Infor-what-ics?

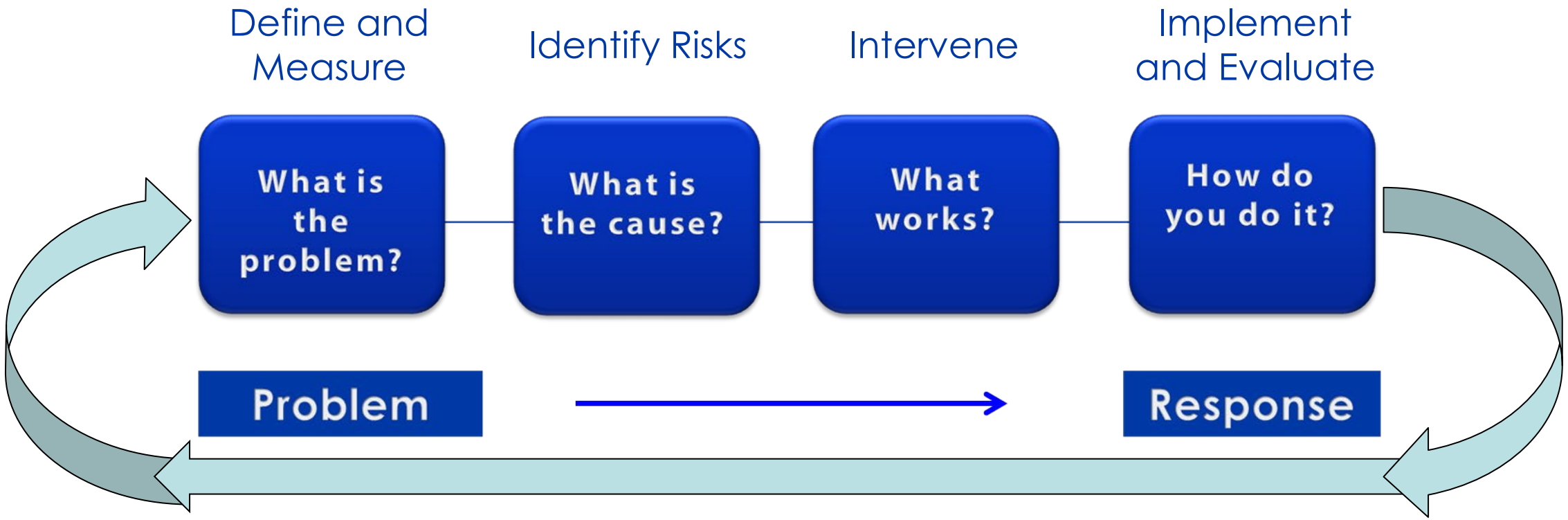
A primer for public health practitioners

ACUTE & COMMUNICABLE DISEASE PREVENTION
Public Health Division

To take the "ick" out of informatics…

- **Define** informatics and its key terms
- Share **three metaphors** to talk about informatics
- Highlight **informatics activities** at the state and local level
- Learn more and **stay engaged**!

The Public Health Approach

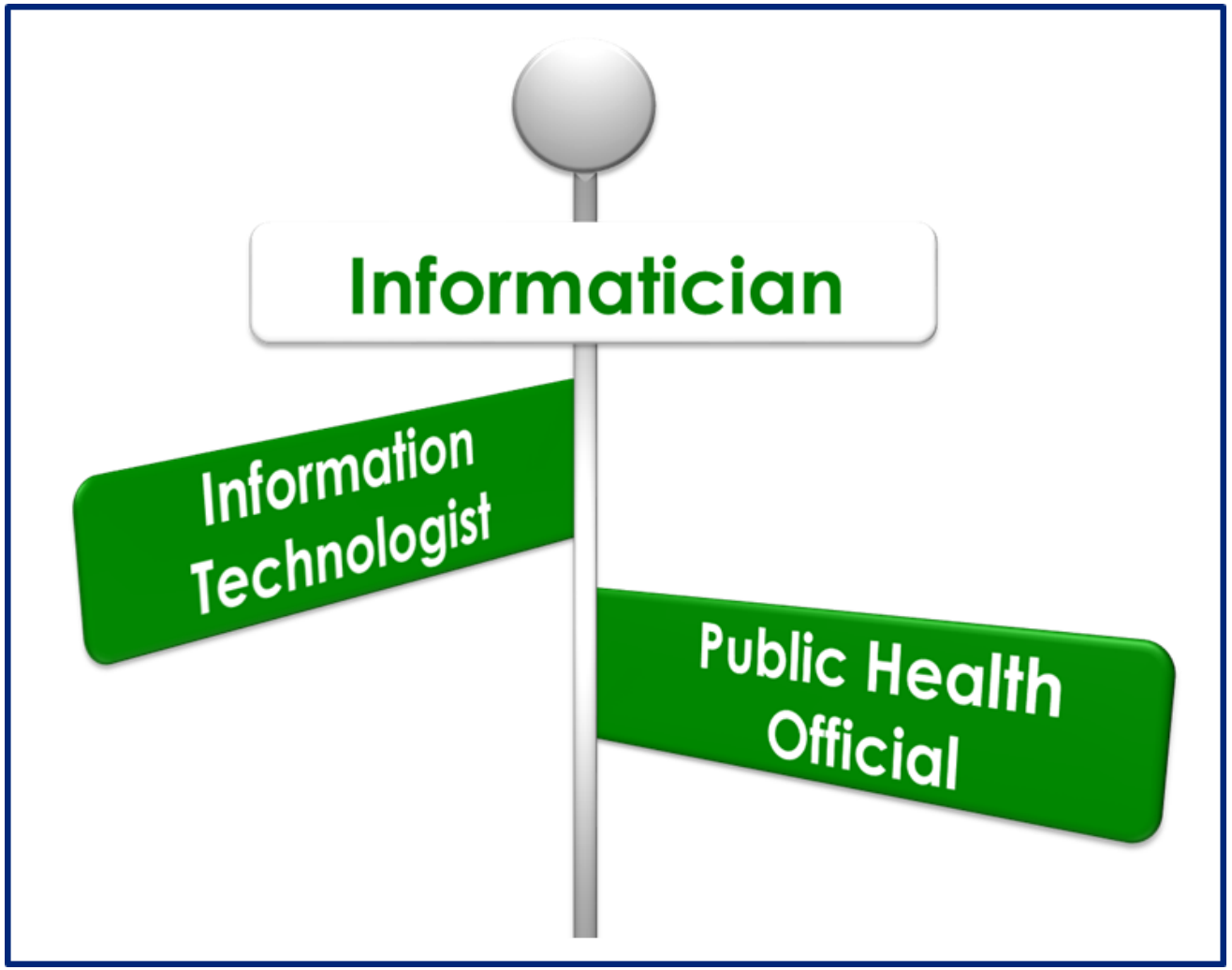


Infor-WHAT-ics??

