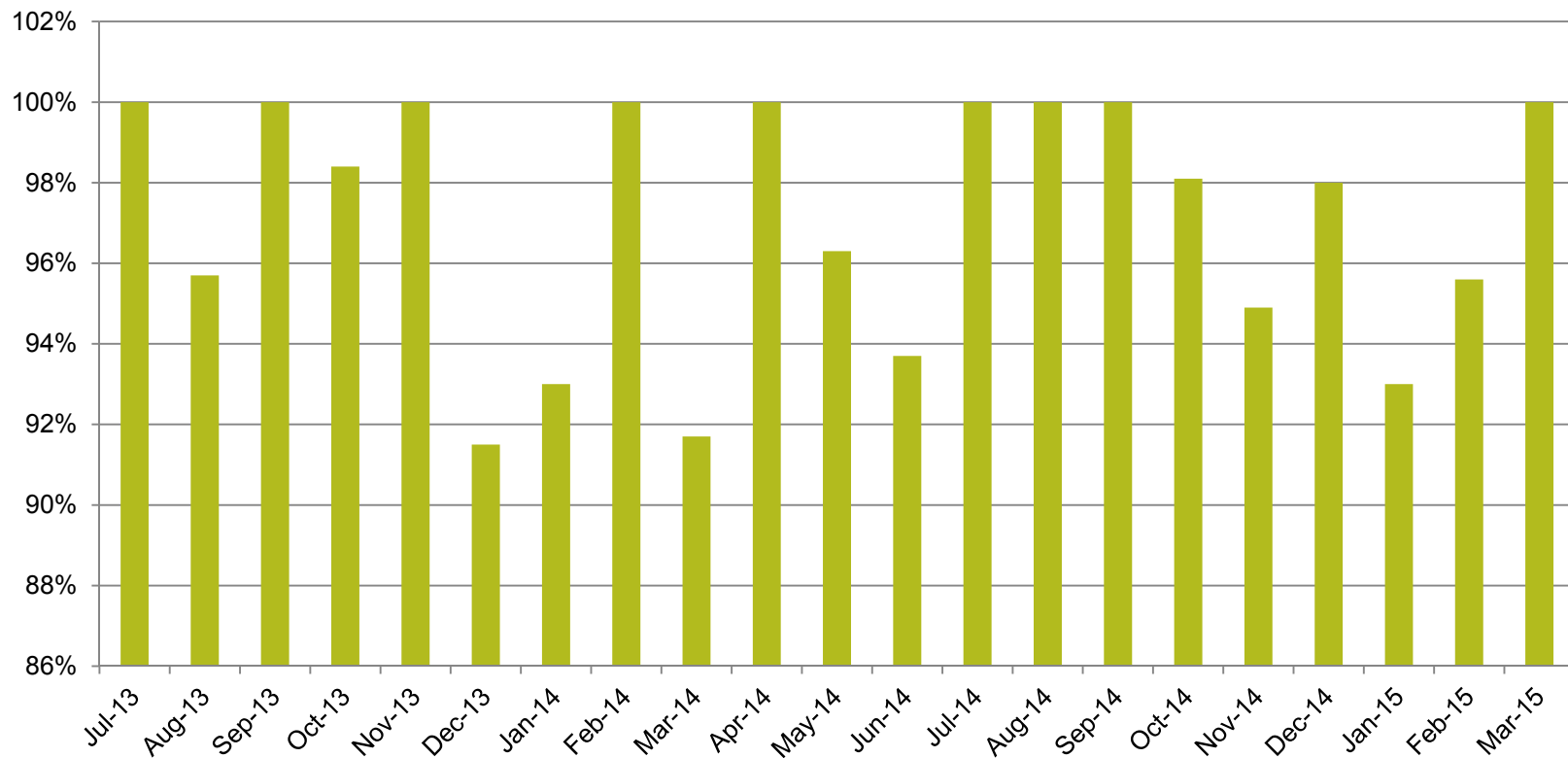
Clinical Decision Support (CDS)

- Clinical Content
    - Query Link: triggers based on responses
    - Reflex orders: actions based on orders
    - Interaction checking
    - Protocols
    - Links to Policies within order and documentation screens
    - References in Order sets

- Rules
    - 'If-Then' logic
    - Required responses

Clinical Decision Support:
Physician Admission Assessment

Clinical Decision Support:
Physician Admission Assessment

Smoking
✔ □ Smoking History

*Does the patient have a history of smoking?	Yes	No	Unknown
Smoking quit date			

*Smoking History [# of Cigarettes / day]	<10	10-19	20-29	30-39	40+

*Has the patient used tobacco in the last 7 days?	Yes	No	No, but Pt Requests NRT

*Does the patient consent to the initiation of NRT?	Yes	No

Additional Smoking History	

✔	Type	Suggestions	Action	Trigger	Result
□	Order	_NRT	Order Now	Does the patient consent to the initiation of NRT?	Yes
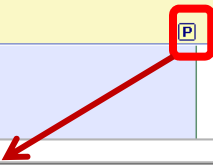
Triggered By

Trigger	Answer	Reason	Section
Does the patient consent to the initiation of NRT?	Yes	Equal to Yes	Smoking

Reflex Orders
Nicotine Replacement Therapy
Initiation

This order set outlines Evidence Based Recommendations around NRT ordering based on patient smoking patterns. Consider the initiation of the Nicotine Patch based on guidelines below as it provides a 24hr steady dose of nicotine to minimize withdrawal and cravings. Evidence also suggests decreasing Nicotine Patch dosing by 7mg every 4-6 weeks dependent upon patient response to treatment and withdrawal management.

