



# Maine's Health Information Exchange

Overview of HealthInfoNet & the Statewide Health Information Exchange

*Dedicated to helping our communities create lasting system-wide improvements in the value of patient care.*



# Objectives

An overview of key takeaways and learnings.

1. Review the history and benefits of Health Information Exchange (HIE)
2. Educate on the connections and services of HealthInfoNet and the Maine HIE
3. Discuss patient consent choices for participation in the Maine HIE
4. Provide information on education and training opportunities offered by HealthInfoNet





# Health Information Exchange

Overview of HIE History, Benefits, & Use Cases

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# About Health Information Exchange

A brief history of HIE and its current authorities.

- The concept was first developed in a 2001 report published by the **National Committee on Vital and Health Statistics** titled, “Information for Health: A Strategy for Building the National Health Information Infrastructure”
- The importance of clinical health information technologies and health information exchanges as a way of achieving wide-scale improvements in our healthcare systems was discussed by experts in a 2006 article published in the **Medicare & Medicaid Research Review**\*
- The concept was formally codified by the **Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009**
- Since then, the U.S. Department of Health and Human Services maintains the **Office of the National Coordinator for Health IT (ONC)** to develop clinical data exchange standards, EHR certification requirements, and policies for HIEs nationally

\*<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4194977/>





# How HIEs Work Today

Common HIE practices and use cases.

- HIEs are systems that combine information from separate healthcare IT systems (e.g., EHRs) to create comprehensive electronic health records for patients
- HIE systems are intended to process, standardize, aggregate, and enrich each patient's health records
- Patients' health information is provided back to HIE-participating organizations and their authorized end users via a variety of data services

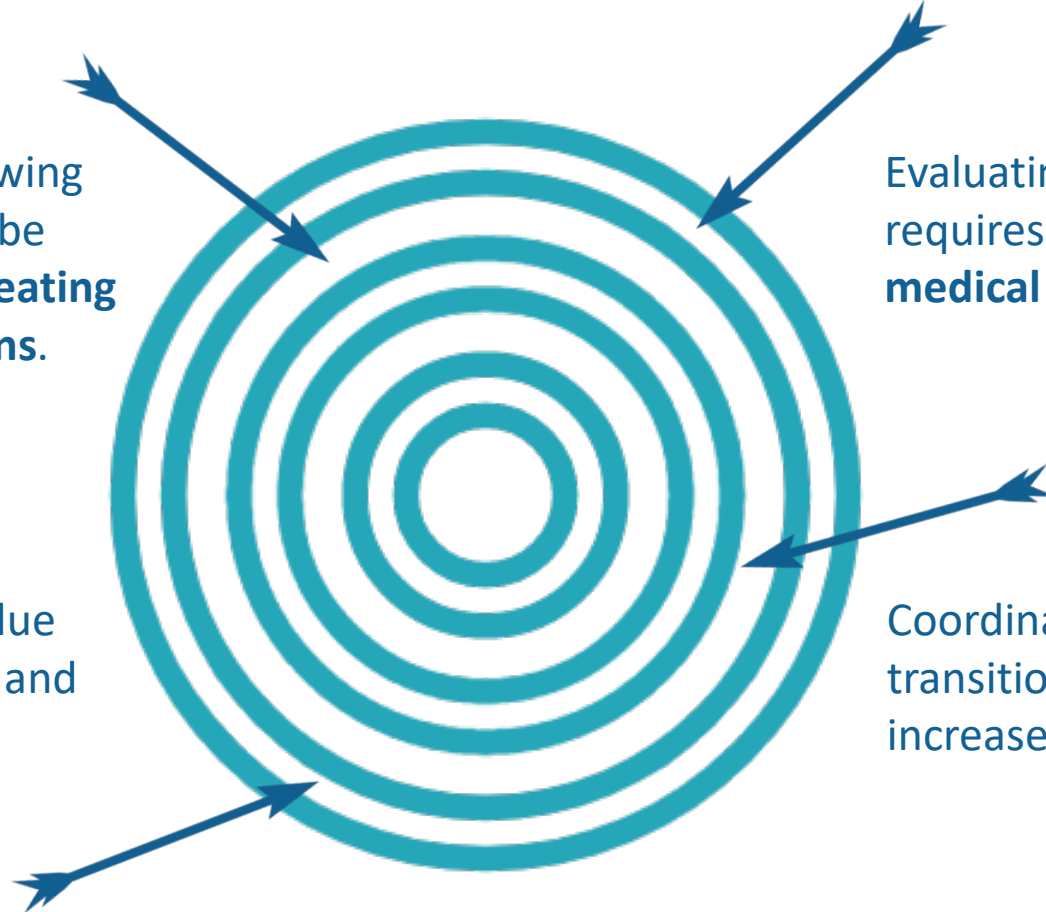


# Common Clinical Challenges

Overcoming shared experiences that make clinical workflows difficult.

Updating a patient's care plan following their discharge from a hospital can be difficult when there are **multiple treating providers from unaffiliated locations**.

Readmitting patients often occurs due to a **breakdown of communication** and **lack of informed engagement** (e.g., misunderstanding of ailments, test results, medication usage).



Evaluating referrals and preadmissions requires **piecing together complex medical histories** from various sources.

