

# Open source EMR

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# Class Topics

- [Open Source Software](#)
- Open Source EMRs – OpenEHR, OpenMRS
- SNOMED CT (SNOMED Clinical Terms)
- Humanitarian Free and Open Source Software (HFOSS)
- Sample of OpenMRS Addons
- Patient Data Out of EMR's (OpenMRS)
- OpenMRS Interoperability with Other Open Source Applications

# Definition/background of open source

- “Free software” means software that respects users' freedom and community. Roughly, it means that **the users have the freedom to run, copy, distribute, study, change and improve the software.** Thus, “free software” is a matter of liberty, not price. To understand the concept, you should think of “free” as in “free speech,” not as in “free beer.”
- You may have paid money to get copies of a free program, or you may have obtained copies at no charge. But regardless of how you got your copies, you always have the freedom to copy and change the software, even to [sell copies](#).

A program is free software if the program's users have the four essential freedoms: [\[1\]](#)

1. The freedom to run the program as you wish, for any purpose (freedom 0).
2. The freedom to study how the program works and change it so it does your computing as you wish (freedom 1). Access to the source code is a precondition for this.
3. The freedom to redistribute copies so you can help others (freedom 2).
4. The freedom to distribute copies of your modified versions to others (freedom 3). By doing this you can give the whole community a chance to benefit from your changes. Access to the source code is a precondition for this.

Free software *can* be commercial

Freedom to distribute (freedoms 2 and 3) means you are free to redistribute copies, either with or without modifications, either gratis or charging a fee for distribution, to [anyone anywhere](#). Being free to do these things means (among other things) that you do not have to ask or pay for permission to do so.

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# TWO MAJOR EFFORTS FOR OPEN SOURCE EMRS

- openEHR
- OpenMRS

# openEHR

open platform specifications

clinical models and software

information and *interoperability solutions* (e.g. between various EHR platforms for continuity of care)

systems platform for healthcare and medical research

established in 2003

# openEHR (Cont'd)

- Deployments include Australia, Brazil, Switzerland, Germany, Finland, U.K., Italy, Malta, Netherlands
- Coverage is quite different from *OpenMRS*, which targets resource-constrained environments, typically in LMIC (lower middle-income country)



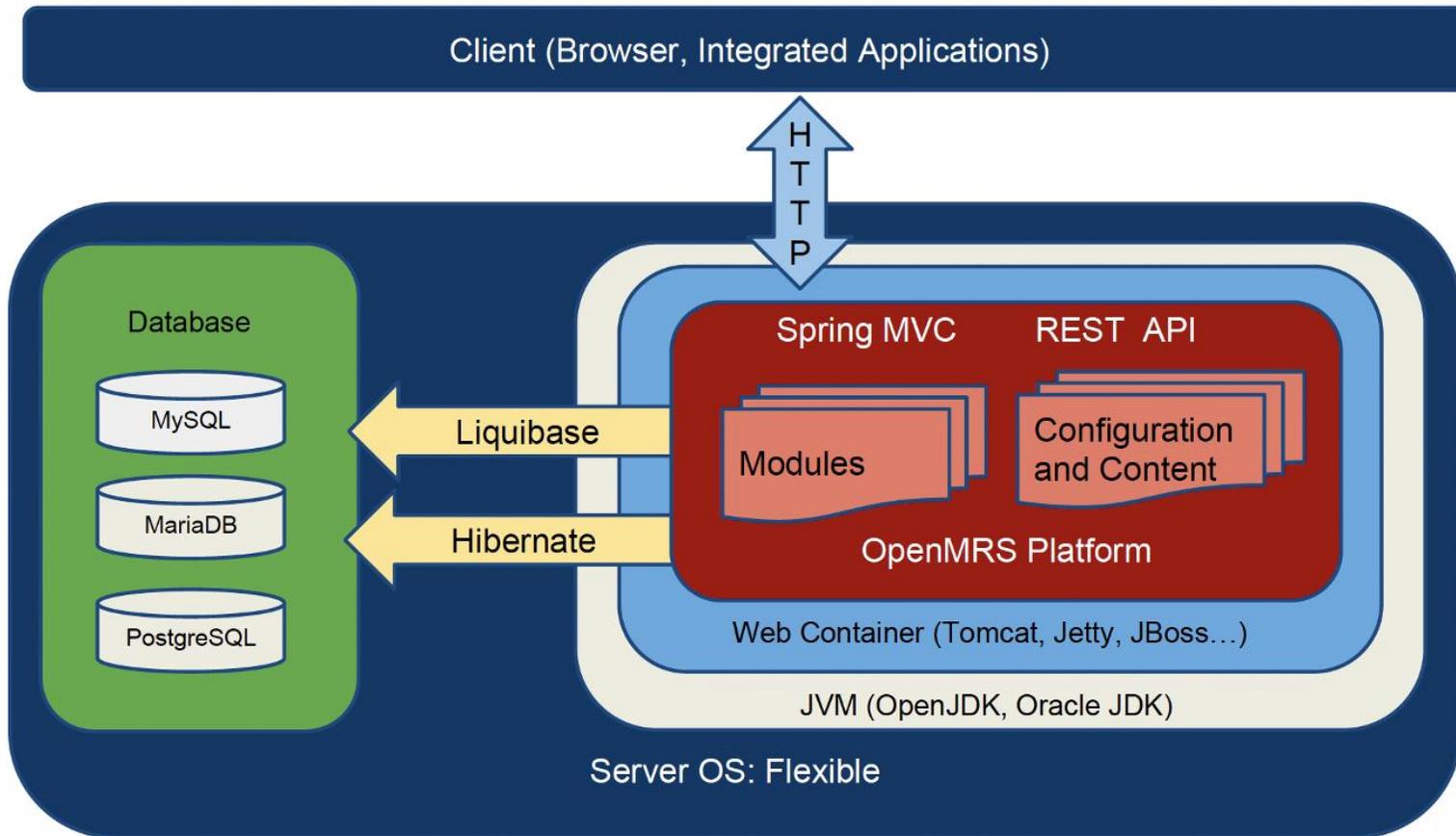


PIH begins collaboration with Regenstrief Institute to create OpenMRS.

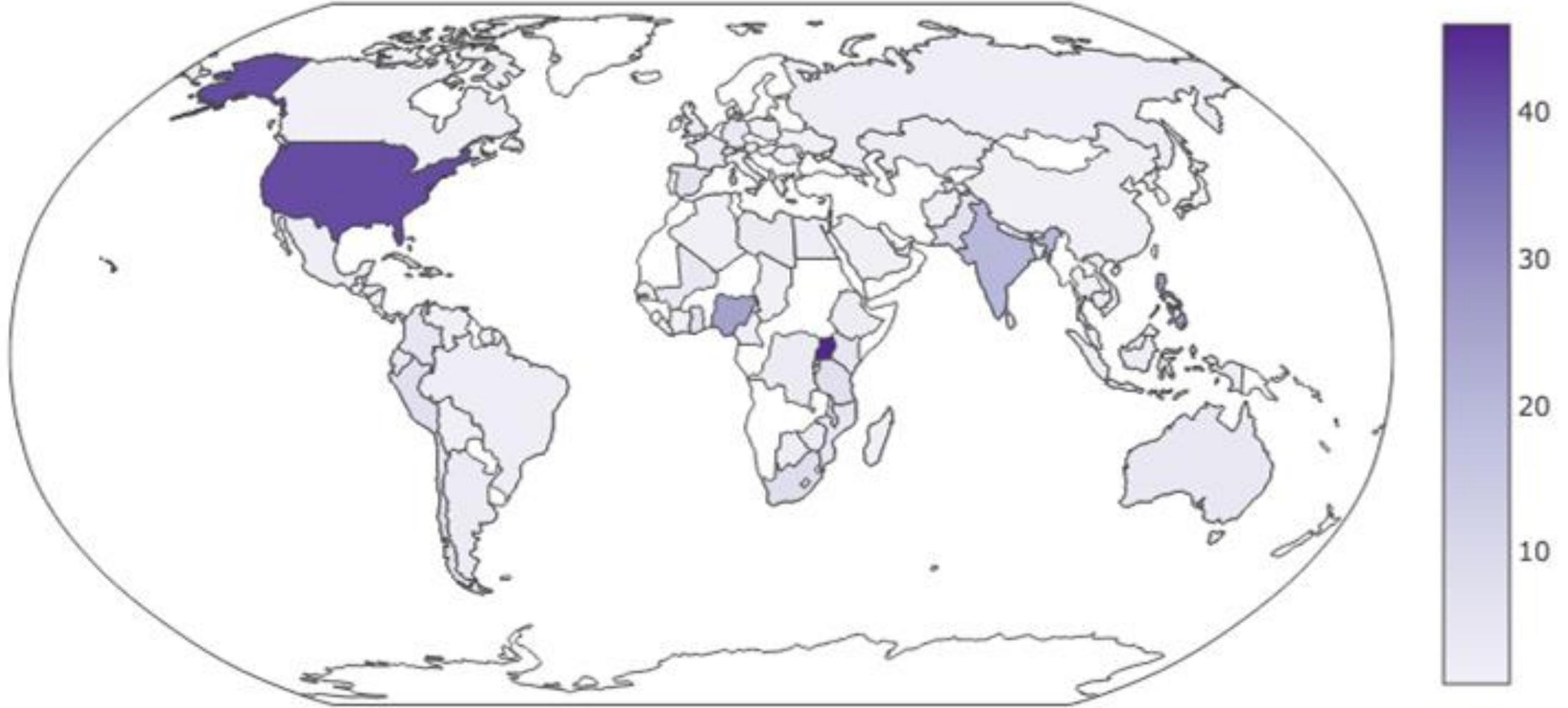
- global health community
- free & open
- collaboration
- replication
- cost benefits

