Commonwealth of Massachusetts
Executive Office of Health and Human Services


# Health Information Technology Council Meeting

December 7, 2015

# Agenda

1. **Welcome** [5 minutes] – *Alice Moore*
2. **Direct Messaging** [15 minutes] - *David Whitham*
   a) Summary of November HIT Council meeting
   b) Discussion
3. **Phase 2 HIway Services** [60 minutes] - *Ipek Demirsoy*
   a) Summary of November HIT Council meeting
   b) Discussion
4. **Conclusion** [5 minutes] – *Alice Moore*

**Appendix:**

- Consent Workgroup Recommendations
- Near-term Initiatives
- ENS Initiative
- Fast Initiative
- Operations Update
- Background information

# Direct Messaging

David Whitham

# Direct Messaging: Definition

- **Definition of Direct Messaging:**
  - Direct Messaging Services are defined as Mass HIway technical services to enable private and secure transport of health information from one User to another.
  - The HIway does not open or store any of the information that gets transported via Direct Messaging.

# Direct Messaging:
# Summary of November HIT Council Meeting

- At the November HIT Council meeting, the recommendations from the Consent Work Group were shared. **There was some understandable confusion between consent for Direct Messaging vs. consent for Phase 2 HIway services.**
- **Direct Messaging is functionally equivalent to faxing or emailing but much more secure.**
  - Yet, HIway Direct Messaging imposes consent requirements not required by HIPAA and not required by other competitive Direct Messaging services
- **HIway Consent requirement on Direct Messaging has the unintended consequence of keeping providers on less secure modes of exchange** (fax, mail, phone, etc.).
- Direct messaging transactions on the HIway are encrypted end-to-end -- HIway does not store or have access to ANY patient information contained in Direct messages.
- **Making HIPAA the basis for HIway Direct Messaging would align it with other consent requirements in the market and increase adoption.**
- All consent requirements that supersede HIPAA (e.g., HIV test results, substance abuse, etc.) would still apply to HIway Direct Messaging, just as they do with any type of electronic or non-electronic exchange.

# Direct Messaging: Recommendations

**Recommendations from the Consent Work Group:**

1. **Removal of consent for Direct Messaging:** Mass HIway Direct Messaging should not have a consent requirement that goes above and beyond HIPAA
2. **Education for Providers:** Mass HIway should provide additional education, clarification, and guidance to providers about health information exchange generally as well key consent requirements related to the HIway specifically
3. **Educations for Patients:** Mass HIway should provide education and guidance to patients about the HIway including a statewide education and outreach campaign

*See Appendix for more information about recommendations.*

# Phase 2 HIway Services

Ipek Demirsoy

# Phase 2 Services: Definitions

- **Definition of "Phase 2 HIway Services":**
  - **Phase 2 HIway services include the current Relationship Listing Service (RLS) and Medical Record Request service.**
  - **If implemented by the HIway, an Event Notification Service (ENS) would be a Phase 2 service.**
- **Definition of the Relationship Listing Service (RLS):**
  - **The RLS is a HIway registry that can display a list of Participants that have published a consented relationship with a selected Patient.**
  - The RLS is populated by Participants who transmit Patient demographic information with Patient consent and is accessible by Participants with an existing relationship to the selected Patient, or in an emergency situation.
  - Participants may use the RLS to identify other organizations that have a patient's record and initiate a request for those records in whatever way works best for them (outside the HIway). The HIway currently does not support automated query & retrieve capabilities.
- **Definition of an Event Notification System (ENS):**
  - **An ENS can alert Participants regarding patient events such as hospital admissions/discharges/transfers as well as scheduled and fulfilled appointments.**
  - ENS provides real-time awareness of where patients are receiving care and can aid providers with care coordination.

# Phase 2 Services:
# Summary of November HIT Council Meeting

- **At the November HIT Council meeting, the topic of possible changes to the HIway's consent model for Phase 2 services was introduced, emphasizing that no decisions had been made yet**.
- Any HIway-delivered Phase 2 services (e.g., ENS, RLS) that require retention of patient information trigger different consent considerations than Direct Messaging.
- **RLS and ENS require creation of a HIway ADT registry which would store patient demographics, Participants that provided care to the patient, and limited event information (e.g., Hospital Discharge date and time). No clinical data would be stored by HIway.**
- Key consent considerations relate to the HIway creating and managing such a statewide ADT repository, and who has access to information in the repository.
- As a Business Associate to all participants, HIPAA allows the HIway to collect and store patient encounter information, but **Chapter 118i requires an opt-in consent, which has been difficult to implement**.
- Moving forward, consent options currently being considered are opt-in (status quo), federated opt-out, or centralized opt-out.

# Phase 2 Services: Discussion

We now would like to hear from Council members and guests for additional input regarding Phase 2 Services, and the HIway's consent model for Phase 2 Services.

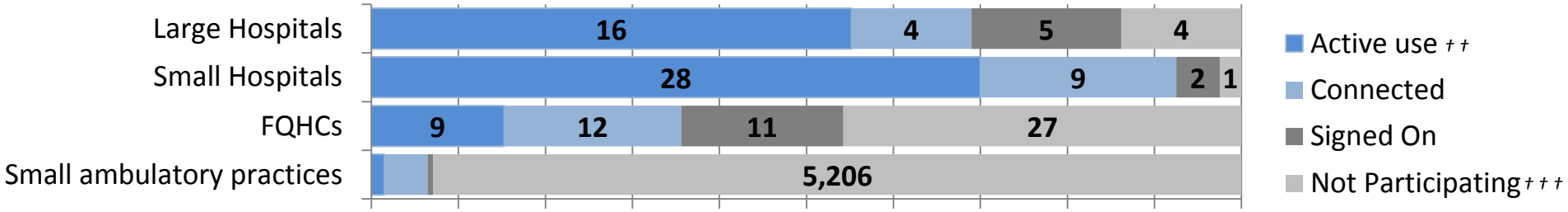
**Discussion topics:**

1. Impact of consent model **on patient privacy**
2. Impact of consent model **on scale**
3. Impact of consent model **on operationalization**

# Provider Organization Participation

- Direct use of the HIway is much more prevalent among larger provider organizations than smaller provider organizations.
- Smaller provider organizations may either be using another HISP to connect to HIway or are not yet connected

**Which provider organizations† are using the HIway?**




Please note that "Active use" refers to *any* transaction on the HIway, whether public health reporting or provider-to-provider communication.

† *On this slide, "Provider Organizations" include the 29 large hospitals, 40 small hospitals, 9 Health Plans, and over 6,000 ambulatory practices in the state. Participation statistics for all organization types may be found in the appendix.*

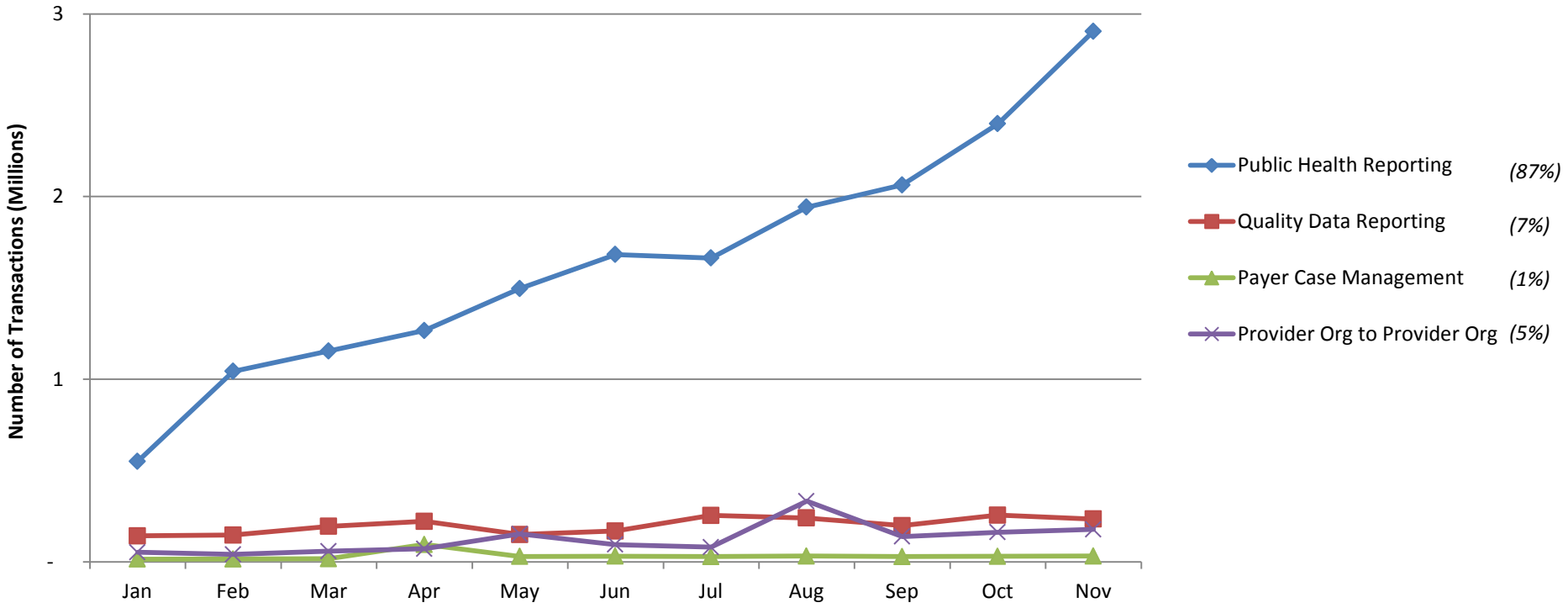
†† *"Active use" refers to any transaction on the HIway, whether public health reporting, provider-to-provider communication, or other purposes.*

