

### GTA West DI-r Project



**FAST**  
ACCESS TO IMAGING FILES




**CONVENIENT**  
FOR ALL PATIENTS



**SECURE**  
AND ALWAYS AVAILABLE

**Bringing Standardization into a non-Standard World**

### Why is GTA West DI-r Necessary?

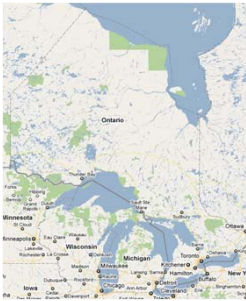


**Mrs. S**

- Lives in Northern Ontario
- Needs to go to PMH for a consultation


*What does her experience look like today?*


*What will her experience look like in the future, with GTA West DI-r?*



### What is the GTA West DI-r?

The GTA West DI-r is a shared, regional repository that provides clinicians access to patients' diagnostic imaging results. Users can use either the **GTA West Viewer** or **Foreign Exam Management** to view Diagnostic Images and Reports.

The GTA West Viewer is a **web-based application** that allows clinicians to search and view a patient's diagnostic images and reports 

FEM is a feature in the GTA West DI-r that allows clinicians to view a patient's complete diagnostic history through their **native PACS**. 

### The Challenges of Building a Diagnostic Imaging Repository

- #1 Existing DI systems are built to share data **within** local organizations
- #2 A new DI system that spans across the GTA West region would have challenges with **user adoption** and **existing clinical workflows**
- #3 Organizations have mandates to **leverage their existing** DI systems
- #4 **'Gluing'** together existing DI systems presents significant **integration** and **implementation** challenges

### The Vision for a Diagnostic Imaging Repository





The Canada Health Infoway and eHealth Ontario vision is to leverage existing RIS and PACS as operational solutions and consolidate the long-term storage in a single infrastructure: the DI domain repository (DI-r)

- ✓ The integration with EHR components is **consolidated**
- ✓ Information access by EHR consumers is **simplified**
- ✓ Economies of scale can be leveraged to **reduce costs**

### What makes GTA West DI-r distinct?

- #1 It's one of the first **standards based** IHE Cross Document Sharing for Imaging (XDS-I) Repository in Canada
- #2 It has a **centralized** XDS Registry and Repository that stores and registers over 3 million exams a year
- #3 Aligned with Canada Health Infoway vision for a **Pan-Canada EHR**

### Key Organizations

	} Transfer Payment Agent
	} Turn Key Vendor 9 sub contractors
	} Funders
	

### Building the DI-r: Why use Standards?

- #1 The GTA WEST DI-r solution is composed of **9** different vendor partners
- #2 IHE Standards allow for **successful integration** of different vendor products
- #3 Minimizing customization and avoiding propriety approaches helps **limit scope creep**

### Building the DI-r: What Standards did you use?

The key to bringing Canada Health Infoway's and eHealth Ontario's vision of a regional DI system to life is using **standards**


- Digital Imaging & Communication in Medicine (DICOM)
- Service Oriented Architecture (SOA)
- Simple Object Access Protocol (SOAP)
- HL7 Clinical Document Architecture (CDA)
- HL7 Messaging
- IHE Profiles: XDS-I, PIX, PDQ, ATNA

### Building the DI-r: Limitations of IHE Standards

- Standards are **not static** and will evolve over time
- Where IHE XDS-I standards couldn't solve clinical or business requirements, **XDS-I metadata extensions** bridged the gap
- Legal extensions to the XDS-I standard profile provided **usability** in a DI specific clinical domain, **increased adoption** and **improved clinical value**

### Building the DI-r: Why Use IHE Standards?

- Future proofing DI-r interoperability as IHE becomes more adopted by health IT vendors
- Alignment with government roadmaps for information exchange



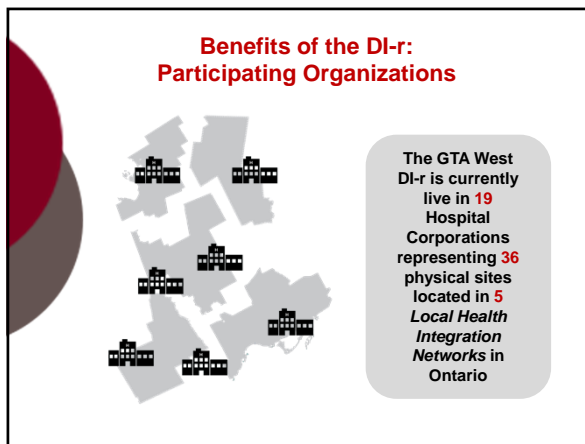
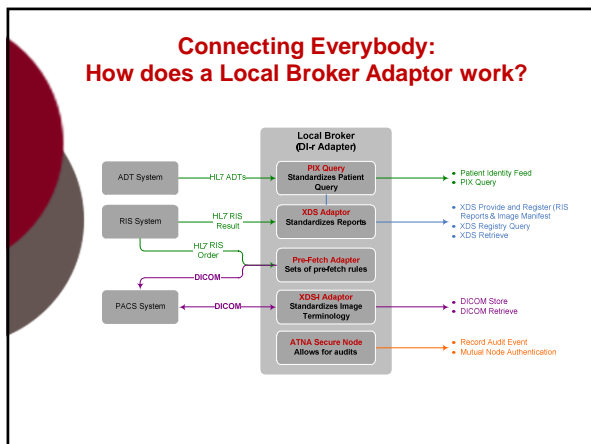
The GTA West DI-r is one of the **first Diagnostic Imaging Repository** in Ontario to fully align to IHE standards

### Enabling the Standards: Building a Local Broker Adaptor



Can 19 Healthcare Corporations, with **varying IHE compliance**, connect to a XDS DI-r?

