Health Information Technology Council

Report to the Massachusetts Legislature

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EXECUTIVE SUMMARY

The Massachusetts Health Information Highway (Mass HIway) is a health information exchange program within the Commonwealth of Massachusetts's Executive Office of Health and Human Services (EOHHS) and is advised by the Health Information Technology (HIT) Council. The HIT Council is composed of consumer, provider, legal, policy, and technology stakeholders.

The Mass HIway's main objective is to promote and coordinate health information exchange (HIE) throughout Massachusetts. To achieve this, the Mass HIway deploys a range of policy initiatives, technical solutions, and support services to help healthcare providers and stakeholders effectively utilize HIE. As of 2024, the Mass HIway supports 630 participating organizations and processed more than 480 million electronic transactions, enabling public health reporting, provider-to-provider exchange, quality reporting, and secure data sharing across care settings.

Below are the Mass HIway program activity highlights for 2024:

- Mass HIway Operations: In 2024, the Mass HIway continued to improve its technical infrastructure and operations to support public health reporting and provider engagement. The program provided Direct Messaging services to 630 organizations, including hospitals, community health centers, ambulatory practices, and public health entities, supporting secure and reliable health data exchange across the Commonwealth.

- HIE Connections & Utilization: The Mass HIway facilitated over 480 million message transactions in 2024, including over 467 million public health submissions—primarily to the Massachusetts Immunization Information System (MIIS) and Syndromic Surveillance systems—and nearly 13 million care coordination messages, reflecting a 60% increase over 2023.

- Clinical Gateway & Technical Updates: The Mass HIway maintained its Clinical Gateway and continued to support connections to seven public health registries. The program expanded API connectivity, increasing the number of active API participants to 13 organizations, and quadrupled API transaction volume from Q1 to Q4, signaling progress toward real-time, standards-based public health reporting.

- Provider Engagement & Provider Directory Updates: The Mass HIway team onboarded 17 new organizations and worked with participants to transition from legacy

technologies to more modern solutions, including RESTful APIs. Directory improvements included the addition of taxonomy codes and enhancements to support usability and alignment with DirectTrust standards.

- Event Notification Service Framework: The Statewide Event Notification Service (ENS) Framework facilitated the delivery of over 1.2 million additional ADT notifications through its vendor infrastructure. In 2024, the Mass HIway worked with Certified ENS Vendors to assess hospital feed quality, enhance reporting, and publish best practices to help provider organizations maximize the value of alerts.
- Federal Developments & Compliance: The Mass HIway aligns with federal health IT initiatives and rules, particularly focusing on interoperability, data access, and compliance with the Information Blocking rule, highlighting its commitment to national health information exchange standards.
- In-flight Initiatives: The report outlines Mass HIway support for ongoing EOHHS initiatives like the Behavioral Health Treatment and Referral Platform and direct oversight of the development of an ePOLST Registry, showcasing efforts to support care coordination and patient preferences for end-of-life care.

EOHHS has a multi-disciplinary and dedicated team to manage the policy, business, operational and strategic direction of the Mass HIway and other technology programming to support EOHHS objectives. EOHHS currently utilizes a combination of staff and vendor contracts to operate and maintain the Mass HIway programs and Clinical Gateway services.

EOHHS and the Mass HIway wish to acknowledge the continued support of the Massachusetts eHealth Institute (MeHI) and Orion Health for their contributions to success of Mass HIway operations and other EOHHS initiatives.

A. INTRODUCTION

Pursuant to M.G.L. c. 118I, the Massachusetts Legislature authorized the Executive Office of Health and Human Services (EOHHS) to coordinate and promote the development of a statewide health information exchange (HIE). EOHHS created the Massachusetts Health Information Highway (Mass HIway) program to embody those HIE coordination and promotion efforts. The same enabling statute also created the Health Information Technology Council (HIT Council) to serve as an advisory body to EOHHS and the Mass HIway program.

This HIT Council Report to the Massachusetts Legislature fulfills the statutory requirement under M.G.L. Chapter 118I, Section 15, for the HIT Council to file an annual report that: (a) describes the activities of the HIT Council; and (b) describes the progress made in developing statewide health information exchange and recommending legislative action, if deemed appropriate.

This report provides an update on notable accomplishments and activities of the HIT Council related to the state's HIE that occurred between January 1, 2024, and December 31, 2024. This report follows the HIT Council's previous report, which covered activities through December 31, 2023.

Under the advisement of the HIT Council, the Mass HIway promotes the adoption of HIE through a variety of policy and technical services. The Mass HIway's activities aim to increase the Commonwealth's adoption of health information exchange and technology to improve care coordination, quality, patient satisfaction, and public health reporting, while containing costs. Currently, it operates a Direct Messaging network (HIway Direct Messaging) and Provider Directory to enable the exchange of vital health data electronically in a secure and seamless fashion, regardless of differences in affiliation, location, or technology across users. The Mass HIway operates a Clinical Gateway designed to accept and transform Public Health Reporting data submitted by providers to seven (7) of the state's public health registries. Additionally, the Mass HIway facilitates a Statewide Event Notification Service (ENS) Framework, leveraging existing market-based solutions to deliver admit, discharge and transfer notifications to providers throughout the Commonwealth.

B. MASS HIWAY OPERATIONS

In 2024, the Mass HIway continued to enhance the technical infrastructure to improve public health reporting access and data processing and various engagement activities to address provider health information exchange needs and improve utilization. The Mass HIway maintained critical operations and continued to monitor and support connections, enhance services and improve programs, such as the Statewide ENS Framework.

B.1 HIE CONNECTIONS

The Mass HIway continues to provide Direct Messaging services to a broad range of healthcare organizations across Massachusetts. In 2024, 630 organizations used the HIway for public health reporting and care coordination. These services enable the secure "push" exchange of clinical data for care coordination, case management, quality improvement, and public health reporting.

Common use cases include:

- Referrals from primary care providers to specialists
- Transmission of clinical summaries (e.g., medication lists, treatment plans) between facilities
- Discharge summaries sent to nursing homes and skilled nursing facilities
- Reporting data to state public health registries

Direct Messaging remains a reliable and secure alternative to faxing and using complex, costly interfaces. It is embedded in all certified EHR systems and continues to support a large volume of exchange activity. In December 2024 alone, over 1.3 million care coordination transactions were conducted via the HIway.

While emerging standards such as Application Programing Interfaces (APIs) and Fast Healthcare Interoperability Resources (FHIR) will support some of these use cases in the future, Direct Messaging is expected to remain a dominant and cost-effective option for many providers. The HIway will continue to support Direct Messaging as a key offering in the evolving HIE landscape, recognizing the importance of directories in identifying exchange capabilities and preferences.

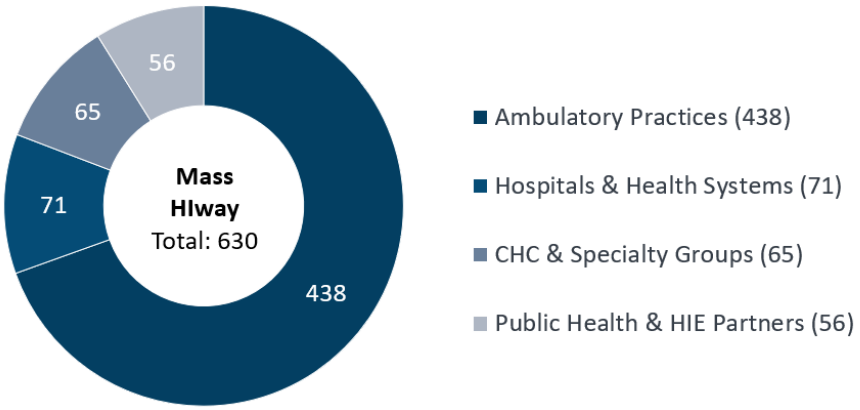
The HIway's 630 participants span the Commonwealth's healthcare ecosystem:

- **Hospitals:** All major hospital systems are connected, including 32 large and 39 small hospitals.