††† *The "Not Participating" organizations include many that are connected to the Mass HIway via their HISP but have not started sending or receiving messages. They may be exchanging within their own HISPs or with other HISPs, which is activity that is invisible to the HIway.*

# Current Transactions over the HIway

- Although there were almost 3 million production transactions via the HIway during the month of November 2015, **only 5% of these transactions were from one Provider Organization to another.**[1]
- ~ 90% of the current transactions via the HIway are not subject to opt-in consent above HIPAA requirements, following current HIway Policies & Procedures.

**Why are Participants using the HIway?**





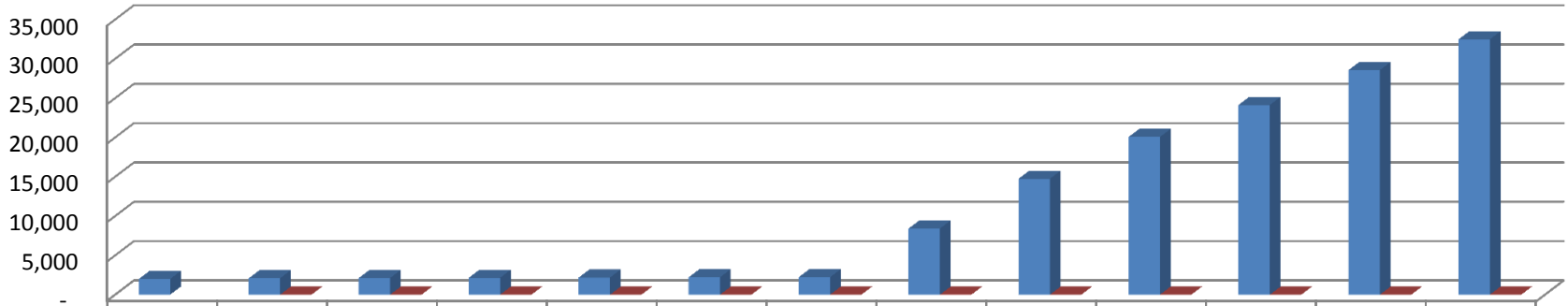

[1]Mass HIway data and analysis; [2]Michigan Health Information Technology Commission, Presentation from Nov 19th 2015 Meeting

# HIway RLS - Unique Patients

**Since launching the Relationship Listing Service (RLS) with four pilot sites in January 2014:**

- A total of ~32,500 unique patients have been added to the RLS (**less than 1% of the state's population)[1].**
- Only **1 of the 4 pilot sites is actively populating the RLS with patient information.**
- All four pilot sites needed at least one year to refine their existing HIway consent process to include the RLS.
- One site is still deciding how to manage consent. Merging the HI-way's opt-in consent with the local HIE opt-out is difficult since their EMR is currently designed to have only one consent flag

**13 Month RLS Growth – Cumulative Unique Patients Count[1]**




| | Nov 2014 | Dec 2014 | Jan 2015 | Feb 2015 | Mar 2015 | Apr 2015 | May 2015 | Jun 2015 | Jul 2015 | Aug 2015 | Sep 2015 | Oct 2015 | Nov 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unique Patients | 1,989 | 2,080 | 2,111 | 2,138 | 2,176 | 2,209 | 2,211 | 8,408 | 14,739 | 20,050 | 24,126 | 28,557 | 32,466 |
| % Change | | 5% | 1% | 1% | 2% | 2% | 0% | 280% | 75% | 36% | 20% | 18% | 14% |

*Note: Starting 12/20/2014, reporting cycle is through the 20th of each month.*

- Phase 2 services such as **the proposed ENS depend on a well-populated RLS**.
- **Consent for the pilot sites has been a barrier to rapid, robust HIway utilization,** and indicates that opt-in consent will be a major barrier for other providers, especially smaller providers.



[1]Mass HIway data and analysis

## Conclusion

Alice Moore

# Next Steps

- **Next steps**
  - EOHHS will continue to engage stakeholders around the three strategic initiatives: FAST, ENS, Consent
  - The next HIT Council meeting: February 1, 2016

# 2016 Schedule

**HIT Council - Meeting Schedule:***

- 2016: The 1st Monday of every other month, starting February 1, 2016

**Advisory Group Schedule:**

- January 12, 2016
- April 12, 2016

**Consent Workgroup Schedule:**

- TBD

**All HIT Council meetings to be held from 3:30-5:00 pm at One Ashburton Place, 21st floor, Boston*

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# Thank you!

# Appendix: Consent Workgroup Recommendations

# Recommendation 1 - Consent

**Recommendation 1:** Mass HIway Direct Messaging should not have a consent requirement that goes above and beyond HIPAA (please see inventory of existing protections for Personal Health Information on following pages)

**Discussion:**

- Protection of personal health information is already covered by HIPAA and sensitive information is already covered by other federal and state laws regardless of mode of exchange (e.g., Mail, fax, direct messaging)
- Direct Messaging is functionally equivalent to faxing or emailing but much more secure. The current Mass HIway Consent requirement on Direct Messaging has the unintended consequence of keeping providers on less secure modes of exchange (i.e., when a patient does not provide consent for the HIway, then their provider can still send the same information via fax without explicit consent).
- Mass HIway consent requirement for Direct Messaging is inherently confusing
  - Consumers confuse consent to send over HIway with consent to disclose their information
  - Out-of-step with other functionally equivalent and heavily used modes such as faxing
  - At odds with all known public and private direct messaging services in the country
- Consent is a barrier to provider adoption and use of Mass HIway Direct Messaging services

# Recommendation 2 – Provider Education

**Recommendation 2:** Mass HIway should provide additional education, clarification, and guidance to providers about health information exchange generally as well key consent requirements related to the HIway specifically

**Discussion:**

- Though Mass HIway consent was originally cited as a major "barrier to exchange," the Consent Advisory Group has discovered that the challenges are much broader
  - The HIway is the first significant entrée to electronic exchange for many providers, so they have to adjust all of their consent (and other) processes
  - HIway consent is one of many consents required in clinical practice and must be aligned with other consent processes
- Provider organizations must navigate a complex web of state and federal information disclosure laws when they modernize information exchange processes – this includes HIPAA as well as laws designed to protect sensitive information
- Navigation of PHI disclosure laws and regulation may be done more efficiently and effectively with additional clarification from the HIway and by organizations working together, sharing legal and policy expertise, and developing best practices conventions to share with all

# Recommendation 3 – Patient Awareness

**Recommendation 3:** Mass HIway should provide education and guidance to patients about the HIway including a statewide education and outreach campaign

**Discussion:**

- Patients are generally uninformed of or confused by the many laws and regulations governing release and disclosure of their health information
- Many patients do not understand how their information is collected, stored, exchanged, and used by healthcare organizations
- Patients can be a driver of adoption if they are included and engaged in the discussion – Misunderstanding and mistrust by patients can undermine the benefits Mass HIway is trying to bring to patients and providers
- By introducing patients to the Mass HIway through a broad outreach campaign, patient conversations with providers about information exchange can be better informed, more targeted, and more meaningful to patients
- Patient education may be done more consistently and efficiently by the state government than by thousands of individual provider organizations

# Appendix: Near-term Initiatives

# The Cross-agency Workgroup is planning three near-term initiatives to address key challenges

| Key Challenge | Potential Near-Term Initiative |
|---|---|
| **Complexity of Connection** | **FAST Initiative**<br>• Standardize available methods of connecting to the HIway<br>• Provide expected time-to-connection for each method<br>• Streamline connection process and ensure expected timelines are met |
| **Consent Management** | **Consent Initiative**<br>• Evaluate feasibility of consent workgroup recommendations and pursue potential policy and procedure improvements<br>• Educate providers and consumers about current consent requirements and potential changes |
| **Functionality to Support Care Delivery Goals** | **Event Notification Service Initiative**<br>• Identify, develop and launch new functionality to facilitate new or third-party tools that support care delivery goals<br>• Event Notifications Service (ENS) identified as a priority tool to facilitate in the near-term |

