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Where There's Smoke…There's FHIR®

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Disclosure

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- Gevity staff volunteer their time to help develop national and international standards.

- Gevity provides consulting services to implementers of the standards.

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Purpose

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- Explain why HL7 FHIR is receiving so much attention

- Help you determine if FHIR is likely to be relevant to your own interoperability needs

What is FHIR ?

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HL7's most recent Draft Standard

- **F**ast (to design & to implement)
  - Relatively. No technology can make integration as fast as we'd like
- **H**ealthcare
  - That's why we're here
- **I**nteroperablility
  - Ditto
- **R**esources
  - Building blocks

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FHIR Manifesto

- Focus on **implementers**
- Keep common scenarios **simple**
- Leverage **existing technologies**
- Provide **human readability**
- Make content **freely available**
- Support **multiple paradigms** & architectures
- Demonstrate best practice **governance**

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Why all the "buzz"?

This is the 1st DSTU version of FHIR. There's also a developmental version, and a Nightly Build.

0 Welcome to FHIR®

First time here? Read the high level summary and then the FHIR overview / roadmap. See also the open license.

Major Sections:

General Documentation | Implementation & Exchange | Clinical Resources | Administrative Resources | Infrastructural Resources

Quick links:

Documentation
- Resource List
- XML & JSON
- REST API & Search
- Data Types
- Using Terminologies
- Extensions
- Full table of contents

Implementation
- Downloads
- FHIR Schemas & Schematrons
- Examples: XML, JSON
- Code: Java, C#, Pascal
- Common Use Cases & Profiles
- Security
- Support Links

External Links
- Support: Stack Overflow (When to use)
- Public Test Servers & Software
- FHIR Wiki
- Blogs that cover FHIR
- Translations: Japanese

Search the FHIR Specification:

Google™ Custom Search

- Everything a developer needs in one place
- Easy to navigate & read
- Free 24x7 test servers and API generators for

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Clinical

General:
- AllergyIntolerance
- ClinicalAssessment
- Condition (aka Problem)
- ReferralRequest
- Procedure
- Contraindication
- RiskAssessment
- VisionPrescription

Data Collection & Care Plan:
- Questionnaire
- QuestionnaireAnswers
- FamilyHistory
- CarePlan
- CarePlan2
- Goal

Medication, Immunization & Nutrition:
- Medication
- MedicationPrescription
- MedicationAdministration
- MedicationDispense
- MedicationStatement
- NutritionOrder
- Immunization
- ImmunizationRecommendation

Diagnostics:
- Observation
- DiagnosticReport
- DiagnosticOrder
- ImagingStudy
- ImagingObjectSelection
- Specimen
- BodySite

Administrative

Attribution:
- Patient
- RelatedPerson
- Person
- Practitioner
- Organization
- HealthcareService

Entities:
- Contract
- Device
- DeviceComponent
- DeviceMetric
- Location
- Substance
- Group

Workflow Management:
- Encounter
- EpisodeOfCare
- Alert
- Communication
- CommunicationRequest
- Supply
- DeviceUseStatement

Scheduling / Ordering:
- Appointment
- Appointment Response
- Schedule
- Slot
- Order
- OrderResponse
- DeviceUseRequest
- ProcedureRequest

Infrastructure

Support:
- Media
- Basic
- Provenance
- SecurityEvent

Documents & Structure:
- List
- Composition
- DocumentReference
- DocumentManifest

Exchange:
- MessageHeader
- OperationOutcome
- Subscription
- Bundle
- Binary

Conformance:
- Conformance
- Profile
- ExtensionDefinition
- DataElement
- SearchParameter
- OperationDefinition
- ValueSet
- NamingSystem
- ConceptMap

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Resource Definitions

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Structure

Name	Flags	Card.	Type	Description & Constraints
Patient			DomainResource	Information about a person or animal receiving health care services
identifier	Î£	0..*	Identifier	An identifier for the person as this patient
name	Î£	0..*	HumanName	A name associated with the patient
telecom	Î£	0..*	ContactPoint	A contact detail for the individual
gender	Î£	0..1	code	male | female | other | unknown AdministrativeGender (Required)
birthDate	Î£	0..1	date	The date and time of birth for the individual
deceased[x]	M Î£			Indicates if the individual is deceased or not
deceasedBoolean		0..1	boolean	
deceasedDateTime		0..1	dateTime	
address	Î£	0..*	Address	Addresses for the individual
maritalStatus	Î£	0..1	CodeableConcept	Marital (civil) status of a person MaritalStatus (Incomplete)
multipleBirth[x]	Î£			Whether patient is part of a multiple birth
multipleBirthBoolean		0..1	boolean	
multipleBirthInteger		0..1	integer	
photo		0..*	Attachment	Image of the person
contact	I	0..*	Element	A contact party (e.g. guardian, partner, friend) for the patient *SHALL at least contain a contact's details or a reference to an organization*
relationship		0..*	CodeableConcept	The kind of relationship ContactRelationship (Incomplete)
name		0..1	HumanName	A name associated with the person
telecom		0..*	ContactPoint	A contact detail for the person
address		0..1	Address	Address for the contact person
gender		0..1	code	male | female | other | unknown

We were able to develop a clinical application without a clinical informatics specialist.
- FHIR North Connectathon Participant

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Where is FHIR in its development cycle?

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- Still "Draft Standard for Trial Use"
  - Won't be normative until 2017
- However, very active implementation already
  - 15+ connectathons to date
    - 150+ organizations have participated in at least one
  - 260+ people on FHIR Implementers chat
  - Implementation happening in 20+ countries
    - Jurisdictional EHRs
    - Large institutions
    - Startups

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Who is getting excited about it?