"Public health informatics is the systematic application of information, computer science, and technology to public health practice, research, and learning."

Yasnoff WA, O'Carroll PW, Koo D, Linkins RW, Kilbourne EM. Public health informatics: improving and transforming public health in the information age. J Public Health Manag Pract 2000;6:67–75.
Riegelman R, ed. Public health 101: healthy people—healthy populations. Sudbury, MA: Jones & Bartlett Learning; 2010: 40.

Informaticians

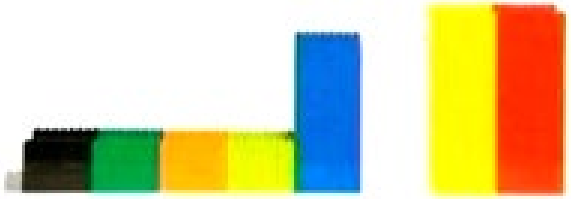


Collect

Parse

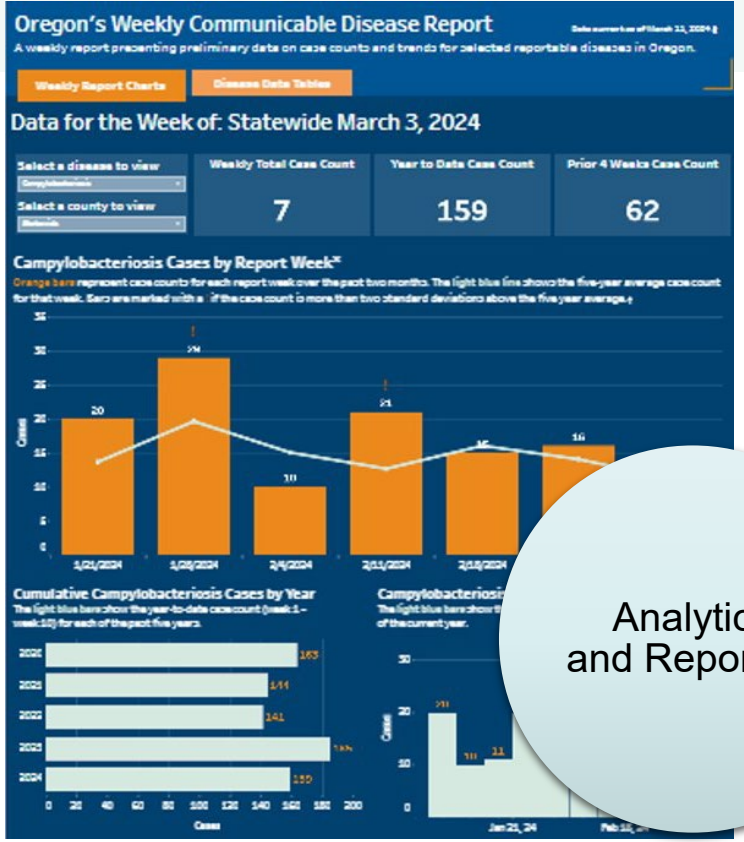
Prepare

Provision



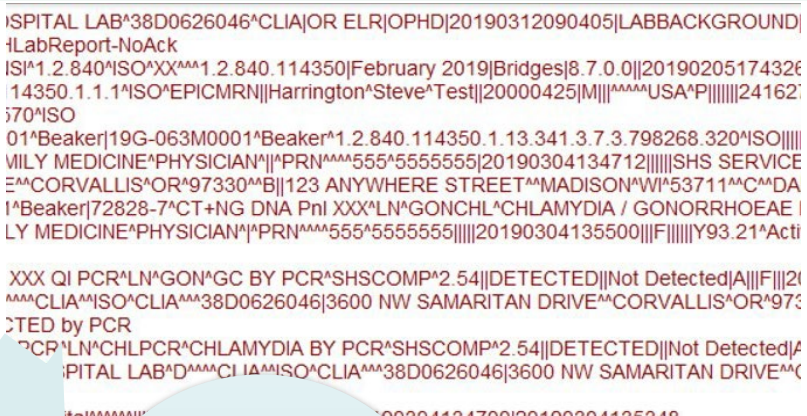
Analyze, Interpret, and Explain

Share and Make Use

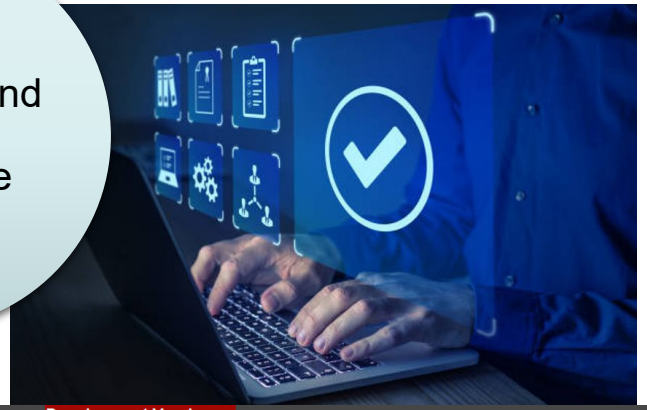


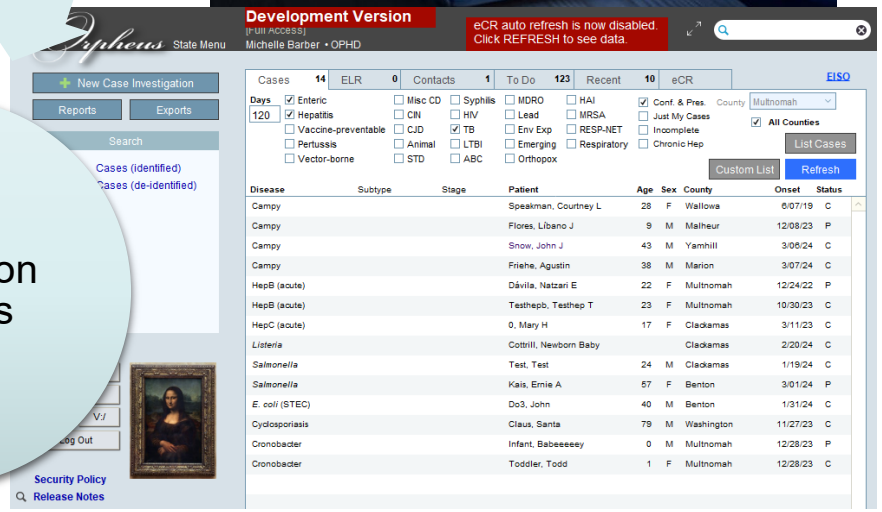
Analytics and Reporting

Vocabulary and Standards



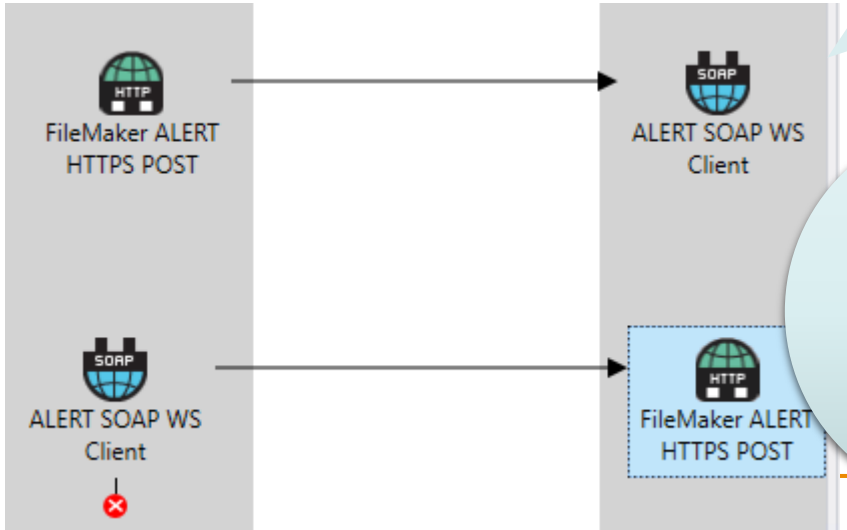
Validation and Quality Assurance





Information Systems

