

# Improving Safety & Efficiency with Access to Patient Information Across Transitions of Care

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June 3, 2015



CONNECTING SOUTH WEST ONTARIO



# ClinicalConnect Today

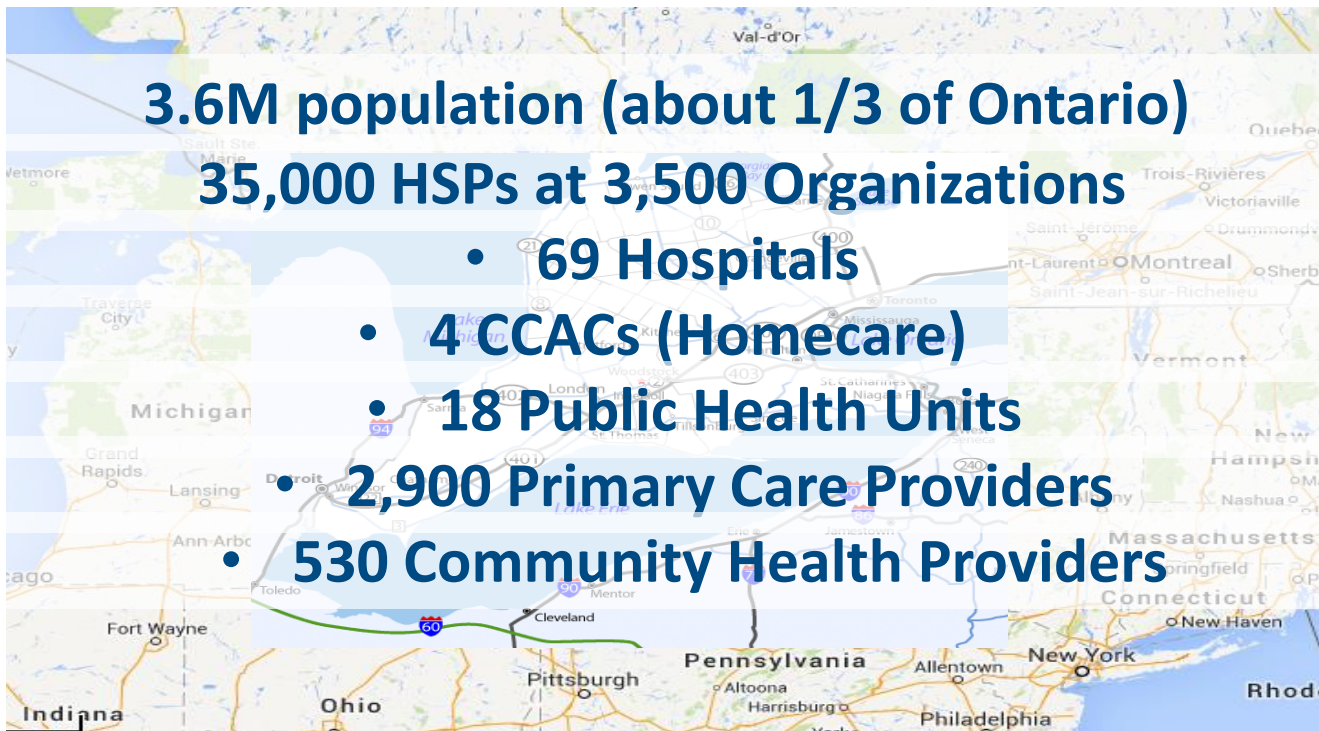
- Web-based portal that federates data securely and in real-time from multiple data sources:
  - 61 hospitals (up from 36 hospitals last year)
  - 4 Community Care Access Centres
  - Oncology Centres
  - 2 Provincial Data Repositories (Ontario Laboratories Information System and Diagnostic Imaging Repository)
  - Nursing Assessment Repository
- Available to HSPs in SW Ontario
- Accessible on desktop and mobile devices



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# The Regional Clinical Viewer

- ClinicalConnect (funded by eHealth Ontario) is the Regional Clinical Viewer for the connecting South West Ontario (cSWO) Program
- Hamilton Health Sciences is the solution provider deploying ClinicalConnect across the four South West Local Health Integration Networks
- The cSWO Program, also funded by eHealth Ontario, is foundational to eHealth Ontario's commitment to integrate electronic health information for all Ontarians



