



Secure Architecture For Exchanging Health Information

A Sustainable HIE in central Massachusetts with a Novel Patient Consent Architecture

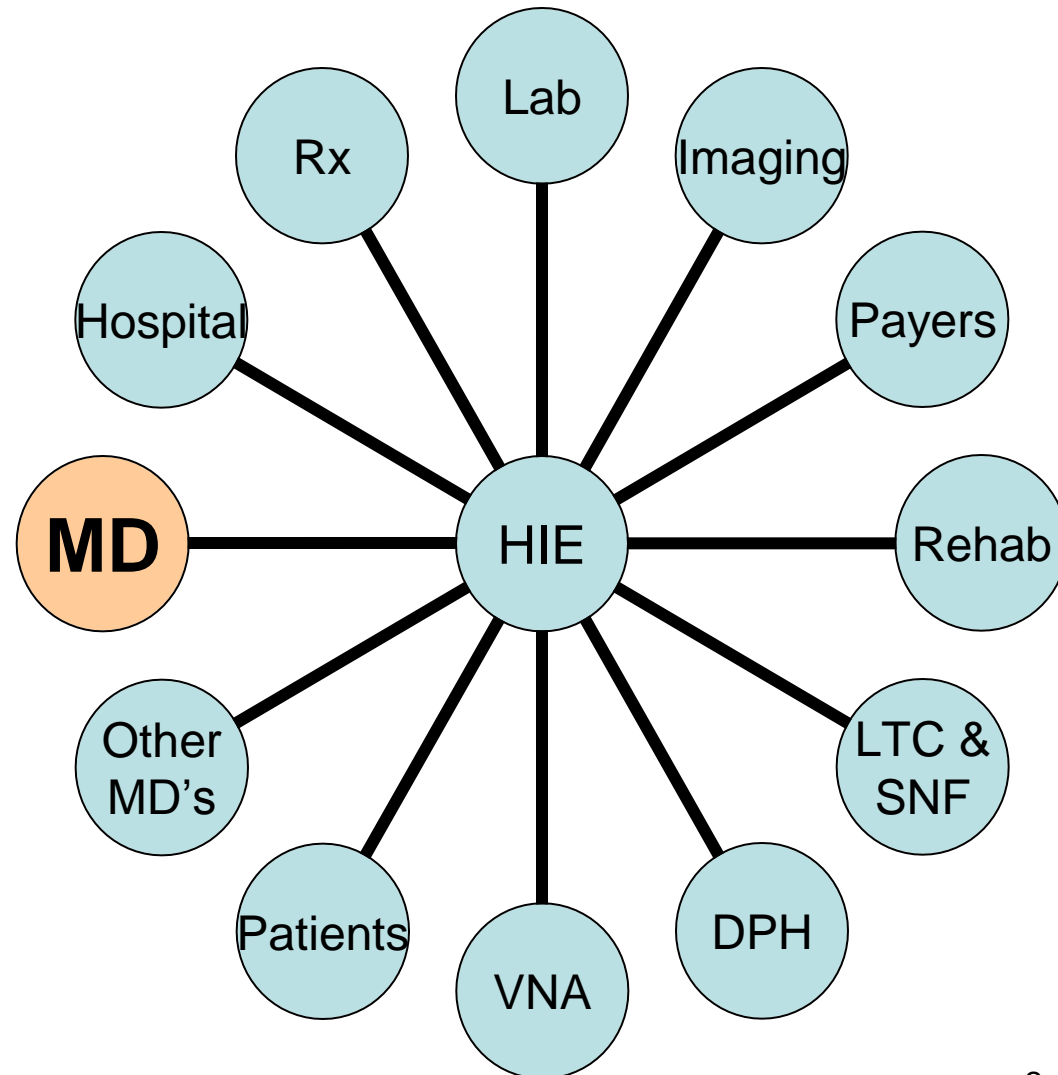
HealthMart October 5th 2010

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Agenda

- ⊕ Review of SAFE Health project
- ⊕ Current status
- ⊕ Value
- ⊕ Sustainability



Objective of SAFE Health

Build and operate a regional health information exchange infrastructure to enable secure, real time transfer of patients' health information between multiple different organizations with patient consent in order to improve patient safety, quality of care, and efficiency of healthcare delivery.