# Appendix:  Event Notification Service (ENS) Initiative

# The HIway has heard the demand for a state-wide ENS

- In summer 2015, the Cross-Agency Workgroup considered multiple programs, services, and initiative to improve eHealth in the state.
- **A state-wide Event Notification Service (ENS**) was identified one of the top priorities that providers in the state were looking for the HIway to provide
- **Private ENS services** are already being used and introduced, but none of them provide the state-wide scope that is needed to support payment reform and delivery system improvements

**Programs, Services, Initiatives that were considered by the Cross-Agency Workgroup:**

- **New Technical Support Programs –** For example:
  - Care Transitions Support Program
  - New Provider types Connectivity Program
- **Continue Buildout of Mass HIway Services –** For example:
  - Query & Retrieve Service
  - Event Notifications Service
  - Patient credentialing and RLS access
- **Possible MassHealth Edge Services –** For example:
  - Clinical Quality Measure Data Registry
  - CDR for case management support
- **Possible Future Commercially Provided Edge Services –** For example:
  - Advance Directives Service
- **Possible Management & Process Initiatives –** For example:
  - "Simplify" Initiative

# Event Notification Service: what is an ENS?

**ENS is a notification system that alerts providers and health plans when a patient is admitted, discharged, or transferred in a clinical setting. ENS provides real-time awareness of where patients are receiving care serves as a backbone to help providers ensure patients are receiving the appropriate level of care**

**ENS**

ADTs are lightweight data messages that communicate

**Who the patient is**

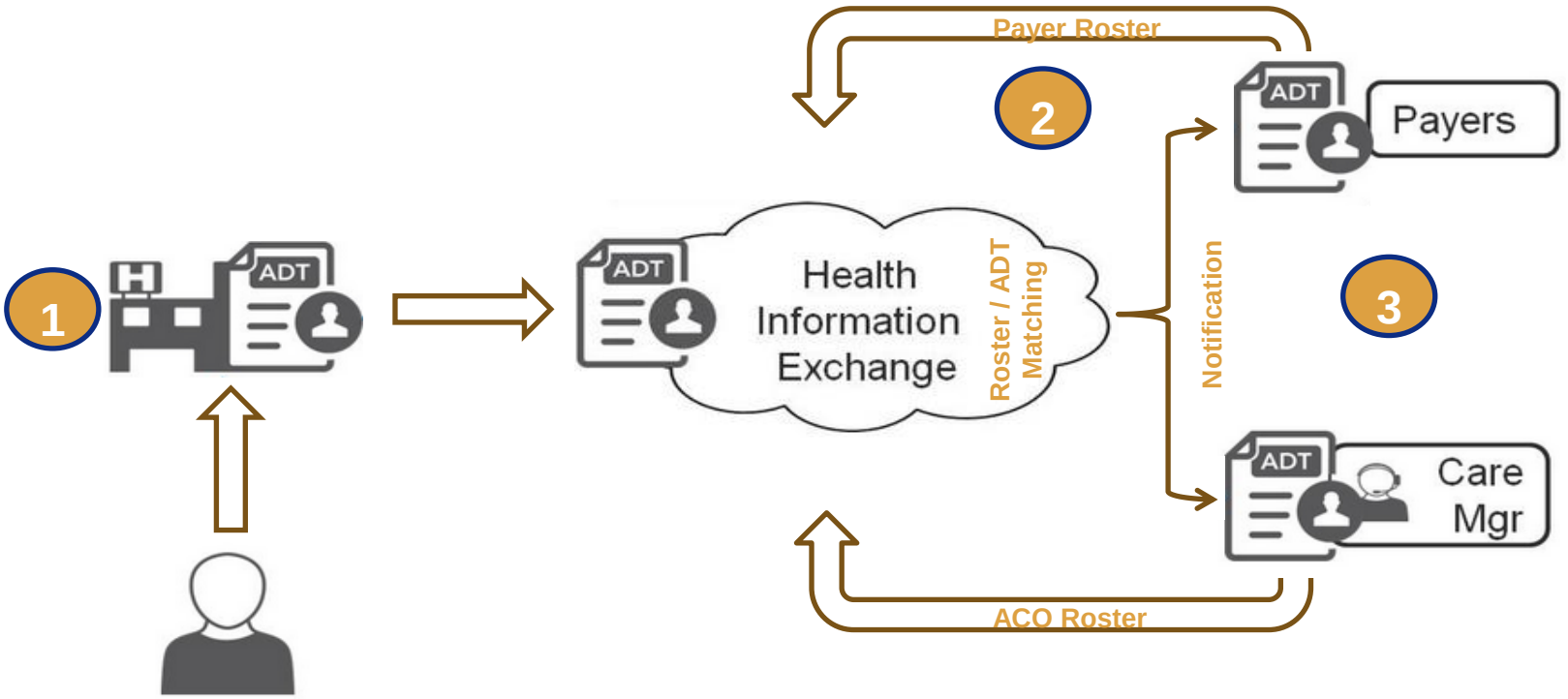
**Where the patient is**

**What is happening to the patient (ADT)**

- In health level 7 (HL7) - the data interchange standard that supports the processing of messages - ADT messages are considered it's **most commonly used messaging type**. In total there are 51 different types of ADT messages that represent real case scenarios for a patient.
- ADT messages are often created through a clinical (e.g. an EHR) or administrative (billing data) information system. In any setting where an update occurs to a patient's health record, an ADT message is sent to all ancillary systems to keep the patient's information in sync.
- State HIEs are using trigger events with information contained in ADT messages (e.g. patient demographics) combined with a notification system (that uses rules) to indicate where the alert should go and who should receive it.

*ADT notifications provide a basic level of interoperability that increases efficiency in the healthcare system, while improving health outcomes for the patient.*

# ENS: How does it work?




1. Patient event (admission, discharge, or transfer) triggers ADT message from participating provider organizations – usually hospitals – that provide an ADT feed to the HIE

2. Subscribers (e.g. provider organizations and or health plans) and their terms of use may vary based on the HIE's policy decisions. In a typical scenario, the subscriber provides the HIE with a list of active patients for whom they want notifications.

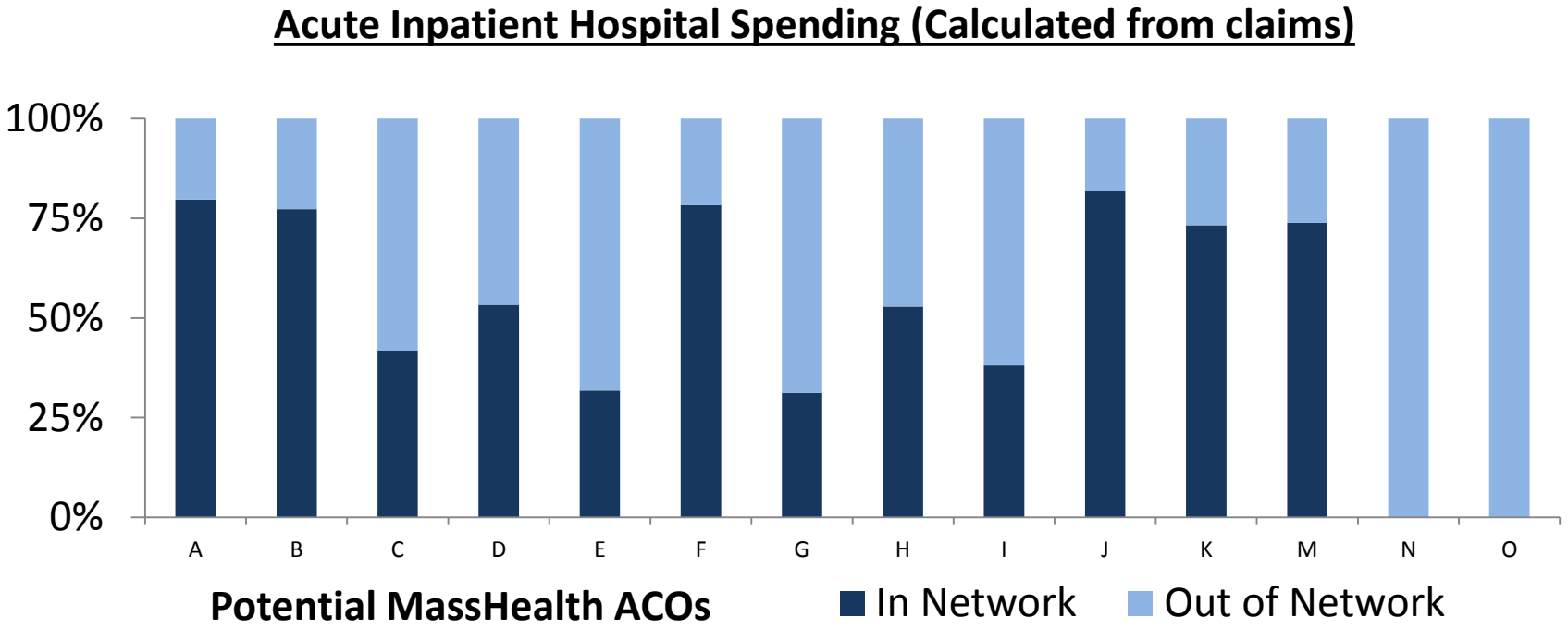
3. ENS tool compares hospital notices to the provider organization or health plan's patient lists; if a match is made, notice of the patient's hospital encounter is securely delivered to the provider organization or health plan.

