

 **ClinicalConnect™**

Care Coordination in Action with a
Data-rich Regional EHR


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Dr. Debra Hutchinson

 @eHealth_2014  @ClinicalConnect

 **Health**
Vancouver Convention Centre
June 1 - 4, 2014



....Waiting For Results



Conflict of Interest Disclosure

Dale Anderson, HBComm (Hons)
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have no real or apparent conflicts of interest to report.

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Which Pills Are Which?



Greatest Advancement In The Last Five Years?

- CT/MRI Images?
- DNA Coding?
- New Drugs?
- Connectivity between providers?



Account Number	Encounter Date	Discharge Date	Type/Reason	Reason For Visit	Primary Diagnosis	Facility
000000014	21032014 08:00	21032014 08:00	DISCH IN	FALL RIGHT HIP FRACTURE		Justus Health
000000014	14012014 08:00	24012014 10:00	INDIS IN	PNEUMONIA AND CHF		Justus Health
000000014	21032014 08:00	08032014 10:00	INDIS IN	ADMISSION FOR RIGHT HIP SURGERY		Justus Health
000000014	09062014 08:00		INDIS IN	SOB		Babcock Health
000000014	08042014 08:00		INDIS IN	CLINICAL CONNECT TRAINING ONLY		General
000000014	07102014 08:00		REF PNE REF	RIGHT HIP FRACTURE FOLLOW-UP		Justus Health
000000014	10022014 13:38		EMERG ER	+ TESTING CLINICAL CONNECT		Carthage Memorial
000000014	10062014 14:13		EMERG ER	CHOKING		Carthage Memorial
000000014	08102014 01:23		EMERG ER	CONGESTIVE HEART FAILURE		Carthage Memorial
000000014	08042014 14:15		EMERG ER	ABD PAIN		Carthage Memorial
000000014	08022014 15:00	12022014 20:47	INDIS IN	M AND S/D/O		Blue Mountain General
000000014	01122012 01:00	13012014 11:41	INDIS IN	SICK		Carthage Memorial
000000014	05022012 01:15	21022012 08:00	INDIS IN	TESTING		Carthage Memorial
000000014	05052014 08:27	05052014 10:37	INDIS IN	FRACTURED HIP		Blue Hill Hosp
000000014						BR-CAC
000000014						West-CAC

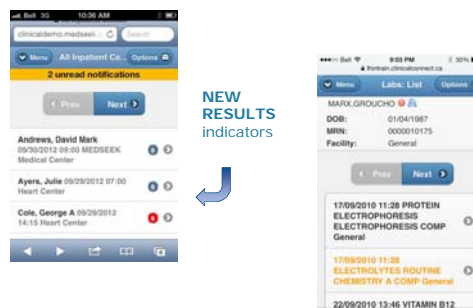
Patient Journey Consolidated



- A comprehensive, data-rich regional EHR
- Federates data securely, in real-time
- Encompasses continuum of care
- Rigorous Privacy & Auditing
- Portable and mobile
- Electronic report and result distribution to EMRs
- Provides an eHealth platform



Mobile...Data When Needed



ClinicalConnect™ | CONNECTING SOUTH WEST ONTARIO

- ClinicalConnect is the Regional Clinical Viewer for South West Ontario
- Hamilton Health Sciences & Hamilton Niagara Haldimand Brant eHealth Office are the regional solution and delivery partners deploying ClinicalConnect across South West Ontario
- The cSWO Program is foundational to eHealth Ontario's commitment to integrate electronic health information for all Ontarians

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Supporting eHealth-Enabled Change
 ... via a network of "Change Management and Adoption (CM&A) Delivery Partners"

Transform

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3.6M population (about 1/3 of Ontario)
3,500 Health Care Organizations
2,900 Primary Care Providers
46,000 Users

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Enablers

- Information sharing, communications, coordination
- Focus on urgent clinical and system priorities
- Ability to leverage, augment and integrate existing tools
- SWO Delivery Partners' strong ability and willingness to lead
- Mature, region-wide governance and collaborative
- Regional strategic leadership and accountability

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Enablers

- Strong tie-in to existing local and regional clinical and system transformation priorities and initiatives
- Business case supports benefits-based, sustained system funding model that eliminates barriers to participation
- Proposed funding model is the system pay model; no proposed direct costs for HSPs in near-term