- **Ambulatory Practices:** 438 practices participate, with over 360 having fewer than 10 providers—highlighting the HIway's role in supporting small and mid-sized providers.
- **Community & Specialty Providers:** 65 organizations, including 18 Federally Qualified Health Centers (FQHCs), 28 home health and LTSS agencies, as well as behavioral health and long-term care facilities.
- **Public & HIE Partners:** 56 entities including public health agencies, health plans, labs, HIEs, and business affiliates rely on the HIway to support secure data exchange.

This widespread participation underscores the HIway's value as a secure and trusted foundation for health information exchange across Massachusetts.

Figure-1 Mass HIway Participant Organizations



B.2 HIE UTILIZATION DATA

The Mass HIway continues to serve as a foundational infrastructure for secure and interoperable data exchange across Massachusetts. In 2024, the HIway facilitated over **480 million electronic transactions**, supporting both **Public Health Reporting** and **Care Coordination** activities.

Public Health Reporting remained the primary use case, with over **467 million** submissions. These messages were primarily transmitted through the Mass HIway Clinical Gateway to systems such as the Massachusetts Immunization Information System (MIIS) and Syndromic Surveillance.

This reflects a continued reliance on the HIway for timely and accurate reporting to the Department of Public Health (DPH), building on the stabilization seen in 2023 and ongoing growth into 2024.

Notable trends:

- **Syndromic Surveillance** volume increased by **21%**, indicating expanded participation and improved coverage.
- **Electronic Case Reporting (eCR)** transactions rose by **41%**, driven by CDC mandates under the Data Modernization Initiative (DMI).
- **MIIS** submissions saw a **3% decline**, due to a stabilization following COVID-19 vaccination reporting surges.
- Some registries, such as the **Massachusetts Cancer Registry (MCR)** and **Children's Behavioral Health Initiative (CBHI)**, experienced reduced volume, reflecting shifts in reporting workflows and technical transitions.

Care Coordination use surged in 2024, with nearly **13 million messages** exchanged, a **60% increase** over 2023. This growth reflects expanded provider participation and deeper integration of Direct Messaging into care delivery workflows.

Examples include:

- Transitions of care
- Referrals between providers
- Discharge planning and follow-up
- Integration of alerts and event notifications

These trends highlight the HIway's evolving role beyond public health to support a broader spectrum of clinical exchange activities.

Figure-2 Mass HIway Utilization 2023-2024

HIE Use Case	2023	2024	Change	
Clinical Gateway - Public Health Reporting	443,744,823	467,533,444	5%	↑
Care Coordination Exchange	8,136,580	12,908,274	60%	↑
Transaction Totals	**451,881,403**	**480,441,718**	**6%**	↑

Figure-3 Clinical Gateway - Public Health Reporting 2023 - 2024

Clinical Gateway – Public Health Reporting	2023	2024	Change	
Syndromic Surveillance	152,874,980	185,119,268	21%	↑
IEATS for Opioid Treatment Program (OTP)	420,819	464,785	10%	↑
Mass. Immunization Information System (MIIS)	288,381,756	279,147,372	-3%	↓
Electronic Lab Reporting (ELR)	55,888	58,340	4%	↑
Mass. Cancer Registry (MCR)	66,662	37,235	-44%	↓
Children's Behavioral Health Initiative (CBHI)	58,279	44,254	-24%	↓
Childhood Lead Poisoning Prevention Program (CLPPP)	18,840	19,737	5%	↑
Electronic Case Reporting (eCR)	1,867,599	2,642,453	41%	↑
Transaction Totals	**443,744,823**	**467,533,444**	**5%**	↑