Interoperability

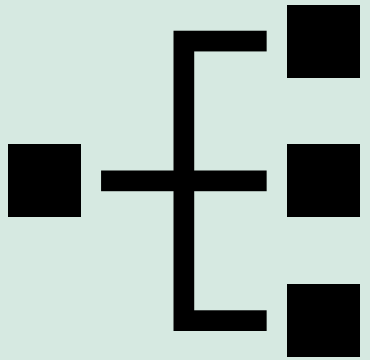


Public Health...

- ***Informatics*** is the effective use of information and technology to improve population health outcomes.
- ***Informaticians*** are people with knowledge, skills, and expertise of both public health practice and information technology.
- ***Informatics Savvy Organizations*** are those that have a competent and skilled informatics workforce, a vision and strategy for how to use information and technology to improve population health, and effectively uses well-designed systems to achieve their mission.

Oregon Health Authority

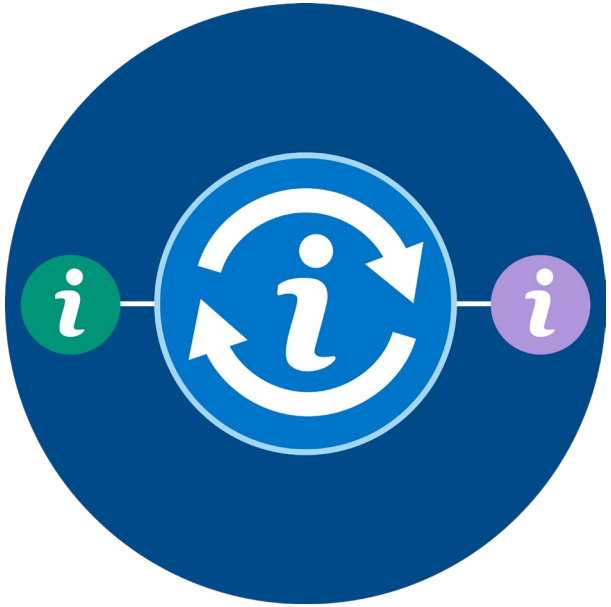
Reframing approach



Public Health Informatics Metaphors

Public Health
Data Logistics

Public Health
Knowledge
Architects



Public Health
Information
Translation

FRAME WORKS

Public Health Informatics:

Data Logistics

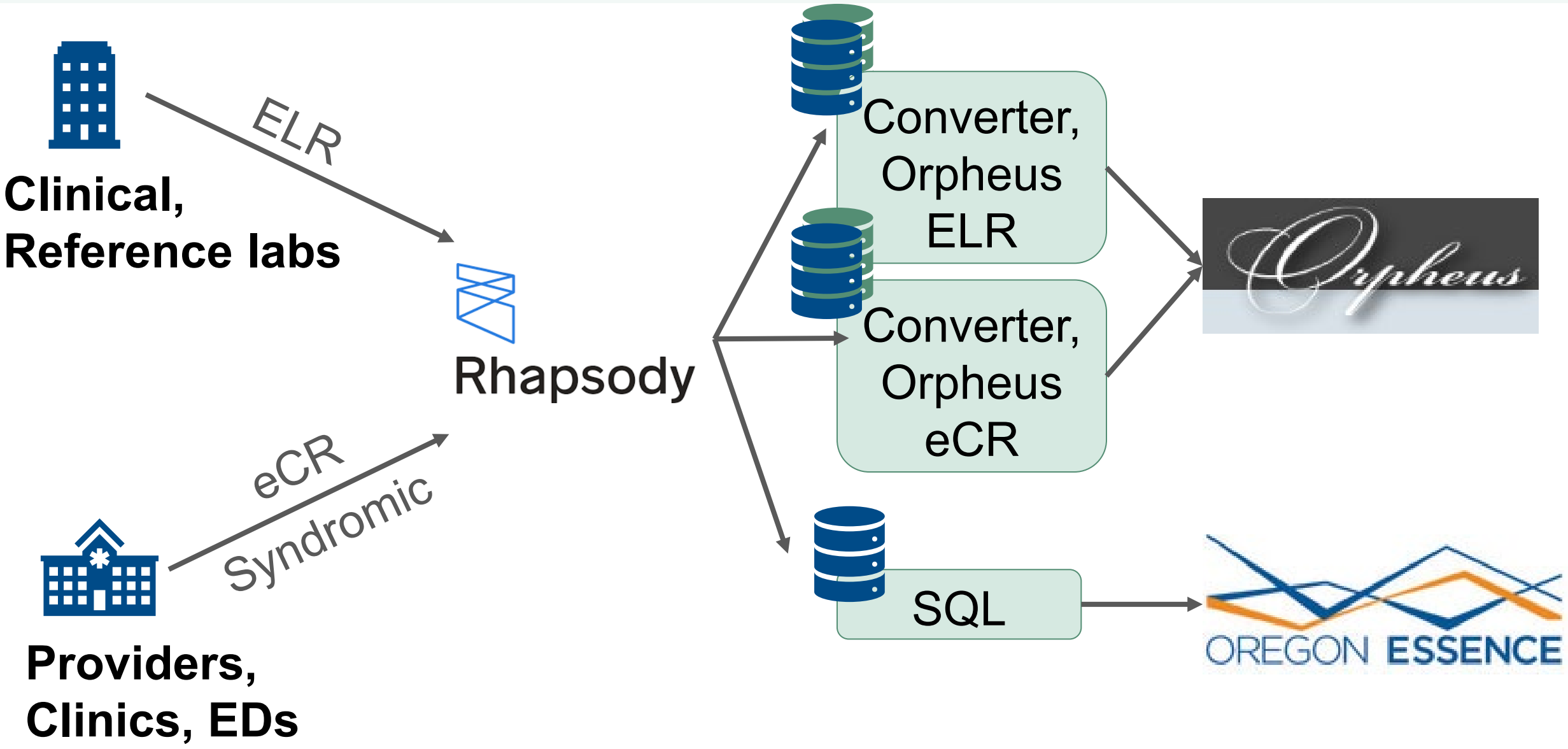
Data in… data out. What's in the box?