# What is the benefit of a state-wide ENS?

- An ENS is a key tool for providers and clinicians since they need to know where their patients are seeking care, in order to be successful in coordinating care.
- The value and need for an ENS is expected to increase as providers are increasingly managing risk in alternative payment methodologies.
- A **state-wide** ENS is needed because many patients do not stay within one provider organization:
  - Approximately 18% of hospital readmissions in the state goes to a different hospital
  - Among potential MassHealth ACOs, an average of ~50% of acute inpatient hospital spend is out-of-network (see next slide for more details)

# Why is a statewide ENS needed?

- Recent analysis by MassHealth shows that without a statewide ENS, potential MassHealth ACOs will receive **only part of the information needed to effectively manage utilization**.
- Among potential MassHealth ACOs, an **average of ~50% of acute inpatient hospital spend is out-of-network.**



# Discussion about ENS

**Discussion questions :**

- Do you agree with the need for a state-wide ENS provided by the HIway?
- Do you agree that the HIway should pursue launching an ENS in 2016?

# Appendix: FAST Initiative

# FAST Initiative Projects

| 1. Engage clinical, business, and IT leaders with streamlined content | 2. Simplify sign-on | 3. Simplify connecting | 4. Support Active Use | 5. Support Expansion of HIway Use |
|---|---|---|---|---|
| • Update of core content<br>• Website update and redesign<br>• Sales packet refresh<br>• Outreach campaign | • Connection type decision tree<br>• Outreach meeting improvement<br>• Streamline Contractual Agreements for Participants | • Vendor relationship management<br>• Provider Directory 2.0<br>• Connection type simplification and reduction in time to connect<br>• Customized end user technical onboarding documentation | • Trading Partner matchmaking<br>• Post and maintain trading partners and their readiness<br>• Technical support for clinical workflow improvement | • RLS Early Adopter Recruitment and Expansion |

# Introduction to the FAST Initiative

**Why focus resources and time to the FAST Initiative?**

- Rapid on-boarding is key to HIway success
- On-boarding is a complex process with multiple dependencies and interdependencies
- Though on-boarding time has improved dramatically since the inception of the HIway there are still areas with ample opportunity for improvement
- Some improvements are under direct control of HIway but most require collaboration with multiple parties (e.g., Customers, vendors, HISPs, integrators)

# FAST Current Status – Simplify Sign On/Onboarding Accomplishments

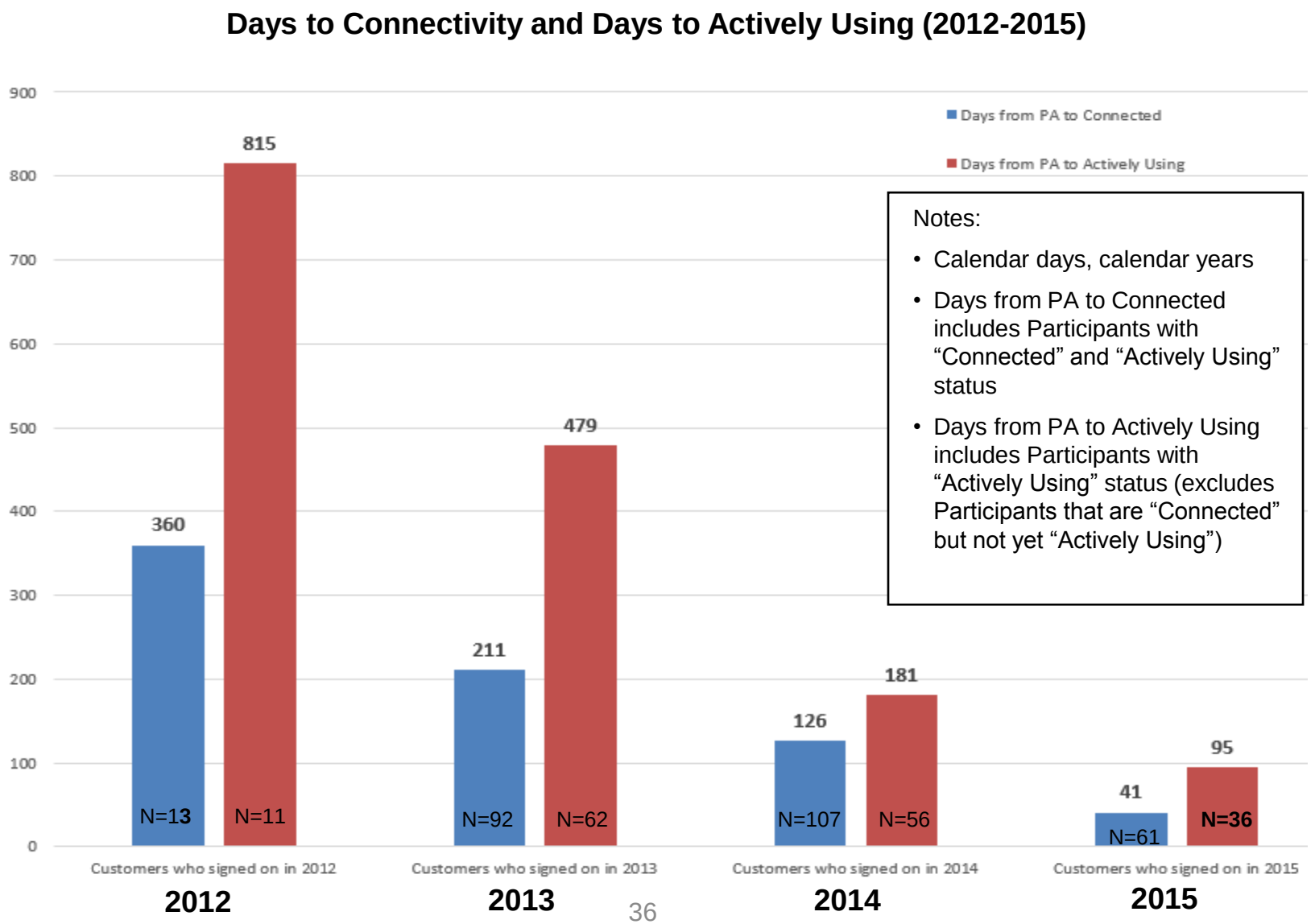
| Initiative | Status |
|---|---|
| New Core Content | New streamlined content, including FAQ's, has been created |
| Improved Connection Type Decision Tree | Outreach team is using a new decision tree that helps guide participants through the onboarding process, eliminating redundant and unnecessary steps |
| Participation Agreement Consolidation | Outreach team is now presenting the "minimum necessary" set of contractual agreements to participants in an effort to reduce administrative complexity and confusion during onboarding |
| Improvements to the Provider Directory | The number of required fields on the Provider Directory spreadsheet has been reduced significantly to ease the administrative burden on the participants onboarding to the HIway. |
| Creation of Participant Onboarding Documentation and Checklists by Vendor | Query and Retrieve onboarding checklist/documentation is under internal review. Documentation customized by all major vendors will be the final output of this project. |

# FAST Current Status – Simplify Connectivity Accomplishments

1. Sunset of the cross-onboarding approach for testing has been completed.
   - Approach eliminates stress on the production systems by separating test transactions during public health message validation and simplifies new Participant configuration.
   - Testing is improved by providing the same MDN responses that are seen in Production.

