



CABINET FOR HEALTH
AND FAMILY SERVICES

Empowering Public Health Response: **A Path Towards Harnessing the Power of Big Data Through HIE**

Speaker Information



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[@KentuckyHIE](#)

Agenda

01 Provide an Overview of KHIE

02 Public Health Reporting Spotlights

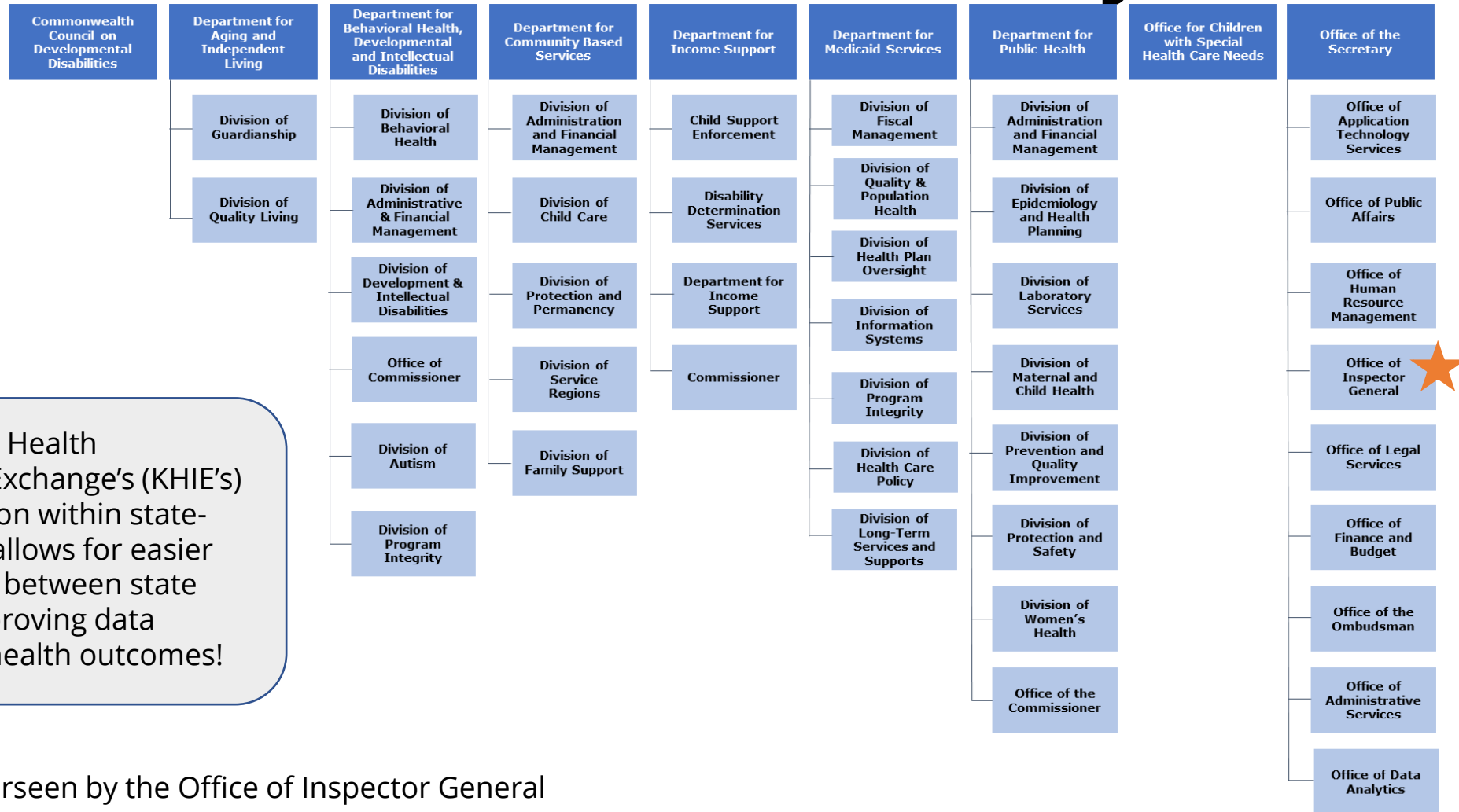
03 Next Steps

Kentucky Fun Facts

- One of four states that are considered “Commonwealths”
- There are more than 2x the amount of bourbon barrels (11M) than people (4.5M)
- The Chevrolet Corvette is only made in Bowling Green, Kentucky
- Home to the largest elk herd East of the Mississippi River
- Kentucky is home to the manufacturer of the official baseball bat of Major League Baseball, the Louisville Slugger. The largest baseball bat in the world is at the Louisville Slugger headquarters and stands 120 feet high and weighs 68,000 pounds



Cabinet for Health and Family Services