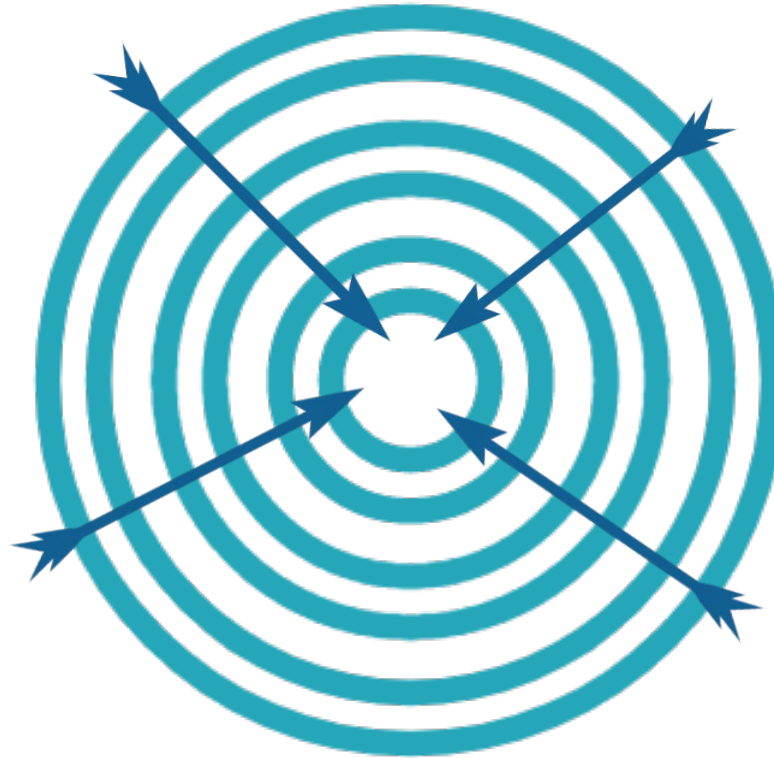
Coordinating a patient's care during transition without complete information increases the chance for **adverse effects**.

# Common HIE Solutions

Creating better, safer, and easier solutions for the healthcare environment.

Improves **communication and care planning activities** among healthcare providers during transitions of care to inform decision-making.

Provides assurance that care teams have **comprehensive and accurate information available at the point of care** to improve patient safety.



Enables **improvements in both quality and cost outcomes** through reductions in duplicate testing, medical complications, avoidable hospitalizations, and readmissions.

Assists with **targeting care for patients** with chronic diseases, risk for future utilization, and quality measure gaps to put care plans in place more quickly.



# Common HIE End Users

Serving RNs and Care Managers to Epidemiologists and Quality Analysts.



- **Registered Nurses**
- **Medical Assistants**
- **Medical Records & Referral Specialists**



- **Physicians**
- **Behavioral Health Clinicians**
- **Pharmacists**



- **Care Managers & Case Managers**
- **ED Staff**
- **LTC/SNF Staff**



- **Epidemiologists**
- **Infection Prevention Staff**
- **Quality Analysts**



# HealthInfoNet & Maine's HIE

Overview of HealthInfoNet & Maine's HIE Services

*Dedicated to helping our communities create lasting  
system-wide improvements in the value of patient care.*

# About HealthInfoNet



About HealthInfoNet and the state of Maine's Health Information Exchange.

## WHAT WE DO

- Designated in law as operator of Maine's statewide Health Information Exchange (HIE)
- Maine law governs patient informed consent requirements for HIE participation (i.e., opt-out for general medical information and opt-in for mental health and HIV information)

## WHO WE ARE

- Independent nonprofit governed by a voluntary, community-based board of directors and advisory committees
- Board members represent medical providers, public health organizations, patients, government agencies, and businesses throughout the state

## HOW WE DO IT

- Provide a number of services to our participating provider organizations
- Examples: comprehensive electronic health record systems, real-time event notifications, public health reporting, predictive analytics and measures, and more data services