# OpenMRS origins

- First OpenMRS site
  - Eldoret, Kenya February 2006
- Second site
  - Rwinkwavu, Rwanda August 2006
- Third site
  - Richmond Hospital, South Africa September/October 2006



# OpenMRS implementations around the world



## Active forums

#OpenMRS on irc.freenode.net

Developers list: dev@openmrs.org

<https://talk.openmrs.org/>

<https://wiki.openmrs.org>

## Many contributors with broad expertise

Thanks to the complete list of code contributors to OpenMRS 2.1:

@alexis\_duque , Andrew Szell, @angshuonline , @aniketha , Anton Kravchenko, Arathy-mac, @bwolfe , @burke , @cintiadr , @cioan , Damian Szafranek, Damitha Kithmal, @dkayiwa , @darius , @endeepak , Filip Biedrzycki, Geoffrey W Wasilwa, Gitahi Ng'ang'a, Glauber Ramos, @harsha89 , Hemanth, Jakub Kondrat, @k\_joseph , Krzysztof Kaczmarczyk, Lech Rozanski, Lee Breisacher, @lbat , Madawa Soysa, Marek Szukalski, @mogoodrich , Mihir, @mseaton , Miss Beens, Mujir Shaikh, @marioareias , Nehashri P L, Neissi Torres Lima, @ningosi , @nyoman , Pamela Canchanya, Pawel Muchowski, Przemyslaw Gierszewski, Radek Puzdrowski, Radoslaw Puzdrowski, @raff , Rohan Poddar, Rowan Seymour, @sunbiz , Shruthi Dipali, @suraj5 , Sushmitha Rao, Vinay Venu, Vinkesh Banka, Wesley Spencer See, @willa , @wyclif , hemanths, indraneelr, Lukasz Gąsior



6 people liked this. Like it too.

## Regular (un)conferences

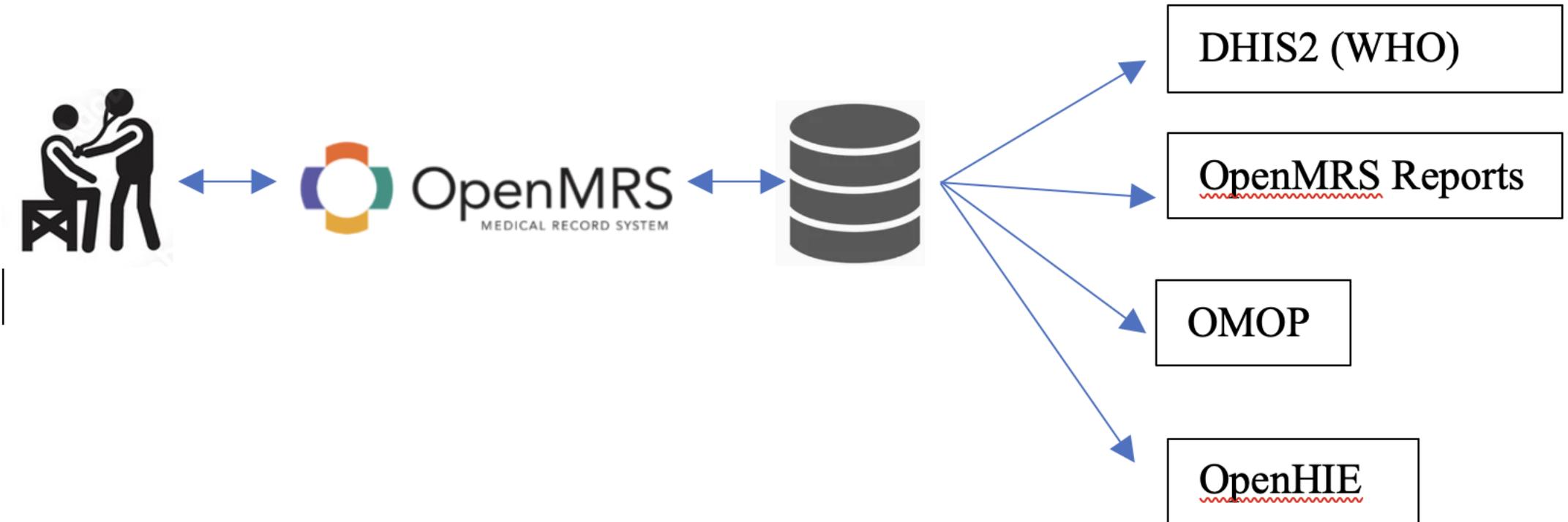


## Building the movement

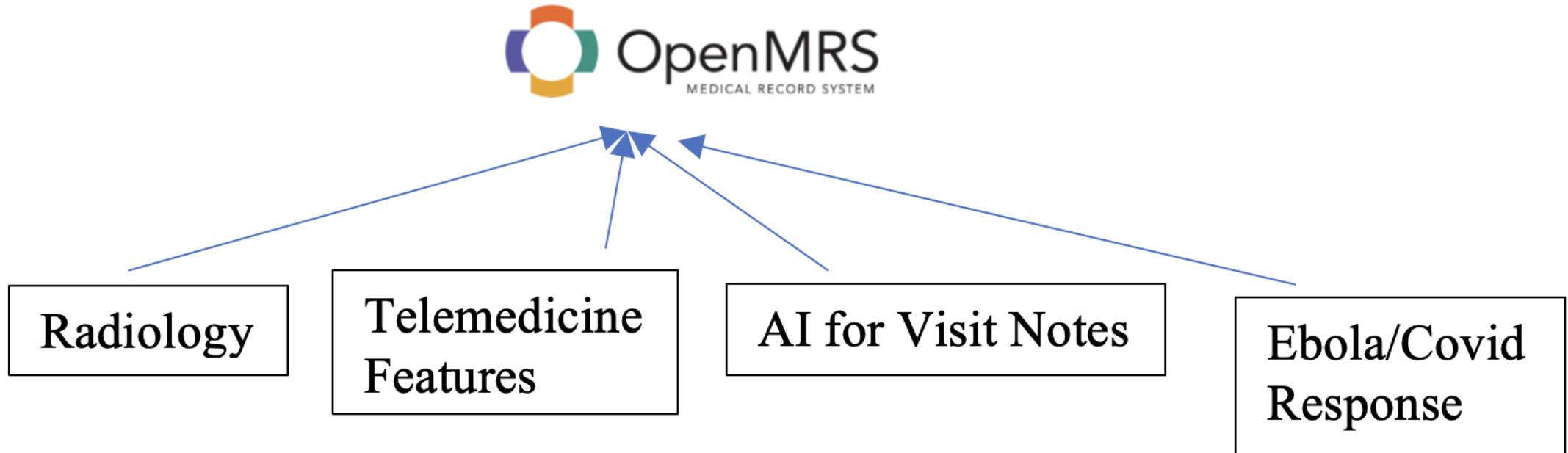
- Not reliant on any one organization
- Evolving regional communities
- Supports scaling and replicating