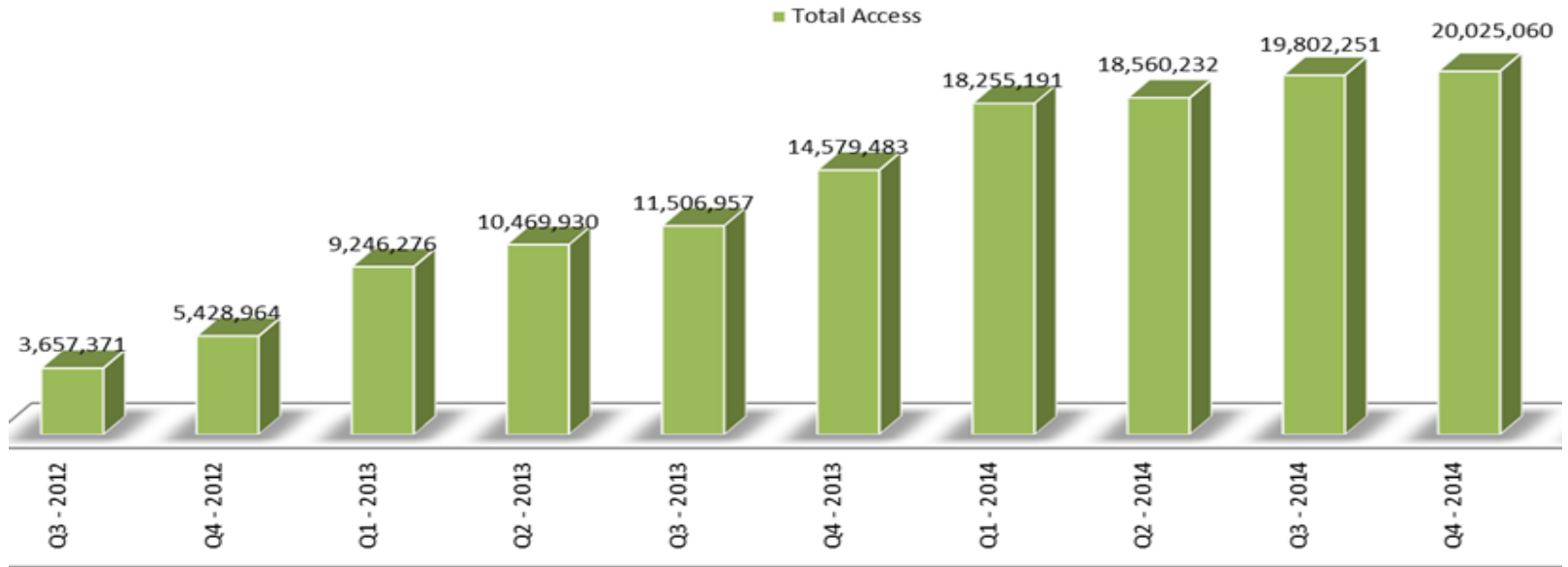
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# Usage Data

## Quarterly Total Access Counts



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Health  
Sciences



Ontario  
eHealth Ontario

# Usage on Mobile Devices

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



# Change Management Pathway

**Governance &  
Leadership**

**Stakeholder  
Engagement**

**Communications**

**Workflow  
Analysis**

**Training &  
Education**

**Monitoring &  
Evaluation**

# Expansion Into All Healthcare Sectors

- Attribute increase in usage to:
  - Senior Leadership buy-in and support
  - Communication to all levels / Champions
  - Aggressive change management & adoption
  - Training / Follow-up to increase regular usage
  - New data integrations bring new interest
  - Contextual launch from host
  - Mobile access
  - Continuous improvement to enhance clinical value



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# Not Standing Still


- ClinicalConnect becoming ‘one-stop-data-shop’
  - Context-aware clinical references
  - Alerts to advise providers that new data is available from other source systems
- Leveraging Province’s federated authentication system
- Evolving auditing/reporting standards
- Springboard for connecting/supporting many “eSolutions” / Patient Interaction & Experience