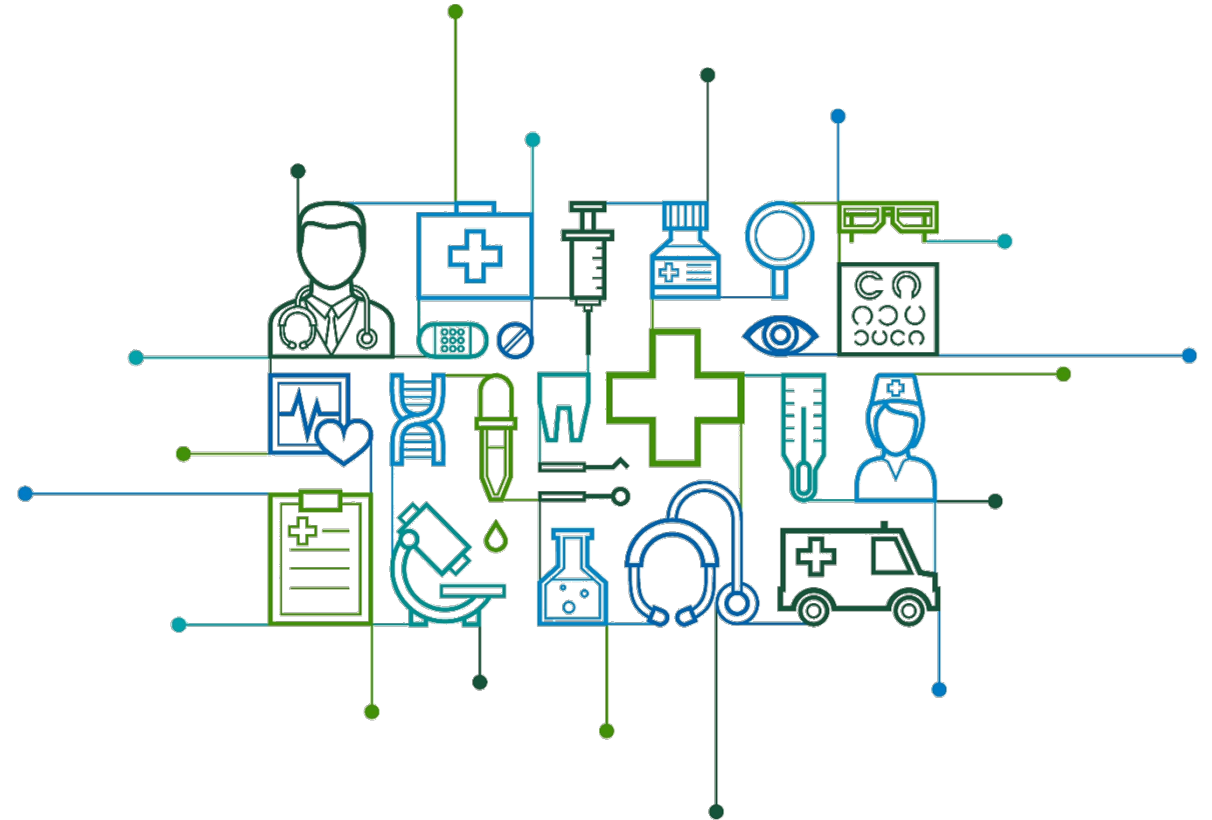


# Our Vision

Creating better, safer, and easier solutions for the healthcare environment.

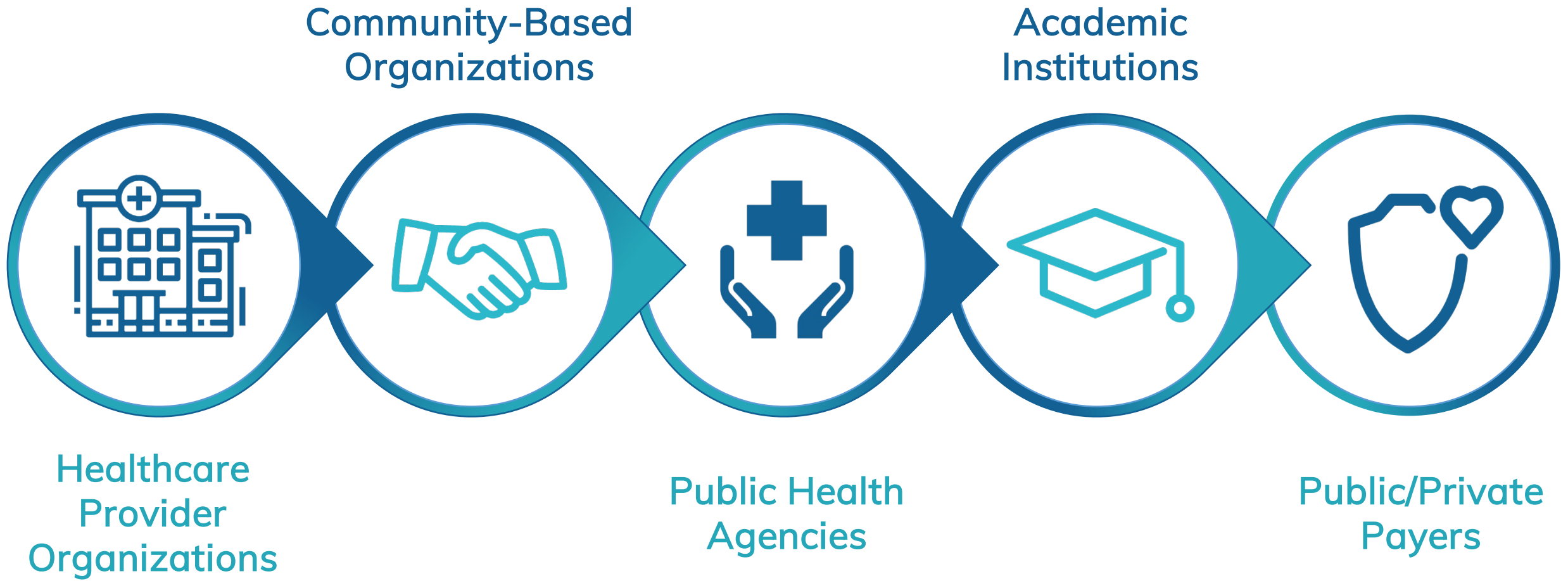
Committed to delivering trusted health information exchange services, we help our communities create lasting system-wide improvements in the value of patient care.

To create better, easier, and safer solutions is our guiding principle. Through the application of timely and actionable information, we adapt and advance as clinical workflows and operational needs change across the care continuum.



# Our Customers

Helping our customers make informed decision-making in the value of patient care.



# Our Data Services

From data integration to data visualization, providing end-to-end HIE services.