A Local Broker (*Edge Adaptor Device*) is a technical solution that **bridges the gap** between non-IHE standards compliant DI systems and IHE based DI-r

Local Brokers **enable new workflows and functionality**. Now local DI systems can localize published DI data, using standardized clinical terminology, to facilitate the Foreign Exam Management feature

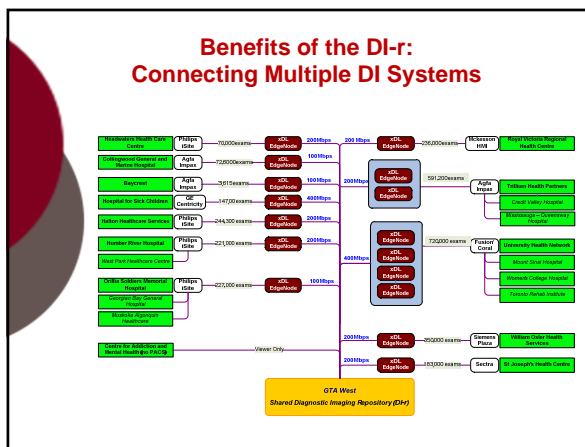


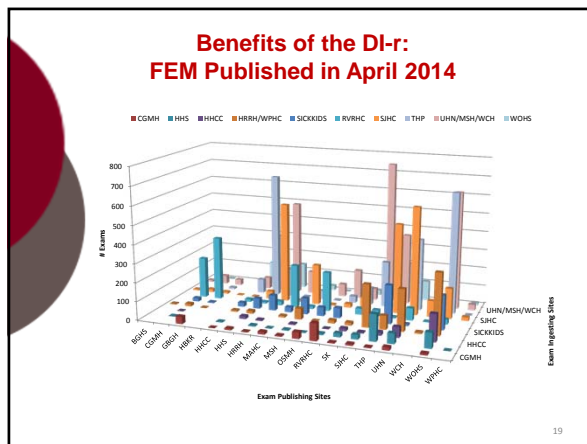
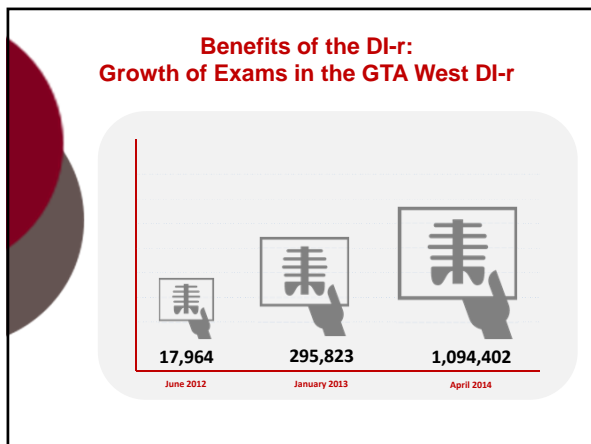
### Benefits of the DI-r: Improving the Patient Experience

**Mrs. S**

*Instead of carrying CDs and waiting a long time for a diagnosis, Mrs. Snow's Diagnostic Images and Reports are now easily shared through the GTA West DI-r*





### Benefits of the DI-r: FEM Published in April 2014

Exam Publishing Sites	Exam Publishing Sites												Total Exams	Total % Total
	CGMH	HHS	HHCC	HRRH/WPHC	SICKKIDS	WVRHC	SHC	THP	UHN/MSH/WCH	WOHs	Other	Other		
CGMH	288	0	0	0	0	0	0	0	0	0	0	0	288	0.026%
HHS	0	288	0	0	0	0	0	0	0	0	0	0	288	0.026%
HHCC	0	0	288	0	0	0	0	0	0	0	0	0	288	0.026%
HRRH/WPHC	0	0	0	288	0	0	0	0	0	0	0	0	288	0.026%
SICKKIDS	0	0	0	0	288	0	0	0	0	0	0	0	288	0.026%
WVRHC	0	0	0	0	0	288	0	0	0	0	0	0	288	0.026%
SHC	0	0	0	0	0	0	288	0	0	0	0	0	288	0.026%
THP	0	0	0	0	0	0	0	288	0	0	0	0	288	0.026%
UHN/MSH/WCH	0	0	0	0	0	0	0	0	288	0	0	0	288	0.026%
WOHs	0	0	0	0	0	0	0	0	0	288	0	0	288	0.026%
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000%
<b>Total</b>	<b>288</b>	<b>288</b>	<b>288</b>	<b>288</b>	<b>288</b>	<b>288</b>	<b>288</b>	<b>288</b>	<b>288</b>	<b>288</b>	<b>288</b>	<b>288</b>	<b>2,880</b>	<b>100.000%</b>

### Benefits of the DI-r: GTA West DI-r Video

## How is the GTA West DI-r Providing Ease of access?

<https://www.youtube.com/watch?v=G5Q4k1eL5E8&feature=youtu.be>

## Conclusions

With a strong vision to **adhere to IHE profiles, promoting standards** and use of **stable XDS-I data types and transactions** as well as following best practice XDS-I integration approaches by utilizing **enabling technologies**, ensured the GTA West DI-r project was one of the first successful XDS-I standards based projects in Canada

The GTA West DI-r serves as an excellent example on **how to architect and deliver an XDS-I based solution** that aligns to the Canada Health Infoway and eHealth Ontario blueprint

## Questions?