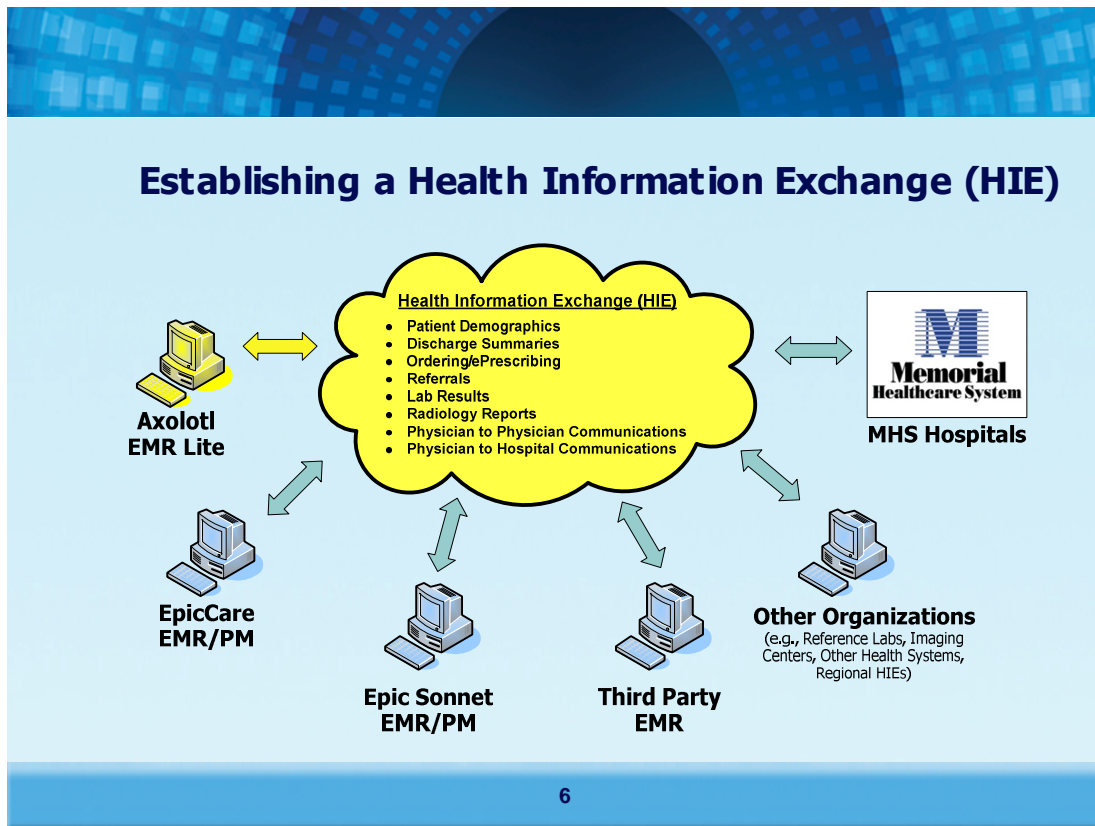# MHS EMR Program

EMR – HIE Integration Toolkit

Spring 2010

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Introduction

This document will serve as a guide to connecting an existing third-party EMR system to the MHS Health Information Exchange (HIE). The HIE will allow sharing of data with other members of the MHS community and have results and patient information delivered directly to a practice's EMR system. In the appendices of this document the HIE product and software is referred to as Elysium. Elysium is the formal product name that Axolotl has given the HIE.

What the HIE will Provide

Establishing a Health Information Exchange (HIE)

Health Information Exchange (HIE)
- Patient Demographics
- Discharge Summaries
- Ordering/ePrescribing
- Referrals
- Lab Results
- Radiology Reports
- Physician to Physician Communications
- Physician to Hospital Communications

Axolotl EMR Lite

MHS Hospitals

EpicCare EMR/PM

Epic Sonnet EMR/PM

Third Party EMR

Other Organizations
(e.g., Reference Labs, Imaging Centers, Other Health Systems, Regional HIEs)

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The HIE will provide connections between third party EMR Systems and various members of the MHS community. A practice will be connected to other EMR users including MHS employed physicians as well as other members of the voluntary medical staff. In addition to other EMR systems connections to other third party organizations such as Reference Labs and Diagnostic Imaging Centers will be established.

Data that will be shared in the HIE includes but is not limited to the following:

- Patient Demographics
- Results
- Referrals
- Reports

Specific information on data sharing will be provided in detail by the implementation team prior to implementation.

Receiving Information to an EMR

Results can be delivered to an EMR System from the HIE in one of two ways:

- Automatically Pushed
- Manually Pulled

Automatically pushed information is for those patients for whom a physician is listed as a provider of record or listed on the result as an ordering, attending or consulting provider. Information is typically manually pulled for patients when no existing relationship exists, for example a walk-in patient. When pulling information manually, a provider is able to view a patient's full record in the HIE and then choose what specific information should be pulled into the EMR.