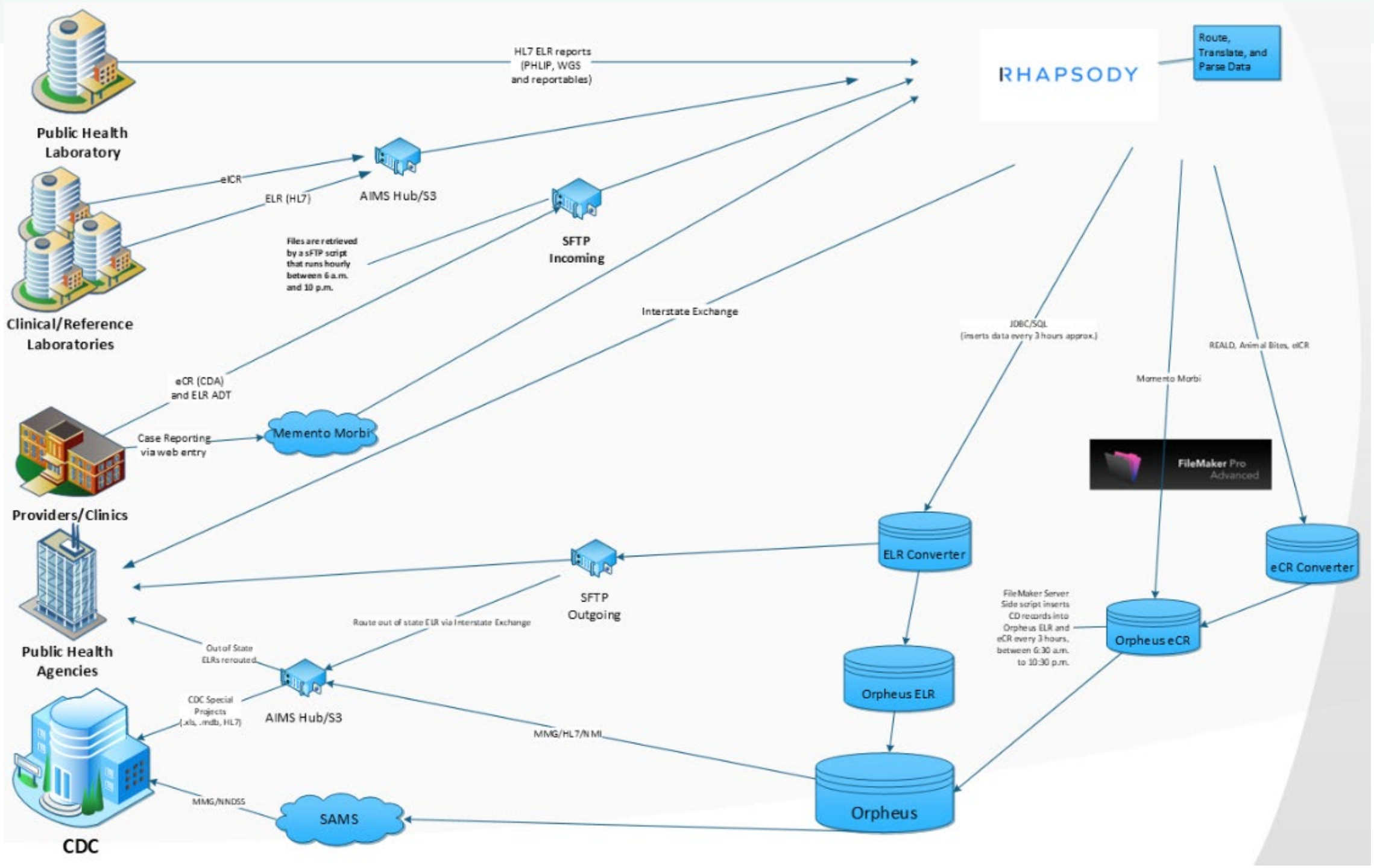
Data In

- Reportable conditions
  - Labs
  - Providers
- Syndromic surveillance
  - EDs, urgent care

Data out

- Local, Tribal PH
- CDC
- Public


ELR
Clinical,
Reference labs
Rhapsody
Converter,
Orpheus
ELR
Converter,
Orpheus
eCR
Orpheus
eCR
Syndromic
Providers,
Clinics, EDs
SQL
OREGON ESSENCE


Public Health Laboratory
HL7 ELR reports (PHLIP, WGS and reportables)
RHAPSODY
Route, Translate, and Parse Data
eICR
ELR (HL7)
AIMS Hub/S3
SFTP Incoming
Files are retrieved by a sFTP script that runs hourly between 6 a.m. and 10 p.m.
Clinical/Reference Laboratories
Interstate Exchange
JDBC/SQL (inserts data every 3 hours approx.)
REALD, Animal Bites, eICR
Momento Morbi
eCR (CDA) and ELR ADT
Case Reporting via web entry
Memento Morbi
FileMaker Pro Advanced
Providers/Clinics
ELR Converter
eCR Converter
SFTP Outgoing
Route out of state ELR via Interstate Exchange
FileMaker Server Side script inserts CD records into Orpheus ELR and eCR every 3 hours, between 6:30 a.m. to 10:30 p.m.
Orpheus eCR
Public Health Agencies
Out of State ELRs rerouted
Orpheus ELR
CDC Special Projects (.xls, .mdb, HL7)
AIMS Hub/S3
MMG/HL7/NMI
MMG/NNDSS
SAMS
Orpheus
CDC