Figure-4 Care Coordination Quarterly Volume 2023 - 2024

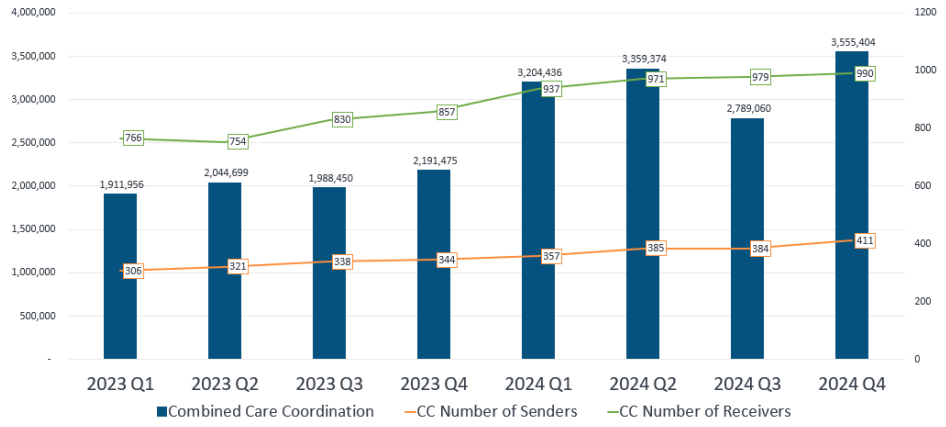


Figure-5 CG Public Health Reporting Quarterly Volume 2023 - 2024

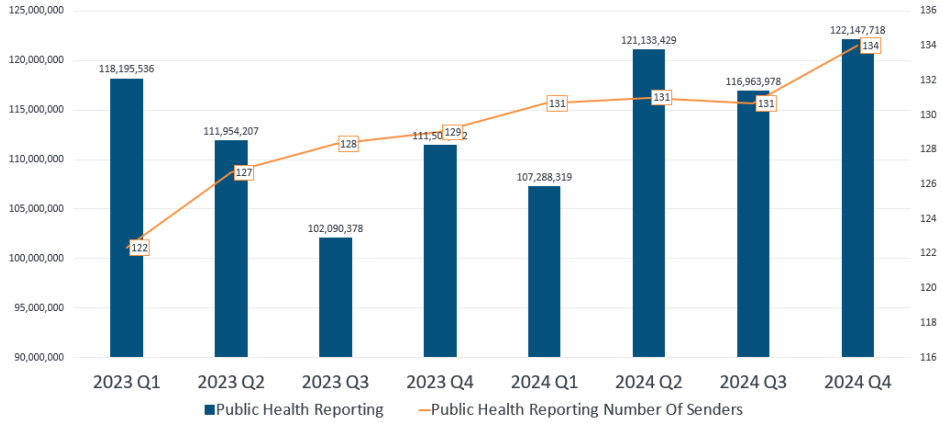


Figure-6 MIIS & Syndromic Quarterly Volume 2023 - 2024

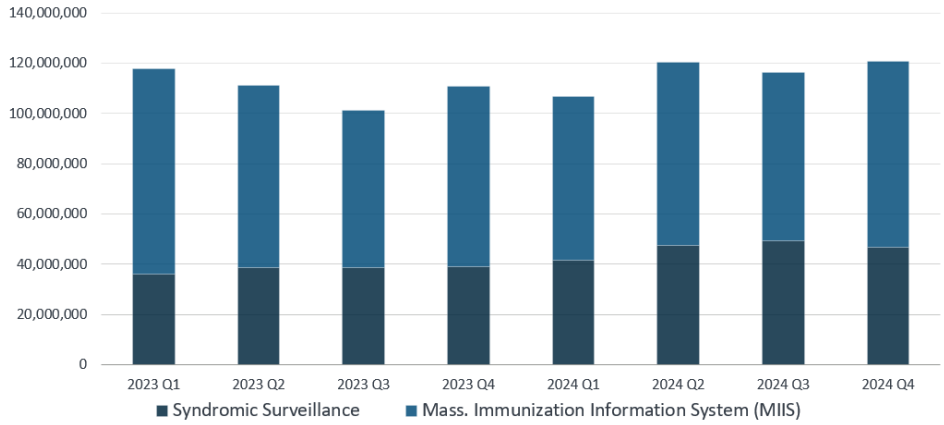
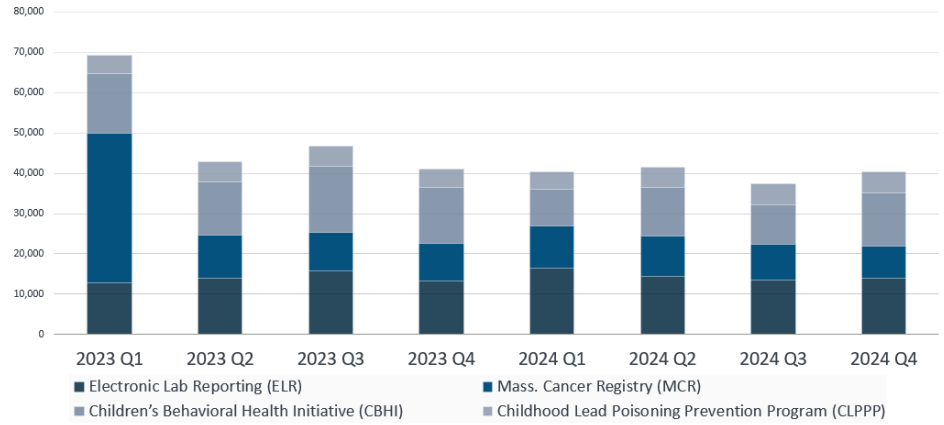
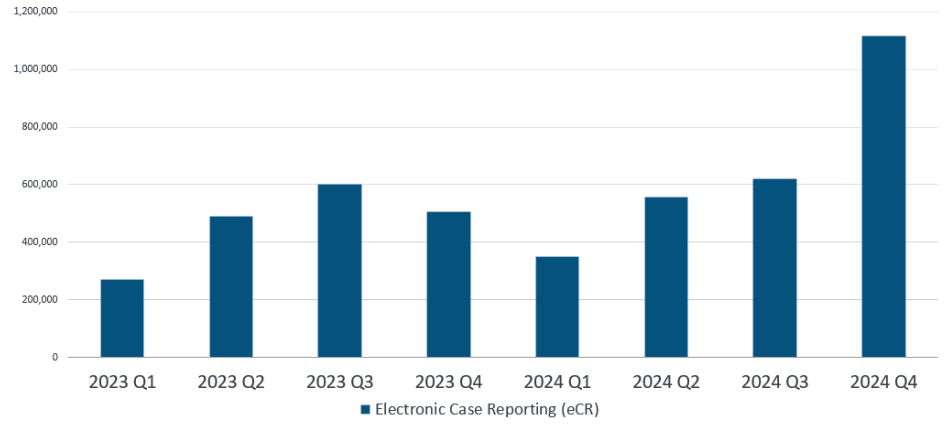


Figure-7 CG Registry Nodes Quarterly Volume 2023 - 2024



Additionally, the Mass HIway saw a significant volume of messages for **Electronic Case Reporting (eCR)**, which is a newly mandated public health reporting requirement per the CDC's Data Modernization Initiative (DMI).

Figure-8 Electronic Case Reporting Quarterly Volume 2023 - 2024



C. MASS HIWAY CLINICAL GATEWAY

The Mass HIway continued operating the Clinical Gateway (CG) as a unified application to support electronic public health reporting across Massachusetts. Hosted on Amazon Web Services (AWS), the CG integrates a suite of backend applications to facilitate the secure transmission and transformation of provider-submitted data into formats required by state public health systems.

In 2024, over **460 million messages** were transmitted through the Clinical Gateway nodes to the Department of Public Health (DPH) and related programs. The platform supports both Direct Messaging and RESTful API-based submissions, aligning with state modernization efforts and national interoperability standards.

C.1 CG BACKGROUND

The **Consolidated Clinical Gateway (CCG)** is a collection of applications—referred to as **Clinical Gateway (CG) nodes**—that serve as intermediaries between providers and state agencies for public health data exchange.

These nodes transform incoming messages submitted via **Direct Messaging** or **APIs** into formats compatible with the state's backend systems. Core functions include message decryption, data validation and transformation into the required reporting format.

This approach allows providers and state agencies to maintain their current IT systems, while the CG handles technical translation, creating a seamless, standards-based reporting workflow.

Each CG node supports a specific public health registry or reporting requirement. Current nodes include:

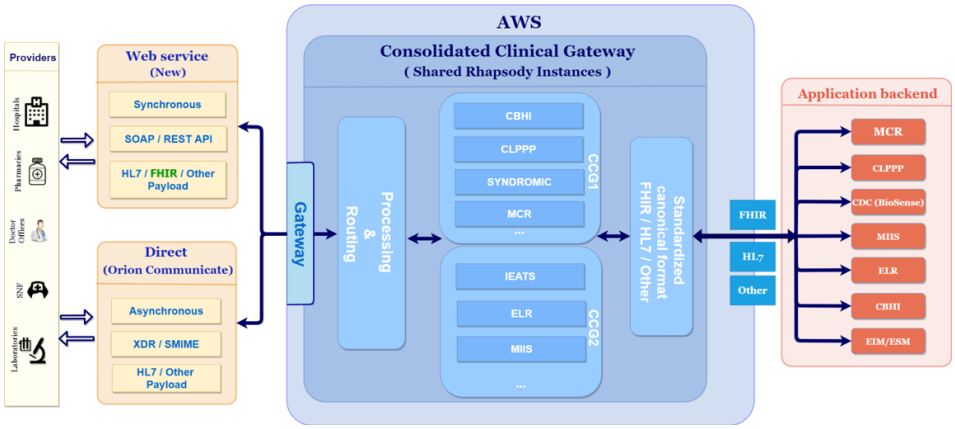
- **Syndromic Surveillance:** Detects and reports potential outbreaks using real-time clinical data
- **Massachusetts Immunization Information System (MIIS):** Supports vaccine reporting and includes demographic query capabilities
- **Electronic Lab Reporting (ELR):** Automates lab data transmission from hospitals and commercial labs
- **Children's Behavioral Health Initiative (CBHI):** Transmits the Child and Adolescent Needs and Strengths (CANS) assessment to standardize behavioral health assessments for MassHealth children and youth.

- **Childhood Lead Poisoning Prevention Program (CLPPP) & Adult Lead Reporting:** Collects and analyzes lead exposure data
- **Intake Enrollment and Assessment Transfer Service (IEATS) for Opioid Treatment Programs (OTP):** Reports intake, enrollment, and treatment data
- **Massachusetts Cancer Registry (MCR):** Gathers data on newly diagnosed cancer cases

This architecture enables scalable, modular support for public health reporting and helps ensure compliance with federal mandates and state priorities.