Automatically Pushed Data

Automatically pushed data can be set up for any patient for whom a physician is designated as a provider of record. When data is automatically pushed, the EMR System will receive all results for a patient directly in that patient's record. This will be done in real-time as results become available from HIE data providers. This is an option that is configurable for each patient. Therefore by default a provider of record for a patient will not receive all of a patient's information automatically.

In addition to providers of record, data will be automatically pushed to providers who are marked as ordering, attending or consulting physicians on a given result. For instance a lab result could be sent automatically to both the ordering physician as well as that patient's provider of record. Results for which a physician is marked as ordering, attending or consulting will always be sent automatically to their EMR; this cannot be configured.

Manually Pulled Data

Data can be manually pulled from the HIE by doing a search for the patient through the Virtual Health Record (VHR). The VHR is a web-based tool that can be used to search for any patients in the community and view their health record. Once a search is performed a physician can pull any result that exists in the HIE into their EMR System. Once pulled into the EMR the data be placed into the patient's medical record.

Patient Summary Data

Certain data types in the HIE are stored in the patient summary, these include:

- Patient Demographics
- Allergies
- Medications
- Problems
- Providers
- Advanced Directives

Patient Summary data can be either automatically pushed into an EMR or manually pulled. This configuration option will be determined by practice during implementation. Additionally these patient summary data items can be viewed through the VHR.

Getting Information into the HIE

Information that is documented in an EMR System will, by default, automatically be sent to the HIE and is viewable by the community. While the default is to send all information to the HIE a mechanism will be set up in order to exclude information on a case-by-case basis. This mechanism will differ depending on the third party EMR that is being used; more details on excluding documented information will be provided during implementation.

Certain data elements such as behavioral health notes and information will always be excluded from the HIE in accordance with Florida law. Data items that are not allowed to be shared will automatically be filtered by the interfaces to the HIE and will require no action by end-users.

Other Third Party EMR Systems

The HIE will allow practices to receive and send information seamlessly between different EMR Systems in the community. Because of this a practice will never have to use any tools other than their EMR System and the VHR in order to send and receive data to other HIE users in the MHS community. This means that if a practice's patients are visiting a specialist using another EMR, any data from this visit will be automatically sent via the HIE back to the practice's EMR System.

Timeline

The table below shows the anticipated timeline for connecting to a third party EMR system. While the six week timeline below is the standard implementation time it is important to realize that much of the timeline is dependent on the ability of the EMR vendor to provide the necessary resources to connect to the HIE.

Tasks	Target Date
Determine projected target date	Week 1
Discuss referral patterns, possible filtering of data, message types to be exchanged, direction of information flow, establish timeline for implementation and resources needed	Week 1
Exchange data format specifications and sample files	Week 2
Determine data transport mechanisms	Week 2
Analyze data format specifications – determine approach for revisions and discrepancies	Week 3
Establish and test data transport	Week 3
Create users in address book, Physician ID from the EMR is loaded in to the Elysium directory	Week 4
Configure outbound data feeds to EMR vendor specs	Week 5
Test sample files	Week 5
Complete go live configuration	Week 6
Go Live Outbound Data Feed	Week 6

Resources Required

In order to connect to the HIE resources will be required from the physician office, third party EMR vendor, and the MHS implementation team. The table below shows each of the resources required.

Organization	Resource	Time Commitment
MHS EMR Program Implementation Team	Implementation Leader	
Physician Practice	Physician	
Physician Practice	Implementation Coordinator	
Third Party EMR Vendor	Implementation Coordinator	
MHS EMR Program Implementation Team	Implementation Analyst	

EMR Requirements

While most EMR Systems will be able to connect to the MHS HIE there are several requirements that need to be met. The EMR vendor should be able to answer the following questions before implementation to determine their ability to connect to the HIE:

- EMR must be able to obtain data through MLLP or FTP, over VPN of SFTP Port HL7 ORU messages
- Must have the ability to store documents
- Must commit resources required to implement, validate and test connection to HIE

Detailed technical requirements can be found in Appendix A.

Getting Started

In order to begin the implementation process the first step is contacting the third party EMR Vendor and completing the attached forms contained in Appendix B. The forms contain everything that is needed to get started working with the EMR Vendor and to begin connecting to the HIE.