This order set represents guidelines. Each clinician can order at their discretion based on their clinical judgeme...

Patient smokes<10 cigarettes/day:
Nicotine [Habitrol 7 mg, Nicoderm]
□ 1 patch TRANSDERM QAM patch — SCH — M

Patient smokes 10-20 cigarettes/day:
Nicotine [Habitrol 14 mg, Nicoderm]
□ 1 patch TRANSDERM QAM patch — SCH — M

Patient smokes>20 cigarettes/day:
Nicotine [Habitrol 21 mg, Nicoderm]
□ 1 patch TRANSDERM QAM patch — SCH — M

Patient smokes>30 cigarettes/day:
Nicotine patch 28 mg (21 mg + 7mg)
Nicotine [Habitrol 21 mg, Nicoderm]
□ 1 patch TRANSDERM QAM patch — SCH — M
Nicotine [Habitrol 7 mg, Nicoderm]
□ 1 patch TRANSDERM QAM patch — SCH — M

Patient smokes>40 cigarettes/day:
Nicotine [Habitrol 21 mg, Nicoderm]
□ 2 patch TRANSDERM QAM patch — SCH — M

Additional Therapeutic Options
Nicotine Inhaler [Nicorette]
□ 10 mg INH Q2H puff — PRN — M
Nicotine [Nicorette]
□ 2 mg BUC Q1H gum — PRN — M

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Clinical Decision Support:
Protocol

Interventions	
Restraint/Seclusion/Clin Mon Assessment Q1H	✓
☐ Assessments	
☐ **Restraint/Seclusion Monitoring**	✓
☐ Restraint Information	

*Type of Restraint
- ☐ 5 Point Pinel
- ☐ 4 Point Pinel
- ☐ 3 Point Pinel
- ☐ Seclusion

Why can I not select Pinel restraints and seclusion?

Historically when patients were placed in mechanical restraints and the door was locked we have initiated both mechanical restraint and seclusion orders. This is no longer the approved process. The rationale behind locking the door is to protect the patient's safety, dignity and privacy while in a vulnerable situation. It is essential that staff communicate this rationale to the patient. Often staff are present with the patient in crisis and the door remains unlocked. In situations where staff are unable to safely monitor the patient at close proximity (i.e. at patient's bedside), the door may be locked to protect the patient in restraints. This should not be defined as seclusion and therefore only an order for mechanical restraints is required. Once patient is removed from mechanical restraints, this mechanical restraint order must to be completed in the health record.

Definition

Restraints: Refer to chemical restraint, mechanical restraint, or seclusion.

1. Chemical Restraint: A STAT medication which is administered without the patient's/client's consent in the service of behavioural management in the context of imminent threat to the safety of the patient/client, or others.

2. Mechanical Restraint: An appliance that restricts free movement and is attached to, adjacent to or worn by the patient where a patient's aggressive or violent behavior presents an immediate risk of serious bodily harm to self or others. At Ontario Shores, the only approved mechanical restraint is the Pinel® Restraint System.

3. Safety Device: A safety device is distinguished from an emergency restraint by its non-emergency use. It is intended to enhance patient safety, mobility, and quality of life. It can only be applied with the patient/SDM consent.

4. Seclusion: Confinement of a patient to a designated room/area that, for safety reasons, isolates them from other patients

◄https://shoreline/PoliciesProcedures/Policies/Restraints.pdf#search=restraint►◄

Clinical Decision Support:
Order Set References

Clinical & Business Intelligence:
Clinical Practice Guidelines Dashboard

All statistics are based on a month end snapshot for the date of: 8/31/2014 11:59:59 PM