Data  
Integration



Data  
Enhancement



Data  
Dissemination

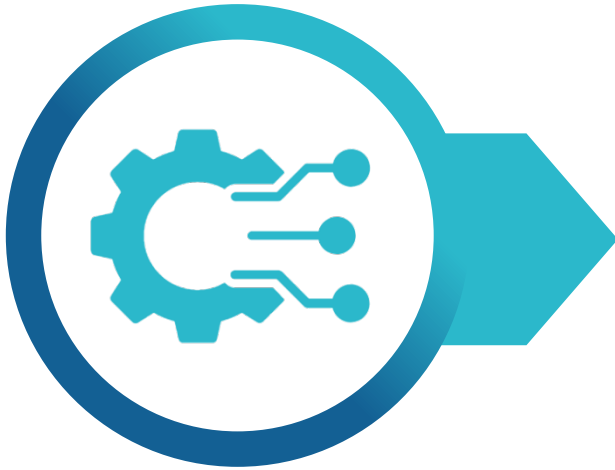


Data  
Transmission



# Data Integration & Enhancement Services

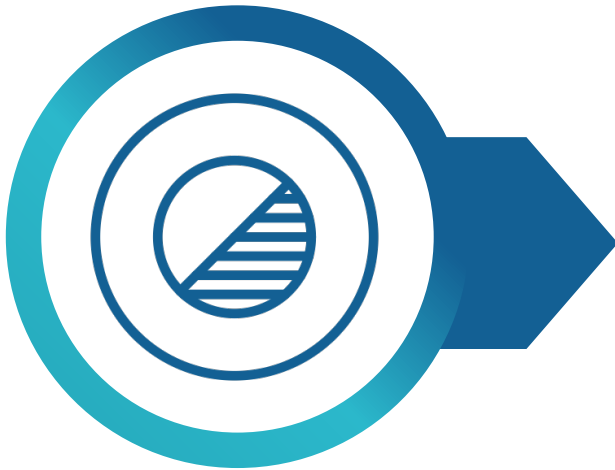
Collecting, validating, standardizing, and optimizing incoming data sources.



HL7 v.2.x &  
CCDA Clinical  
Data Collection

Eligibility &  
Claims Data  
Collection

Community,  
SDOH, &  
Miscellaneous  
Data Collection

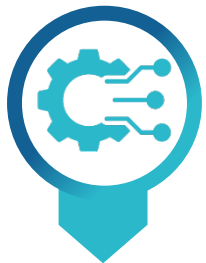


Terminology  
Management

Person Identity  
Management

Data Linkage  
& Attribution





# Data Connections

Connected to more than 850 healthcare locations throughout the state.



**Over 85% of Ambulatory Facilities &  
All Federally Qualified Health Centers**

**Surescripts & MaineCare  
(Medicaid) Pharmacy Datasets**

**Maine Emergency Medical  
Services (ImageTrend)**



**All Health Systems, Acute-Care  
Hospitals, & Critical-Access Hospitals**

**NorDx, Quest, ALI, Dahl-  
Chase, & HETL Laboratories**

**Some Behavioral Health &  
Post-Acute Care Facilities**

**State DOC, PMP, Psychiatric Centers  
(RPC, DDPC), & Immunization Registry (ImmPact)**





# Data Connections (cont.)

Connected to the eHealth Exchange for nationwide HIE connections.



eHealth Exchange™



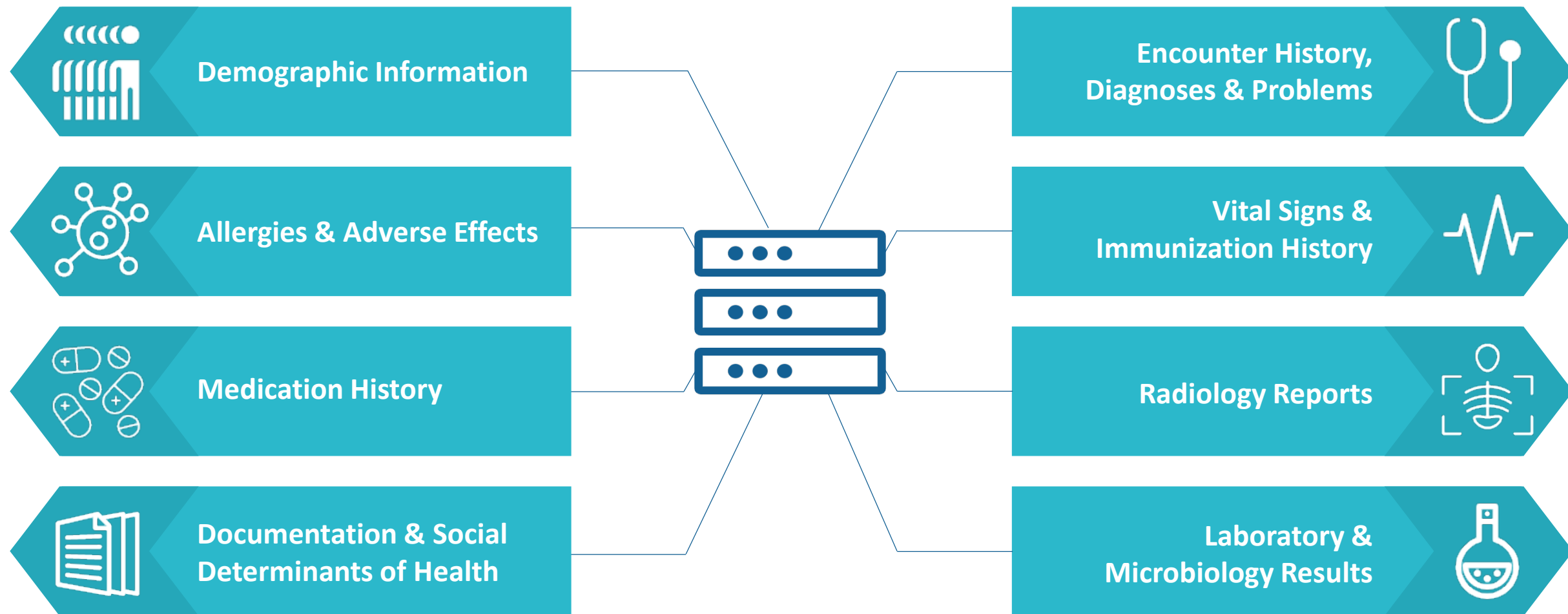
**Enabling connections to the Veterans Affairs,  
Department of Defense, and United States Coast  
Guard Health Record Systems**