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A successful HIE must:

- ⊕ Earn the trust of the stakeholders
- ⊕ Fit into real-world workflows
- ⊕ Provide value
(Benefits > Cost)



Funding and Timeline

- ⊕ \$1.5 Million Agency for Healthcare Research and Quality (AHRQ) Grant #1 UC1 HS015220
- ⊕ \$4 Million donated by:
 - Fallon Clinic
 - Fallon Community Health Plan
 - HealthAlliance Hospital
 - UMass Memorial Medical Center
- ⊕ 2004 – Awarded \$1.5 Million AHRQ HIE Grant
- ⊕ 6/2009 – SAFEHealth go-live

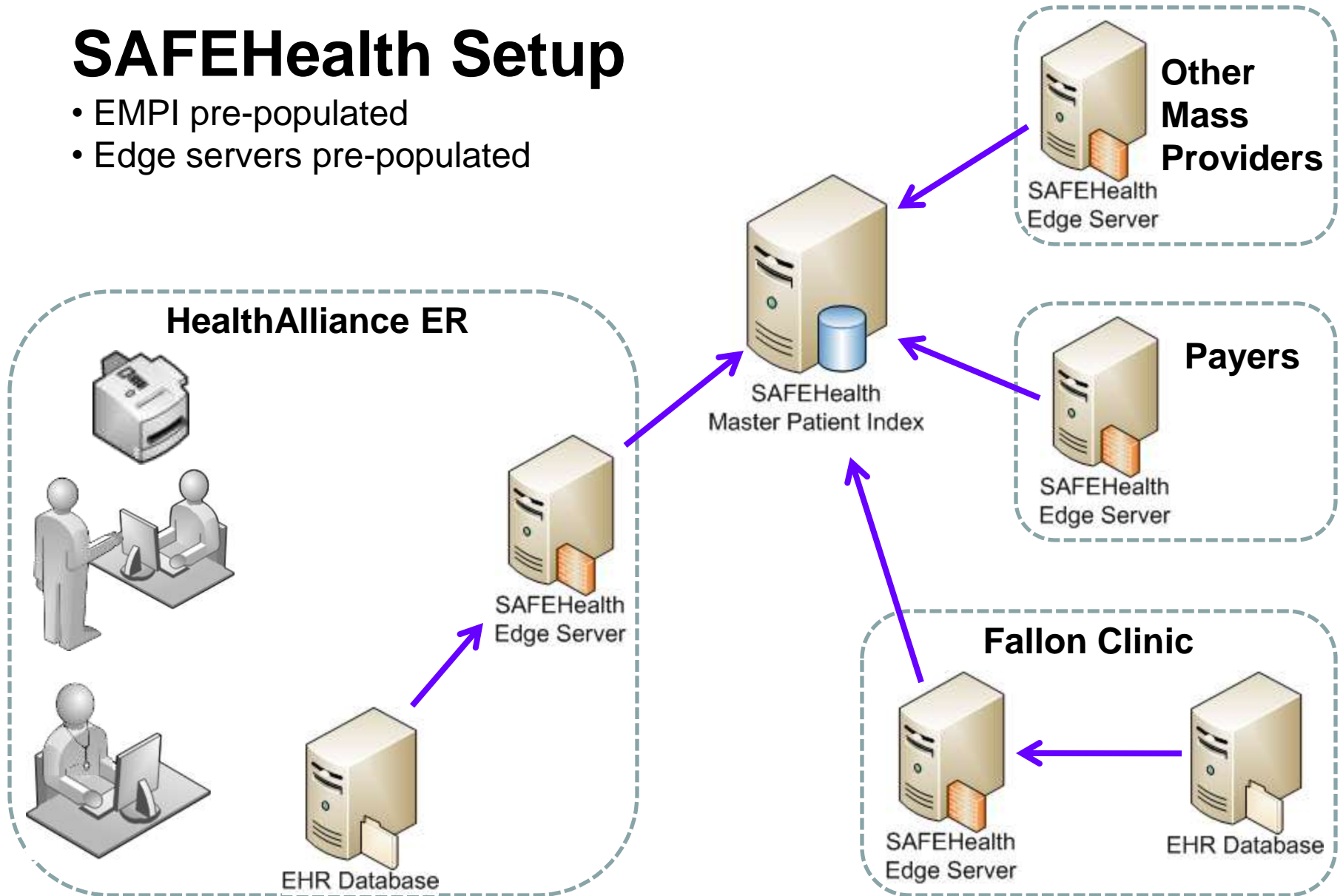
SAFE Health Architecture

High Level Design Goals

- Integrate seamlessly into physician & staff workflows
- Clinical data flows from EHR to EHR, and is viewed by clinicians directly in their EHRs
- User authentication and role-based access is performed by each connected entity through EHR
- Patients Opt-In once at the connected entity level for all data content/types for TPO uses only
- All authorized entities can access entire patient record
- One central demographic repository (EMPI)
- No central clinical data repository
- Leverage existing systems at each organization with minimal modification