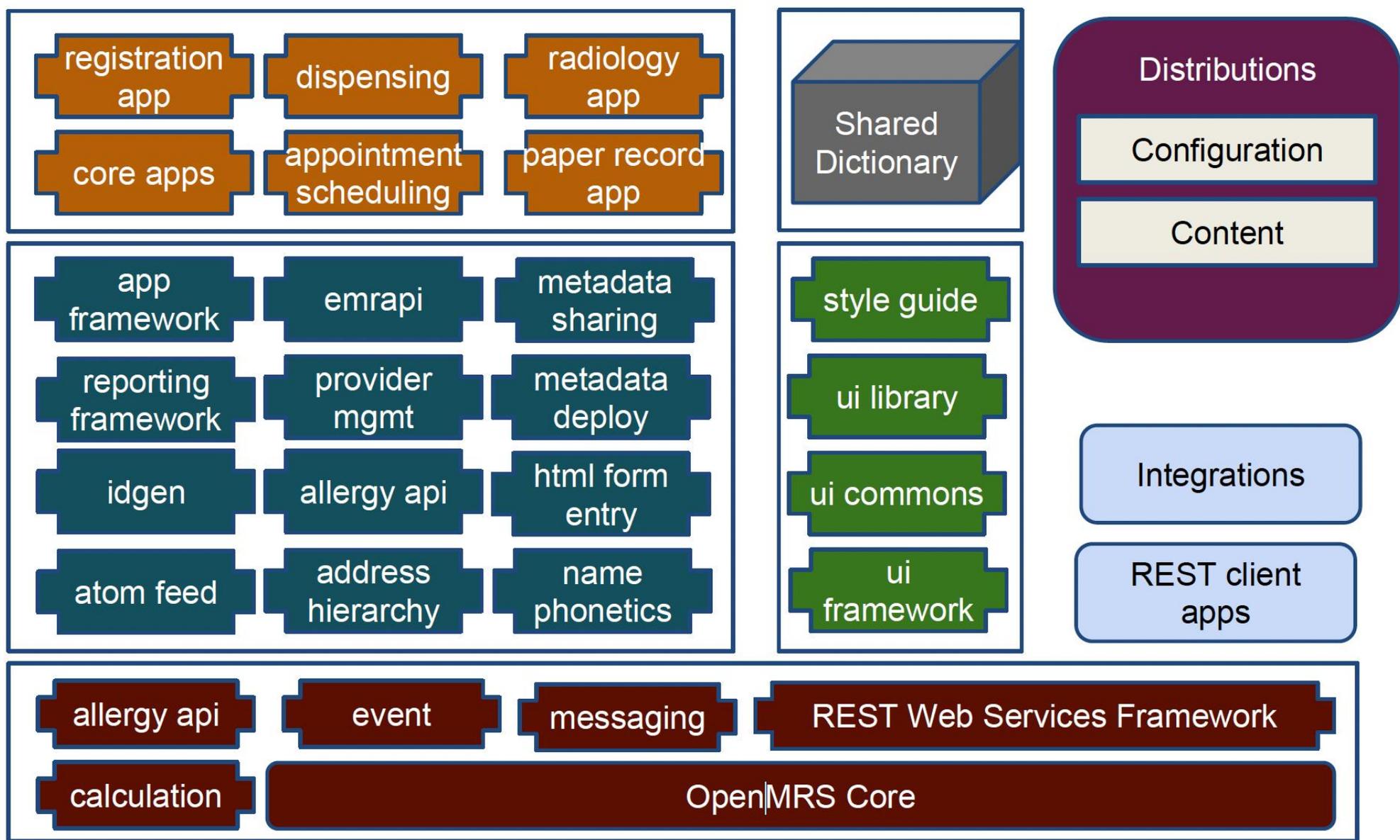
# Why OpenMRS? Community

# PATIENT DATA MOVING IN/OUT OF THE EMR



# ADDONS/MODULES

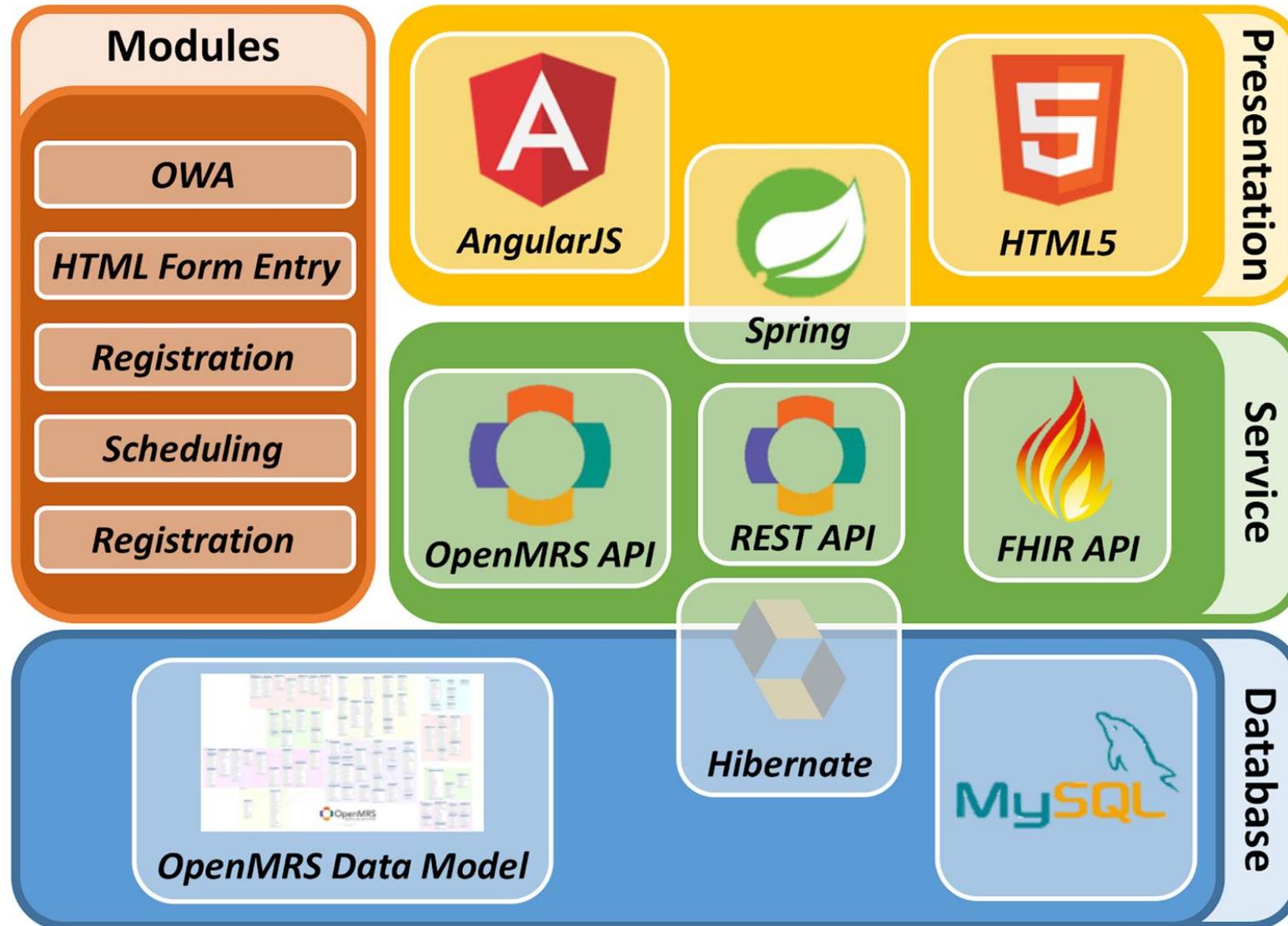




# Why OpenMRS? Modular



# OpenMRS platform architecture



# Challenges for OpenMRS Deployments

- Equipment, power supplies and networks
- Data management and quality control
- Evaluation
- Sustainability
- Training
  - Programmers
  - IT staff
  - Data entry staff and managers
  - Users

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## OPENMRS CONCEPT DICTIONARY

- Much of OpenMRS is centered on its *concept dictionary*
- It's an Ontology, which is essentially a structured collection of terms
- The terms serve as a vocabulary for representing the medical concepts
- Well used ontologies include SNOMED, LOINC, RXTERMS
- OpenMRS uses CIEL (Columbia University)

<b>Id</b>	5090		
<b>UUID</b>	5090AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA		
<b>Locale</b>	<a href="#">English</a>   <a href="#">Spanish</a>   <a href="#">French</a>   <a href="#">Italian</a>   <a href="#">Portuguese</a>		
<b>Fully Specified Name</b>	Height (cm)		
<b>Synonyms</b>	Length		
<b>Search Terms</b>			
<b>Short Name</b>	HT		
<b>Description</b>	Patient's height in centimeters.		
<b>Class</b>	Finding		
<b>Datatype</b>	Numeric		
<b>Numeric</b>	<b>Absolute High</b>	272.0	
	<b>Critical High</b>		
	<b>Normal High</b>		
	<b>Normal Low</b>		
	<b>Critical Low</b>		
	<b>Absolute Low</b>	10.0	
		<i>(range values are inclusive)</i>	
	<b>Units</b>	cm	
	<b>Allow Decimal?</b>	Yes	
	<b>Display Precision</b>		
<b>Mappings</b>	<b>Relationship</b>	<b>Source</b>	<b>Code</b> <b>Name</b>
	NARROWER-THAN	LOINC	8302-2
	SAME-AS	SNOMED CT	50373000
	SAME-AS	AMPATH	5090
	SAME-AS	PIH Malawi	5090
	SAME-AS	CIEL	5090
	SAME-AS	PIH	5090

# SNOMED CT

SNOMED CT is one of a suite of designated standards for use in U.S. Federal Government systems for the electronic exchange of clinical health information and is also a required standard in interoperability specifications of the U.S. Healthcare Information Technology Standards Panel.