# Data Collection

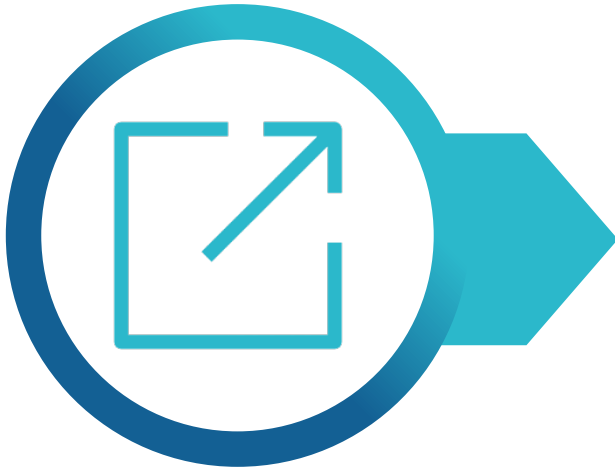
Incorporating diverse data sources as new use cases emerge.





# Data Dissemination & Transmission Services

Developing robust applications and platforms to review and study data outputs.



Electronic  
Health Record  
Systems

Intelligent  
e-Notifications

Analytics &  
Reporting



Public Health  
Reporting

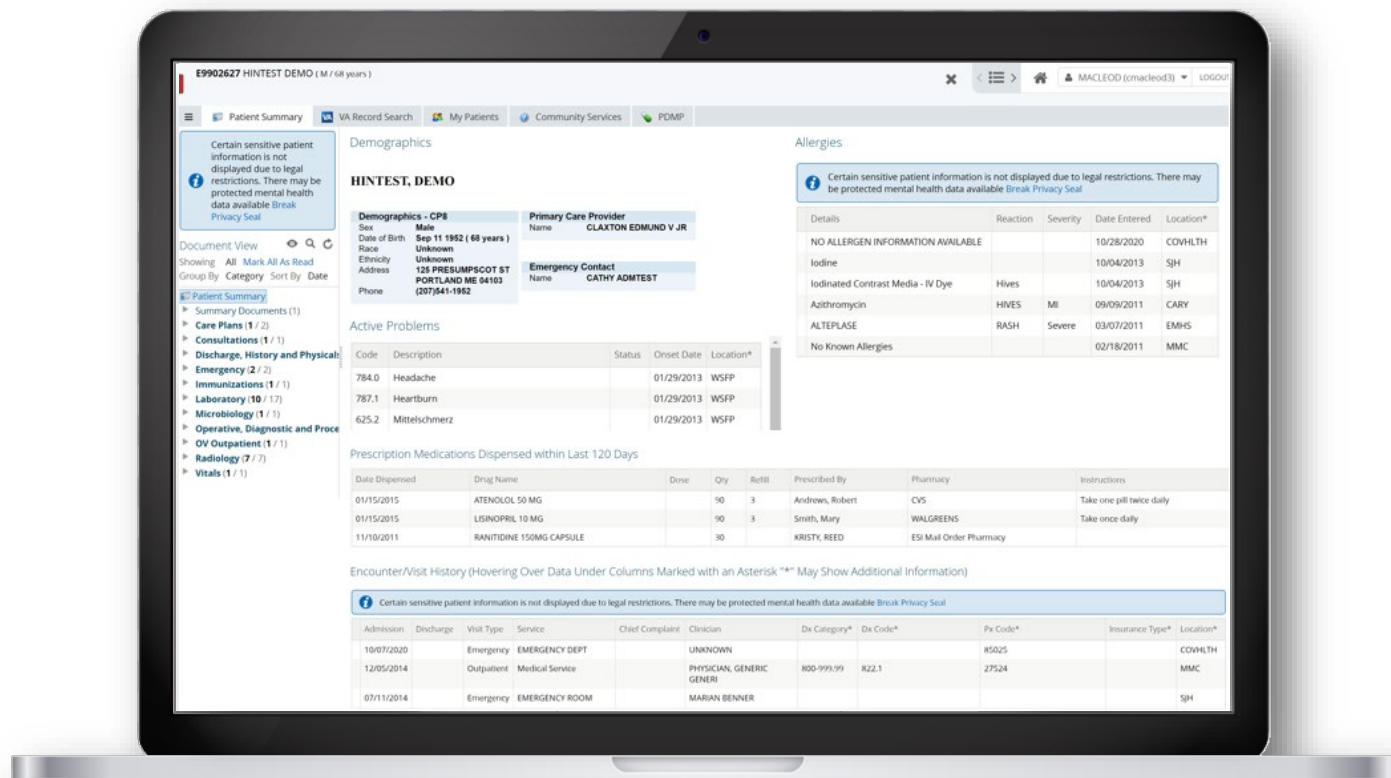
Data Extraction

Research &  
Innovation



# Clinical Portal

Sharing comprehensive electronic patient health records.