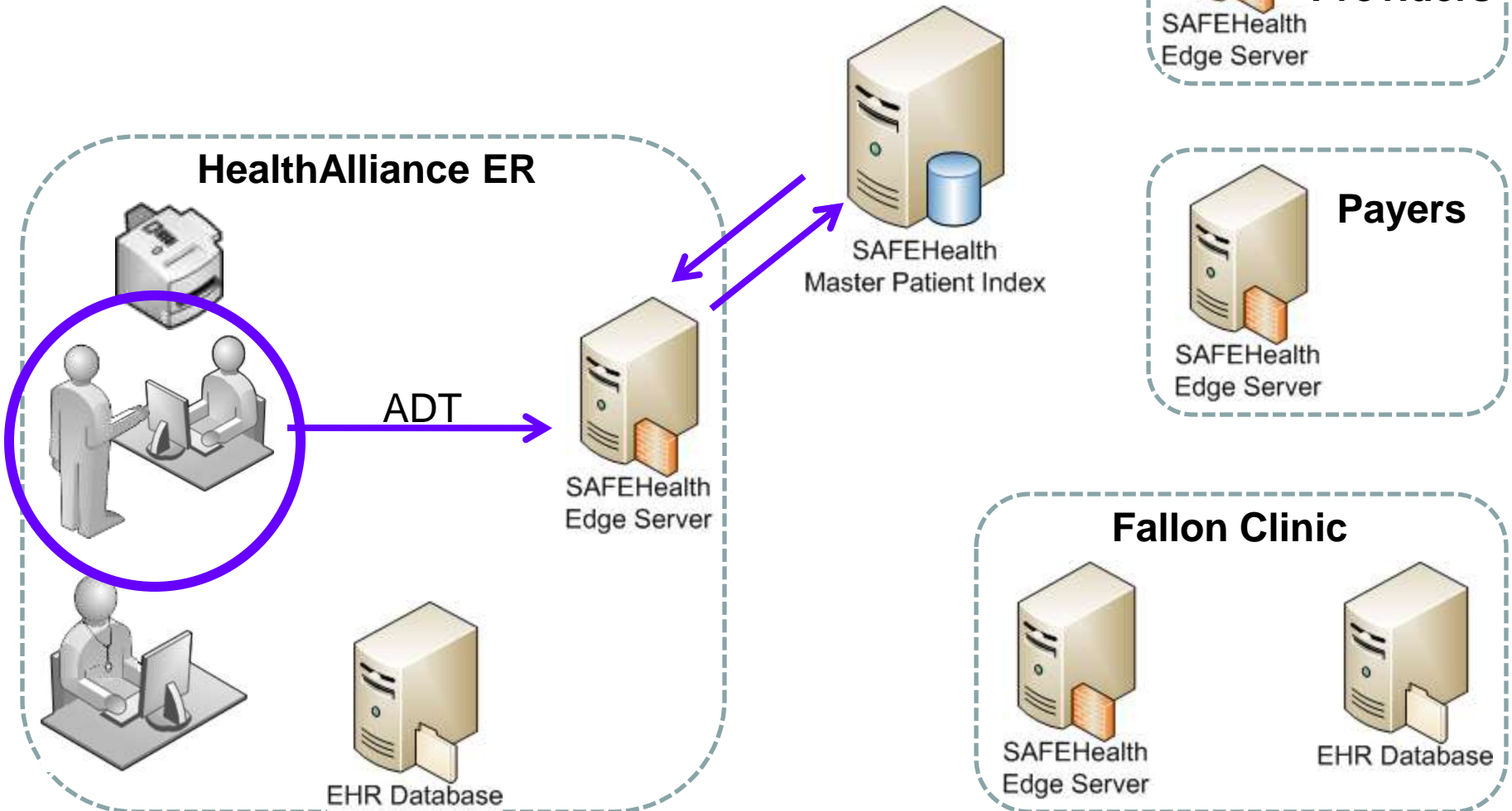
SAFEHealth Setup

- EMPI pre-populated
- Edge servers pre-populated