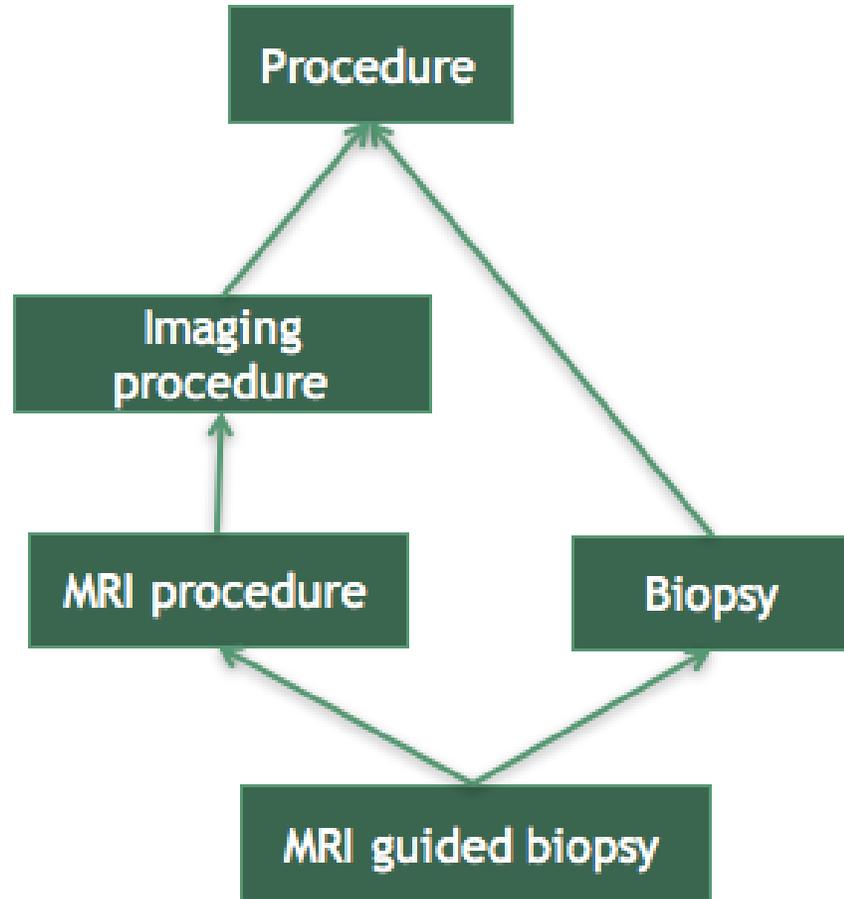
- Comprehensive multilingual clinical terminology
- Contains scientifically validated clinical content
- Mapped to other international standards
- Supports high quality clinical content in health records
- Increasing number of tools and implementations
- Used in more than 80 countries

# SNOMED CT

SNOMED CT® stands for Systemized Nomenclature of Medicine – Clinical Terms. It is a standardized, international, multilingual core set of clinical healthcare terminology that can be used in electronic health records (EHRs). SNOMED International is the non-profit standards development organization that creates and distributes SNOMED CT, and it is operated by the International Health Standards Development Organization.

SNOMED CT represents coded terms that may be used within EHRs to capture, record, and share clinical data for use in healthcare organizations. It is a key component supporting solutions that enable the retrieval of meaningful clinical information. SNOMED CT terms, or codes, have been used internationally for years, and they became widely used in the United States after 2013 when the federal government required EHRs to include the terminology in their systems.

# SNOMED - Hierarchical Structure



- Subtype/Supertype relationship
- Poly-hierarchical structure
  - a concept can have multiple parents



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# Humanitarian Free and Open Source Software (HFOSS)

**Humanitarian free and open source software (HFOSS)** represents the application of free and open source software (FOSS) to the coordination problems faced in the humanitarian and disaster-response domains.

OR

HFOSS is software that serves society in some direct way

## Beginnings

The tsunami that hit Asia in 2004 was a wake-up call to computer professionals who wanted to build software to help victims of natural disasters.

# HFOSS (CONT'D)

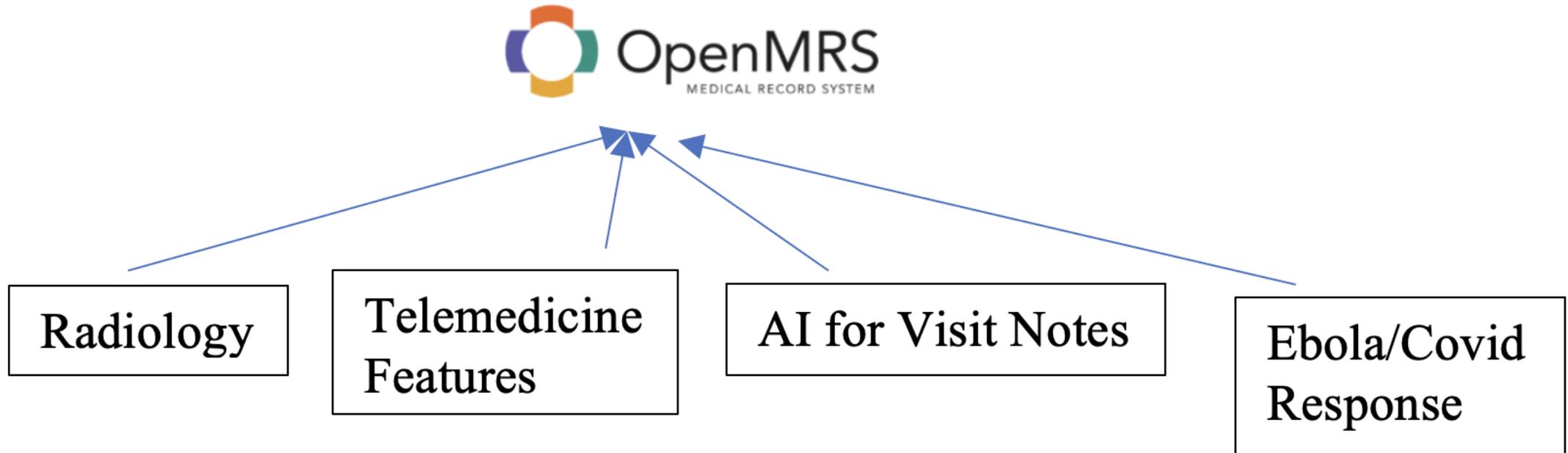
- No discrimination on access – it's in the public domain
- Lower cost within context of funding constraints
- Transparency and neutrality – no associations with political groups
- Open standards and data exchange

## THE CENTRE FOR HUMANITARIAN DATA

Connecting people and data to improve lives

*The Centre for Humanitarian Data is focused on increasing the use and impact of data in the humanitarian sector. It is managed by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA). The Centre's services are available to humanitarian partners and OCHA staff in the field and at Headquarters free of charge*

# ADDONS/MODULES



## OpenMRS Ebola Case Study

West African Ebola epidemic that began in 2014

Over 10,000 people died

information is needed to provide adequate care

Critical need to access an EMR system for capturing data (e.g. lab tests, drug reactions)

The virus can live on hard surfaces, so notes or drug prescriptions cannot be taken out the Ebola treatment center.

In 2015, Save the Children International identified the need for medical data collection in the Ebola treatment centers

# Ebola Response (Cont'd)

OpenMRS community stepped up to provide a rapid response

Hackathons were held

volunteers and staff from ThoughtWorks, Save the Children International, the London School of Hygiene and Tropical Medicine, the University of Leeds, Elsevier, and the OpenMRS community built the EMR addressing the outbreak

The OpenMRS-based system runs on laptops in the Green Zone and waterproof sterilizable Android tablets in the Red Zone, with different User Interfaces (UIs) for each

# Ebola Response (Cont'd)

Challenges encountered/solutions

UI touch-based with high-contrast color schemes

large buttons for gloved hands

large text since the suits interfere with vision

Speed is of the essence since the suits are not breathable and get extremely hot, very quickly in the tropical climate

deployed in the Kerry Town Ebola Treatment Center outside of Freetown in Sierra Leone

phase 1 (patient tracking; drug ordering and monitoring) implemented after 2.5 months of full-time development



# Covid Response from Regenstrief Institute (Indiana University)

create an emergency EMR for Indianapolis first responders preparing for a possible influx of COVID-19 patients

completed in a week to allow Indianapolis Emergency Medical Services (IEMS) to register patients, collect basic clinical information, and send these encounters to Indiana's health information exchange, a crucial element to help the response to the COVID-19 pandemic.

created forms to enter relevant COVID-19 data into the Indiana Network for Patient Care

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SAN FRANCISCO  
STATE UNIVERSITY