The Kentucky Health Information Exchange's (KHIE's) unique position within state-government allows for easier collaboration between state agencies, improving data sharing and health outcomes!

★ KHIE is overseen by the Office of Inspector General

Health Information Exchange

HIE Definition

A Health Information Exchange (HIE) is a **hub** which allows relevant parties to **share information electronically**.

All Electronic Health Records (EHRs) connected to a HIE can (if permitted) **receive/send information between the EHR and the HIE**. For example, a provider can send and receive electronic information with any community provider which is connected to the HIE.

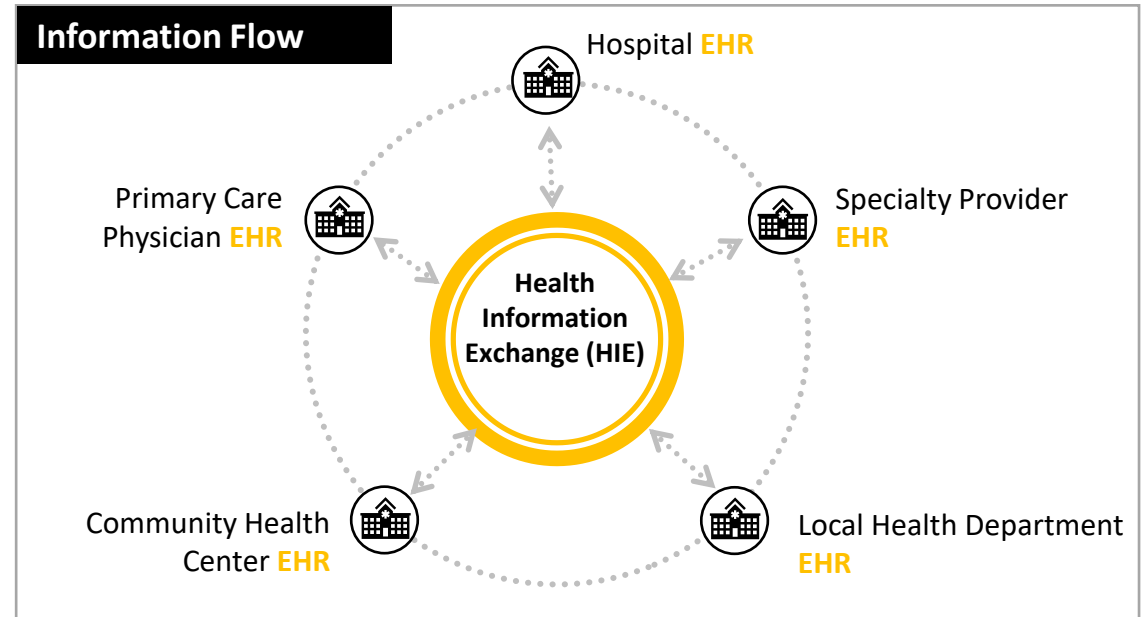
In our national journey to transform healthcare, **HIE is part of a federal EHR Meaningful Use (MU) standard**. The idea is that all community providers (public health, private clinics, hospitals etc.) will connect their EHR to HIE.

Without HIEs, no EHR can be interoperable.