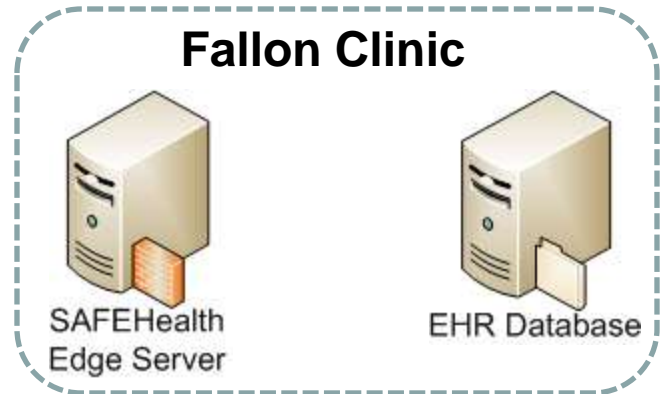
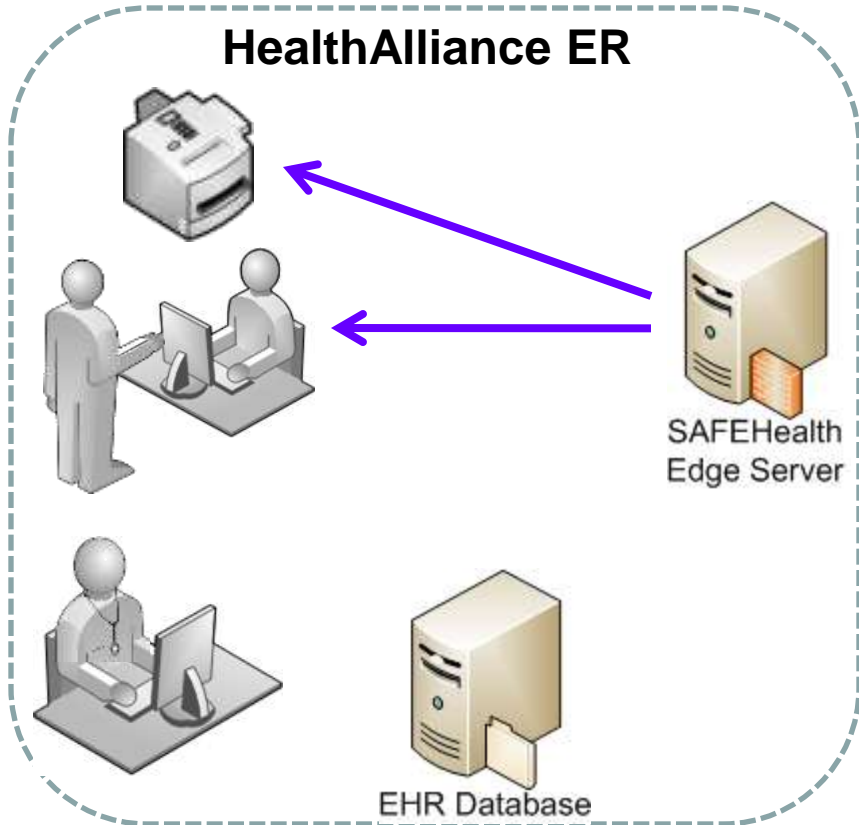
New Patient Registers in ER