2. Migration of XDR connections to the more widely-used XPL connection method as started with success at Emerson PHO using Qvera.
   - This implementation will be the template for migrating the other 11 Qvera sites.
   - Work is also underway with Iatric to implement a similar migration at Emerson Hospital, to be followed by 2 other Iatric sites.
   - Following those migrations, plans will be made for migration of the 2 sites using SMART ‘s XDR connection
   - **End goal is to retire XDR connection method, eliminating support requirements for a seldom-used connection method.**

# FAST – Days to Connectivity and Days to Active Use Have Been Declining Steadily



# FAST – Onboarding Accomplishments September through November 2015

- Holyoke MC migrated to the XPL solution
- PVIX went live using the XPL solution
- CHA went live using the XPL solution - the first Epic site to connect directly
- Emerson PHO migrated to XPL solution - the first of 12 for GE/Qvera
- CareConnect, MaxMD, eCW Direct Plus, and Updox HISPs connected
- Sturdy Memorial, Tufts MC, Health Alliance, Steward, Southcoast, and BID-Plymouth all went live on Syndromic Surveillance
- Southcoast Ambulatory went live on MIIS for Immunizations
- Dartmouth Dermatology went live on the Mass Cancer Registry
- Family Health Center of Worcester and HealthLeads went live on e-Referrals
- 23 new webmail sites have been implemented for Childhood Lead Poison Prevention Program submissions, with about 40 more in progress.
- New webmail accounts and LAND installations continue every week.

# Appendix: Operations Update

# HIway Participation

- As of November 20, 2015, the HIway has a total of **478** agreements with Participants.
- In the last quarter (i.e., Sept– Nov 2015) the HIway made agreements with **37** new Participants.
- This list can be used to identify organizations that are ready to start the connection process with the HIway. These organizations may also be ready to discuss possible use cases with their trading partners.

## New Participation Agreements (Oct 21 to Nov 20)

- Chelmsford Pediatrics
- Dracut Family Healthcare
- Pediatric Associates Inc. of Brockton
- Primary Care Family Center (Mathur Manorama)
- Wareham Pediatric Associates
- Newburyport Pediatrics
- Dartmouth Dermatology
- Pediatrics Healthcare at Newton Wellesley
- Bolton Street Pediatrics P.C.
- East Elm Pediatrics
- Abington Pediatrics
- Associates of South Shore Dermatology LLC
- Pediatric Associates of Fall River, Inc.
- Rainbow Pediatrics / Northend Medical Associates
- Merrimack Valley Pediatrics
- Milton Orthopedic & Sports Physical Therapy PC
- Ludlow Medical Center(Gino Mercandante, MD, PC)
- Weston Pediatric Physicians
- Washington Square Dermatology
- Vicki Smith, M.D.
- Northeast Dermatology Associates
- Amherst Pediatrics
- Fairview Pediatrics
- Massachusetts Dermatology Associates, PC
- One Medical Group P.C
- Blue Hills Medical Associates (HermesIQ)

# HIway Participation

- As of November 20, 2015, the HIway has a total of **583** connected organizations.
- In the last quarter (i.e., Sept– Nov 2015) **30** new participants connected to the HIway.
- This list (and the full list available at MassHiway.net under "Resources") can be used to identify organizations that are able to exchange Direct Messages via the HIway with their trading partners.

## New Connection Activity (Oct 21 to Nov 20)

- Baystate Franklin Medical
- Baystate Mary Lane Hospital
- Pioneer Valley Information Exchange
- Riverbend Medical Group
- Noble Medical Group - Southwick
- Lakeville Family Medicine P.C
- Health Leads National
- Michael C Zaslow, MD PC
- Dartmouth Dermatology
- East Elm Pediatrics
- Weston Pediatric Physicians
- Massachusetts Dermatology Associates, PC

# Customer Status Dashboard

| | | | Mass HIway HISP | | | Via another HISP | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Tier | SubTier | Universe (est) | # Signed on | # Connected | # Actively Using | # Connected | # Actively Using | # Connected | # Actively Using | % Actively Using |
| Tier 1 | Large Hospitals / Health Systems | 29 | 25 | 20 | 16 | | - | 20 | 16 | 55% |
| | Health Plans | 9 | 4 | 4 | 3 | | - | 4 | 3 | 33% |
| | Multi-entity HIE | 5 | 3 | 1 | 1 | | - | 1 | 1 | 20% |
| | Commercial Imaging Centers & Labs | 1 | 2 | 1 | | | | 1 | - | 0% |
| | | | | | | | | | | |
| Tier 2 | Small Hospitals | 40 | 37 | 35 | 28 | 2 | - | 37 | 28 | 70% |
| | Large ambulatory practices (50+) | 25 | 12 | 10 | 6 | 13 | 5 | 23 | 11 | 44% |
| | Large LTCs | 8 | 2 | 2 | 2 | | - | 2 | 2 | 25% |
| | ASCs | 63 | | | | | | - | - | 0% |
| | Ambulance/Emergency Response | 39 | 1 | 1 | - | | | 1 | - | 0% |
| | Business Associate Affilliates | 5 | 2 | 2 | 1 | | - | 2 | 1 | 20% |
| | Local government, publichealth | TBD | 1 | 1 | 1 | | - | 1 | 1 | 0% |
| | | | | | | | | | | |
| Tier 3 | Small LTC | 310 | 22 | 20 | 12 | 1 | - | 21 | 12 | 4% |
| | Large behavioral health | 10 | 2 | 2 | | | | 2 | - | 0% |
| | Large FQHCs (10-49) | 30 | 19 | 12 | 6 | 6 | 2 | 18 | 8 | 27% |
| | Medium ambulatory practices (10-49) | 365 | 20 | 15 | 8 | 20 | 10 | 35 | 18 | 5% |
| | | | | | | | | | | |
| Tier 4 | Small behavioral health | 90 | 17 | 14 | 5 | - | - | 14 | 5 | 6% |
| | Home Health, LTSS | 149 | 28 | 24 | 12 | 5 | 2 | 29 | 14 | 9% |
| | Small FQHCs | 29 | 5 | 1 | 1 | 2 | - | 3 | 1 | 3% |
| | Small ambulatory practices (3-9) | 1595 | 70 | 61 | 19 | 40 | 14 | 101 | 33 | 2% |
| | | | | | | | | | | |
| Tier 5 | Small ambulatory practices (1-2) | 4010 | 206 | 163 | 35 | 105 | 16 | 268 | 51 | 1% |
| Grand Total | | 6812 | 478 | 389 | 156 | 194 | 49 | 583 | 205 | 2% |

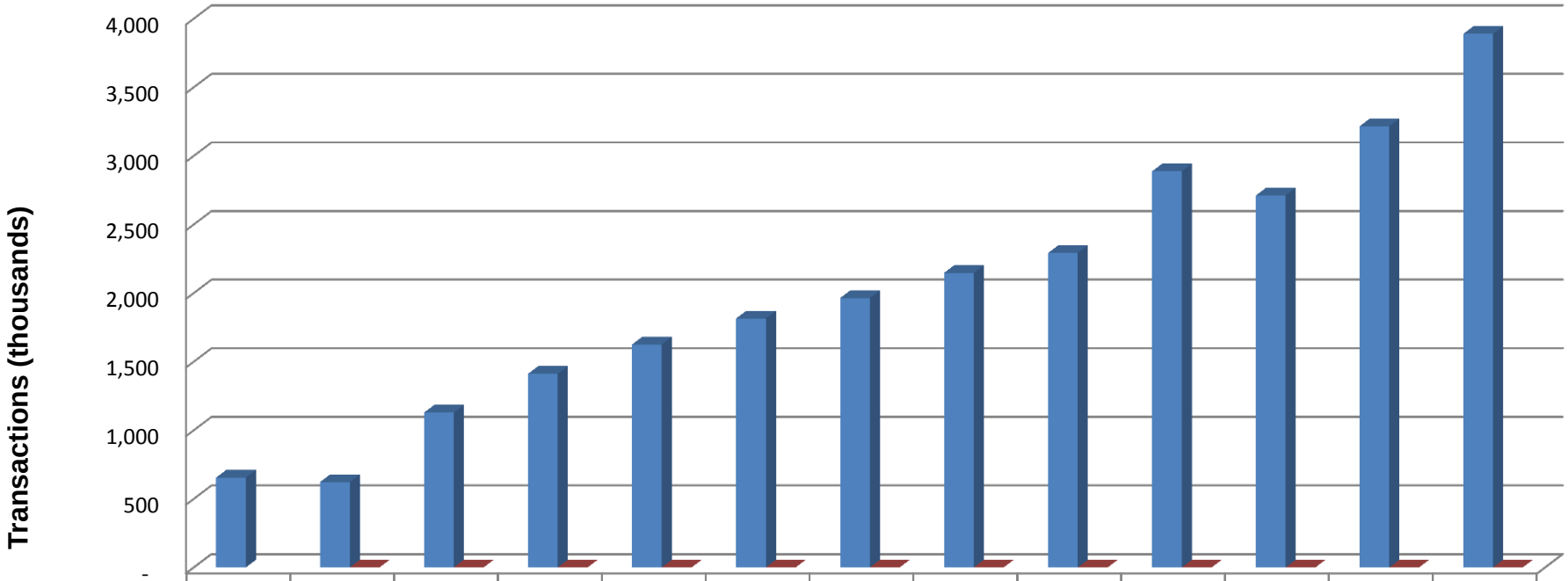
# HIway Transaction Activity

- The number of HIway transactions has increased steadily, to well over 3 million transactions per month.