Note: State Designated Entities (SDEs) oversee HIEs. Types of SDEs include:

- State government directly runs the HIE via an existing agency
- An organization is created to manage and operate the HIE
- State government contracts HIE capabilities to an existing HIO(s)

Information Flow



Benefits of HIEs

1. Save time by avoiding re-admissions
2. Get away from dealing with paper and faxes
3. Save money by avoiding duplicate testing
4. Improve diagnoses
5. Potentially save lives by avoiding medication errors
6. Improve public health
7. Compliant with CMS Interoperability Guidelines

Kentucky Health Information Exchange

KHIE

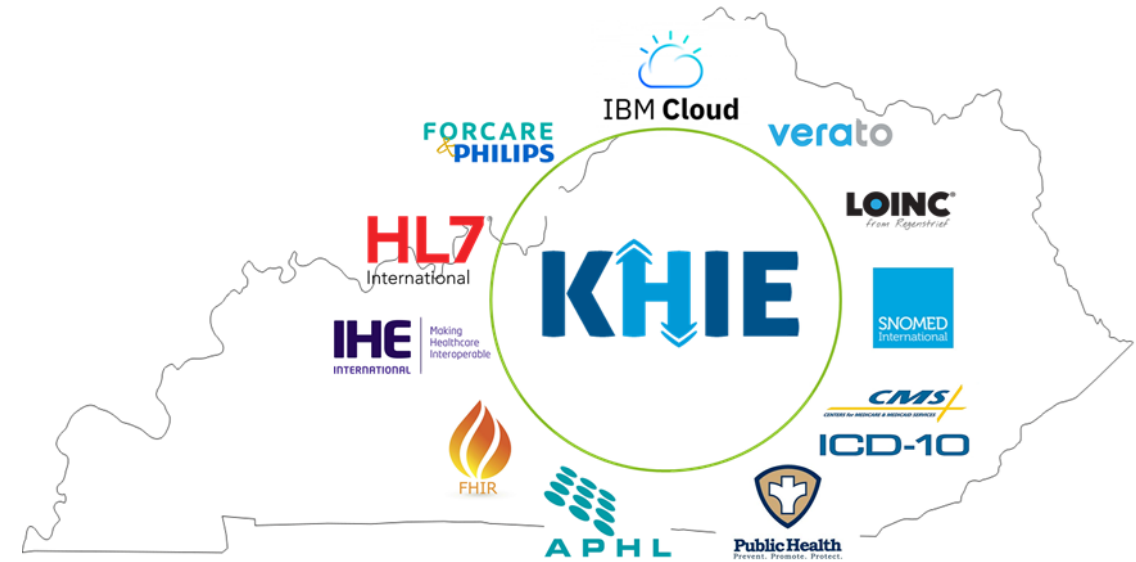
The Kentucky Health Information Exchange (KHIE) is a state-of-the-art, cloud-based, interoperable, SaaS solution, which facilitates clinical data exchange with over 5,300+ sending facilities (hospitals, clinics, pharmacies, labs, etc.) across the Commonwealth of Kentucky, neighboring states, and connected exchanges.

The KHIE solution supports the latest interoperability standards such as HL7, DICOM, and IHE to send and receive data from its Participants.

KHIE is an innovative industry leader, with features such as the Radiology Image Exchange, Clinical Event Notifications, and Electronic Case Reporting, fostering interoperability across Kentucky's healthcare ecosystem.

KHIE is a highly configurable and scalable solution, with an ever-expanding catalogue of features capabilities.

KHIE Partners & Standards



Wealth of Patient Health Data

Sources of Data

- Hospitals / Health care Clinics
 - Acute Care Hospitals
 - Large Hospital Systems
- Ambulatory Facilities/Clinics
- Medicaid
- KASPER
- Labs
- Behavioral Health Centers
- Federally Qualified Centers
- Pharmacies
- kynect resources
- KYIR and Other Registries
- Ambulance Run Sheets

Types of Data Available

- Routine health care visits
- Behavioral health (diagnosis information)
- Emergency department visits
- Facility utilization
- Lab and radiology services/results
- Pharmacy services/medication history
- Immunization records
- Admission, discharge, and transfer notifications/alerts

The information supports tracking physical and behavioral health diagnoses, prescribed medications, and emergent or non-routine medical/behavioral health visits.