The figure below depicts the architecture of the Mass HIway Clinical Gateway services environment which provides processing and routing to the public health registry systems.

Figure-9 Mass HIway Clinical Gateway High-Level Architecture



C.2 CG MAINTENANCE AND ENHANCEMENT ACTIVITIES

In 2024, the Mass HIway's Maintenance and Enhancement (M&E) team continued its work to ensure the reliability, performance, and ongoing development of the Clinical Gateway (CG) and related systems. This cross-functional team—comprising of project managers, analysts, developers, and testers—supports both business and technical operations and plays a critical role in advancing health information exchange across the state.

Key Activities and Highlights:

- **Cloud Operations and Security**: The team managed the CG infrastructure hosted on Amazon Web Services (AWS), including database administration, security patches, and release deployments. It also maintained 24/7 incident response capability.
- **Continuous Improvement**: Enhancements and fixes were implemented in response to evolving business needs. All changes followed a formal Software Development Life Cycle (SDLC) process, with rigorous testing in development, QA, and production environments.
- **Functional Enhancements**: New features and upgrades were deployed based on requests from the Department of Public Health (DPH) and MassHealth. These ranged from minor adjustments to significant application improvements.
- **Support for Business Applications**: Beyond the CG nodes, the M&E team maintained and enhanced several operational tools, including:
    - The Customer Relationship Management (CRM) system
    - The Mass HIway public website
    - Dashboards and reporting tools for message monitoring and integrity
    - Audit systems and internal utilities

This comprehensive support framework helped ensure that Mass HIway services remained highly available, functional, and aligned with public health and provider needs.

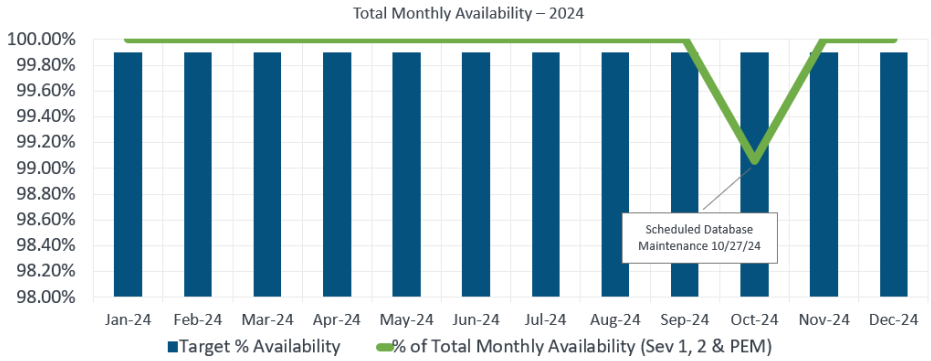
Figure-10 Clinical Gateway Maintenance and Enhancement Projects - 2024

CG Node / Application	Projects & Major Enhancements	Maintenance & Support Activities
Childhood Lead Poisoning Prevention Program (CLPPP)	2	8
Syndromic Surveillance (Syndromic)	2	9
Children's Behavioral Health Initiative (CBHI)	1	12
Massachusetts Cancer Registry (MCR)	1	5
Electronic Lab Reporting (ELR)	1	6
Massachusetts Immunization Information System (MIIS)	4	11
Intake Enrollment and Assessment Transfer Service (IEATS) for Opioid Treatment Program (OTP)	6	13
Mass HIway CRM (Sugar CRM)	3	12
Mass HIway Web	4	14

Health Check Application	0	0
Infrastructure (including Gateway updates)	4	12
CG Node Common Changes & Report Generation	8	21
Total	**36**	**123**

The Mass HIway maintained near-continuous **system availability** throughout 2024, meeting its uptime target of **99.9%**. The only recorded downtime occurred during a scheduled maintenance window in October for database updates.

Figure-11 Mass HIway Monthly Availability 2024



C.3 CG API-FHIR 2024 TECHNICAL UPDATE

The Mass HIway continued advancing its **Clinical Gateway (CG) API platform** in 2024, strengthening the Commonwealth's ability to support **real-time, standards-based public health reporting**. These APIs align with national interoperability frameworks and the capability to integrate **FHIR (Fast Healthcare Interoperability Resources)** standards alongside secure authorization protocols like OAuth 2.0.

While many providers still rely on Direct Messaging, the deployment of CG APIs reflects a broader shift toward **modern, flexible, and synchronous data exchange**. This capability supports the strategic vision of enabling **multi-channel, real-time connectivity** across public health use cases.

Key Milestones and Progress in 2024:

- **API Platform Stabilization:** All CG APIs are now fully operational, providing an alternative to Direct Messaging for public health reporting. The platform supports both RESTful and SOAP-based communication protocols.
- **Security Enhancements:** OAuth 2.0 authorization and other modern authentication protocols were implemented to support secure data transmission across endpoints.
- **FHIR Readiness:** While public health FHIR use cases are still emerging, the CG API infrastructure now supports message transformation and schema alignment for future public health workflows based on FHIR.
- **Strategic Modernization Alignment:** Several state initiatives are adopting FHIR-based data exchange as a core requirement. For example:
    - The **Electronic Comprehensive Assessment System (eCAS)** is leveraging FHIR to support CBHI workflows.
    - The **Registry of Vital Records and Statistics (RVRS)** is adopting FHIR to streamline reporting between healthcare providers and the RVRS backend.

The Mass HIway remains engaged with provider organizations, state partners, and national stakeholders to identify meaningful FHIR use cases and to continuously expand the capabilities of the CG API platform. While Direct Messaging will remain a critical component of HIE in the near term, the infrastructure now exists to support a **hybrid environment** where APIs offer faster, more adaptable pathways for data exchange.

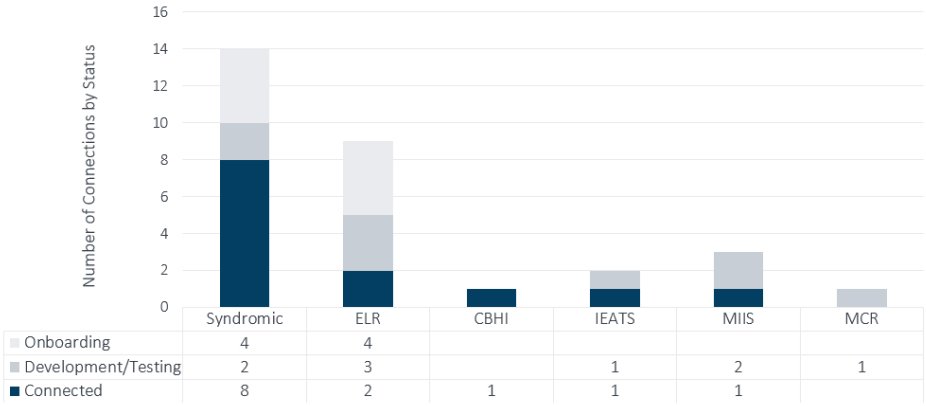
C.4 CG API-FHIR 2024 PROVIDER ENGAGEMENT UPDATE

In 2024, the Mass HIway successfully connected five large health systems and one behavioral health EHR vendor to seven Department of Public Health (DPH) reporting registries via RESTful API connections. These connections included **eHana**, a behavioral health EHR vendor, which connected to the **Intake Enrollment and Assessment Transfer Service (IEATS)**; **Trinity Health of New England**, **Tufts Medicine**, and **Boston Children's Hospital**, which connected to the **Syndromic Surveillance** RESTful API endpoint; and **Cambridge Health Alliance**, which

connected not only to Syndromic Surveillance, but also to the **Electronic Lab Reporting (ELR)** and **Massachusetts Immunization Information System (MIIS)** RESTful API endpoints.