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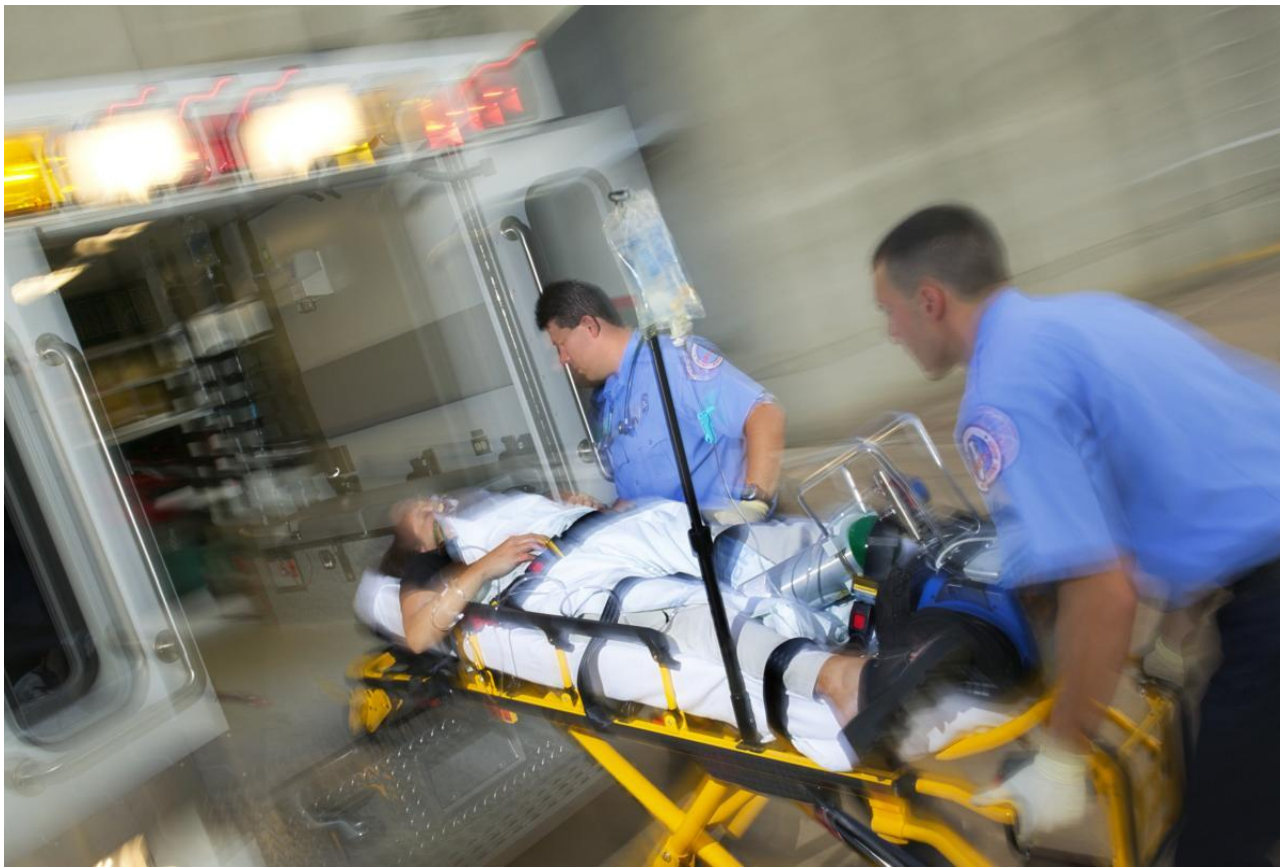


A profile photograph of a man with short, dark hair and glasses, looking towards the left. He is wearing a dark shirt and a gold chain. The background is a bright, out-of-focus indoor setting.

## Dr. Rafi Setrak

Site Chief, Emergency Medicine  
St. Catharines Site, Niagara Health System





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# Replay scenario with ClinicalConnect



## Main Menu

### • Modules

Admissions

Allergies

Blood Bank

0

CCAC

Face Sheet

Health Records (HHS Data Only)

Lab

0

Microbiology

0

New Results

Orders

PACS (HHS Data Only)