Messages Processed Per Week (12/29 – 1/4)

Messages with Inbound Data		
	<i>Previous Week</i>	<i>Current Week</i>
ADT/ADTSS	3,697,392	3,994,743
LAB/LABOUT	583,325	628,470
RAD	36,171	38,813
TRN	107,212	124,771
PATH	359	377
IHE – Submit Documents	75,038	84,197
Total Inbound Messages	4,499,497	4,871,371

Messages with Outbound Data		
	<i>Previous Week</i>	<i>Current Week</i>
NEDSS	71,199	64,247
BioSense	1,551,696	1,603,333
Clinical Notifications	215,045	225,104
Total Outbound Messages	1,837,940	1,892,684

ePartnerViewer – Statistics Summary		
	<i>Previous Week</i>	<i>Current Week</i>
Total Logins	1,340	1,940
Summary CCD Download	486	511
Medicaid CCD Download	353	360
PDMP Download	0	0
Clinical Documents	2,369	3,992
Direct Data Entry	1,528	1,507
PST: Provider Self-Service Testing	2	2
Total ePartnerViewer Actions	6,078	8,312

Other Messages		
	<i>Previous Week</i>	<i>Current Week</i>
VXU	51,258	62,334
QBP	1,052,311	1,176,839
IHE – Others	1,032,480	1,267,452
Opioid Query	10,311	14,219
Total Other Messages	2,146,360	2,520,844