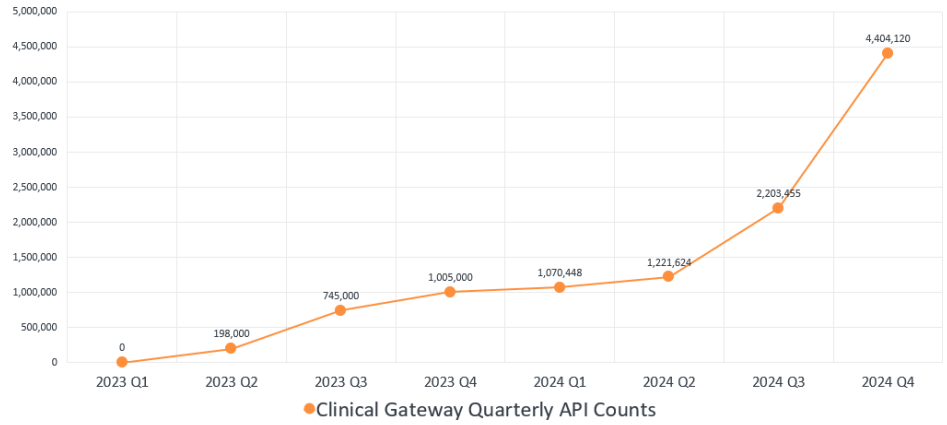
As of February 2025, a total of **13 RESTful API connections** to the Mass HIway are live across all registries, with **17 additional organizations** actively onboarding or in the development and testing process.

Figure-11 Mass HIway Clinical Gateway API Connection Status (As of Feb 2025)



The onboarding of these organizations in 2024 contributed to a significant increase in API message volume. As shown in the figure below, API transactions **quadrupled from Q1 2024 to over 4.4 million transactions in Q4 2024**, reflecting growing provider engagement and continued momentum toward real-time, standards-based public health reporting.

Figure-12 API Quarterly Transaction Volume - 2024



D. MASS HIWAY ACCOUNT MANAGEMENT

A core function of the Mass HIway program is to support health information exchange (HIE) and advance care coordination objectives among Massachusetts providers and the healthcare system more broadly. Engagement and account management activities are oriented to improve the HIE operating environment and address barriers and gaps for providers, state agencies and other healthcare stakeholders.

D.1 PROVIDER DIRECTORY AND DIRECTTRUST OUTREACH

Accurate and up-to-date Provider Directory listings are essential for enabling providers and care team members to exchange patient information for care coordination. The Provider Directory is a foundational component of health information exchange, and inaccurate or outdated information can hinder efforts to identify and communicate with the appropriate recipients.

The Mass HIway Provider Directory is a resource for organizations in the Commonwealth to find information on providers with whom they need to exchange data. The Provider Directory includes information for HIway participants as well as other providers in Massachusetts who use Direct Messaging services through other **DirectTrust**-accredited Health Information Service Providers (HISPs).

During 2024, the Mass HIway team applied **SERV_DESC codes** to provide clearer descriptions of the intended use cases for each Direct address. For example, "provider-provider-data-exchange" indicates that the address is used for provider-to-provider data sharing, while "care-coordination" reflects use across multiple services. These codes do not specify the exact services offered by the provider but help clarify the intended purpose of each Direct address.

Significant work was also completed in 2024 to support the inclusion of Taxonomy codes in the Provider Directory in Q1 2025. These standardized identifiers categorize healthcare providers and organizations by specialty and role, improving the accuracy and searchability of Provider Directory listings. In response to customer feedback, the Provider Directory format was also updated to distinguish between organizational and individual Direct addresses. These improvements support easier identification of the appropriate destination and help streamline integration with Electronic Health Records (EHRs).

All of these changes were implemented to align with evolving **DirectTrust standards**, ensuring compatibility and usability across the national Direct exchange ecosystem. These updates reflect the Mass HIway's ongoing commitment to advancing healthcare interoperability and improving the quality of care.

Lastly, the Mass HIway team continues to actively participate in the **DirectTrust national Provider Directory workgroup**, collaborating with vendors, providers, and patient advocates to address the provider directory data integrity issues on a national scale.

D.2 PROVIDER ENGAGEMENT

During 2024, the Mass HIway onboarded **17 new organizations** for Direct Messaging capabilities. Of these new connections, **6** are being used for care coordination, while **11** are supporting public health reporting to the Department of Public Health (DPH). Of the 11 new DPH connections, **9** are for **lead reporting to CLPPP**, and the remaining **2** are for reporting to the **Massachusetts Cancer Registry**.

Notable accomplishments in 2024 include:

Modernization and Efficiency Outreach Campaign
The Account Management Team facilitated the retirement of **37 Connect devices** by guiding providers through transitions to the Mass HIway APIs and other modern communication methods. These transitions helped reduce reliance on more costly and less efficient technology, resulting in significant savings to the Commonwealth and improved performance for providers.

The team also led a second initiative to **decommission inactive webmail accounts**, creating further cost efficiencies.

Expansion to Dental Practices
The Mass HIway Account Management Team collaborated with **three dental practices** across **14 locations** in Massachusetts: **Baystate Dental** (11 locations), **Monica Rao, DMD** (two locations), and **Evershine Dental**. These providers, which are contracted with the Veterans Affairs (VA), are using the Mass HIway to exchange **records, referrals, and x-rays** with the VA—marking a notable expansion of HIE use within the dental community.

Boston Public Schools (BPS) Use Case
The Boston Public Schools (BPS) system, which serves more than **125 schools and 54,000 students**, has expressed interest in enabling its in-school nursing teams to coordinate care with pediatricians and other providers for complex, high-risk students. The Mass HIway Account Management Team is actively guiding BPS through the onboarding process, and BPS plans to implement an **XDR connection** to the Mass HIway within its national school nurse EHR system. As of the end of 2024, BPS is reviewing documentation internally and expects to move forward with implementation in the coming year.

Other Opportunities
The team also met with the **Office of the Medical Examiner (OCME)**, which is seeking access to provider records during examinations and is currently in the onboarding process. Additionally, the Mass HIway team has engaged in conversations with the **Department of Developmental Services (DDS)** and the **Disabled Persons Protection Commission (DPPC)** to explore how HIE could support the exchange of critical information.

Further exploration is underway to assess the technical limitations and opportunities related to health information exchange between **EMS agencies and hospitals**, and to determine how the Mass HIway might help address these challenges.

In addition to managing new connections, the Mass HIway Account Management Team fielded a high volume of **calls and emails** from both current and prospective participants, as well as members of the public. These interactions focused on explaining HIE service options, privacy considerations, and procedures for accessing and sharing health data. The team also provided guidance to non-HIway participants on how to leverage Direct Messaging through their vendors and how to access national provider directories.

The team also worked with several **digital health technology companies** to help them understand how Direct Messaging and other exchange modalities could support their products and services.

Finally, the Account Management Team provided **direct support to individuals managing their own or a family member's health records**, including coordinating exchange between **Atrius Medical and the VA**, retrieving medical records from a **closed practice**, and supporting an **out-of-state proxy** managing care for a Massachusetts resident.