**CLINICAL PORTAL** – A web-based application enabling the secure look-up and retrieval of real-time patient health record information.

Key features include:

## Clinician

- Patient Lookup Services
- Patient Health Record Services
- Community Services Information
- Notification Services

## Help Desk

- User Lookup Services
- New User Request Function

## Auditor

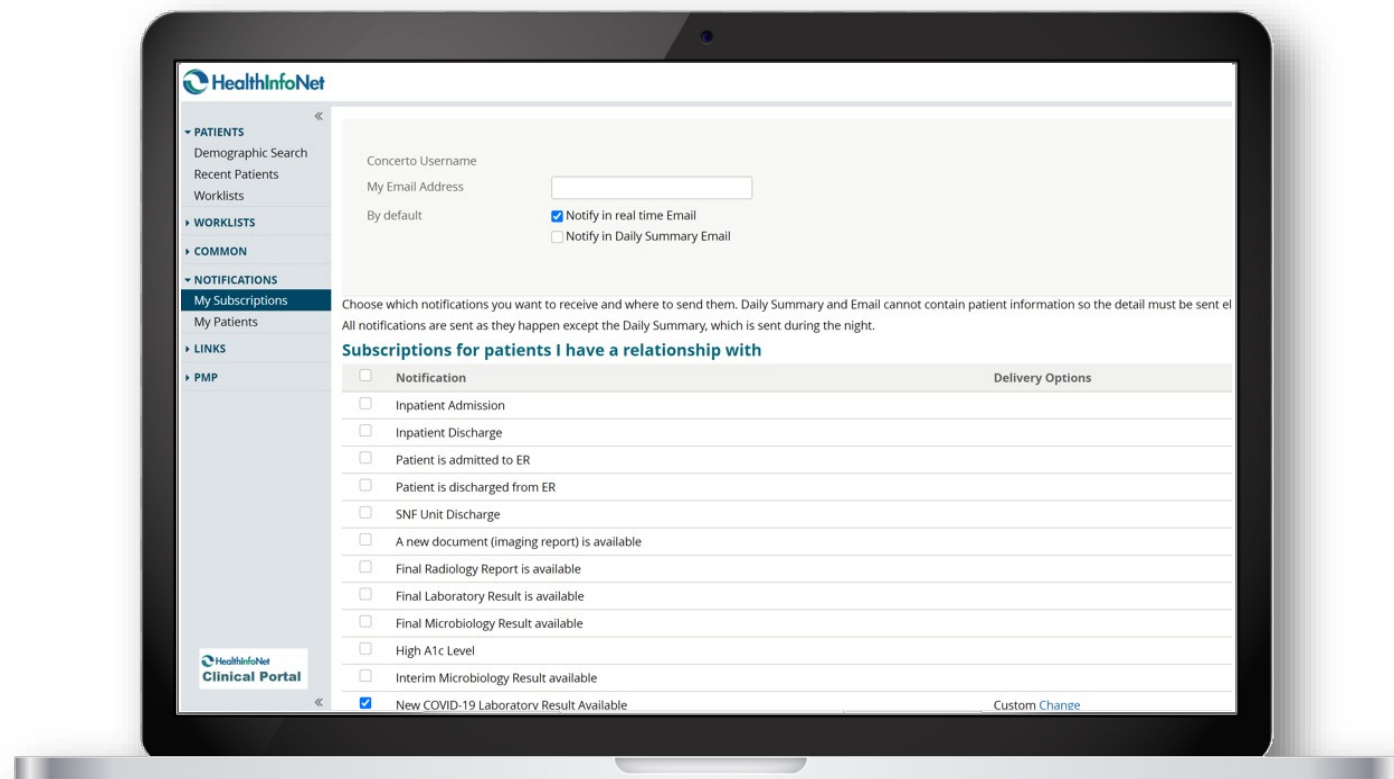
- Privacy Log Function
- Mental Health Access Audit Function





# Intelligent e-Notification Services

Delivering event-based electronic notifications in real-time.



**NOTIFICATION SERVICES** – Real-time alerting of time-sensitive events that make it possible for clinicians to establish the right care plan at the right time.

Key features include:

## *My Patients*

Manual or automated creation of user-specific patient panels for monitoring specific medical events

## *My Subscriptions*

Medical events, such as inpatient/ED admissions/discharges, laboratory results, etc., that clinicians can receive notifications on for their defined patient panels in real-time or in a daily summary report





# Analytic & Reporting Platform

Visualizing real-time and dynamic reporting to inform operational decision-making.



## ANALYTIC & REPORTING PLATFORM –

Leveraging real-time clinical data across the care continuum to help clinicians drive quality improvements and manage risk and population health.