KHIE Features and Services

ePartnerViewer

Image Exchange

Direct Secure Messaging

Platinum Connection

Event Notifications

Social Determinants of Health



Electronic Case Reporting

Electronic Lab Reporting

eHealth Exchange

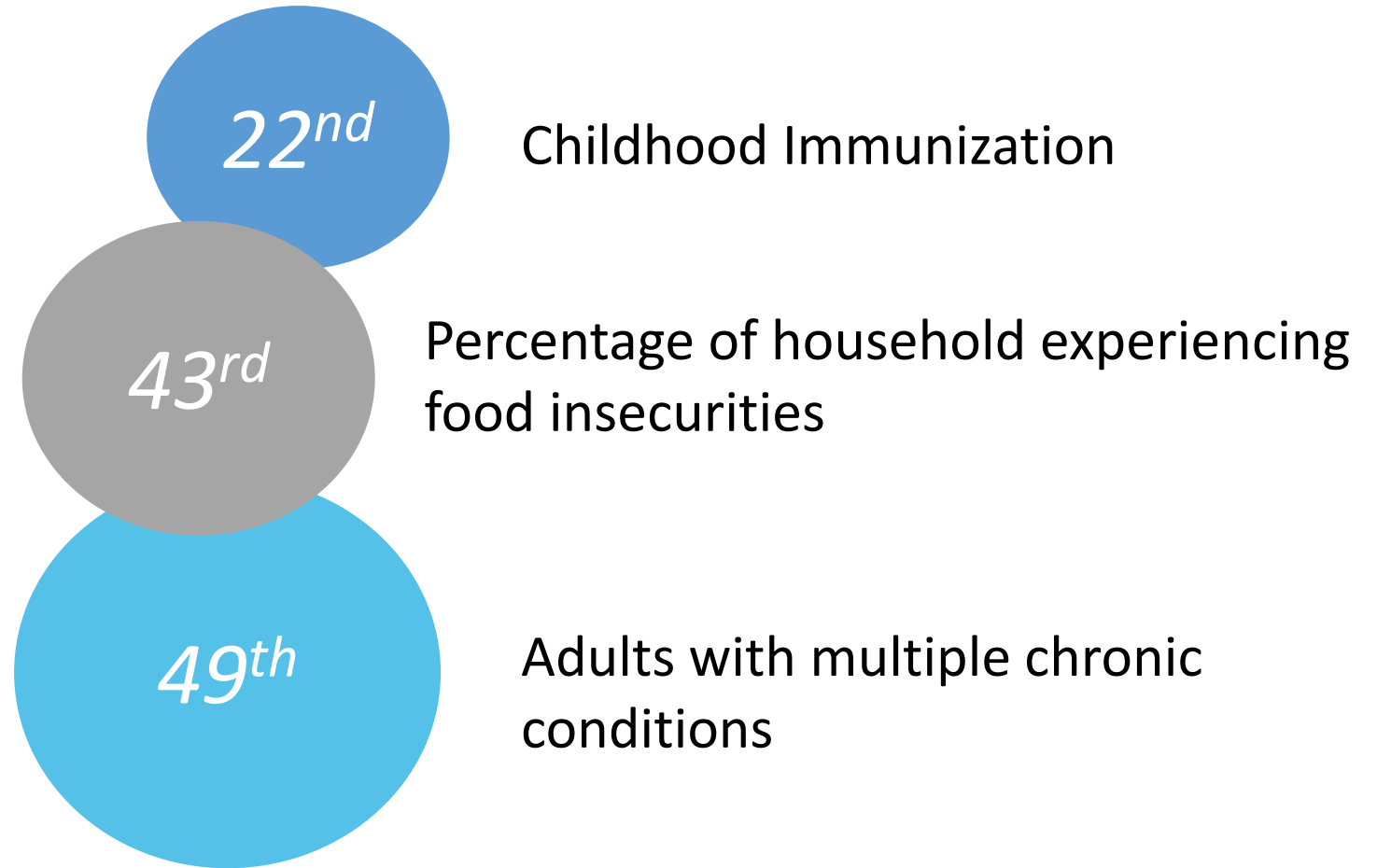
Medicaid Continuity of Care Documents

 Focus of this presentations

2023 Kentucky Public Health Rankings

The Commonwealth of Kentucky is working across different cabinets in a collaborative effort to improve its public health rankings. With the amount of data transacted through KHIE, the HIE is at the heart of understanding our population health rankings.

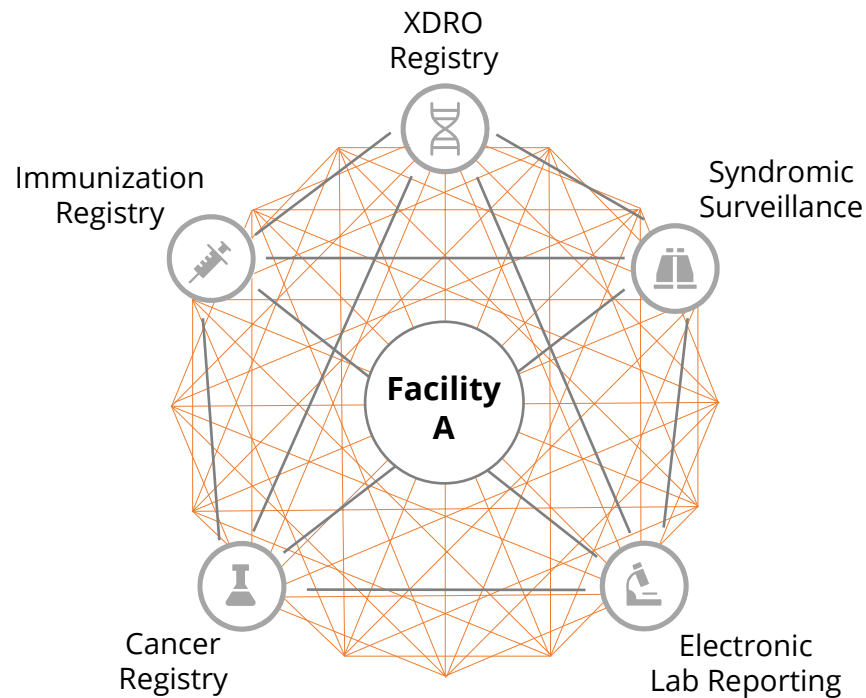
Using the data made available in KHIE can lead to a path forward in improving our population's health.