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Today

- Integrates data from:
 - 36 hospitals
 - 4 CCACs (Home Care)
 - 4 Oncology Centres
 - 3 Provincial Data Repositories
- Thousands of users

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Recent Enhancements

- Private Lab Data from **Provincial Lab Repository** aggregated with existing hospital labs
- Additional Home Care (CCAC) data
- ESC and SW CCACs
- Frequent User Patient Flag
- Single Sign On / Contextual Launch
- Integration of additional hospitals in South West and Erie St. Clair

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Over 800 HSPs using ClinicalConnect Mobile

- 70% felt *more confident* in care decisions with information at their fingertips
- 75% are *less likely* to order a *duplicate test* given easier access to current results
- 80% agree mobile devices provide *faster access* to vital patient info, facilitating quicker consultations, diagnostic testing, interventions and transitions

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Standardized Nursing Assessments

- Integrated HOBIC (Health Outcomes for Better Information and Care) Nursing Assessments
- Measures **standardized clinical outcomes**

HOBIC Transition Synoptic Report		
Scale Name	Admission	Discharge
Activities of Daily Living	0.2	0.1
Bladder Continence	1.0	0.5
Pain	2.7	0.7
Fatigue	2.0	1.0
Dyspnea	2.7	0.5
Nausea	0.5	0.5
Falls	0.5	0.5
Pressure Ulcers	0.5	1.0
Therapeutic Self Care	0.2	0.2



Diagnostic Images

- eUnity Universal Viewing & Collaboration
- Provincial Diagnostic Repository



Interoperating

- Single Sign On / Patient Contextual Launch from Hospital Systems; adding EMRs and others


Name	Unit #	Age/Sex	Location or Visit
CLINICAL CONNECT	000010069	37 F	ICU-EAST (ICU-E 17)
MOUSE, MICKEY	000000027	84 M	ICU-SOUTH (ICU-S 9)



In Process


- Leveraging ClinicalConnect to feed hospital labs to Provincial lab database
...vs. separate hospital integrations
- Support for Provincial Hospital Report Manager
- Provincial Client Registry




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Leveraging / Integrating / Aligning


- eNotification / Secure Messaging
- eConsult / eReferral
- Patient Portal
- Virtual Medical Office
- Physician EMR data, Integrated Assessment Records, Provincial CDR




 **ClinicalConnect™**
Connect to your Patients

...Making a Difference









Mr. Smith's Health Care Journey...

- 65 year old male to ER via ambulance
- Short of breath
- Speaking only words
- Obvious distress





Mr. Smith's Health Care Journey...

- No medications or medical alerts
- Alone
- Transferred to Resuscitation Room
- Approx. 3 min from arrival
- ER Physician uses mobile device to search patient's regional health record



Seamless Data Integration

Immediately aware of Past Medical History from encounters at various regional facilities

- Recent heart attack (MI)
- Pneumonia
- Congestive heart failure
- Chronic Obstructive Pulmonary Disease (COPD)
- Recent hip replacement surgery



Account Number	Encounter Date	Discharge Date	Type/Status	Reason For Visit	Principal Diagnosis	Facility
H43000114	21032014 10:00	21032014 10:00	EMERG IN	FALL RIGHT HIP SURG		Juravinski Hospital
H43000114	14012014 08:00	24012014 10:00	INDES IN	PNEUMONIA AND CHF		Juravinski Hospital
H43000114	21032014 10:00	08032014 11:00	INDES IN	ADMISSION FOR RIGHT HIP SURGERY		Juravinski Hospital
05000114	05000114 08:30		INADM IN	SOB		Bluewater Health
5A000114	18042014 10:53		INADM IN	CLINICAL CONNECT TRAINING ONLY		General
H43000114	21102014 11:00		REF PRG REF	RIGHT HIP FRACTURE FOLLOW UP		Juravinski Hospital
ER000112	10020112 10:30		EMERG ER	u TESTING CLINICAL CONNECT		Cambridge Memorial
ER000112	11062012 10:13		EMERG ER	VOYTRING		Cambridge Memorial
ER000112	28022012 10:10		EMERG ER	CONGESTIVE HEART FAILURE		Brantford General Hospital
ER000112	18042012 14:10		EMERG ER	ABD PAIN		Cambridge Memorial
5A000114	20022014 10:00	10022014 10:47	INDES IN	MI AND COPD		West Haldimand General
AC000112	01122012 10:00	13012014 11:41	INDES IN	SOB		Cambridge Memorial
AC000112	06022012 11:10	31122012 08:00	INDES IN	TESTING		Cambridge Memorial
AC000114	05052014 10:37	05052014 10:37	INDES IN	FRACTURED HIP		Stratford Gen Hosp
BR0211						SW-CCAC
102760						HNB-CCAC