## 13 Month HIway Transaction Activity

**3,889,748** Transactions* exchanged in November (10/21 to 11/20/2015**)

**31,248,655** Total Transactions* exchanged inception to date




| | Nov 2014 | Dec 2014 | Jan 2015 | Feb 2015 | Mar 2015 | Apr 2015 | May 2015 | Jun 2015 | Jul 2015 | Aug 2015 | Sep 2015 | Oct 2015 | Nov 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Transactions (000's) | 655 | 623 | 1,129 | 1,412 | 1,626 | 1,815 | 1,964 | 2,148 | 2,293 | 2,888 | 2,713 | 3,217 | 3,890 |
| % Change | | -5% | 81% | 25% | 15% | 12% | 8% | 9% | 7% | 26% | -6% | 19% | 21% |

** Note: Includes all transactions over Mass HIway, both production and test*

*** Note: Starting 12/20/2014, reporting cycle is through the 20th of each month.*

# HISP to HISP Connectivity

- The HIway currently connects with over 20 Health Information Service Providers (HISPs), including those used by the major EHR systems in Massachusetts for sending and receiving Direct Messages.
- In November 2015, there were **106** organizations that used one of the HISPs to communicate with a HIway Participant.
- Only **10,742** HIway transactions were sent or received via these HISPs (which is less than 1% of all HIway transactions), but the number of users connecting via these HISPs is growing.

| # | HISP Vendor | Kickoff | Onboarding | Testing | HIway Prod Readiness | Live/Target Date |
|---|---|---|---|---|---|---|
| 1 | eLINC | | | | | ✓ 2014-May |
| 2 | DataMotion | | | | | ✓ 2014-Jun |
| 3 | Wellport (By Lumira) | | | | | ✓ 2014-Jul |
| 4 | Inpriva | | | | | ✓ 2014-Aug |
| 5 | Surescripts | | | | | ✓ 2014-Oct |
| 6 | eClinicalWorks | | | | | ✓ 2014-Oct |
| 7 | McKesson(RelayHealth) | | | | | ✓ 2014-Dec |
| 8 | Allscripts(MedAllies) | | | | | ✓ 2014-Jan |
| 9 | EMR Direct | | | | | ✓ 2015-Mar |
| 10 | SES | | | | | ✓ 2015-Mar |
| 11 | Medicity | | | | | ✓ 2015-Apr |
| 12 | NHHIO | | | | | ✓ 2015-May |
| 13 | MyHealthProvider(Mercy Hospital) | | | | | ✓ 2015-May |
| 14 | NextGen Share | | | | | ✓ 2015-Jun |
| 15 | Athenahealth | | | | | ✓ 2015-Jun |
| 16 | Aprima | | | | | ✓ 2015-Jun |
| 17 | Cerner | | | | | ✓ 2015-Jun |
| 18 | Medicity | | | | | ✓ 2015-Aug |
| 19 | CareConnect (NetSmart HISP) | | | | | ✓ 2015-Oct |
| 20 | UpDox | | | | | ✓ 2015-Nov |
| 21 | MaxMD | | | | | ✓ 2015-Nov |
| 22 | eClinicalWorks Plus | | | | | 2015-Dec |
| 23 | CareAccord | | | | | 2015-Dec |

# Connection Status – State Registries and Applications

- This table lists the different state registries and applications that are connected to the HIway
- This table can assist organizations that are considering new or additional use cases for sending data to the state's registries and applications.

| Registry/Application | Status | Acceptable Message Types |
|---|---|---|
| Massachusetts Immunization Information System (MIIS) | Connected | HL7 |
| Electronic Lab Reporting (ELR) | Connected | HL7 |
| Syndromic Surveillance (SS) | Connected | HL7 |
| Massachusetts Cancer Registry (MCR) | Connected | CDA HL7 R2 |
| Opioid Treatment Program (OTP) | Connected | XML (only for A01s), HL7 ADT (A01, A03, A08); QRY_19 |
| Childhood Lead Poisoning Prevention Program (CLPPP) | Connected | .CSV, .TXT (All txt files are fixed length files) |
| E-Referral | Connected | CCD, HL7 |
| Adult Lead | Connected | HL7 |
| Prescription Monitoring Program (PMP) | Testing | HL7 |

# Connection Status By Vendor – State Registries and Applications

- This table can be used by organizations that are using some of the popular EHR systems as they determine the system's readiness for reporting to various state registries and applications.

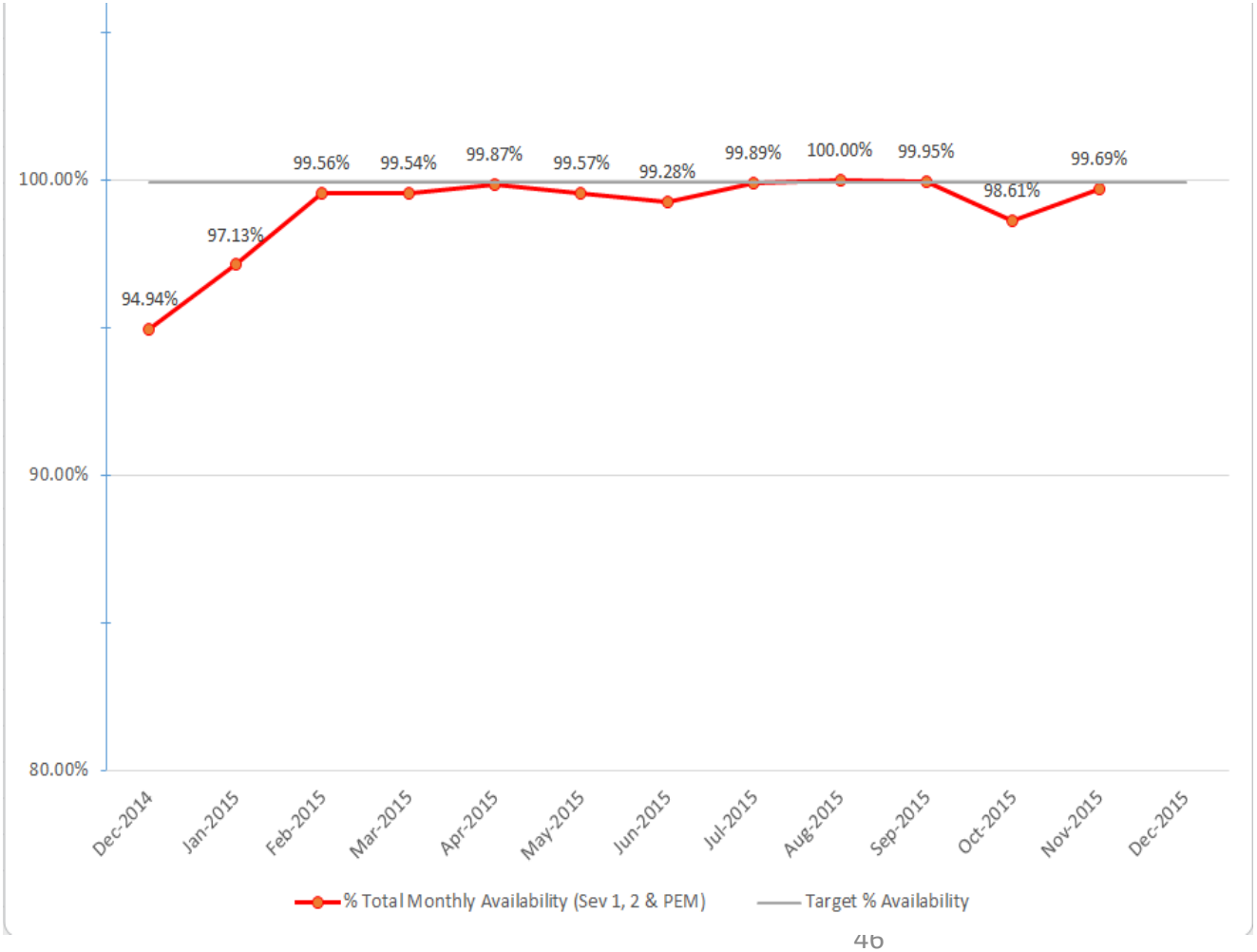
| EHR Vendor | MIIS [1] | Opioid Treatment Program | E-Referral | Syndromic Surveillance [2] | Cancer Registry |
|---|---|---|---|---|---|
| **SMART** | | Live | | | |
| **Netsmart** | | Live | | | |
| **eClinicalWorks** | Live | | Live | | |
| **GE Qvera** | Live | | | | |
| **Cerner** | Live | | | Live | |
| **Allscripts** | Live | | | | |
| **athenahealth** | Live | | | | Testing |
| **Aprima** | | | | | Initiated |
| **Surescripts** | Live | | | | |

*[1] MIIS is the Massachusetts Immunization Information System*

*[2] Syndromic Surveillance program reports data collected from Mass EDs for the CDC's BioSense program*

# HIway Availability Trends

- HIway availability has improved significantly as a result of the Stabilization program earlier in 2015.
- In months where the target 99.9% up-time has been missed, the cause can be traced to infrastructure issues outside the HIway, such as the state-wide IT outage on October 28th.