Public Health Reporting

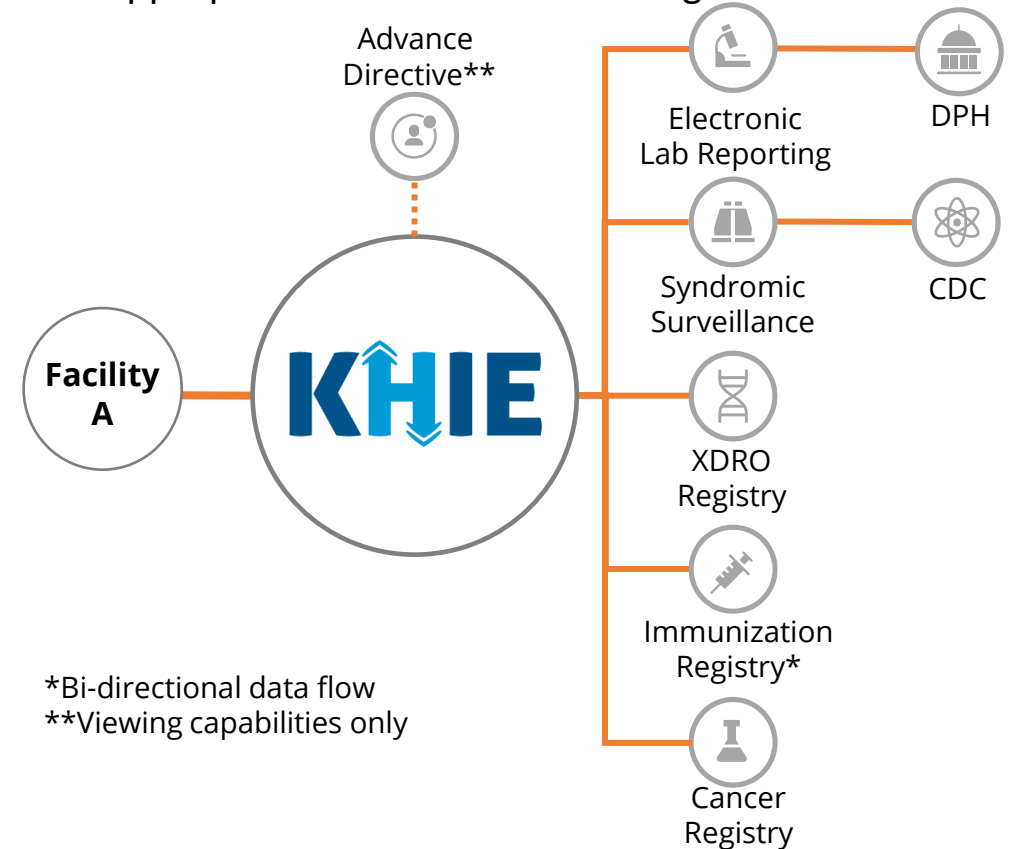
Traditional Connections

Historically, facilities would have to build connection points to individual registries.



Streamlined Connections with KHIE

Now, KHIE automatically directs the facility's data to the appropriate location with one single connection.



*Bi-directional data flow
**Viewing capabilities only

Traditional Means of Reporting

Problem 1

Delayed Response Times

KHIE Solution: Adopters of KHIE service can exchange data in real-time

Problem 2

Poor Data Quality

KHIE Solution: Onboarding initiatives focused on high levels of data requirements.

Problem 3

Lack of Communication

KHIE Solution: Data sets are mapped to align with hl7 specifications, meeting the criteria for “electronic” reporting purposes set by

Problem 4

Burden of Fax

KHIE Solution: Utilizing KHIE decreases the potential burden of manual entry for local health department (LHDs). This results in a faster response time and increased capacity within LHDs.