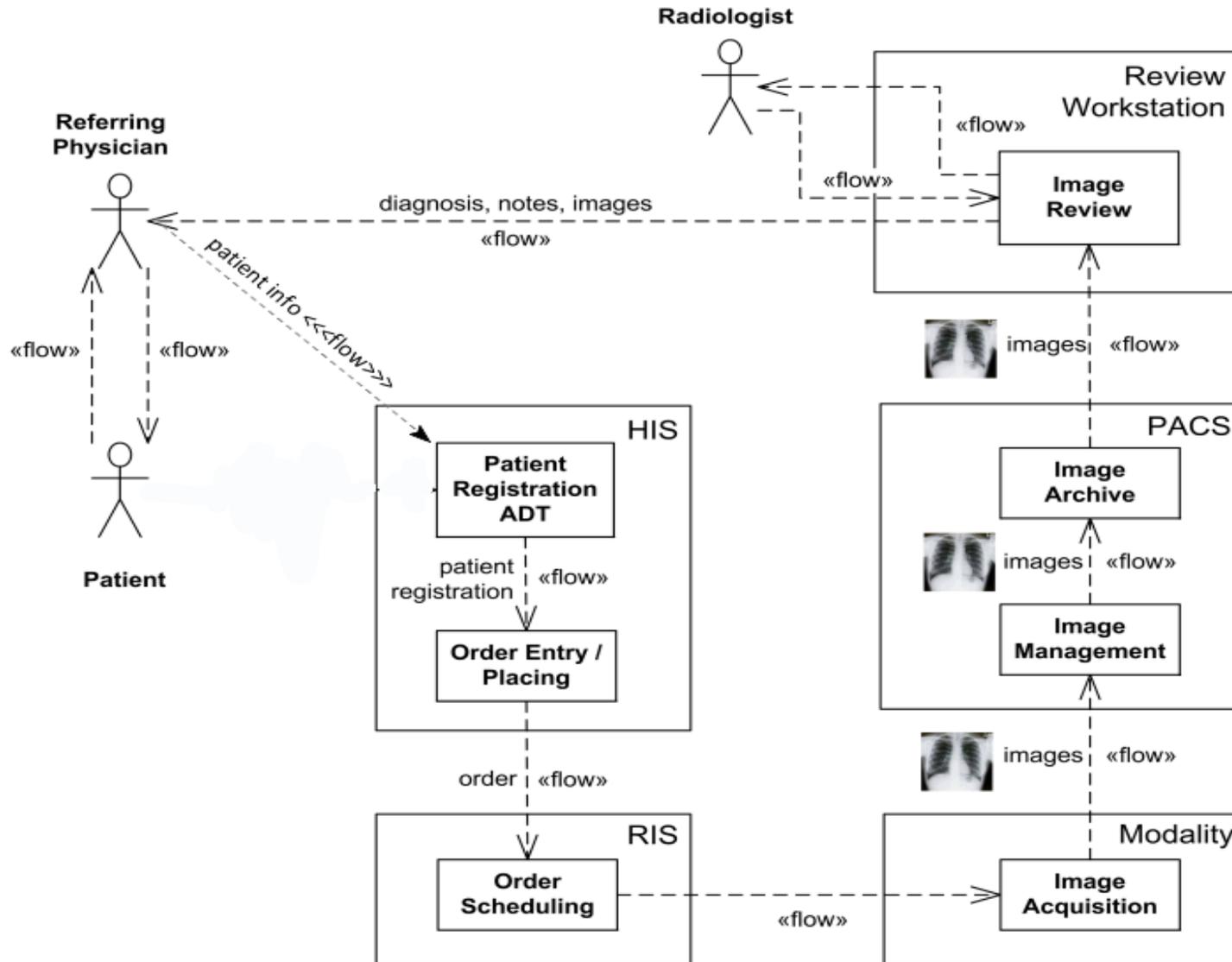
# Extending Radiology Module for OpenMRS using Dcm4chee as PACS

San Francisco State University  
Culminating Experience Report

Akhil Ravindran

December 18<sup>th</sup>, 2013

# Use Case – work Flow



# Structuring unstructured clinical narratives in OpenMRS with medical concept extraction, R. Eshleman, Hui Yang, Barry Levine, IEEE International Conference on Bioinformatics, 9 November 2015

OpenMRS admin Inpatient Ward Logout

> Doe, Jane > Notes NLP

sigmoid colectomy Bruits **afebrile while** Respiratory rate CPAP **afebrile** further aggressive intervention intermittent sepsis **Demerol** full enteral feeds CPAP , hypothyroidism **erticulitis** **guaiac negative** Neurologic examination **chest discomfort and** aggressive surgical intervention full enteral feeds well **guaiac** Neurontin This NPO chest discomfort This NPO was **JVD**

Search History: > afebrile while > chest discomfort and > intermittent sepsis > Demerol

clear history KEY: test treatment problem

Problems **Treatments** Tests All

Search: Demerol Show 10 entries

Doc Date	Treatments
2015-06-22	This NPO was CPAP , full enteral feeds well Demerol
2015-06-22	further aggressive intervention aggressive surgical intervention Neurontin Demerol This NPO CPAP full enteral feeds sigmoid colectomy
2015-06-22	Demerol CPAP , full enteral feeds well This NPO was

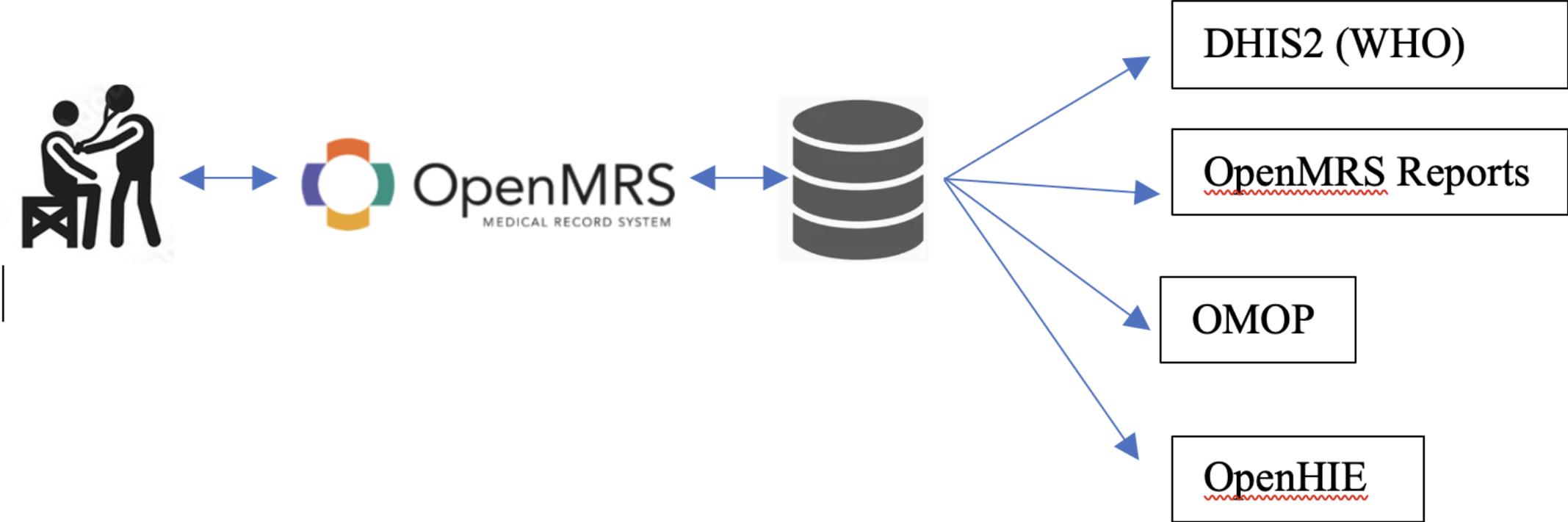
Showing 1 to 3 of 3 entries First Previous 1 Next Last

DATE: 2015-06-22  
Neck : Supple , - JVD , - Bruits  
Override added on 12/08/05 by :  
Sex :  
Was most likely due to multiple drugs administered during the episode including Demerol .36-781 Respiratory rate 18 .By the end of June , it became clear that Mr.Mass would require aggressive surgical intervention in order to eradicate his intra-abdominal bursts of intermittent sepsis ; however , long discussions with the patient and his wife , who was his health-care proxy , revealed that they felt that no further aggressive intervention be attempted .FOLLOW UP APPOINTMENT ( S ) :  
\*\*\*\*\* END OF DISCHARGE ORDERS \*\*\*\*\*  
HOSPITAL COURSE AND TREATMENT :  
SUMMARY OF HOSPITAL COURSE BY SYSTEMS :  
Admission Date :  
Report Status :  
The patient had no further episodes of chest discomfort and remained afebrile while in house .10.Seizure history on Neurontin .Disp : \*50 Tablet( s )\* F She was slow to advance on enteral feeds and gradually attained full enteral volume on

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# PATIENT DATA MOVING IN/OUT OF THE EMR



# CDA: Clinical Document Architecture

- Specifies the syntax and supplies a framework for specifying the full semantics of a clinical document
- Supports clinical notes
- Relies on SNOMED and LOINC for structured data
- Can use various protocols for transport (XDS)

```
CDA Template - Patient Details
12 <!-- Client details -->
13 <recordTarget>
14 <patientRole>
15 <!-- Patient Identifier -->
16 <!-- The value for extension must be specified in HL7 CX format: -->
17 <!-- id^^assigningAuthority^typeCode -->
18 <!-- The typeCode specified the type of identifier, e.g. NI for National Identifier or PPN for Passport Number -->
19 <!-- The assigningAuthority specifies the issuer of the id, e.g. ZAF for South Africa -->
20 <!-- An example for a South African National ID is: -->
21 <!-- <id extension="7612241234567^^ZAF^NI" root="526ef9c3-6f18-420a-bc53-9b733920bc67" /> -->
22 <id extension="{pidCX}" root="526ef9c3-6f18-420a-bc53-9b733920bc67"/>
23 <!-- Telephone number in RFC3966 format, e.g. tel:+27731234567 -->
24 <telecom value="tel:{cellNumber}"/>
25 <patient>
26 <name>
27 <given>${givenName}</given>
28 <family>${familyName}</family>
29 </name>
30 <administrativeGenderCode code="F" codeSystem="2.16.840.1.113883.5.1"/>
31 <!-- If available, else set nullFlavor -->
32 <!-- Format yyyy[MM][dd] e.g. 19700123 or 197001 for an estimated date -->
33 <birthTime value="{birthDate}"/>
34 <languageCommunication>
35 <languageCode code="{languageCode}"/>
36 <preferenceInd value="true"/>
37 </languageCommunication>
38 </patient>
39 </patientRole>
40 </recordTarget>
```