CPG Dashboard - Schizophrenia
Master Summary Page

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				⊞ Antipsychotic Prescription (Patient Counts)			⊞ Metabolic Monitoring (out of 5)						⊞ Referrals		CGI	
				1 or More	% >1	% >1 Excl. Cloz.	5	4	3	2	1	0	% CBT	% Vocation	Avg Severity of Illness	Avg Degree of Change
⊟ ARP	⊟ ASU	⊞ [redacted]	Total - [redacted]	13	46.2 %	30.8 %	61.5 %	30.8 %	7.7 %	0.0 %	0.0 %	0.0 %	0.0 %	20.0 %	4.44	2.40
		⊞ [redacted]	Total - [redacted]	12	75.0 %	75.0 %	58.3 %	41.7 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	4.00	3.67
			Total - ASU	25	60.0 %	52.0 %	60.0 %	36.0 %	4.0 %	0.0 %	0.0 %	0.0 %	0.0 %	10.5 %	4.24	3.09
	⊞ PRA		Total - PRA	26	84.6 %	73.1 %	69.2 %	23.1 %	3.8 %	0.0 %	0.0 %	3.8 %	0.0 %	10.5 %	5.33	3.29
	⊞ PRB		Total - PRB	14	85.7 %	71.4 %	42.9 %	14.3 %	14.3 %	21.4 %	7.1 %	0.0 %	0.0 %	7.1 %	4.38	3.00
	⊞ YNG ADLTS		Total - YNG ADLTS	26	76.9 %	26.9 %	50.0 %	19.2 %	26.9 %	3.8 %	0.0 %	0.0 %	0.0 %	42.9 %	3.73	3.44
			Total - ARP	91	75.8 %	53.8 %	57.1 %	24.2 %	12.1 %	4.4 %	1.1 %	1.1 %	0.0 %	19.2 %	4.47	3.24
⊞ AYA			Total - AYA	16	43.8 %	31.3 %	37.5 %	12.5 %	31.3 %	12.5 %	6.3 %	0.0 %	0.0 %	50.0 %	7.00	5.00
⊞ Forensic			Total - Forensic	124	37.1 %	26.6 %	34.7 %	29.0 %	22.6 %	6.5 %	4.8 %	2.4 %	8.7 %	53.4 %	3.36	3.63
⊞ GNP			Total - GNP	63	41.3 %	34.9 %	27.0 %	38.1 %	27.0 %	7.9 %	0.0 %	0.0 %	0.0 %	5.3 %	4.10	3.14
			Total Hospital	294	50.3 %	37.1 %	40.1 %	28.6 %	20.7 %	6.5 %	2.7 %	1.4 %	4.6 %	36.0 %	3.90	3.47

CPG Dashboard with drill down / rollup functionality at Hospital / Program / Unit / Provider / Patient levels
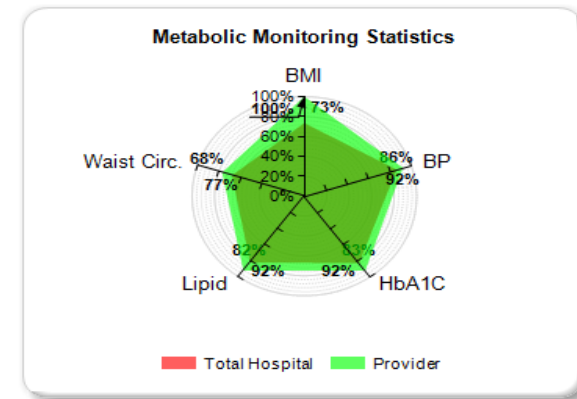
Clinical & Business Intelligence:
Clinical Practice Guidelines Dashboard

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CPG Dashboard - Schizophrenia
Provider Summary Page

Attending Provider: ▮▮▮▮▮▮▮▮▮▮▮▮▮▮

Total Patients in Care:	15
Patients Diagnosed w/Schizophrenia:	10
Patients w/ Antipsychotic Medication:	13
> 1 Antipsychotic Medication:	6
Excluding Clozapine:	4

Metabolic Monitoring Statistics

BMI 73%
BP 86% 92%
HbA1C 93%
Lipid 92% 82%
Waist Circ. 68% 77%

Total Hospital   Provider

		⊞ Antipsychotic Prescription			⊞ Metabolic Monitoring (out of 5)						⊞ Referrals		CGI	
		1 or More	% >1	% >1 Excl. Cloz.	5	4	3	2	1	0	% CBT	% Vocation	Avg Severity of Illness	Avg Degree of Change
▮▮▮▮▮	⊞ ASU	13	46.2 %	30.8 %	61.5 %	30.8 %	7.7 %	0.0 %	0.0 %	0.0 %	0.0 %	20.0 %	4.44	2.40
Total Provider		13	46.2 %	30.8 %	61.5 %	30.8 %	7.7 %	0.0 %	0.0 %	0.0 %	0.0 %	20.0 %	4.44	2.40

CPG Provider Summary report. Spider graph measures individual adherence vs. Hospital averages for metabolic monitoring

Lessons Learned

- Early engagement with end-users/clinicians

- Advancing technology to enable practice requires significant change management strategies as part of development and implementation

- Evaluation and creating formal opportunities for feedback is critical for adoption and engagement

- Clinical leadership engagement is key for success

- Formal physician champion role is integral

Future Plans

- Refresh IS/T plan

- Continue to use analytics with BI tool to improve care

- HIE – cGTA, Hospital Report Manager, Justice, Law Enforcement, Housing

- Provincial registries – client and provider

- Advance use of Patient Portal

- Research to enable predictive analytics, quality of care, etc.

Thank You