E. STATEWIDE EVENT NOTIFICATION SERVICE FRAMEWORK

Event Notification Services (ENS) allow hospitals to notify healthcare providers about significant patient events, such as **admissions, discharges, and transfers (ADTs)**. The **Massachusetts Statewide ENS Framework**, developed by EOHHS and the Mass HIway in 2021, establishes an **interoperable ENS network** composed of **Certified ENS Vendors** who are required to interconnect their systems to ensure cross-vendor alert delivery.

Before the implementation of the statewide framework, providers only received notifications if both the hospital and the subscribing provider used the same ENS vendor. The statewide ENS Framework changed this by requiring **all acute care hospitals** in Massachusetts to send ADT messages to at least one Certified ENS Vendor (see 101 CMR 20.08(4)).

To ensure full statewide coverage, Certified ENS Vendors must share alerts with each other, so subscribers of any vendor can receive alerts from **all acute care hospitals** across the Commonwealth.

Certified ENS Vendors were approved by the Mass HIway based on criteria for **functionality, data security, data sharing, and business practices** that support reliability, accessibility, and integrity of ENS data. Vendors are also required to **submit quarterly reports** to the Mass HIway under the terms of their contracts.

The Statewide ENS Framework officially launched on April 1, 2021.

E.1 ENS PROGRAM 2024 ACTIVITY UPDATE

In January 2025, **Bamboo Health** and **PointClickCare** were **recertified** as the Commonwealth's Certified ENS Vendors under the Massachusetts Statewide ENS Framework. Both vendors have participated in the program since its inception in 2021, and their recertification confirms that

they continue to meet the required standards for functionality, data security, data sharing, and business operations.

As part of the recertification process, the Mass HIway introduced updates to the Certified ENS Vendor contract to strengthen the program. These updates included new or enhanced requirements related to minimum vendor eligibility criteria, the submission of detailed quarterly reporting metrics, the sharing of clinical information included in ADT messages with subscribers, and an annual evaluation of the quality of ADT data feeds submitted by acute care hospitals.

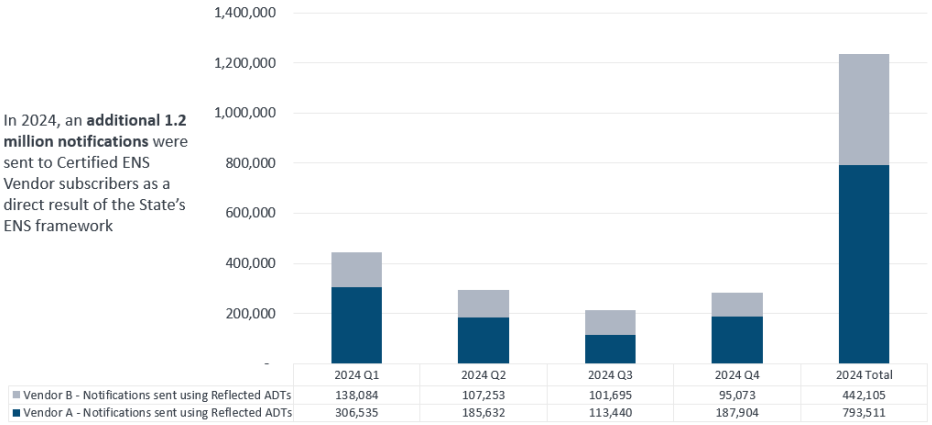
These enhanced requirements are intended to improve the Massachusetts ENS Framework's ability to deliver timely and actionable event notifications to providers, thereby supporting better care coordination and improving the quality of care for patients throughout the Commonwealth.

E.2 ENS/ADT REPORTING METRICS

As noted above, Certified ENS Vendors are required to submit **quarterly reports** to the Mass HIway. These reports allow the Mass HIway to monitor the Massachusetts ENS landscape and track trends in **ADT volumes**, **data quality**, and **subscriber usage**. The data provides valuable insights into the performance and impact of the State's ENS Framework.

During 2024, an additional **1.2 million notifications** were delivered to Certified ENS Vendor subscribers as a **direct result of the statewide framework**. See the accompanying figure below for more details.

Figure-13 Additional Notifications Sent to ENS Vendor Subscribers



The updated ENS Vendor Quarterly Reporting Template also provided new visibility into the **quality of ADT data** submitted by acute care hospitals. Mass HIway has received feedback from subscribers noting that ADTs often lack key clinical details, such as diagnoses. With the updated reporting requirements, the Mass HIway can now monitor the **fill rates** for important data fields, such as demographics and clinical information, at the **individual hospital level**.

The figure below presents **average fill rates** for both demographic and clinical data points from **Q4 of 2024**, across the two Certified ENS Vendors.

Figure-14 ENS Vendor Reporting Quality Metrics – 2024 Q4

Quality of ADT Demographic Information	Vendor A	Vendor B
Average Fill Rate of **Date of Birth** in ADTs	100%	100%
Average Fill Rate of **Sex** in ADTs	100%	100%
Average Fill Rate of **Address** in ADTs	99%	99%
Average Fill Rate of **City/Town** in ADTs	99%	99%
Average Fill Rate of **Zip Code** in ADTs	99%	99%
Average Fill Rate of **Phone Number** in ADTs	91%	92%

Average Fill Rate of **SSN** in ADTs	77%	73%
Quality of ADT Clinical Information	Vendor A	Vendor B
Average Fill Rate of **Chief Complaint** in A01 (Admit) Messages	32%	0%*
Average Fill Rate of **Discharge Location** in A03 (Discharge) Messages	87%	84%
Encounter Diagnosis Fill Rate by Hours	Vendor A	Vendor B
Average Fill Rate of Encounters with **Diagnosis Information** included within….		
1 Hr. Post Discharge	54%	20%
12 Hrs. Post Discharge	56%	53%
24 Hrs. Post Discharge	57%	55%
48 Hrs. Post Discharge	61%	58%
72 Hrs. Post Discharge	64%	61%

*Note: Vendor B does not currently process 'chief complaint' information, but the functionality is being developed in 2025.

E.3 ENS/ADT LANDSCAPE IMPROVEMENT EFFORTS

To support improved utilization of ADT alerts by subscribers, the Mass HIway team published **"ADT Alert Best Practices for Provider Organizations"** in February 2024. This document provides background information on ADT alerts and the Massachusetts ENS Framework and offers strategies to help provider organizations optimize how they use ADTs in ambulatory settings.

The best practices document is organized into three key sections:

1. Understanding your organization's ENS alert current state,
2. Optimizing ADT alert feeds, and
3. Using historical ADT data to inform operations.

It also includes two planning templates. One helps the provider organizations inventory and assess the alerts they currently receive, while the second helps them plan how to optimize their primary ADT alert feed. The document was made available on the Mass HIway website and was shared with newsletter subscribers and ADT webinar attendees on **February 22, 2024**.

In addition to publishing the best practices, the Mass HIway team continued its collaboration with the **Massachusetts League of Community Health Centers** to help **Federally Qualified Health Centers (FQHCs)** improve their ADT alert follow-up workflows. The Mass HIway presented on the ENS Framework and best practices during the Mass League's **Chief Medical Officer Forum on March 20, 2024**, and co-hosted EHR-specific ADT workgroups with the League.

Eight FQHCs using **OCHIN Epic** participated in the first workgroup, and 11 FQHCs using **CTC's platform** participated in the second. These 19 organizations represent **50% of all FQHCs** in Massachusetts. Additional EHR-focused ADT workgroups are planned for 2025.

To proactively improve the quality of ADT feeds coming from acute care hospitals, the Mass HIway added a new requirement to the Certified ENS Vendor contracts. Vendors must now conduct **annual evaluations** of each hospital's data feed, assessing factors like mapping, connectivity, and data completeness. Vendors submitted these evaluations to the Mass HIway by **December 31, 2024**.