Pathology and Genetics

0

Patient Summary

Pharmacy

Radiology

0

Transcription

0

**Visits**



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Preferences

Displaying 1-17 of 17 total

Account Number	Encounter Date	Discharge Date	Type/Status	Reason For Visit	Principal Diagnosis	Facility
EA000002/14 5065271	02/02/2014 12:00	12/02/2014 20:47	IN/DIS IN	MI AND COPD ★		West Haldimand General
AA000036/14 3986255713	05/05/2014 09:27	05/05/2014 15:37	IN/DIS IN	FRACTURED HIP ★		Stratford Gen Hosp OLIS
FB000005/14	01/10/2014 11:00		REF/PRE REF	RIGHT HIP FRACTURE FOLLOW UP		Juravinski Hospital
HA000008/14	01/03/2014 16:00	08/03/2014 11:00	IN/DIS IN	ADMISSION FOR RIGHT HIP SURGERY ★		Juravinski Hospital
HA000009/14	14/01/2014 08:00	24/01/2014 12:00	IN/DIS IN	PNEUMONIA AND CHF ★		Juravinski Hospital
HE000003/14 1037645	01/03/2014 12:00	01/03/2014 16:00	ER/DIS IN	FALL RIGHT HIP INJURY ★		Juravinski Hospital HNHB-CCAC
GA000010/14	16/04/2014 10:53		IN/ADM IN	CLINICAL CONNECT TRAINING ONLY		General
AC000077/09	10/02/2010 11:15	31/12/2010 08:00	IN/DIS IN	TESTING		Cambridge Memorial
<b>AC000126/12</b>	<b>01/12/2012 10:00</b>	<b>13/01/2014 11:41</b>	<b>IN/DIS IN</b>	<b>SICK</b>		<b>Cambridge Memorial</b>
ER000001/12	18/04/2012 14:15		ER/REG ER	ABD PAIN		Cambridge Memorial
ER000013/12	11/06/2012 15:13		ER/REG ER	VOMITING		Cambridge Memorial
ER000042/09	10/02/2010 13:38		ER/REG ER	u TESTING CLINICAL CONNECT		Cambridge Memorial
ER0000030/13	29/10/2013 11:23		ER/REG ER	CONGESTIVE HEART FAILURE ★		Brantford General Hospital
GI000014/14	05/05/2014 08:30		IN/ADM IN	SOB		Bluewater Health

Displaying 1-17 of 17 total



Name	Normal Range	28/10/2014 13:31	17/06/2014 09:10	06/05/2014 14:24	03/05/2014 09:00
LEUKOCYTES	4.5-13.5 x10 <sup>9</sup> /L	12.0	51.0 (*H)	16.8 (H)	55.0 (*H)
ERYTHROCYTES	4.0-5.2 x10 <sup>12</sup> /L	5.00	4.00	4.52	4.00
HEMOGLOBIN	115-155 g/L	125	145	102 (L)	135
HEMATOCRIT	0.350-0.450	0.400	0.450	0.450	0.400
MEAN CELL VOLUME	77-95 fL	80.0	90.0	85.0	90.0
MEAN CELL HEMOGLOBIN	25-33 pg	27.0	30.0	30.0	30.0
MEAN CELL HEMOGLOBIN CONC	310-360 g/L	350	345	320	333
RED CELL DISTRIB'N WIDTH	11.5-15.0 %	13.0	12.0	12.0	12.0
PLATELET CT	150-400 x10 <sup>9</sup> /L	500 (H)	1006 (H)	150	1056 (# H)
MEAN PLT VOLUME	7.4-10.4 fL	8.0	11.0 (H)	8.0	12.0 (H)
ABSOLUTE NEUTROPHILS	1.8-8.0 x10 <sup>9</sup> /L	5.0	7.0		9.0 (H)
ABSOLUTE LYMPHS	1.5-6.5 x10 <sup>9</sup> /L	5.0	10.0 (H)		6.0
ABSOLUTE MONOS	0.2-0.5 x10 <sup>9</sup> /L	0.4	0.3		0.5
ABSOLUTE EOSINOPHILS	0.1-0.3 x10 <sup>9</sup> /L	0.2	0.1		0.3
ABSOLUTE BASOPHILS	0.0-0.2 x10 <sup>9</sup> /L	0.0	0.0		0.2