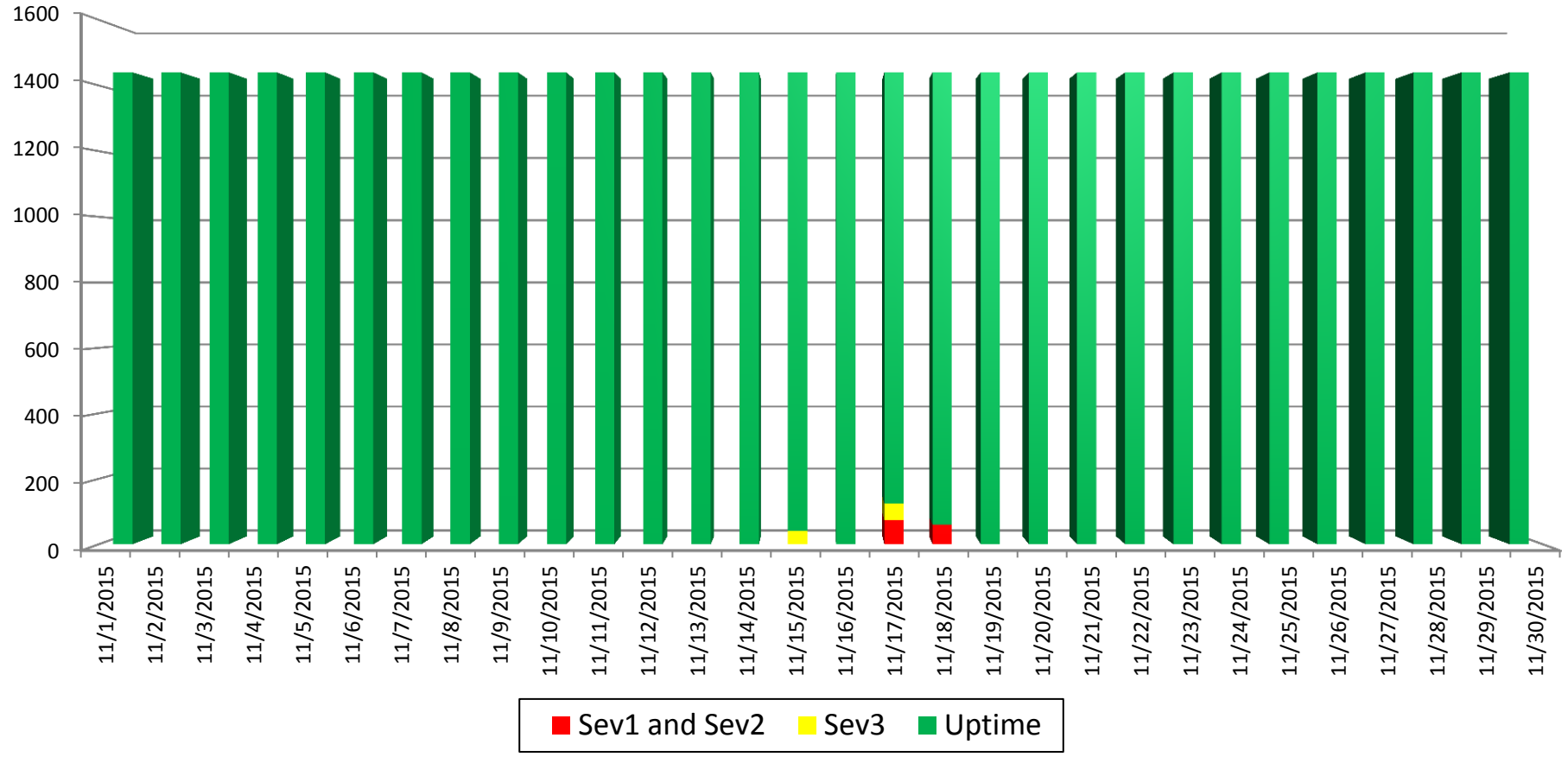



**Metric Targets:**

- "Total Monthly Availability" – no lower than 99.9% (downtime no more than ~44 minutes/month)
- In the month of November, we had 2 days when Severity 2 incidents occurred and 2 days when Severity 3 incidents occurred.

# 2015 Mass HIway Incident Summary Dashboard
## November 2015

- In November 2015, most days the HIway was available 100% for all 24 hours (shown in green).




*Sev 1 - All / Most Mass HIway components impacted as a result of outage. For example: LAND, Webmail, Direct XDR, and DPH nodes are all down*

*Sev 2 - Multiple Mass HIway components impacted as a result of outage in one of the shared service. For example: LAND and Webmail are down but Direct XDR and DPH nodes are up.*

*Sev3 – One Mass HIway component impacted as a result of outage. For example: Webmail is down but all other services are up and running.*

# 2015 Mass HIway Incident Summary Dashboard
## November 2015 Details

- These specific details about each incident impacting the HIway's availability are used by the HIway team to analyze and address root causes, and by Participants to gain additional understanding.

| Date | Time frame | Downtime in Minutes | Severity | Incident Overview | Areas addressed or impacted |
|---|---|---|---|---|---|
| 11/15/2015 | 9:46 am to 10:27 am | 41 | Sev 3 | Syndromic Node causing error queues to grow and needing restart | Syndromic CG Node |
| 11/17/2015 | 8:45 am to 9:36 am | 51 | Sev 3 | Syndromic Node causing error queues to grow and needing restart | Syndromic CG Node |
| 11/17/2015<br>11/18/2015 | 10:47 pm to 1:00 am | 73 on 11/17<br>60 on 11/18<br>Total of 133 | Sev 2 | PROD1/2 - Direct Gateways had polling and communication issues needing a restart | Webmail Restart<br>Tomcat/Trust GW Restart<br>James Restart |

*Sev 1 - All / Most Mass HIway components impacted as a result of outage. For example: LAND, Webmail, Direct XDR, and DPH nodes are all down*

*Sev 2 - Multiple Mass HIway components impacted as a result of outage in one of the shared service. For example: LAND and Webmail are down but Direct XDR and DPH nodes are up.*

*Sev3 – One Mass HIway component impacted as a result of outage. For example: Webmail is down but all other services are up and running.*

# Appendix: Background information

# Background - Inventory of privacy protections for personal health information in Massachusetts (1 of 2)

| Topic (Law/Reg.) | Fed/ MA/ Private | Description | Applicability | Type of Consent | Frequency of Consent |
|---|---|---|---|---|---|
| **PHI disclosure** (HIPAA) | Fed | • Broadly protects privacy and security of PHI and ePHI<br>• Establishes rules for disclosure for purposes of treatment, payment, and operations as well as public health reporting | • Defines PHI and regulates PHI exchange<br>• Self Pay disclosure to health plans | • No consent required for TPO<br>• Notification of Privacy Practices (NPP) required | • No set time limit on NPP though most are refreshed annually |
| **Psych Notes** (HIPAA) | Fed | • Protects psychotherapy notes | • Only notes, not other parts of record | • Written consent to disclose psych notes for any reason (including TPO) | ? |
| **Substance Abuse Treatment** (CFR Title 42 Part 2) | Fed | • Protects privacy of substance abuse treatment provided by federally funded facilities | • Any information in record | • Written consent to disclose | • At each disclosure<br>• At each redisclosure |
| **HIV Testing** (MA Ch. 111 Sec 70F) | MA | • Protects privacy of HIV test results | • HIV test results | • Verbal consent to test<br>• Written consent to disclose | • One time to test<br>• At each disclosure |