Public Health Data Logistics

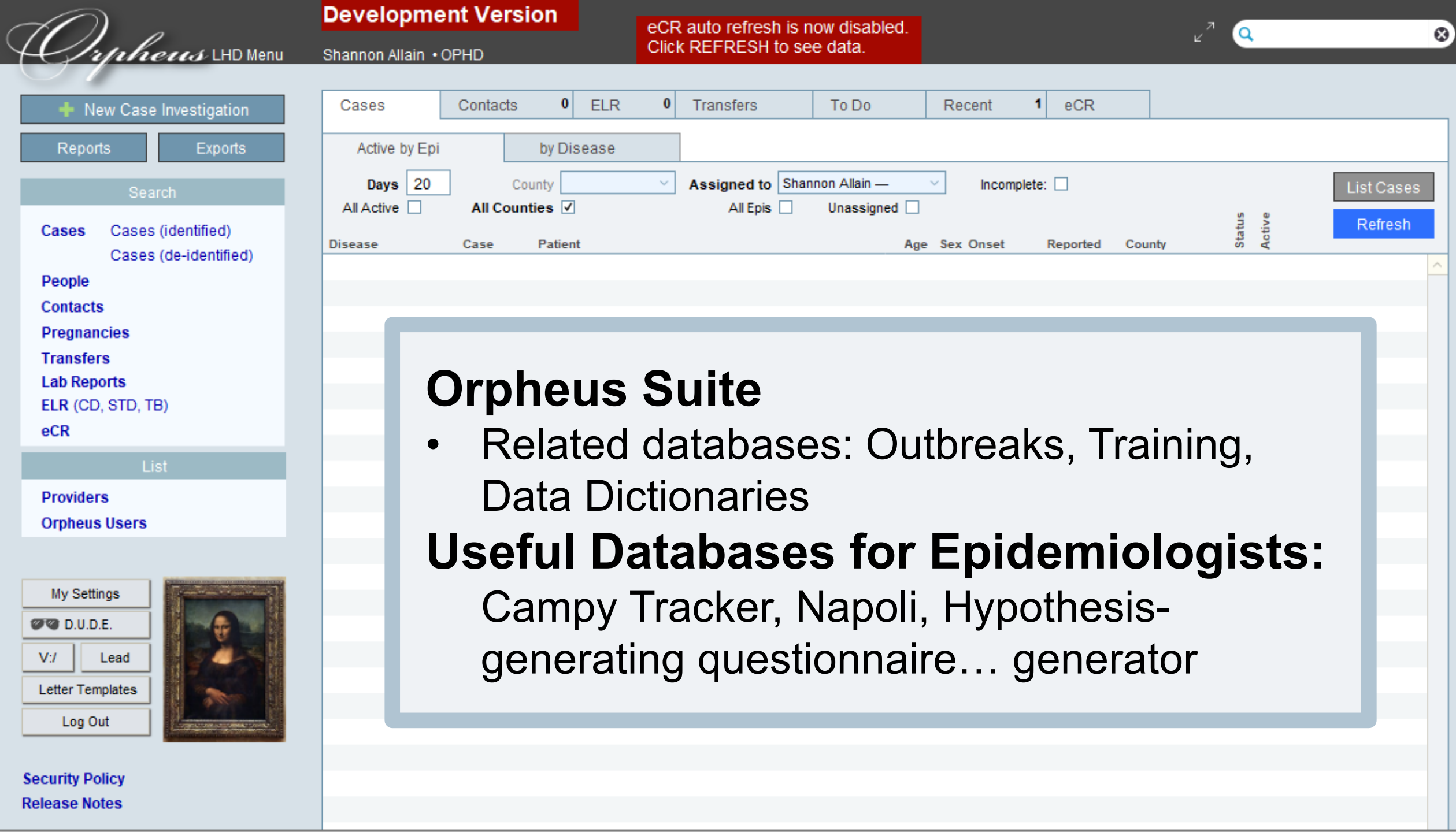
The metaphor **reframes the Black Box of ingestion, ETL**

Informaticians design the complex systems that ensure people get the public health data “packages” they need, quickly and efficiently using:

- **Standard** packages and routes
- Inspecting, **repackaging**, forwarding
- Working with senders to **improve**

Public Health Informatics:

Knowledge Architects


Orpheus LHD Menu
Development Version
Shannon Allain • OPHD
eCR auto refresh is now disabled.
Click REFRESH to see data.
New Case Investigation
Reports
Exports
Search
Cases
Cases (identified)
Cases (de-identified)
People
Contacts
Pregnancies
Transfers
Lab Reports
ELR (CD, STD, TB)
eCR
List
Providers
Orpheus Users
My Settings
D.U.D.E.
V:/
Lead
Letter Templates
Log Out
Security Policy
Release Notes
Cases
Contacts 0
ELR 0
Transfers
To Do
Recent 1
eCR
Active by Epi
by Disease
Days 20
County
Assigned to Shannon Allain —
Incomplete:
All Active
All Counties
All Epis
Unassigned
List Cases
Refresh
Disease
Case
Patient
Age
Sex
Onset
Reported
County
Status
Active
Orpheus Suite
• Related databases: Outbreaks, Training, Data Dictionaries
Useful Databases for Epidemiologists:
Campy Tracker, Napoli, Hypothesis-generating questionnaire… generator

OR-Epi Health Informatics: Regional Data Mart

Creating Infrastructure to pursue Data Modernization

Rwayda Hassan
Marcus Kwong

Public Health Knowledge Architects

This metaphor affirms the need for **the person, not just the tool**

Data systems are built by people who understand:

- The **needs of the people** who will use them
- How to **connect** to existing infrastructure
- What's required to ensure **security**

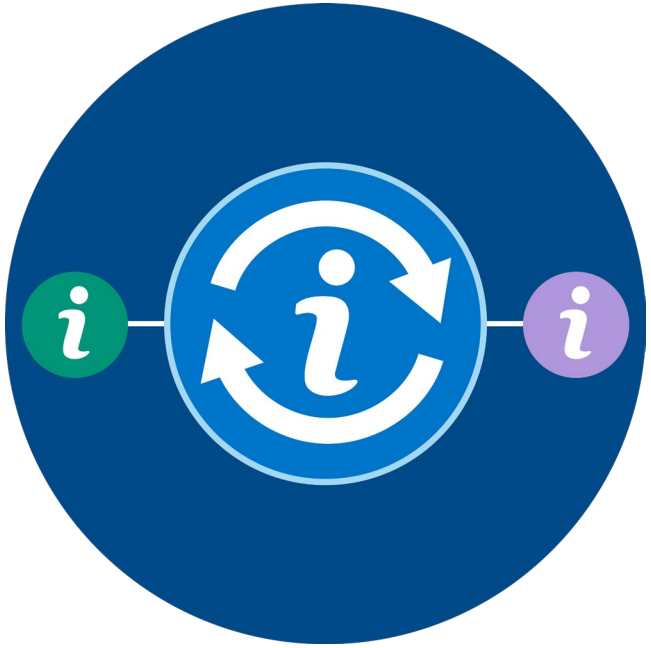
Public Health Informatics:

Information Translation

RAID Data Science Team

Washington County Public Health

Healthy People, Thriving Communities



Public Health Information Translation

This metaphor:

- Emphasizes **communication**
- **Data ≠ information**

Informaticians work with data users – analysts, epis, data scientists, public – to build systems, select the right data and tools to gain insights.