07/05/2014 16:24	CBC	HAEM-ROUTINE	A	COMP	General
17/06/2014 09:08	CBC	HAEM-ROUTINE	A	COMP	General
11/08/2014 11:46	CBC	HAEM-ROUTINE	A	RES	General
28/08/2014 13:00	CBC	HAEM-ROUTINE	A	RES	General
29/08/2014 08:00	CBC	HAEM-ROUTINE	A	RES	General
02/09/2014 08:00	CBC	HAEM-ROUTINE	A	RES	General
03/09/2014 08:00	CBC	HAEM-ROUTINE		RES	General
28/10/2014 13:28	CBC	HAEM-ROUTINE	A	RES	General
06/11/2014 11:47	CBC	HAEM-ROUTINE	A	RES	General
19/11/2014 09:31	CBC	HAEM-ROUTINE	A	RES	General
13/01/2015 08:27	CBC	HAEM-ROUTINE	A	RES	General
12/02/2015 11:23	CBC	HAEM-ROUTINE	A	COMP	General
05/05/2014 16:15	BLOOD UREA NITROGEN	CHEMISTRY		COMP	Stratford Gen Hosp
06/05/2014 07:00	ARTERIAL BLOOD GASES	BLOOD GASES	A	COMP	General
06/05/2014 10:00	ARTERIAL BLOOD GASES	BLOOD GASES	A	COMP	General
06/05/2014 14:22	ARTERIAL BLOOD GASES	BLOOD GASES	A	COMP	General
05/05/2014 08:00	APTT ROUTINE	HAEMATOLOGY COAGULATION	A	COMP	Bluewater Health
10/03/2015 10:17	Aldosterone - Upright	Chemistry		COMP	Cambridge Memorial

Displaying 1-75 of 75 total

### Lab Trending

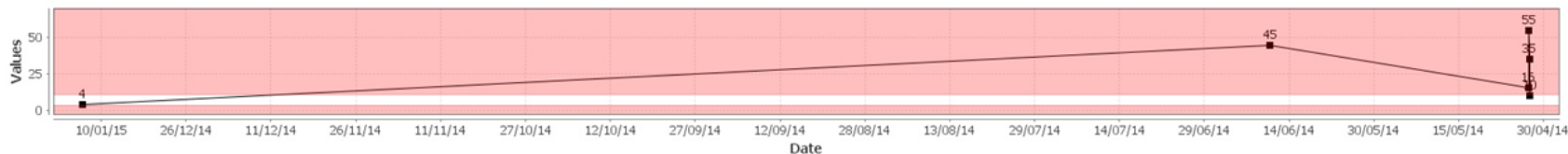
Trend Columns: 5



Name	Normal Range	13/01/2015 08:27	17/06/2014 09:08	02/05/2014 16:00	02/05/2014 12:33	02/05/2014 12:00
GLUCOSE RANDOM	3.8-11.0 mmol/L	4.0	45.0 (#H)	16.0 (#H)	55.0 (#H)	35.0 (#H)



Patient: MARX, GROUCHO DOB: 01/04/1987 MRN: H000000127  
GLUCOSE RANDOM (3.8-11.0 mmol/L)





ClinicalConnect - Radiology - Windows Internet Explorer  
 https://train.clinicalconnect.ca/clinical/controller/common/radiology/list?token=IYqoFH5V9RqSQDtzwcPFqWZT5%2BddfB7ugapb%2BziAiy9a%2B80bqOK9JEE3fe7JumTvsqzW7nmFeGCuUqWNSnSDEem

File Edit View Favorites Tools Help  
 Favorites Free Hotmail HHSC Web Library Web Slice Gallery Suggested Sites  
 ClinicalConnect - Radiology Page Safety Tools

**ClinicalConnect™** CONNECTING SOUTH WEST ONTARIO  
 Logged in as: **Deb Hutchinson**  
 Thursday, May 7, 2015

Patient List Search: [ ] Advanced Search Links Settings Logout

**TEST, CLINICALCONNECT** Allergies

Attending Physician: Hunt, Dereck Leslie      Encounter Date: 01/05/2014 11:06      Status: ADMIN      Height (Metric): 165.1cm  
 MRN: 0000000538      DOB: 04/10/2004      Location: CV 5W      Weight (Metric): 63.503kg  
 Account Number: GA000011/14      Admit Age/Gender: 9Y/F      Room/Bed: 5W-03/1      BMI: 23.3  
 Facility: General      HCN: 2000048492-ON      BSA: 1.7  
 Reason For Visit: CLINICAL CONNTECT TRAINING ONLY