With these reports in hand, the Mass HIway has begun analyzing the findings to identify areas for improvement and will collaborate with Certified ENS Vendors in 2025 to address any issues. These evaluations lay the groundwork for **ongoing quality improvement efforts** with hospitals across the Commonwealth.

F. FEDERAL DEVELOPMENTS

The Mass HIway continues to monitor federal developments to understand and evaluate the potential intersection with Mass HIway services and operations and any impact to the health information exchange landscape in Massachusetts.

F.1 FEDERAL LEGISLATION ACTIVITY AND MILESTONES

In 2024, federal agencies continued to advance health information exchange through a combination of new rules, updated standards, and expanded interoperability infrastructure. These efforts focused on enabling nationwide exchange, improving access to clinical and administrative data, and reinforcing transparency and patient empowerment.

The Trusted Exchange Framework and Common Agreement (TEFCA) officially launched in 2024, marking a major milestone in the nationwide interoperability agenda. Seven organizations were designated as Qualified Health Information Networks (QHINs) by the Office of the National

Coordinator for Health Information Technology (ONC): eHealth Exchange, Epic Nexus, Health Gorilla, KONZA, MedAllies, CommonWell Health Alliance and Kno2. These QHINs began exchanging health data under the Common Agreement, enabling cross-network queries for treatment and individual access services. Massachusetts-based providers are assessing how their health IT vendors plan to support TEFCA participation.

In January 2024, CMS finalized its Interoperability and Prior Authorization Rule (CMS-0057-F), requiring certain payers—including Medicaid and CHIP managed care entities—to implement FHIR APIs for prior authorization workflows by 2027. The rule also strengthens existing API requirements under the CMS Patient Access rule, aiming to reduce delays in care and administrative burden.

The ONC's Health Data, Technology, and Interoperability (HTI-1) Final Rule, released in late 2023, saw implementation activity throughout 2024. The rule updates the ONC Health IT Certification Program to require support for USCDI v3, transparency of AI-based clinical decision support algorithms, and new privacy-enhancing features for patient access tools.

Additionally, ONC released USCDI Version 4 (v4) in July 2024. This version expands on social determinants of health, disability status, and other public health priorities, reinforcing the commitment to data equity and completeness across exchange networks.

In December 2024, ONC also released the proposed HTI-2 Rule, which focuses on advancing public health data modernization and FHIR-based exchange and lays out future certification criteria expected to shape the next phase of national interoperability efforts.

Together, these initiatives reflect a coordinated federal push to accelerate the adoption of modern data standards, improve information flow across settings, and reduce friction for patients and providers alike.

F.2 INFORMATION BLOCKING

The **Information Blocking** rule, authorized by the 21st Century Cures Act, continues to drive progress in ensuring equitable access to electronic health information (EHI). In June 2024, the U.S. Department of Health and Human Services (HHS) finalized a rule establishing disincentives for providers found to have engaged in information blocking. These penalties include potential exclusion from Medicare programs and participation in advanced payment models.

The ONC and the Office for Civil Rights (OCR) expanded their enforcement infrastructure in 2024 to address the growing number of complaints related to EHI access restrictions.

The **Mass HIway remains in full compliance** with the Information Blocking rule, as affirmed in the Information Blocking Compliance Affirmation included in the Appendix. The Mass HIway's services—including Direct Messaging, Provider Directory, and Public Health Reporting Gateway—support timely, secure access and exchange of EHI across Massachusetts in alignment with federal regulations.

G. IN FLIGHT INITIATIVES

The Mass HIway participates in and supports a number of Executive Office of Health and Human Services (EOHHS) initiatives, providing cross-disciplinary subject matter expertise to advise on health information technology programs.

EOHHS is advancing several high-priority efforts to strengthen the Commonwealth's health information infrastructure and improve care coordination. These initiatives focus on modernizing care transitions, supporting end-of-life planning, and enhancing access to timely, accurate health data across care settings.

Two major initiatives that advanced significantly in 2024 include the launch of the **Behavioral Health Treatment and Referral Platform (BH TRP)** and the design and implementation of a statewide **electronic POLST (ePOLST) Registry**. Both reflect a strong commitment to leveraging technology to improve care delivery, reduce administrative burden, and support the needs of individuals with complex medical and behavioral health conditions.

The following sections provide updates on each initiative's progress and ongoing development.

H. BEHAVIORAL HEALTH TREATMENT & REFERRAL PLATFORM

Launched statewide in February 2025, the **Behavioral Health Treatment and Referral Platform (BH TRP)** supports the Commonwealth's goal of creating a more efficient, transparent, and coordinated behavioral health system, with a particular focus on reducing delays and improving care transitions for individuals in need of psychiatric inpatient admission.

PointClickCare was selected as the vendor through a competitive procurement process to develop and operate the platform, which enables healthcare providers and behavioral health facilities to electronically manage referrals through a standardized, real-time workflow. The platform also supports faster response times and improves communication across care settings. It is used across emergency departments, inpatient psychiatric facilities, and other behavioral

health providers to facilitate timely care coordination under the **Expedited Psychiatric Inpatient Admission (EPIA)** protocol.

Since launch, the platform has undergone regular enhancements based on user feedback and performance monitoring. EOHHS and its technology partners continue to make system improvements, expand user support resources, and lead outreach and education efforts to encourage consistent adoption of digital workflows statewide.

The Mass HIway continues to collaborate with EOHHS leadership and stakeholders to advise on data exchange design and ensure alignment of the BH TRP with the Commonwealth's broader interoperability goals, supporting a modern, patient-centered behavioral health infrastructure.

I. POLST PROGRAM

EOHHS and the Executive Office of Aging & Independence (AGE), under the authority of **Chapter 268 of the Acts of 2022**, launched an initiative to transition Massachusetts to the **National POLST (Portable Orders for Life-Sustaining Treatment)** paradigm. The goal is to support patient preferences for end-of-life care through technology that enables care coordination, improves cross-setting accessibility, and facilitates transferability between states.

In partnership with the Department of Public Health (DPH), AGE is leading the transition to the National POLST model, while the Mass HIway is overseeing the technical project management and implementation of a statewide **electronic POLST (ePOLST) Registry**. The vendor **MyDirectives** was selected through a competitive procurement process to build and customize the system to meet Massachusetts-specific needs.

I.1 EPOLST REGISTRY 2024 UPDATE

The mission of the Massachusetts POLST Program is to help people living with serious illnesses and advancing frailty engage in active planning with their clinicians and care teams to ensure that their treatment preferences are understood and honored, regardless of their point of care.

The Massachusetts POLST Program goals are to:

- Align with national standards and best practices. Using the national POLST standard will enable improved portability outside of Massachusetts.
- Establish POLST as an integral part of the advance care planning continuum in Massachusetts. POLST is more than just a form. POLST is a clinical process that results in

documenting patient preferences as a medical order that is honored regardless of the care setting.

- Support effective care planning conversations for people with serious illness and advancing age. We want to ensure that all clinical staff have appropriate tools for effective, compassionate, and thorough conversations with patients.
- Ensure clear, reliable documentation about the program. We want to ensure that all program components are well-documented and easily referenceable.
- Improve integration across all care settings with an electronic registry. The ePOLST system, accessible across care settings, will provide a single "source of truth" and will be available for integration into each organization's electronic patient records.
- Continually improve the program. Continuously improve the POLST Program and implement any new learnings.