Informatics can mean many things

- Working with data senders to set up new feeds
- Building processes to route data appropriately

- Working with users to define requirements
- Designing, building refining databases

- Developing actionable reports, data stories
- Enabling data-driven public health intervention

Stay Engaged!

Engage with the Rule Makers

HealthIT.gov

TOPICS BLOG NEWS DATA ABOUT ONC

HealthIT.gov > Topics > Interoperability > **Policy**

Policy

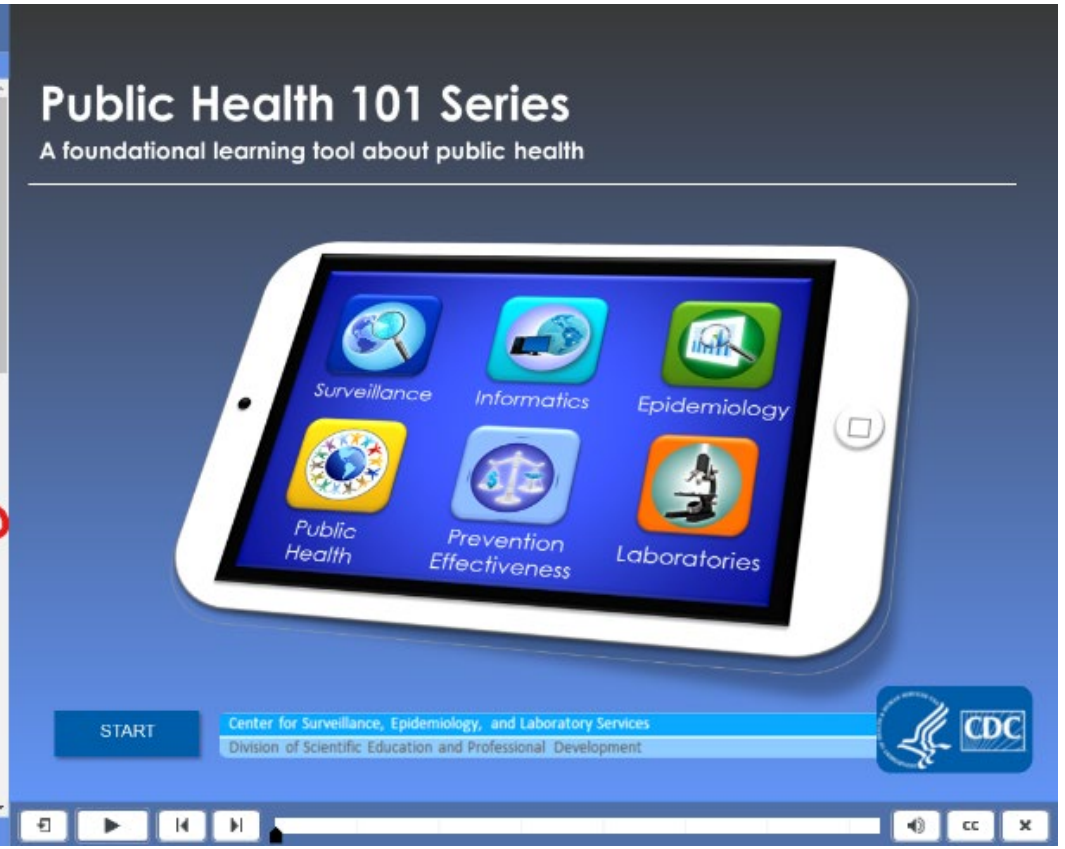
- **Interoperability**
  - **Policy**
    - TEFCA
    - Information Blocking
    - Interoperability 2030
    - Advancing Interoperability with Medicaid

Trusted Exchange Framework and Common Agreement

TEFCA

The Trusted Exchange Framework and Common Agreement℠ (TEFCA℠) fulfills a critical requirement of the Cures Act. ONC received more than 100 comments during the public comment period from a wide range of stakeholders.

Explore CDC's Initiatives



Oregon Health Authority

Engage with the Standards Setters

Helios FHIR Accelerator for Public Health Home

Created by Joshua Procious, last modified by Craig Newman on Feb 06, 2024

About Helios

The Helios FHIR Accelerator is an alliance of Government, Private Sector, and Philanthropic partners that aims to ensure public health needs are at the forefront as the FHIR standard evolves and is implemented nationwide. Helios focuses on extending and adopting existing HL7 specifications in ways that are scalable, adaptable, sustainable, and suitable for public health. Participants in Helios provide the resources and technical support needed for public health practitioners and their trading partners to develop, test, and adopt more efficient, FHIR-based ways of accessing and exchanging data nationwide. Membership is open to state, tribal, local, territorial and Federal Public Health agencies, private sector partners and other groups interested in the equitable and effective use of data for the advancement of public health.

HELIOS

The Foundations of Helios

Helios is helping public health to align with and benefit from the widespread standardization and transformation that is happening around digital health data. The Accelerator operates with three major goals in mind.

Focus on Impact

Prioritize use cases that complement what exists today and that will have an impact in their communities

Multi-Sector Alliance

Create diverse teams to work together to tackle challenges and explore new opportunities to advance interoperability

Align Efforts

Align with current FHIR activities to promote more flexible and effective data in public health and beyond

Helios operates on 3 basic principles

Desirability

Helios activities exist to address a pressing public health need for improved data interoperability.

Feasibility

Helios activities align with public health priority and are inline with the resources available to public health programs.

Compatibility

Helios activities build off the existing foundation of FHIR interoperability being implemented across the healthcare landscape.