- Indicates Health Links High User Cohort
- Plan is to link to Coordinated Care Tool (CCT)



Encounter Date	Discharge Date	Type/Status	Reason For Visit	Principal Diagnosis	Facility
21032014 10:00	21032014 10:00	EMERG IN	FALL RIGHT HIP SURG		Juravinski Hospital
14012014 08:00	24012014 10:00	INDES IN	PNEUMONIA AND CHF		Juravinski Hospital
21032014 10:00	08032014 11:00	INDES IN	ADMISSION FOR RIGHT HIP SURGERY		Juravinski Hospital
05000114 08:30		INADM IN	SOB		Bluewater Health
18042014 10:53		INADM IN	CLINICAL CONNECT TRAINING ONLY		General
21102014 11:00		REF PRG REF	RIGHT HIP FRACTURE FOLLOW UP		Juravinski Hospital
10022012 10:30		EMERG ER	u TESTING CLINICAL CONNECT		Cambridge Memorial
11062012 10:13		EMERG ER	VOYTRING		Cambridge Memorial
28022012 10:10		EMERG ER	CONGESTIVE HEART FAILURE		West Haldimand General
18042012 14:10		EMERG ER	ABD PAIN		Cambridge Memorial
20022014 10:00	10022014 10:47	INDES IN	MI AND COPD		West Haldimand General
01122012 10:00	13012014 11:41	INDES IN	SOB		Cambridge Memorial
06022012 11:10	31122012 08:00	INDES IN	TESTING		Cambridge Memorial
05052014 10:37	05052014 10:37	INDES IN	FRACTURED HIP		Stratford Gen Hosp

Patient Journey Consolidated

Visits (Timeline: Friday, May 14, 17:27)

Preferences

Displaying 1 - 17 of 17 total

Account Number	Encounter Date	Discharge Date	Type/Status	Reason For Visit	Principal Diagnosis	Facility
EA00000214	05/02/2014 12:00	12/02/2014 20:47	RVDS IN	MI AND COPD		West Hillstead General
1845271						SW-CCAC
AA000003614	05/05/2014 09:27	05/05/2014 16:37	RVDS IN	FRACTURED HIP		Bradford General Hosp
184525713						OLDS
FE00000514	01/10/2014 11:00		REF/REF REF	RIGHT HIP FRACTURE FOLLOW UP		Juravetski Hospital
HA00000814	01/03/2014 16:00	06/03/2014 11:00	RVDS IN	ACUTE SURGICAL RIGHT HIP SURGERY		Juravetski Hospital
HA00000914	14/01/2014 08:00	24/01/2014 12:00	RVDS IN	PNEUMONIA AND CHF		Juravetski Hospital
HE00000314	01/03/2014 12:00	01/03/2014 16:00	ER/DS IN	FALL FROM HIP BENCH		Juravetski Hospital
RE37945						HRHD-CCAC
GA00001014	10/04/2014 16:03		RVADM IN	CLINICAL CONNECT TRAINING ONLY		General
AC000007108	10/02/2010 11:15	31/03/2010 08:00	RVDS IN	TESTING		Cambridge Memorial
AC000002612	09/12/2012 10:00	13/05/2014 11:41	RVDS IN	SICK		Cambridge Memorial
EE000001312	10/04/2012 14:15		ER/REG ER	ADD PAIN		Cambridge Memorial
EE000001312	11/06/2012 14:13		ER/REG ER	VOMTING		Cambridge Memorial
EE000004209	10/02/2010 13:38		ER/REG ER	TESTING CLINICAL CONNECT		Cambridge Memorial
EE000003013	29/10/2013 11:23		ER/REG ER	CONGESTIVE HEART FAILURE		Bradford General Hospital
GG00001414	05/05/2014 08:30		RVADM IN	SOB		Bluestar Health