Appendix A

Technical Requirements:

MLLP socket connection over VPN:
- Third party completes Axolotl VPN document
- Third party and Axolotl agree on port number(s) to be used by the connection
- Axolotl Technical Operations resource and third party exchange secure keys and establish VPN, test connectivity
- Axolotl Implementation resource sends test messages over VPN to third party
- Third party and Axolotl Implementation work together to adjust data formatting until third party can import data successfully
- Third party provides list of physician accounts for which data should be sent
- Axolotl Implementation enables live interface for the listed physicians

FTP or file sharing over VPN:
- Third party completes Axolotl VPN document
- Third party provides username/password to be used to access file drop off location at third party site
- Axolotl Technical Operations resource and third party exchange secure keys and establish VPN, test connectivity
- Axolotl Implementation resource sends test messages over VPN to third party
- Third party and Axolotl Implementation work together to adjust data formatting until third party can import data successfully
- Third party provides list of physician accounts for which data should be sent
- Axolotl Implementation enables live interface for the listed physicians

SFTP connection:
- Axolotl Implementation resource creates new account on Axolotl SFTP server
- Axolotl Implementation resource provides URL, username, and password to third party for accessing SFTP server
- Axolotl Implementation resource provides sample messages on SFTP server
- Third party confirms connectivity by retrieving sample messages
- Third party and Axolotl Implementation work together to adjust data formatting until third party can import data successfully

- Third party must remove messages from Axolotl SFTP server after they have been processed
- Third party provides list of physician accounts for which data should be sent
- Axolotl Implementation enables live interface for the listed physicians

Appendix B

The following timeline and Project Task List for connecting third party EMRs to Elysium is based on the assumption that technology support from the physician practice and their EMR vendor occurs in a timely fashion and that the specifications from the EMR vendor are reasonably close to the HL7 2.3 standard or higher. Mapping and data conversion services are available for customers who are unable to meet this standard.

These steps apply to each physician practice. Some economies of time and resources are possible when several practices are using the same EMR vendor, but in our experience, even practices with the same vendor may require different file formats and each requires a secure connection to the Elysium server. EMR provided through an ASP may have different requirements and may impact the time frame. Determine the plan for this possibility in your initial analysis.

Generally we plan to do the push of data from Elysium to the practice FIRST, and follow with exchange of information from the practice to the HIE secondarily. However the bi-directional data transport mechanisms can be set up at the same time in the initial step.

Criteria for Reports and information to be delivered to the Third Party EMR:
- Third party EMR system's ability to obtain data using SFTP, File Share w/VPN, or Socket Connection w/VPN
- Import HL7 ORU messages to the Third Party EMR system.
- Must be fully operational with EMR module (ability to store documents)
- Must commit resources to implement, test and validate incoming data processes

Criteria for information to be exported out of the Third Party EMR:
- Ability to Export patient demographics in ADT format
- Export as HL7 ORU or MDM messages:
- Physician ID's are required to load in Elysium provider directory
- Patient IDs as assigned by the interfacing EMR are required to be loaded in to the Elysium patient index
- Encounter notes contain patient demographics sufficient to match or add patient to Elysium Patient Index (minimum, last name, first name, DOB, gender).
- Third Party EMR can output saved prescription data in SureScripts XML 4.x format, and with all data required to positively identify the medication and the patient (e.g., NDC, Elysium patient ID.

- Third Party EMR can use the standard HTTPS POST method to send SureScripts XML 4.x formatted messages to the Elysium server.

Customer/HIE Information

Site name:	
Primary contact:	

EMR Information

EMR Application Name:	
EMR software version:	
Primary Contact:	
Primary Contact phone:	
Primary Contact email:	
Address/City/State/Zip:	
Primary Technical Contact: (if different than above)	
Primary Technical Contact phone:	
Primary Technical Contact email:	

Physician Office/Group Information

Office Name:	
Address/City/State/Zip:	
Primary Contact:	
Primary Contact Phone:	
Primary Contact email:	
Primary Technical Contact: (if different than above)	
Primary Technical Contact phone:	
Primary Technical Contact email:	

Technical Details

Type of Interface:
☐ Outbound to EMR
☐ Inbound to Elysium
☐ Bi-directional

Method of Communication:

Inbound: (select one)
☐ SFTP
☐ File Share w/VPN
☐ Socket Connection w/VPN

Outbound: (select one)
☐ SFTP
☐ File Share w/VPN
☐ Socket Connection w/VPN

Outbound Date types:
☐ ADT → ☐ one time load ☐ ongoing
☐ ORU
☐ ORM
☐ MDM
☐ Referrals
☐ CCD

Inbound Date types:
☐ ADT → ☐ one time load ☐ ongoing
☐ ORU
☐ ORM
☐ MDM
☐ Referrals
☐ CCD

Outbound specific data elements:
☐ EMR specific MRN (requires inbound ADT interface)
☐ EMR specific Physician ID Number
☐ Order/Encounter Specific information: (requires inbound Orders/ADT interface)

EMR Vendor Requirements

Please define specific MSH header requirements:

Field	Value
MSH_3	
MSH_4	
MSH_5	
MSH_6	
MSH_12	

Please define any other required HL7 field values:

Field	Value

Please define any data filtering rules that may apply (i.e., only send when physician is listed as ordering physician, etc.):

Please note any special cases to be taken into account (i.e., encounter matching, etc.):