**Radiology** (Timestamp: Thursday, May 7, 11:40)

Preferences | Encounter: All Regional Encounters | Days Back: All

Displaying 1-7 of 7 total

Event Date	Transcribed Date	Name	Category	Status	Facility
12/08/2014		Hip Right 2+V	XR	Signed	General
12/08/2014		CT ABD AND PELVIS W/CONTRAST	CT	Signed	General
13/05/2014	13/05/2014 14:56	CHEST PA AND LATERAL (ROUTINE)	Radiology Report	S	Grand River Hospital
12/08/2014		Chest 2V	XR	Signed	General
07/10/2014		BAC U/S GUIDED BIOPSY BREAST	BACUS	Signed	Juravinski Hospital
07/10/2014		BAC LOCALIZATION BREAST RIGHT	BACMAMMO	Signed	Juravinski Hospital
13/05/2014	13/05/2014 14:56	ANKLE LEFT	Radiology Report	S	Grand River Hospital

Displaying 1-7 of 7 total

Done | Trusted sites | Protected Mode: Off | 150%

DISCHARGE SUMMARY

Date of Admission: March 1, 2014

Date of Discharge: 8/03/14

Most Responsible Diagnosis: Fracture Right Hip Replacement

Other Diagnoses Affecting Length of Stay: COPD, Pneumonia, CHF

Other Diagnoses Not Affecting Length of Stay: Recent MI

Complications of Treatment Arising After Admission: Infection

Operations/Procedures: Fracture Right Hip Replacement

Discharge Medications: Heparin S.C, Tylenol #3, Ventilon, Atrovent

Summary of Visit: major investigation, treatment outcomes: Patient had a fall with a fracture right femur and had surgical procedure to replace total right hip

Discharge Plan: \*^

Clinical Course: This 67 year old underwent an uncomplicated total Right Hip Replacement . This patient had Pneumonia and recovery and was found to be safe for discharge . They will have their staples removed on post-operative day 14 and return to see me in my Fracture Clinic in approximately 6 weeks.

CCAC was consulted for follow up as well.

Dornalee Europe, MD., FRCP  
Assistant Professor McMaster University Medical Centre  
Mentor

EUROPE:DEU:HR / 06/05/14 / 0605-0004

CC: HEALTH RECORDS, Cicero, Leslie; Europe, Dornalee



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# CCAC data

**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**  
**Equipment and Supplies List**

**CCAC: Service List** (Timestamp: Friday, April 4, 2014)

Referral Type	Service Type	Service Delivery Type
Home Care	Personal Support & Homemaking	Hourly combined
Home Care	Physiotherapy	Visit home
Home Care	Nursing	Visit home
Home Care	Occupational Therapy	Visit home
School	Occupational Therapy	Visit public school
School	Physiotherapy	Visit public school

Logged in as: Dale Anderson  
Friday, April 4, 2014

Height (Metric):  
Weight (Metric):  
BMI:  
BSA:

Displaying 1-6 of 6 total

CCAC

Displaying 1-6 of 6 total

# Key Benefits of ClinicalConnect

- ✓ Access transcriptions, labs, radiology reports and CCAC information for a more complete patient picture
- ✓ Reduce repeat tests and speed treatment by referencing regional investigations in seconds
- ✓ Less exposure to diagnostic imaging radiation
- ✓ Fewer medical errors since information is electronic



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# Benefits of ClinicalConnect

- ✓ Reduced cost
  - ✓ Financial, emotional & physical
- ✓ Screen patients from any regional hospital for Infectious Diseases so appropriate precautions can be taken to protect patients and staff.



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# Benefits...

- ✓ Accurate and concise electronic information to reduce miscommunication
- ✓ Improves patient transition across continuum of care
- ✓ Less reliance on patient and family recall
- ✓ Improve patient safety/quality patient experience
- ✓ Reduce readmissions



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Erna & Donald Hibbs  
Patients

Health Links  
Provider efficiency  
Safety  
Efficiency  
Prevention  
Electronic  
Circle of care  
Patient benefits  
Secure  
Clinical decisions  
Patient safety  
Patient experience  
Transitions of care  
Optimize workflow



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# Thank You

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