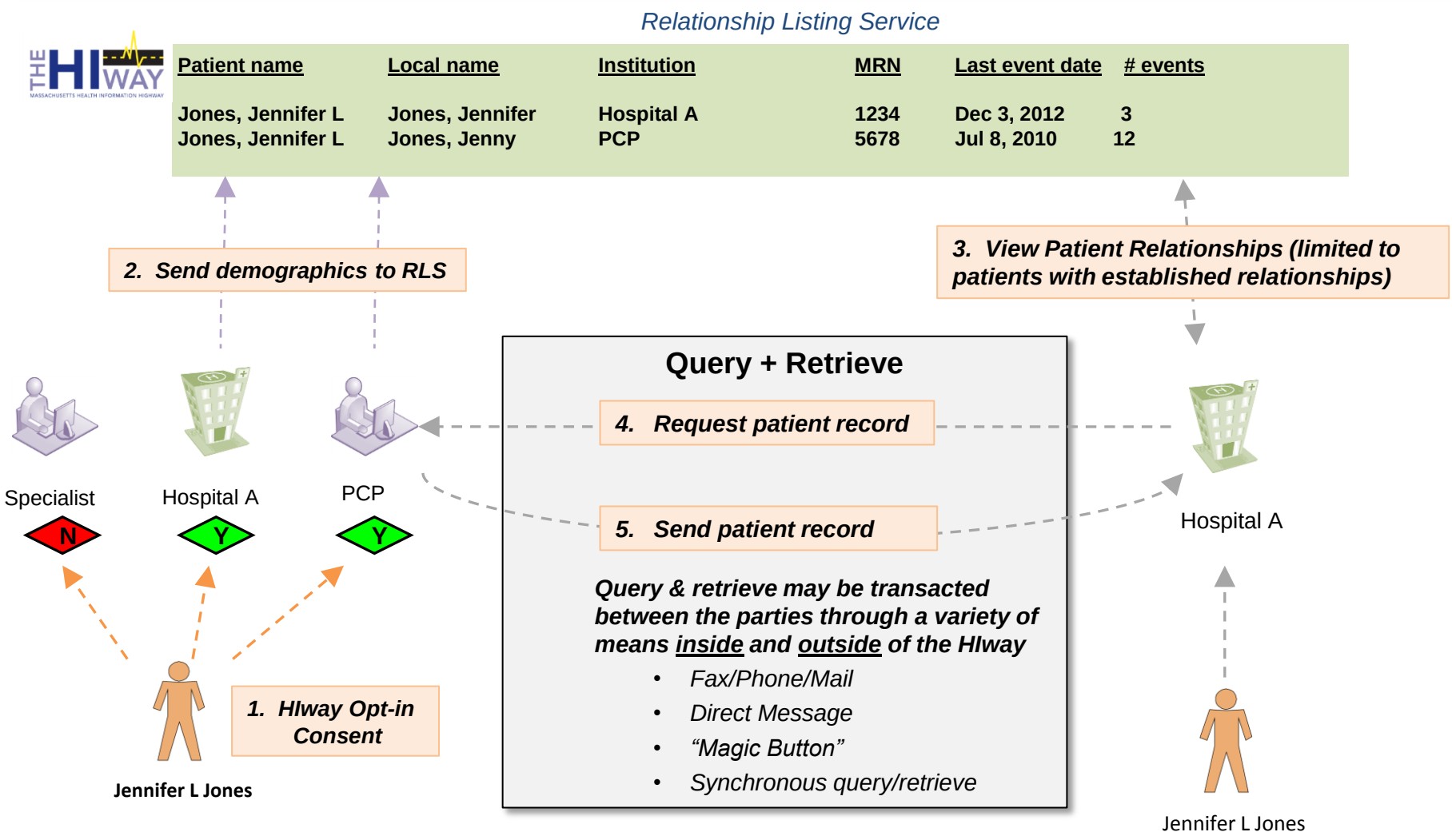
# Background - Inventory of privacy protections for personal health information in Massachusetts (2 of 2)

| Law/Reg. | Fed/ MA/ Private | Description | Applicability | Type of Consent | Frequency of Consent |
|---|---|---|---|---|---|
| **Genetic Testing** (MA Ch. 111 Sec 70G) | MA | • Protects privacy of Genetic test results | • Genetic test results | • Written consent to test<br>• Written consent to disclose | • One time to test<br>• At each disclosure |
| **MIIS** (MA Ch. 111 Sec 24M and CMR 222.105) | MA | • Protects privacy of immunization information | • Immunization reporting to DPH | • Written opt-out for sharing with other providers<br>• Opt-out form either to provider or DPH* | • Not defined |
| **Age of majority** (MA Ch. 231 Sec 85P) | MA | • 18 is the age of majority in but MA does recognize mature minor rule | • Generally, for regular doctor visits, in non-emergency situations, a minor must obtain parental consent | • Informed consent may be verbal or written | • Once |
| **Mass HIway consent** (Chapter 118i Sec 13) | MA | • Provides patient choice to send information via Mass HIway<br>• Provides patient choice to have data stored by HIway | • Sending PHI via Mass HIway<br>• Storing and sharing information in RLS | • Written consent<br>• Level of detail varies with type of HIE service | • One time with refresh at age of majority |
| **Surescripts** | Private | • Protects access to med history information maintained by Surescripts | • Any provider access to med history | • Provider attestation of verbal consent | • Not defined |

*Added considerations if bi-directional is enabled

# Current model: Opt-in for Phase 2 services

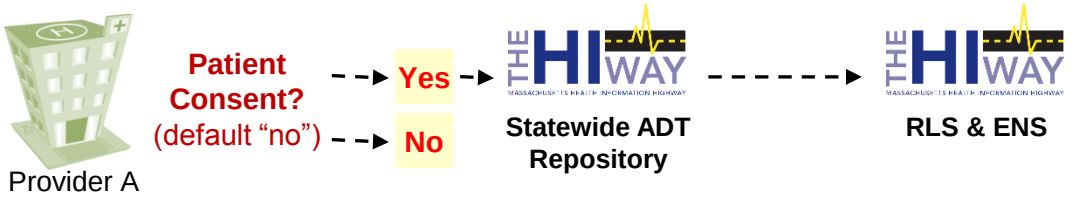
- This slide shows the current opt-in consent model for the HIway's Phase 2 services
- The RLS is at the core of Phase 2 services, and is necessary for Query & Retrieve, and for an ENS



# Consent Options Under Consideration

**1. Opt-in to disclose to the HIway**
(This is the current model)

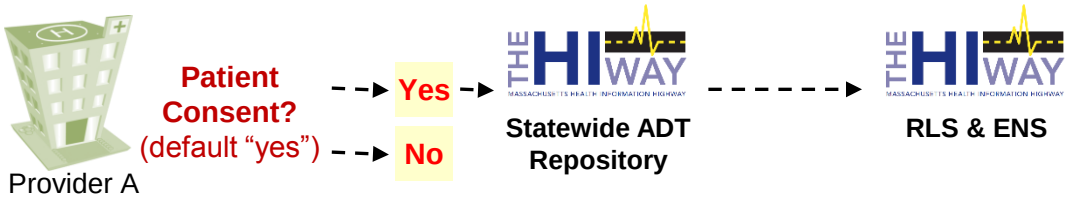
*Consent is managed by Participant*




Consent is required to disclose any data, and is collected separately at each Participant that a person interacts with. **Six states** have implemented opt-in[1] (two originally implemented opt-in but moved to opt-out).

**2. Opt-out to disclose to the HIway**

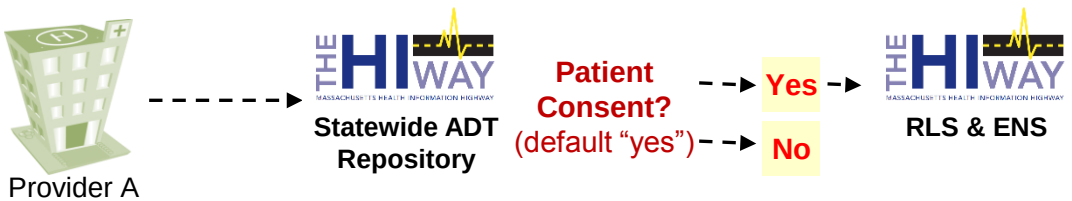
*Consent is managed by Participant*




Consent is assumed, but any opt-out choices are collected separately at each Participant that a person interacts with. **Seven states** have implemented an opt-out with exceptions model.[1]

**3. Opt-out to share with the RLS & ENS**
(i.e., "Centralized Opt-out")

*Consent is managed by the HIway*




Consent is assumed, but an opt-out choice is collected by the HIway once and applies to all Participants. If a person opts-out , then they are "invisible" to any Participant viewing the RLS. **Thirty states** have implemented a complete opt-out model.[1]

[1]Office of the National Coordinator for Health Information Technology (ONC). *State HIE Grantee Lab Strategy Inventory.* September 2013