Engage with Professional Organizations

CSTE

COVID-19 | Members | Resources | Committees | Fellowships & Training | Policy | About

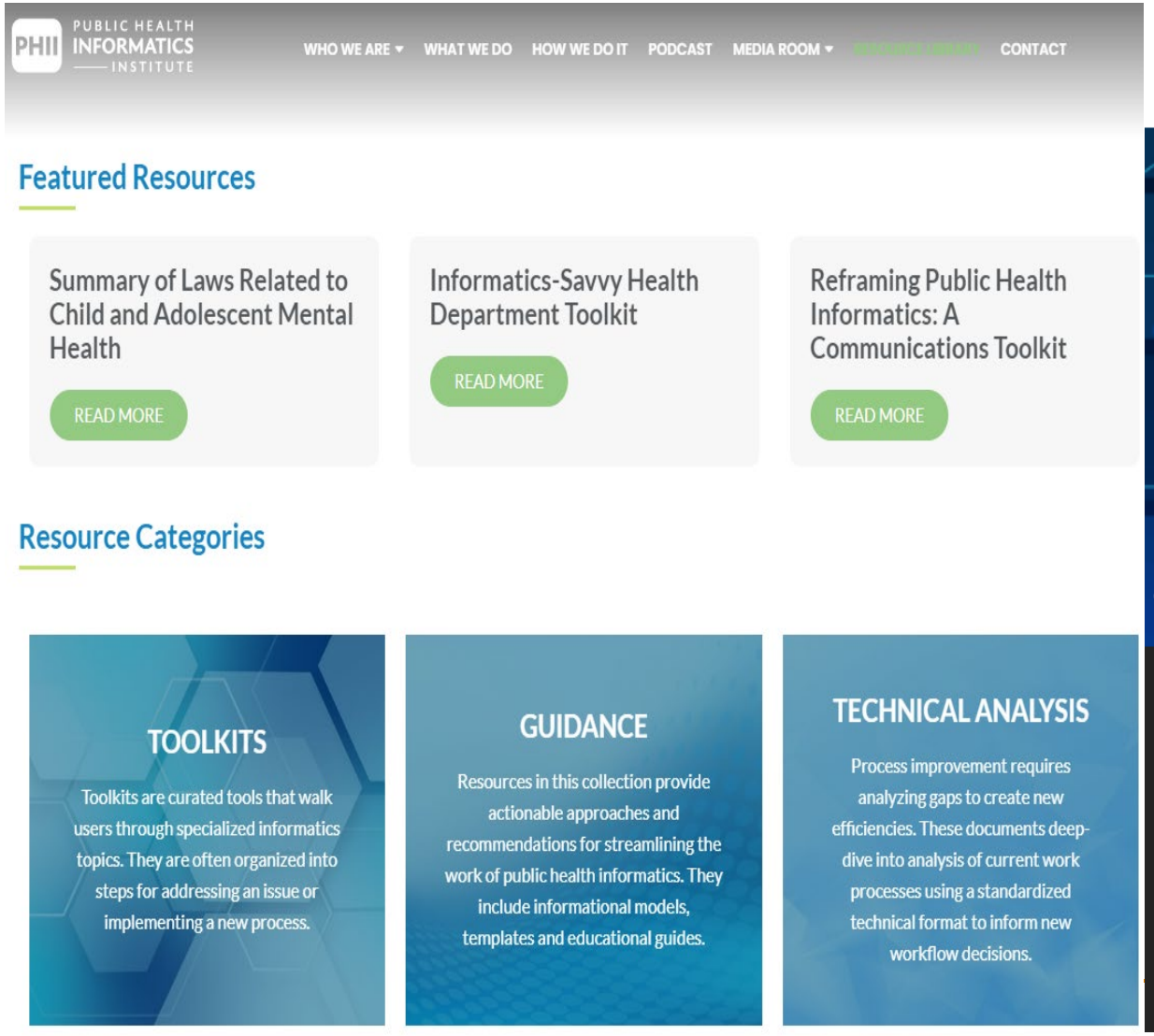
Data: Elemental to Health

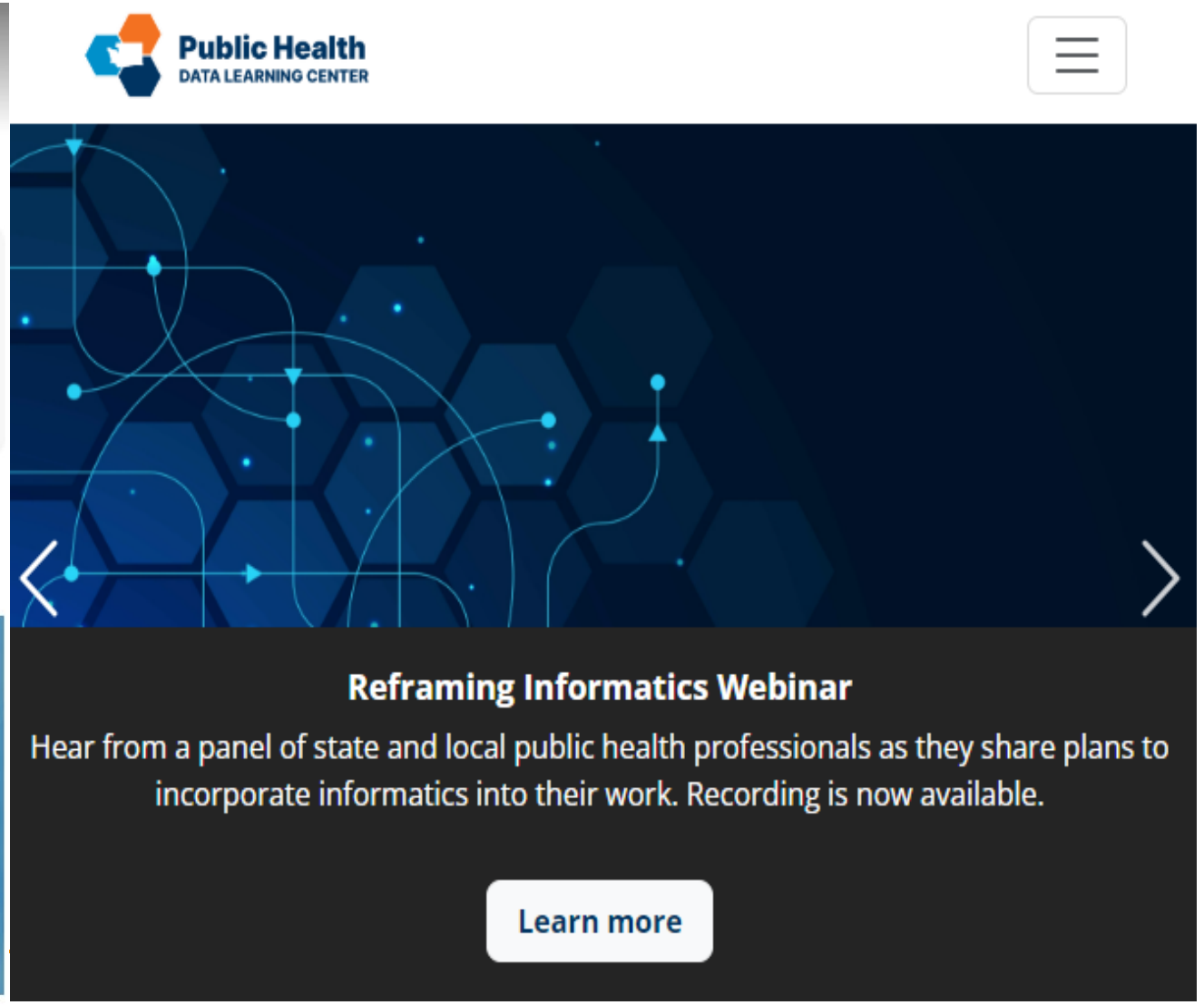
APHL | astho | CSTE | HIMSS | NACCHO | naphsis