# CCD: Continuity of Care

- Patient Summary
- Supports clinical notes
- Requires textual fields
- Optional structured fields
- Contains a core data set of the most relevant administrative, demographic, and clinical information facts about a patient's healthcare
- Covers one or more healthcare encounters
- Type of CDA document

■ CCD maps the CCR elements into a CDA representation.

```
<Results>
  <Result>
    <CCRDataObjectID>
      2.16.840.1.113883.19.1
    </CCRDataObjectID>
    <DateTime>
      <Type>
        <Text>Assessment Time</Text>
      </Type>
      <ExactDateTime>
        200004071430
      </ExactDateTime>
    </DateTime>
    <Type>
      <Text>Hematology</Text>
    </Type>
    <Description>
      <Text>CBC WO DIFFERENTIAL</Text>
      <Code>
        <Value>43789009</Value>
        <CodingSystem>SNOMED CT</CodingSystem>
      </Code>
    </Description>
    <Status><Text>Final Results</Text></Status>
  </Result>
</Results>
```

```
<section>
  <templateId root="2.16.840.1.113883.10.20.1.14"
  <code code="30954-2"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC"/>
  <title>Laboratory results</title>
  <text>
    CBC (04/07/2000): HGB 13.2; WBC 6.7; PLT 123
  </text>
  <entry>
    <organizer classCode="BATTERY" moodCode="EVN"
      <templateId root="2.16.840.1.113883.10.20.1.14"
      <id root="2.16.840.1.113883.19" extension="1"
      <code code="43789009"
        codeSystem="2.16.840.1.113883.6.96"
        codeSystemName="SNOMED CT"
        displayName="CBC WO DIFFERENTIAL"/>
      <statusCode code="completed"/>
      <effectiveTime value="200004071430"/>
    </organizer>
  </entry>
</section>
```

# What is OpenHIE?

OpenHIE is a Global Mission-Driven Community of Practice that is dedicated to improve the health of the underserved through open and collaborative, development and support of country driven, large scale health information sharing architectures.

It is an international community working in low resource settings to:

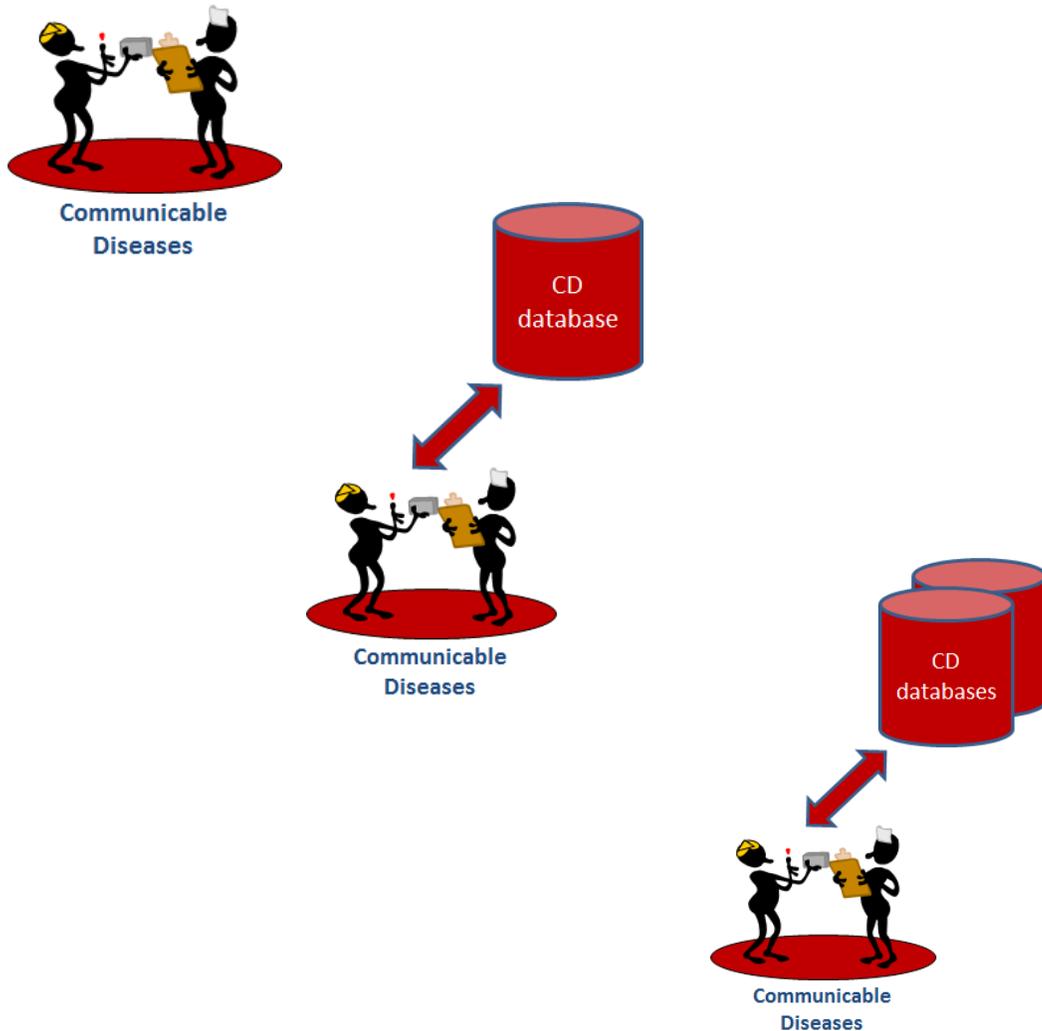
Enable large scale health information interoperability

Develop and offer freely available standards-based approaches and reference technologies

Support community needs through peer technical assistance communities



# What does OpenHIE do?

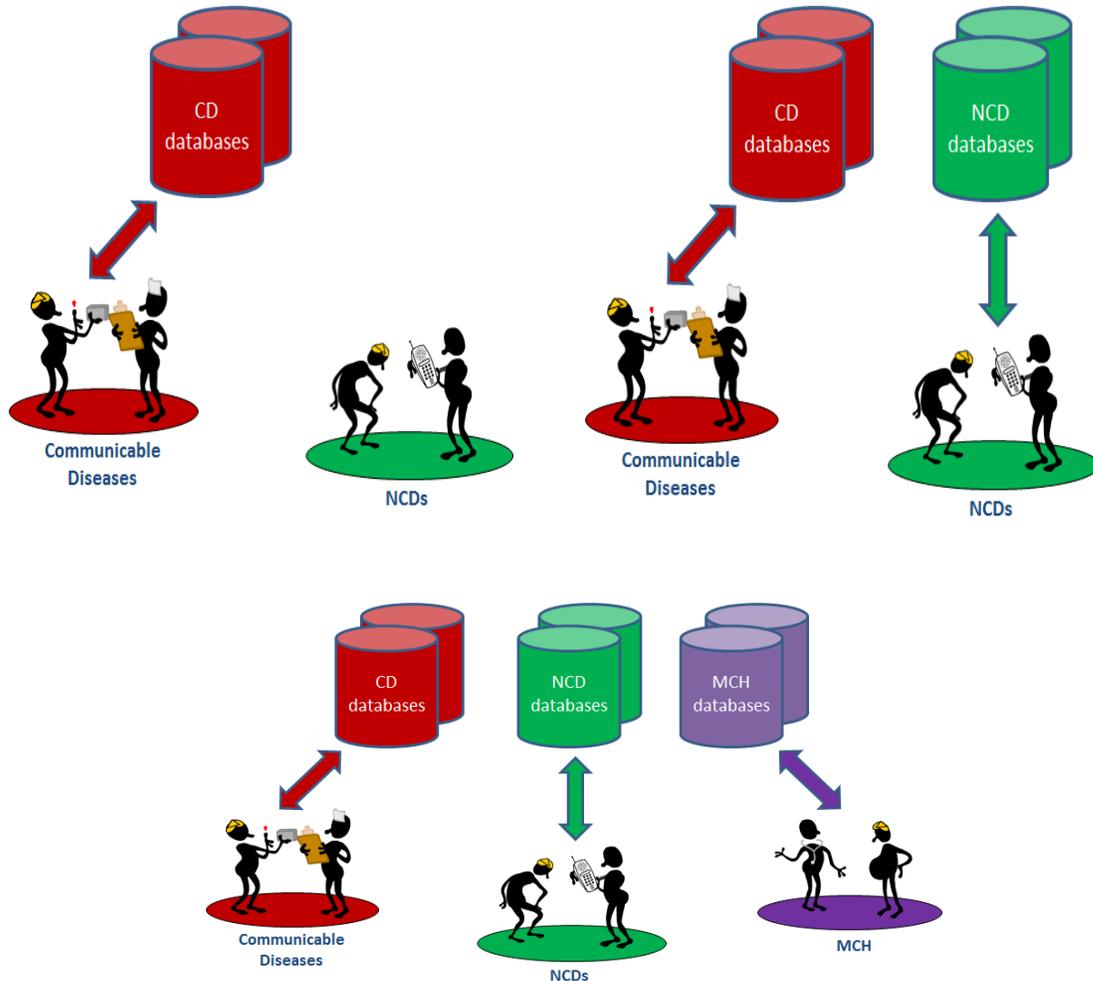


Services are provided within a care programme (e.g. Communicable Diseases) at a point of care...