Manual vs. Electronic Data Submission

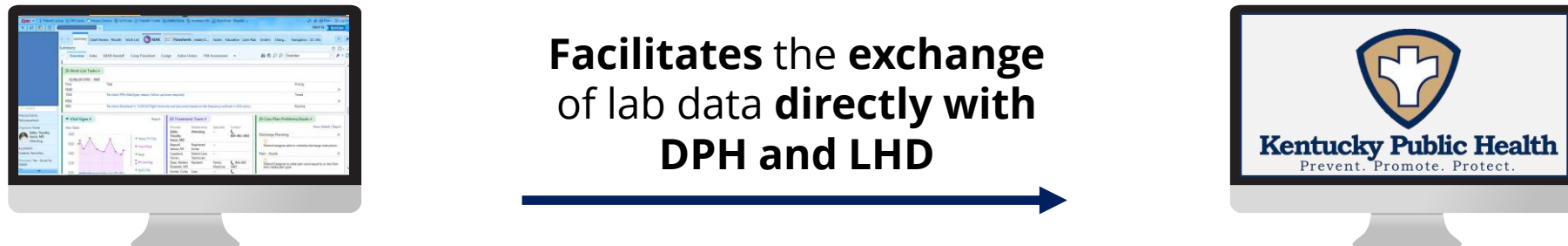
Manual Process

Prior to Electronic Laboratory Reporting most labs are submitted to local health departments via fax machine.



KHIE Electronic Process

Labs flow directly from Lab Information System or Electronic Health Record Directly into Kentucky's National Electronic Disease Surveillance System.



Type of Reporting in KHIE

Kentucky Immunization Registry (KYIR) Reporting

KHIE is the designated public health reporting authority in Kentucky and serves as the data intermediary for healthcare providers seeking to electronically submit immunization data, syndromic surveillance data, cancer case reporting, and communicable disease reporting. Additionally, through the connection to the KYIR, KHIE participants can send immunization to KYIR and pull historical immunization records from the registry.

Electronic Lab Results (ELR)

KHIE has the capabilities to securely transmit electronic lab results for COVID-19 and communicable diseases, initiated from the participant EHRs or community labs. Additionally, KHIE has built-in capability (Direct Data Entry) to create electronic lab reports from the web-based provider portal for the COVID-19 and configured communicable disease conditions, transmitting to Kentucky Department for Public Health and CMS to receive a Reportable Response (RR).

Electronic Case Reporting (eCR)

KHIE has the capabilities to securely transmit case reports for communicable disease monitoring, initiated from the participant EHRs. Additionally, KHIE has built-in capability (Direct Data Entry) to create electronic case reports from the web-based provider portal for the configured communicable disease conditions and transmit to Kentucky Department for Public Health and CMS to receive a Reportable Response (RR).

Honorable Mention: Syndromic Surveillance

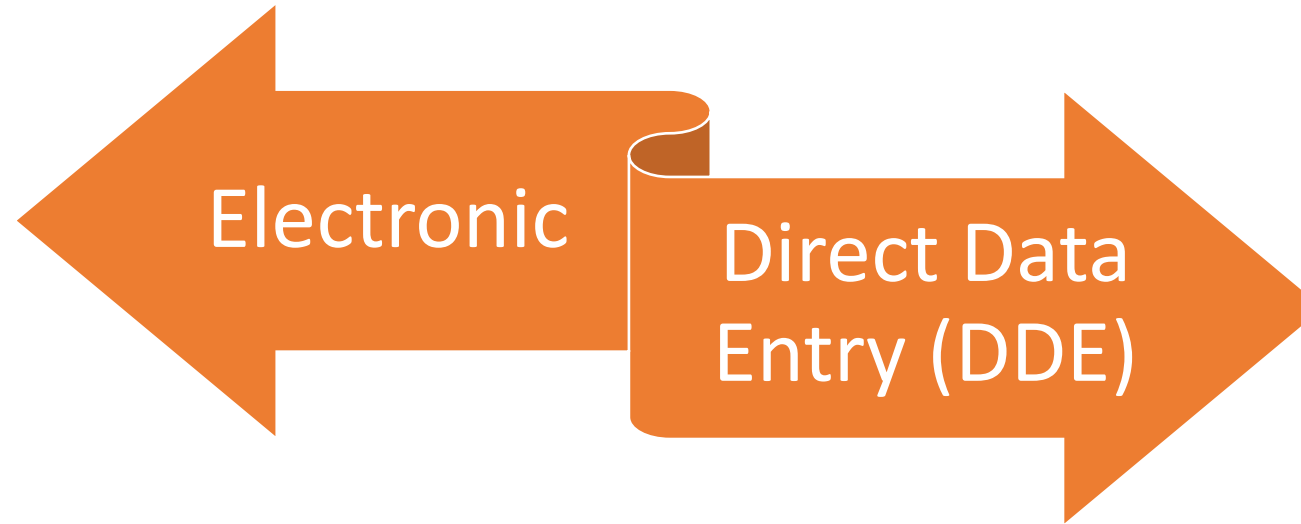
KHIE transmits Syndromic Surveillance Data to the CDC's BioSense platform for surveillance at the state and federal level.