Key features include:

### *Organizational Performance*

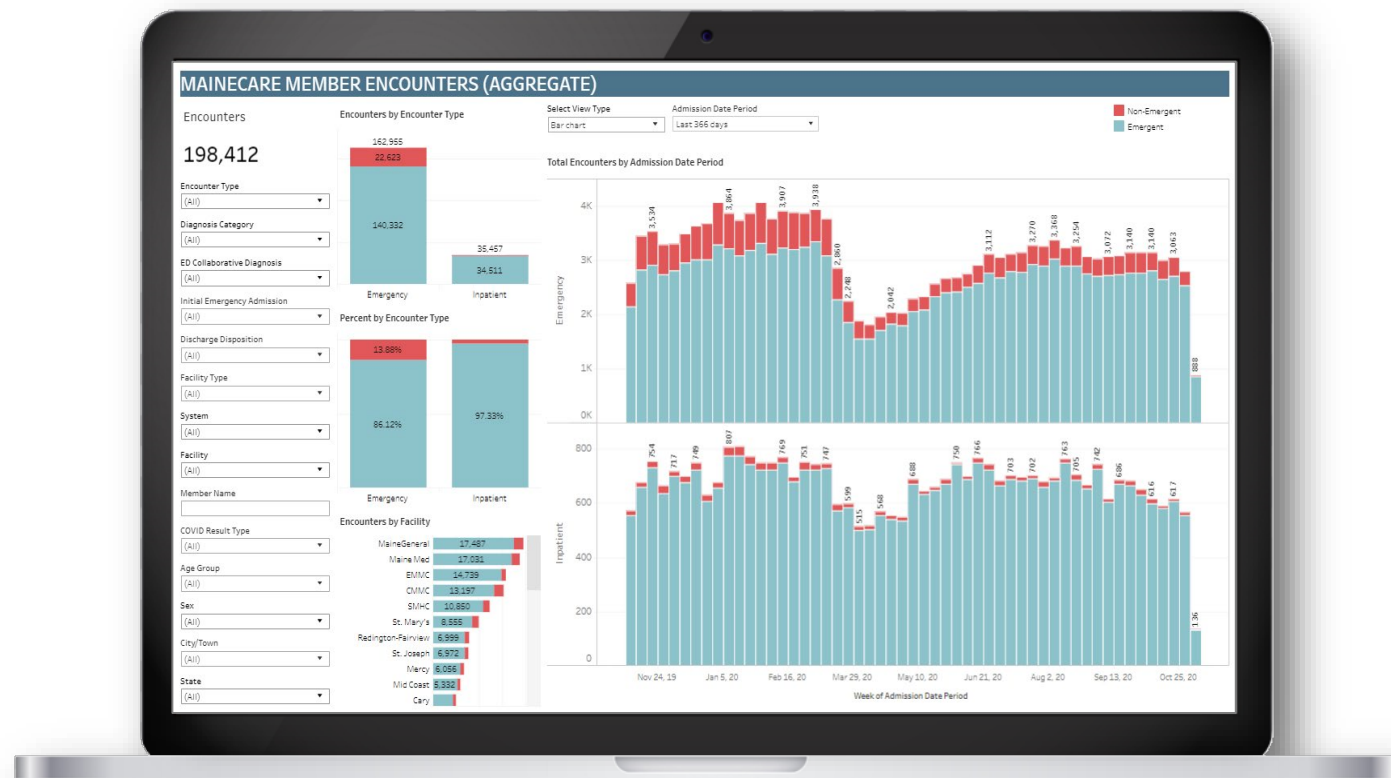
Compare actual-to-target performance for key performance indicators (KPIs) using case-mix and severity-adjusted targets

### *Population Risk*

Identify populations and individuals most at risk for future high costs, inpatient admissions, and emergency room visits

### *30-Day Readmission Risk*

Identify inpatient encounters most at risk for 30-day readmissions





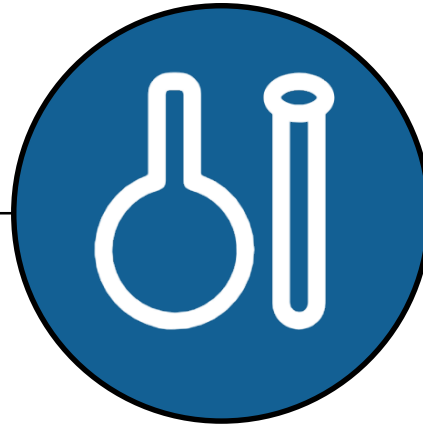
# Public Health Reporting

Sending real-time notifications to the Maine CDC.



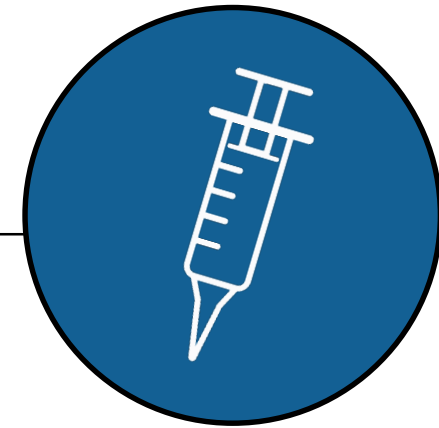
## Syndromic Surveillance

Reporting events of care with chief complaints that indicate possible disease or condition that require review/intervention by the Maine CDC for public safety and health.



## E-Laboratory Reporting

Reporting laboratory results that indicate existence of any of the seventy-two diseases that require review/intervention by the Maine CDC for public safety and health.



## Immunization Reporting

Reporting all state-supplied vaccine administration data to the Maine Immunization Information System (ImmPact), as required by the Maine CDC for record keeping.



# Data Extraction Services

Delivering custom and standard data extraction options.