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First 5 Minutes – Patient Transferred to Bed

- Past Medical History/Health Links
- Relevant transcriptions, OR notes, discharge summaries
- Radiology reports and some images
- Recent lab results



More Complete Picture Enables Better Clinical Decisions

- Differential diagnosis includes cardiac (recent heart attack, CHF), respiratory (pneumonia and COPD)
 - ❖ Pearl = notation of fractured hip
 - ❖ Health Links Cohort
- Expand differential diagnosis
- Significant impact on patient safety and health care provider efficiency



Treatment and Investigations

- Order arterial blood gases (ABG)
- 10-minute turnaround
- Mobile device or desktop
- Resident accesses patient data via mobile device during consult
- No need for notes
 - ❖ Errors in transcription 4%



On Call Staff at Home – 0300 am

- ICU resident contacts On Call staff to review case
- Staff accesses labs, transcriptions, residents' dictated notes & historic regional data via smart phone or mobile device
- Provide accurate and timely advice regarding investigation and treatment plan



The screenshot displays a desktop web application interface for a patient named 'Mara Gruncho'. The interface includes a navigation menu on the left with options like 'Home', 'Lab', 'Medications', and 'Referrals'. The main content area shows a 'CCAC Service List' with columns for 'Referral Type', 'Service Type', 'Service Delivery', 'Authorization Start Date', and 'Assigned Provider'. Below this, there are several expandable sections: 'Demographics List', 'Characteristics List', 'Medical Contacts (Active)', 'Personal Contacts (Active)', 'Service List', 'LTCH Choices and Bookings', 'Community Support and Other Resources (Active)', 'Diagnosis List (Active)', 'Note List', 'Primary Care Group List (Active)', 'Risk List (Active)', 'Safety Issue List (Active)', 'Referral List', and 'Equipment and Supplies List'. The text 'CCAC / HomeCare Connected' is overlaid on the bottom left of the screenshot.

CCAC / HomeCare Connected



Journey Continues...Discharged Home

- CCAC receives consult
- Patient requires IV antibiotics
- CCAC staff find discharge info incomplete



Within seconds, Home Care/CCAC

- Access patient information, treatment details, care plan
- Reassures patient and family
- Ensures appropriate treatment without delay



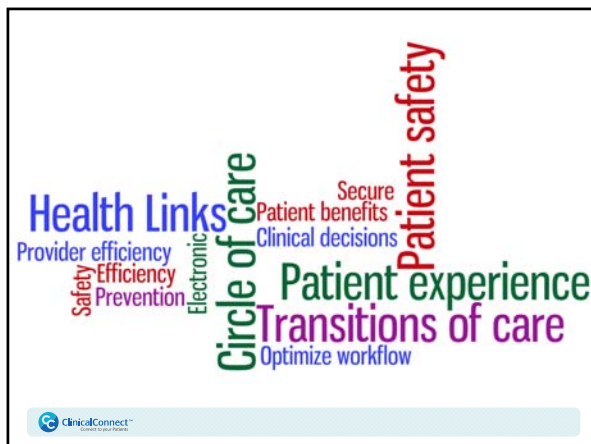
Visit with Family Health Team Completes Circle of Care

- Patient unsure of recent tests, has questions regarding medications, uncertain when to follow up with specialist



- Accesses ClinicalConnect
- Reviews Labs, Discharge Summary, Consults, Meds
- Reassures Patient
- Patient advocate





Patient and Health Care Provider Benefits...

- Increased safety for patients and health care providers (**Prevention**)
- **Patient education** provided via mobile at bedside or office (engage and educate)
- **Savings** not solely financial; includes emotional and physical, as well as health care provider efficiency

The 'clinicalConnect' logo is visible in the bottom left corner.

Patient and Health Care Provider Benefits...

- Patient **satisfaction**/experience (relief information shared/transitions)
- More complete patient picture, more accurate and timely diagnosis and **treatment**
- Health information must be accessible **electronically**, **securely** and **immediately**

The 'clinicalConnect' logo is visible in the bottom left corner.







Thank You!

HNHB
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