Data
Da

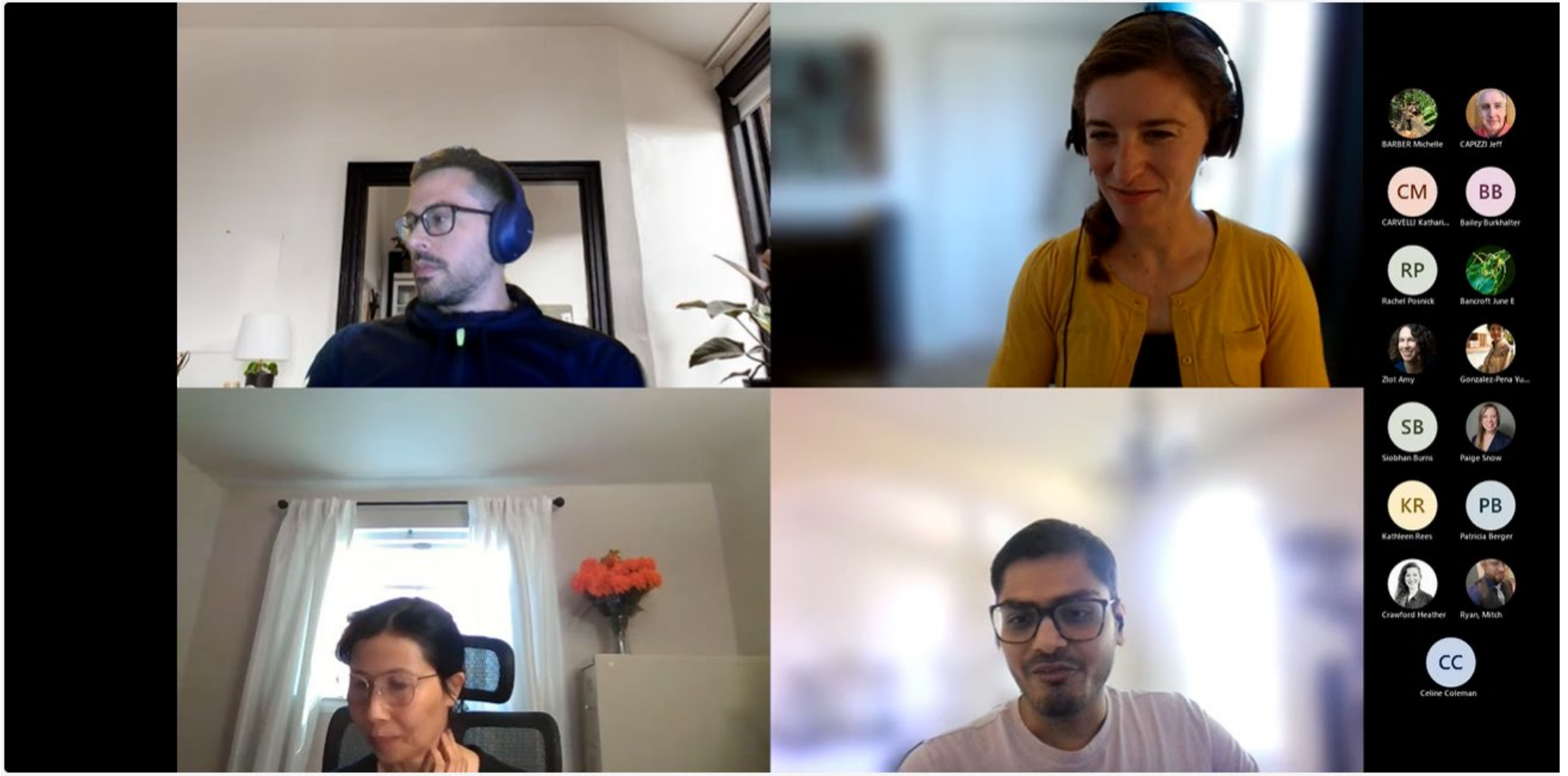
- DMI Stories from the Field
- Data Modernization Background
- Congressional Testimony
- Communications

Explore Online Training Resources





Collaborate with OPHD!



Orpheus|Opera Data Advisory Group

Oregon Health Authority

Let’s connect!

ACDP.Informatics@odhsoha.oregon.gov

- **Shannon Allain**, Lead Data Visualization Informaticist
- **Michelle Barber**, Informatics Manager

Links: Training

- Public Health Informatics Institute's **Designing and Managing Public Health Information Systems: 8 Steps to Success**

- **Public Health Data Learning Center** from Washington State Department of Health and Northwest Center for Public Health Practice
  - CDC's **Public Health 101 Series – Introduction to Public Health Informatics**

Links: Resources

- Reframing Public Health Informatics: A FrameWorks Communications Toolkit

- **Public Health Informatics Institute**
  - Self-Assessment Tools
  - Communications Toolkit, cross-posted from FrameWorks

Links: Rule Makers, Standards

- The Office of the National Coordinator for Health Information Technology (ONC)
  - United States Core Data for Interoperability (USCDI)
  - Trusted Exchange Framework and Common Agreement (TEFCA)

- HL7
  - HL7 FHIR ACCELERATOR™ Program
  - Helios FHIR Accelerator for Public Health
  - MedMorph

Links: CDC, Professional Organizations

- **CDC**
  - Data Modernization Initiative (DMI)
    - North Star Architecture
  - Public Health Data Strategy

- **CSTE**
  - Data Modernization Initiative – Stories from the Field
  - Data Science Team Training
  - Applied Public Health Informatics Fellowship

- NACCHO
- ASTHO
- APHL