## Real-Time ADT Transactions

- Customer-specific patient attribution drives ADT message retrieval queries
- Selected ADT messages sent in real-time to customer via established VPN tunnel

## Enriched Data Sets

- Standard and custom data set file formats (.txt, .csv), sent daily, monthly, or quarterly
- Customer-specific patient attribution drives data set retrieval queries
- Patient demographics, encounter/visit, and value-added/analytic information



# Our Privacy & Security Practices

Keeping private and secure patients' important health information.

- A Virtual Private Network (VPN), protected by a dedicated Firewall, is established between HealthInfoNet and our participants to ensure private connections
- Data is encrypted in motion and at rest and stored separately
- All users are given unique, complex passwords approved and managed by their help desks
- System-specific user activity logs are audited daily by HealthInfoNet staff and participants' compliance staff who can access our electronic health record services via an “auditor” role
- Authorized users must confirm their relationship with a patient in order to access their health record; auditing occurs with each click made by a user in the system





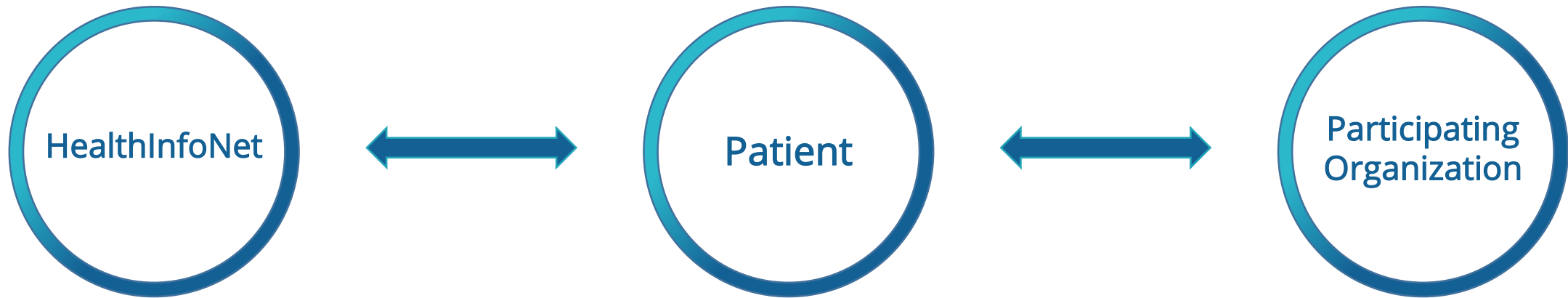
# HIE Consent Choices

Overview of Patient Choices for Participation in Maine's HIE.

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# Consent Roles & Responsibilities

Ensuring clear functions for HIE consent relationships.



- HealthInfoNet is responsible for **managing HIE consent options** – not participating organizations
- The **consent relationship** is between the individual (i.e., the patient) and HealthInfoNet
- Participating organizations **are required to educate** patients about HIE consent options at least once in their interactions (and subsequently should patients change their choices)
- Consent choices are **universal** – patients cannot make participant-/provider-specific choices

# Consent Choices

Managing patient consent choices for HIE data sharing.



## General Medical Opt-Out

- Maine law requires HealthInfoNet and all HIE participants to follow an **opt-out** consent policy for sharing general medical information
- Patients can opt-out **on paper** or **over the phone**
- When patients choose to opt-out, they opt-out once for **all care locations**, at which point their clinical data is completely removed from the HIE
- Patients can always choose to **opt back in**; however, their records will only be available in the HIE from that point going forward

## Sensitive Information Opt-In

- Maine law allows HIE participants to send **mental health information** (not yet SUD information) if HealthInfoNet:
  1. Maintains an **opt-in** consent policy for sharing the information with (A) all HIE-participating providers ongoing or (B) only treating providers at the point of care/admission (i.e., one-time verbal authorization)
  2. Enforces protections on viewing the information by requiring HIE-participating providers to **unlock the data** in an individual patient's record and log their reason for doing so, including an "emergency" access option





# Consent Education Requirements

Informing patients on HIE consent choices.

- Per Maine law, **all HIE-participating organizations** must:

Give an **opt-out form** to each of their patients at least one time at the point of “initial contact” following connection to HealthInfoNet

Send any **signed opt-out forms** to HealthInfoNet within two business days (fax is the most common delivery method)

Provide a way for patients to **opt-out at no cost** to the patient

- Prior to going “live” with HealthInfoNet, participating providers must be active with patient consent education at the point of care
- HealthInfoNet will train staff on requirements and provide patient handouts and consent form PDFs for distribution





# Training & Education

Overview of HealthInfoNet's Training & Education Opportunities.

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# HealthInfoNet Academy

Providing training and education on how to more effectively use the HIE's services.



## Personal Support

- Our Clinical Education team is available to assist at your convenience
- Reach out via email at [clienteducation@hinfonet.org](mailto:clienteducation@hinfonet.org)

## Webinar Series

- Sessions focused on clinical data sources, workflows, and best practices
- Recordings and materials available

## Online Courses

- Online-based courses on the use of the HIE's data, tools, and resources
- Contact hours/certification offered

## Training Resources

- Expansive repository of online resources
- Includes product/service user guides, technical appendices, etc.

## Use Cases & Tutorials

- Brief video use cases and tutorials on how to more effectively use the HIE
- Tips and tricks for key services

## Communications Package

- Key materials to inform and educate participants about the HIE's value
- Request a copy of the package by emailing our Clinical Education team



# Clinical Education Team

When online resources aren't enough, our team is there to help.



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