...and information about these person-centric care services may be saved to a database...

There may be multiple systems saving person-centric care information to multiple databases.

# What does OpenHIE do? (...cont)

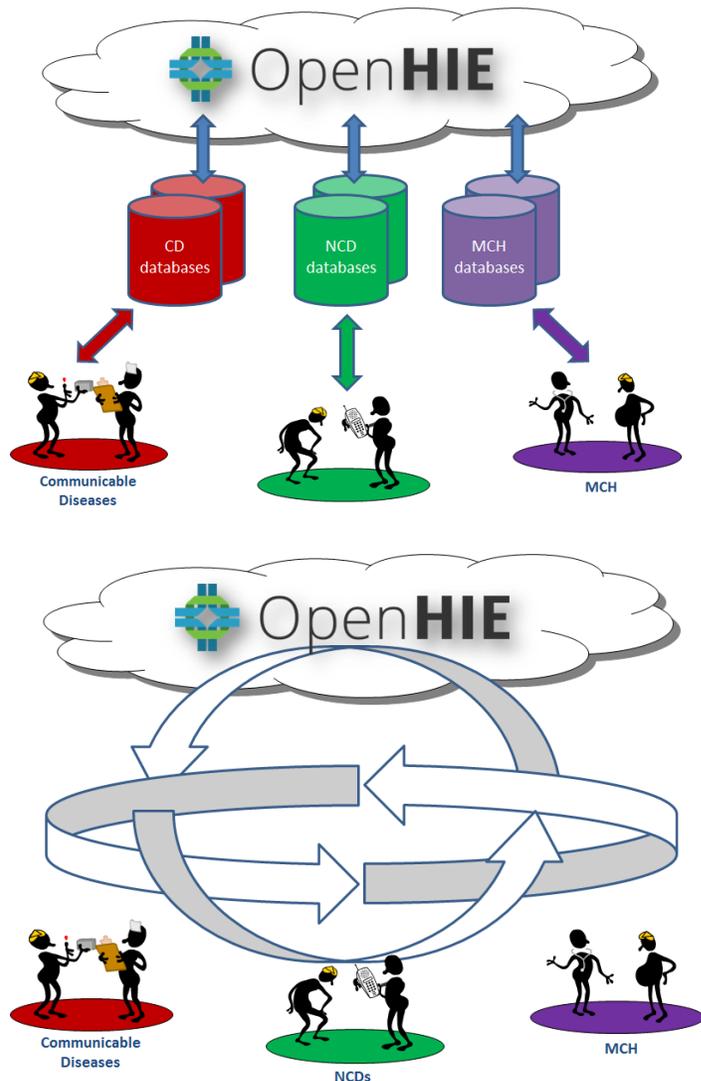


There may be other care programmes (e.g. NCDs)...

...with multiple points of service writing person-centric information to multiple databases...

As these databases proliferate we need a way to tell that this information is all pertaining to the same individual. We need to be able to tell that these episodes are all chapters in single patient's health story

# What does OpenHIE do? (...cont)



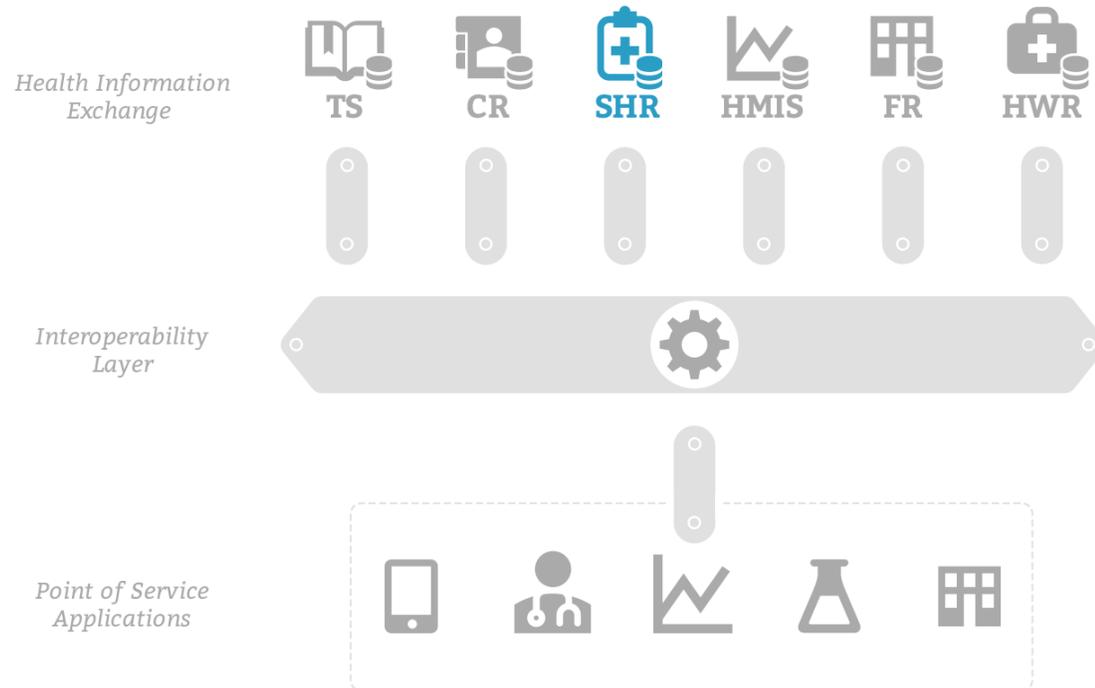
This is what OpenHIE does.

It connects the data silos.

OpenHIE is an architecture and a set of reference tools that can be deployed as a centrally hosted / cloud-based health information sharing service (in country or per project) that follows the golden thread of a patient's care over time and across different care sites.

OpenHIE gives care providers a way to communicate with each other as members of a care team.

# Shared Health Record



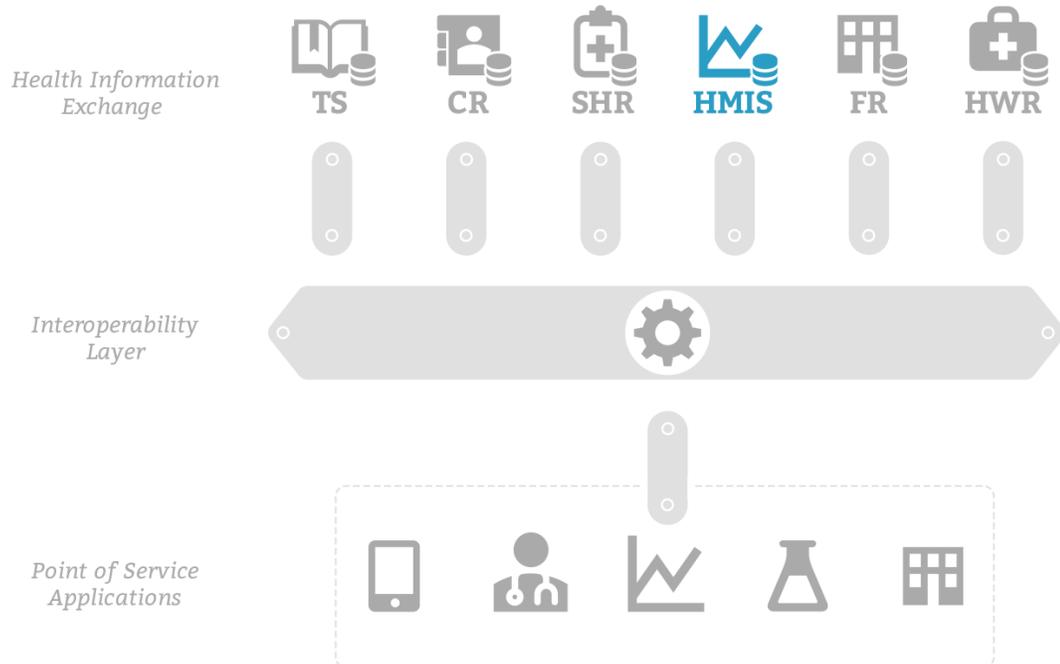
## What is a person's cumulative health history?

A Shared Health Record (SHR) enables the collection and storage of electronic health information about individual patients in a centralised repository which is capable of being shared across different healthcare settings.

# Health Management Information System

**What is the population's cumulative health history?**

The Health Management Information System (HMIS) component – stores and redistributes population level information normalized through the exchange.



# The District Health Information Software (DHIS2)

DHIS is an open source software platform for reporting, analysis and dissemination of data for all health programs, developed by the Health Information Systems Programme

began in post-Apartheid South Africa and is now a global open-source project coordinated by the HISP Centre at the University of Oslo (UiO)

used in more than 73 countries worldwide

DHIS2 is offered free of charge as a global public good



# WHO DHIS2-based entomology and vector control data collection and collation tools

DHIS2 standard modules support countries to improve the collection and use of entomological and vector control interventions data and its use to inform programmatic decisions.