Key Activities and Updates for 2024

The **vendor contract with MyDirectives was executed on July 2, 2024**, and throughout the remainder of the year, the vendor and state partners worked together to customize the registry platform to meet Massachusetts-specific requirements. By year-end, customization was approximately **90% complete**.

A major focus of 2024 was **stakeholder engagement**. Advisory groups and development partners were recruited to represent the full continuum of care, including state agencies, providers, consumers, and EMS. The Consumer Advisory Group began meeting in June to provide input on education materials, while leadership and provider groups began convening in December to help shape program development.

Engagement levels grew rapidly, with the stakeholder email list expanding from **210 to over 1,400 individuals**. Four statewide update webinars were held in 2024, the first of which drew **550 attendees**, with continued participation of **200+ per session**. In addition, the program team conducted:

- 12+ informational sessions with provider organizations
- 4 briefings for internal state agency partners
- 9 sessions with industry organizations
- 3 sessions with EMS providers

- 6 focus groups

The POLST Program Director also actively engaged with the national community, participating in training sessions and presenting at **eight conferences and membership meetings**.

Phase 1 of the pilot program is scheduled to begin in **March 2025**, following kickoff meetings held with development partners in October. This phase will focus on testing the registry's training materials and user experience. Feedback will inform final customization and preparations for integration with Electronic Health Records (EHRs).

Figure-15 Anticipated Plan for MOLST to ePOLST Transition 2024-2027



J. BUDGET

J.1 BACKGROUND & FUNDING RATES

The Mass HIway's operations are supported through a combination of **state and federal funds**, along with **participation fees** collected from provider organizations. The Massachusetts Legislature established the **Health Information Trust Fund** under M.G.L. c. 10, § 35RR, which secures state appropriations to support the HIway's operational and programmatic activities.

In addition to state funding, the Mass HIway receives federal support primarily through the Medicaid Enterprise System (MES) program administered by the Centers for Medicare & Medicaid Services (CMS). The level of federal financial participation varies depending on the nature of the activity—whether it supports design and development, ongoing operations, or other Medicaid-beneficial services.

Costs are allocated based on the extent to which activities support the Medicaid program, ensuring compliance with CMS funding requirements and alignment with state and federal health IT priorities.

Provider organizations that participate in the Mass HIway also contribute through **annual fees**, which are assessed based on organization type and size, pursuant to **101 CMR 20.13**. These fees help support the sustainability of the HIway's services and infrastructure.

K. CONCLUSION

This report highlights the key services and activities undertaken by the Mass HIway and its partners to advance health information exchange (HIE) and interoperability across the Commonwealth. Through continued delivery of secure Direct Messaging, a robust Provider Directory, and the operation of the Consolidated Clinical Gateway, the Mass HIway enables vital public health reporting and care coordination among a wide range of healthcare organizations.

In 2024, the Mass HIway also supported major statewide initiatives, including the launch of the Behavioral Health Treatment and Referral Platform and the development of the electronic POLST Registry, reflecting its evolving role as a strategic partner in advancing the Commonwealth's health IT infrastructure.

Looking ahead, the Mass HIway will continue to engage providers, promote best practices, and enhance its technical capabilities to align with national standards such as APIs and FHIR. These efforts are central to supporting timely, patient-centered care, improving public health outcomes, and enabling value-based care across Massachusetts.

L. APPENDIX

L.1 MASS HIWAY INFORMATION BLOCKING COMPLIANCE AFFIRMATION



Massachusetts Health Information Highway (Mass HIway) Information Blocking Compliance Affirmation

This document serves to affirm that the Massachusetts Health Information Highway (Mass HIway), as a state-designated Health Information Exchange (HIE), is fully compliant with the information blocking provisions as outlined in the 21st Century Cures Act and implemented by the Office of the National Coordinator for Health Information Technology (ONC). Operating within a regulatory framework set by the Executive Office of Health and Human Services (EOHHS) and informed by the Health Information Technology (HIT) Council, the Mass HIway upholds the following principles and practices:

1. **Access and Exchange of EHI**: The Mass HIway does not engage in practices that inappropriately restrict the access, exchange, or use of electronic health information (EHI). As our primary service is Direct Messaging, which ensures a secure method of transmitting health information between authorized users, we provide a platform that facilitates equal and timely access to EHI for treatment, payment, and healthcare operations. While providers and Electronic Health Record (EHR) systems ultimately control the access and exchange of EHI, the Mass HIway is committed to supporting our participants in their efforts to comply with information blocking regulations. We maintain the highest standards of privacy and security, as evidenced by our end-to-end encryption of Direct Messages, and we are dedicated to enabling seamless and secure health information exchange within the healthcare ecosystem.

2. **Reasonable Fees**: Any fees associated with connecting to or using the Mass HIway are reasonable, transparent, and based on the cost of providing the services. There are no excessive fees that would inhibit the access, exchange, or use of EHI.

3. **Non-Discriminatory Practices**: The Mass HIway provides equal service to all participants without preferential treatment or discrimination. All policies and procedures are applied consistently across all entities and individuals.

4. **Standard Implementation of IT**: The Mass HIway utilizes standard, widely accepted practices and technologies to facilitate the interoperability of health IT. This ensures that the complexity or burden of accessing or exchanging EHI is minimized.

5. **Timely Access to EHI**: The Mass HIway ensures that there are no unnecessary delays in the access, exchange, or use of EHI. All participants have timely access to the information necessary for the provision of healthcare services.

6. **Promotion of Interoperability**: The Mass HIway actively promotes the interoperability of health IT and does not engage in practices that limit such interoperability. We support and utilize standardized APIs and formats for EHI that are widely supported and facilitate the seamless exchange of information.

7. **Compliance with Regulatory Requirements**: The Mass HIway adheres to a robust regulatory framework. Certain organizations, such as Acute Care Hospitals, Community Health Centers, and Medium-Large Medical Ambulatory Practices, are mandated to connect to the Mass HIway or a DirectTrust Health Information Service Provider (HISP) for specified use cases, ensuring widespread and standardized participation.

8. **Statewide Event Notification Service (ENS) Framework**: The Mass HIway oversees a network of Event Notification Services (ENS) provided by ENS Vendors certified by EOHHS. This ensures that notifications about patient events are disseminated securely and in a timely manner to authorized providers.

9. **HIway Account Management and HIE Adoption Support**: We provide comprehensive assistance with the adoption and use of HIE technologies to enhance care coordination, ensuring that our practices promote, rather than inhibit, the effective use of HIE.

10. **Mass HIway Services**:

    - **Health Information Service Provider (HISP)**: Provides a trust framework for secure communications and the ability to exchange encrypted messages that must be deciphered using a public key infrastructure.

    - **Provider Directory**: Offers provider information and destination addresses (Direct Address) for providers and healthcare organizations, facilitating seamless and efficient information exchange.

- **Direct Messaging**: Ensures a secure method of transmitting health information between authorized users. Direct Messages are encrypted end-to-end, and the Mass HIway cannot access any information contained in the Direct Message transmissions, safeguarding privacy and security.
- **Public Health Reporting Gateway**: Offers a consolidated Massachusetts Public Health Reporting data submission and processing, streamlining public health initiatives and reporting.

In every aspect of our operation, the Mass HIway is dedicated to preventing information blocking and fostering an environment where EHI is accessible, exchangeable, and usable in a manner that is secure, efficient, and in the best interest of patient care. We affirm our unwavering commitment to these principles and practices, as they are fundamental to our mission of enhancing the quality, safety, and efficiency of healthcare delivery in Massachusetts.