- Office of the National Coordinator (ONC) for Health IT
  - Figure prominently in their Shared Nationwide Interoperability Roadmap released in January

- CommonWell Health Alliance
  - Coalition of vendors such as Allscripts, Cerner, McKesson, MEDITECH, etc. working to develop exchange solutions across business boundaries.
  - Public declaration of support for FHIR[1]

- University Health Network
  - HAPI FHIR test server and java API http://fhirtest.uhn.ca/

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[1] http://www.healthcare-informatics.com/article/top-ten-tech-trends-catching-fhir

Should you care?

- Product vendors
  - New application
  - Integration with major HIS'
- Jurisdictions
  - Green field data exchanges (mobile & others)
  - Inter-jurisdictional data exchange
- Clinicians
  - Spend more time on user interface and workflow, less time on interoperability
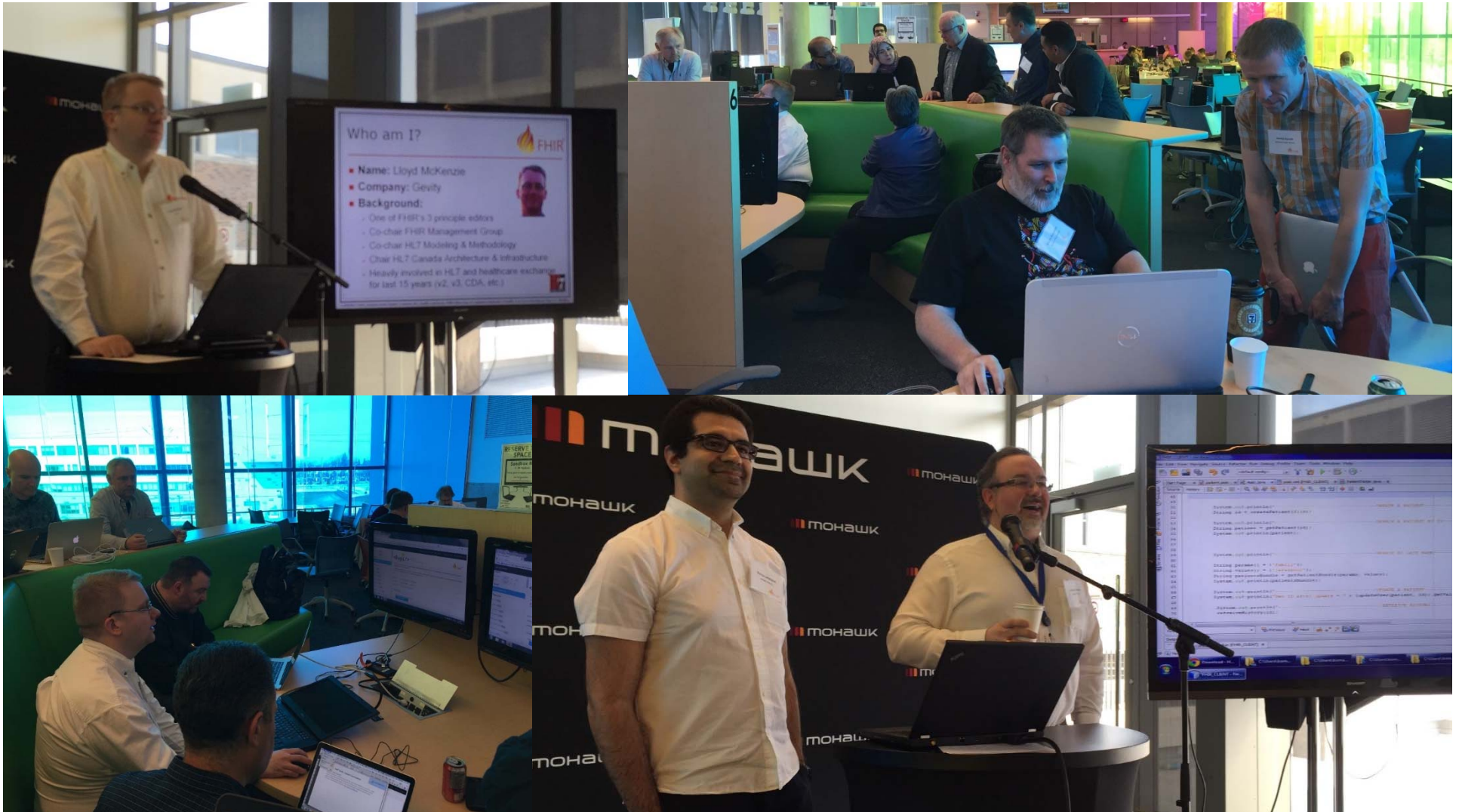 - Profiling to see the data you want w/o hard coding

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Where can you learn more?

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- ## Attend a Working Group Meeting
  - Tutorials, **Connectathons**
  - October 2-9, 2015 Atlanta
  - May 8-13, 2016 **Montreal**

- ## Attend an Implementation Workshop
  - Intensive tutorials, hands-on
  - July 13-15 DC

- ## FHIR Institute Webinars – April 20-24

- ## FHIR Developer Days – Nov 18-20, Amsterdam

- ## FHIR North – Canada's FHIR Connectathon
  - 2016 Date TBD – Likely April in conjunction with Apps for Health Conference

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FHIR North
Canada's First FHIR Connectathon

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Thank you

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