- countries can:
- integrate entomological and vector control data with epidemiological data and other types of relevant data (e.g. climatological data, stock data);
- calculate standard entomological indicators automatically; and
- develop custom visualizations (tables, graphs and maps) and dashboard to inform specific needs.

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# Bahmni Hospital System



**OpenMRS** for electronic medical records and patient management



**OpenERP** for inventory, billing, financial accounting



**DICOM** and **PACS**



**OpenELIS** for laboratory management

# IMPLEMENTATIONS

- **500+ SITES**
- **50+ COUNTRIES**
- **4K+ USERS**
- **2M+ PATIENT RECORDS**



Products

Can be Sold x Products doesn't contain "BM" x Search...

Create Import

Filters Group By Favorites

241-320 / 782 < > [Grid Icon] [List Icon]

<input type="checkbox"/>	Internal Reference	Name	Sale Price	Cost	Internal Category	Product Type	Quantity On Hand	Forecasted Quantity	Actual Stock
<input type="checkbox"/>	+ DOMGAS01	DOMPERIDONE 10MG TAB * GASTRACTIVE	1.00	0.00	All / Saleable / Drugs / Tablet	Stockable Product	5,000.000	5,000.000	5,000
<input type="checkbox"/>	+ DOXY02DOXY01	DOXYCYCLINE 100 MG CAP * LCS	1.00	0.00	All / Saleable / Drugs / Capsule	Stockable Product	5,000.000	5,000.000	5,000
<input type="checkbox"/>	+ DOXI01DOXI01	DOXYLAMINE / PYRIDOXINE TAB * DOXINATE	1.00	0.00	All / Saleable / Drugs / Tablet	Stockable Product	5,000.000	5,000.000	5,000
<input type="checkbox"/>	+ ELAST02GOLSX	Elastic Adhesive Bandage 10Cm	1.00	0.00	All / Saleable / Consumable	Stockable Product	0.000	0.000	0
<input type="checkbox"/>	+ BSNLEUBA01	Elastic Adhesive Bandage 10Cm	1.00	0.00	All / Saleable / Consumable	Stockable Product	0.000	0.000	0
<input type="checkbox"/>	+ BSNLEUBA02	Elastic Adhesive Bandage 8Cm	1.00	0.00	All / Saleable / Consumable	Stockable Product	5,000.000	5,000.000	5,000
<input type="checkbox"/>	+ ELAS07ELAS	Elastic Adhs Bandage 8Cm	1.00	0.00	All / Saleable / Consumable	Stockable Product	5,000.000	5,000.000	5,000
<input type="checkbox"/>	+ 12558	Elastography	900.00	0.00	All / Services / Radiology	Service	0.000	0.000	0
<input type="checkbox"/>	+ SERR05EMAN01	EMANZEN D TAB *DICLOFENAC 50MG/ 10MG	1.00	0.00	All / Saleable / Drugs / Tablet	Stockable Product	5,000.000	5,000.000	5,000
<input type="checkbox"/>	+ NURI01NURI02	ENALAPRIL 5MG TAB * ENVAS	1.00	0.00	All / Saleable / Drugs / Tablet	Stockable Product	5,000.000	5,000.000	5,000

- Dashboard
- Sales
  - Customers
  - Quotations
  - Sales Orders
  - Products
- Invoicing
  - Sales to Invoice
  - Orders to Upsell
- Reports
  - Sales
- Configuration
  - Settings
  - Pricelists
  - Sales Teams
  - Order Types
  - Syncable Units
  - Order Type - Shop map...
  - Shop



### Stock Moves

[Create](#) or [Import](#)

1-46 of 46

Receive/Deliver By Orders

- Incoming Shipments
- Internal Moves
- Delivery Orders

Receive/Deliver Products

- Incoming Products
- Deliver Products

Traceability

- Serial Number
- Stock Moves**

Serial Number By Location

- Products By Last Moved

Inventory Control

- Location Structure
- Physical Inventories

Schedulers

- Run Schedulers
- Procurement Exceptions

Products

- Products by Category
- Products

Configuration

- Warehouses
- Locations
- Reordering Rules
- Unit of Measure Catego...
- Units of Measure

Warehouse Management

- Products

S.No.	Description	Reference	Source	Shipping Type	Product	Quantity	Unit of Measure	Serial Number	Source Location	Destination Location	Date	Move Date	Status
1	Lajvanti Panchang 50gm (Ayurvedic)	OUT/00001	SO001	Sending Goods	Lajvanti Panchang 50gm (Ayurvedic)	50.000	Unit(s)		Stock	Customers	10/25/2015 00:51:33	09/29/2014 05:30:00	Done
2	[PCM] Paracetamol 2ml (Injection)	OUT/00001	SO001	Sending Goods	[PCM] Paracetamol 2ml (Injection)	10.000	Unit(s)		Stock	Customers	10/25/2015 00:51:34	09/29/2014 05:30:00	Done
3	[BC] B-Complex (Tablet)	OUT/00001	SO001	Sending Goods	[BC] B-Complex (Tablet)	3650.000	Unit(s)		Stock	Customers	10/06/2014 05:30:00	09/29/2014 05:30:00	Available
4	Chana (Food Supplement)	OUT/00002	SO002	Sending Goods	Chana (Food Supplement)	50.000	Unit(s)		Stock	Customers	10/25/2015 00:51:36	09/30/2014 05:30:00	Done
5	[BC] B-Complex (Tablet)	OUT/00002	SO002	Sending Goods	[BC] B-Complex (Tablet)	50.000	Unit(s)		Stock	Customers	10/25/2015 00:51:48	09/30/2014 05:30:00	Done
6	[Betadine] Povidine 15g (Ointment)	OUT/00002	SO002	Sending Goods	[Betadine] Povidine 15g (Ointment)	25.000	Unit(s)		Stock	Customers	10/25/2015 00:51:44	09/30/2014 05:30:00	Done
7	[Beclate] Beclomethasone (Syrup)	OUT/00002	SO002	Sending Goods	[Beclate] Beclomethasone (Syrup)	8212.500	Bottle of 5ltr.		Stock	Customers	10/07/2014 05:30:00	09/30/2014 05:30:00	Waiting Availability
8	[candid] Clotrimazole+Lignocaine Ear Drop (Drops)	OUT/00003	SO003	Sending Goods	[candid] Clotrimazole+Lignocaine Ear Drop (Drops)	3650.000	Unit(s)		Stock	Customers	10/10/2014 05:30:00	10/03/2014 05:30:00	Available
9	[Eumosone] Clobetasone 15g (Cream)	OUT/00003	SO003	Sending Goods	[Eumosone] Clobetasone 15g (Cream)	3650.000	Unit(s)		Stock	Customers	10/25/2015 00:51:27	10/03/2014 05:30:00	Done
10	[Metrogyl] Metronidazole 20g (Gel)	OUT/00003	SO003	Sending Goods	[Metrogyl] Metronidazole 20g (Gel)	3650.000	Unit(s)		Stock	Customers	10/10/2014 05:30:00	10/03/2014 05:30:00	Available
11	[XYLOCAINE] Lignocaine Hydrochloride Jelly 2% (Jelly)	OUT/00003	SO003	Sending Goods	[XYLOCAINE] Lignocaine Hydrochloride Jelly 2% (Jelly)	3650.000	Unit(s)		Stock	Customers	10/10/2014 05:30:00	10/03/2014 05:30:00	Available
12	[ICRC] Salbutamol inhaler (Inhaler)	OUT/00003	SO003	Sending Goods	[ICRC] Salbutamol inhaler (Inhaler)	7300.000	Unit(s)		Stock	Customers	10/10/2014 05:30:00	10/03/2014 05:30:00	Available
13	[Ipravent] Ipratropium Bromide Respirator Solution 15ml (Solution)	OUT/00003	SO003	Sending Goods	[Ipravent] Ipratropium Bromide Respirator Solution 15ml (Solution)	20075.000	Unit(s)		Stock	Customers	10/10/2014 05:30:00	10/03/2014 05:30:00	Available
14	[Camical] Sodium Thiosulphate Camical 500gm (Powder)	OUT/00003	SO003	Sending Goods	[Camical] Sodium Thiosulphate Camical 500gm (Powder)	38325.000	Bottle of 500g		Stock	Customers	10/10/2014 05:30:00	10/03/2014 05:30:00	Available
15	Placentex 60ml (Lotion)	OUT/00003	SO003	Sending Goods	Placentex 60ml (Lotion)	10950.000	Unit(s)		Stock	Customers	10/10/2014 05:30:00	10/03/2014 05:30:00	Available
16	[ICRC, PCM] Paracetamol 120mg/5ml (Syrup)	OUT/00003	SO003	Sending Goods	[ICRC, PCM] Paracetamol 120mg/5ml (Syrup)	20075.000	Unit(s)		Stock	Customers	10/10/2014 05:30:00	10/03/2014 05:30:00	Available

Stock Movement

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