Communicable Disease Submission Mechanism

Direct Interface between Lab/Healthcare Facility and KHIE automatically transferring in real-time or near real time

- HL7 or SFTP

- 358 Live
- 67 Onboarding



Smaller facilities unable to develop an interface can enter the information into KHIE's ePartnerViewer (portal) where it will be electronically delivered to DPH and LHD

- 910 DDELR COVID
- 100 DDELR ALL
- 106 DDeCR for All
- 98 Active Both for All

Messages with Outbound Data		
	Previous Week	Current Week
NEDSS	71,199	64,247

Communicable Disease Reporting Capabilities



STDs



Vaccine Preventable
Diseases



Vector-borne
Disease



Hepatitis



Food-borne and
Water-borne Diseases



COVID-19



MDRO



Tuberculosis



Other Reportable
Conditions

KHIE and COVID-19 Response

KHIE implemented its Case Reporting and Lab Reporting solutions to keep pace with the evolving requirements set forth by the CDC to meet the obligations of the Kentucky Department for Public Health (KDPH), regarding **COVID-19 lab and vaccine reporting requirements**. These solutions enabled KDPH to meet its obligation of providing up-to-date COVID-19 metrics to the Governor's Office who provided timely updates to the public during the height of the pandemic.

2021 Covid Metric Snapshots

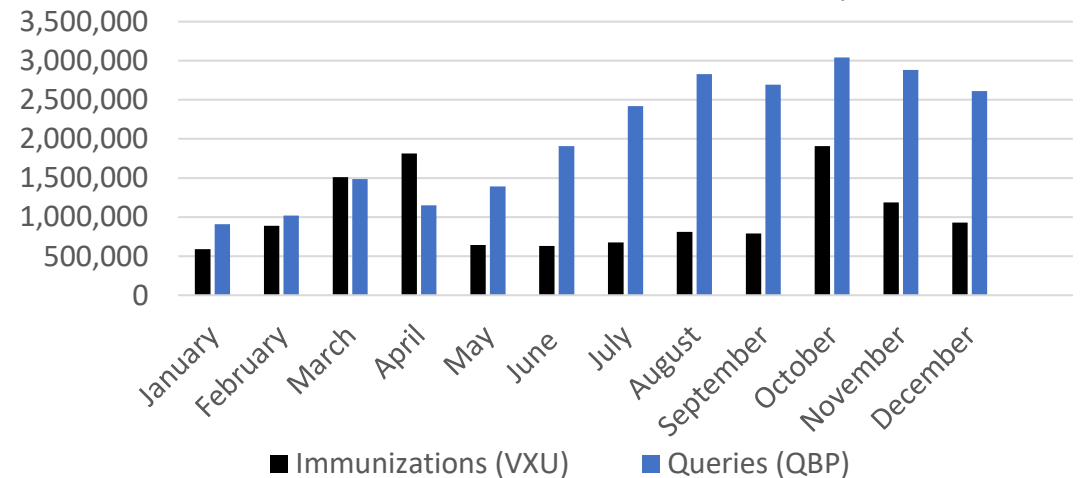
6.9 M+

COVID-19 test results
routed through
KHIE to NEDSS

4 M+

COVID-19 vaccinations
routed through
KHIE to KYIR

2021 COVID-19 IMMUNIZATIONS AND QUERIES



Opportunities to Grow



Data Quality

Advance the breadth and depth of available patient health data in the ePartnerViewer.

Data Analytics
Develop analytical capabilities to better monitor population health trends and outcomes.



Strategic Partnerships

Enhance collaborations with national, state, and local agencies and departments.

User Adoption
Encourage the adoption of KHIE and its subsequent services and features.



Questions?



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Thank You!