- ADT to SAFEHealth
- SAFEHealth assesses consent status



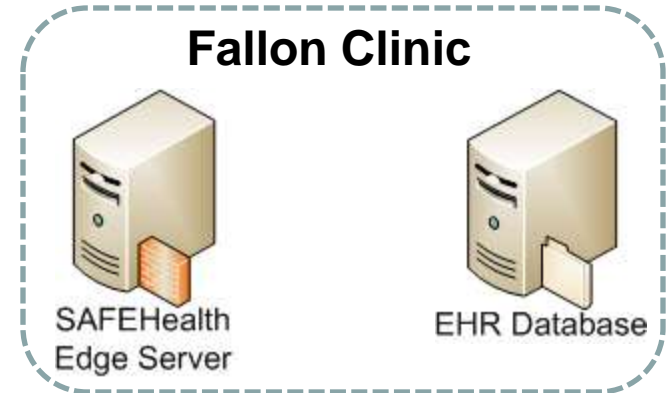
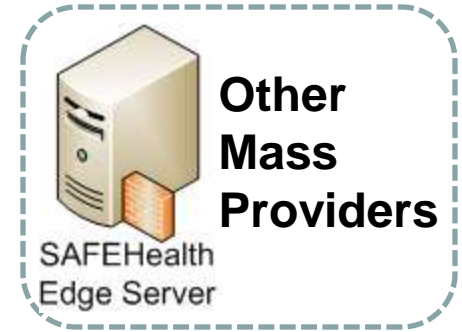
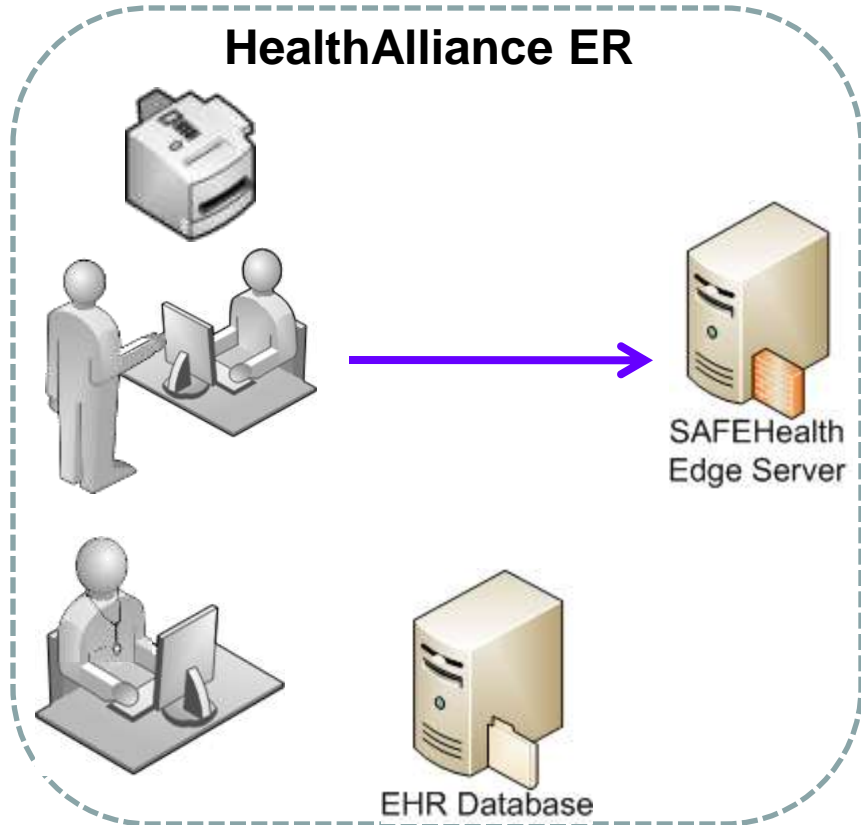
No Consent on File

- Consent prints next to registrar
- Patient added to portal work queue



Patient Signs Consent

- Registrar enters into Consent Portal



MRN	MPI	First	Last	DOB	Date Added	Opt In For	Forms
584758	242811	PATIENTV	TEST	11/02/1941	06/18/2009 02:38	<input type="button" value="All SAFEHealth+Insur"/> <input type="button" value="All Mass+Insur"/>	Print Consent Print Revocation

Patient TEST, PATIENTV

Patient Information

Demographic Information

MRN 584758
MPI 242811
First Name PATIENTV
Middle Name
Last Name TEST
DOB 11/2/1941
Sex
SSN

Address Information

Address Line 1
Address Line 2
City
State
Zip Code
Check in Location

Safe Health Consent

Emancipated Minor?

Opt In For

Consent (Double click to deselect)	Group	Expiration Date
<input type="radio"/> Consented <input type="radio"/> Revoked	Massachusetts	<input type="text"/>
<input type="radio"/> Consented <input type="radio"/> Revoked	Fallon Clinic	<input type="text"/>
<input type="radio"/> Consented <input type="radio"/> Revoked	Health Alliance	<input type="text"/>
<input type="radio"/> Consented <input type="radio"/> Revoked	St Vincent's Hospital	<input type="text"/>
<input type="radio"/> Consented <input type="radio"/> Revoked	My medical insurance carriers	<input type="text"/>

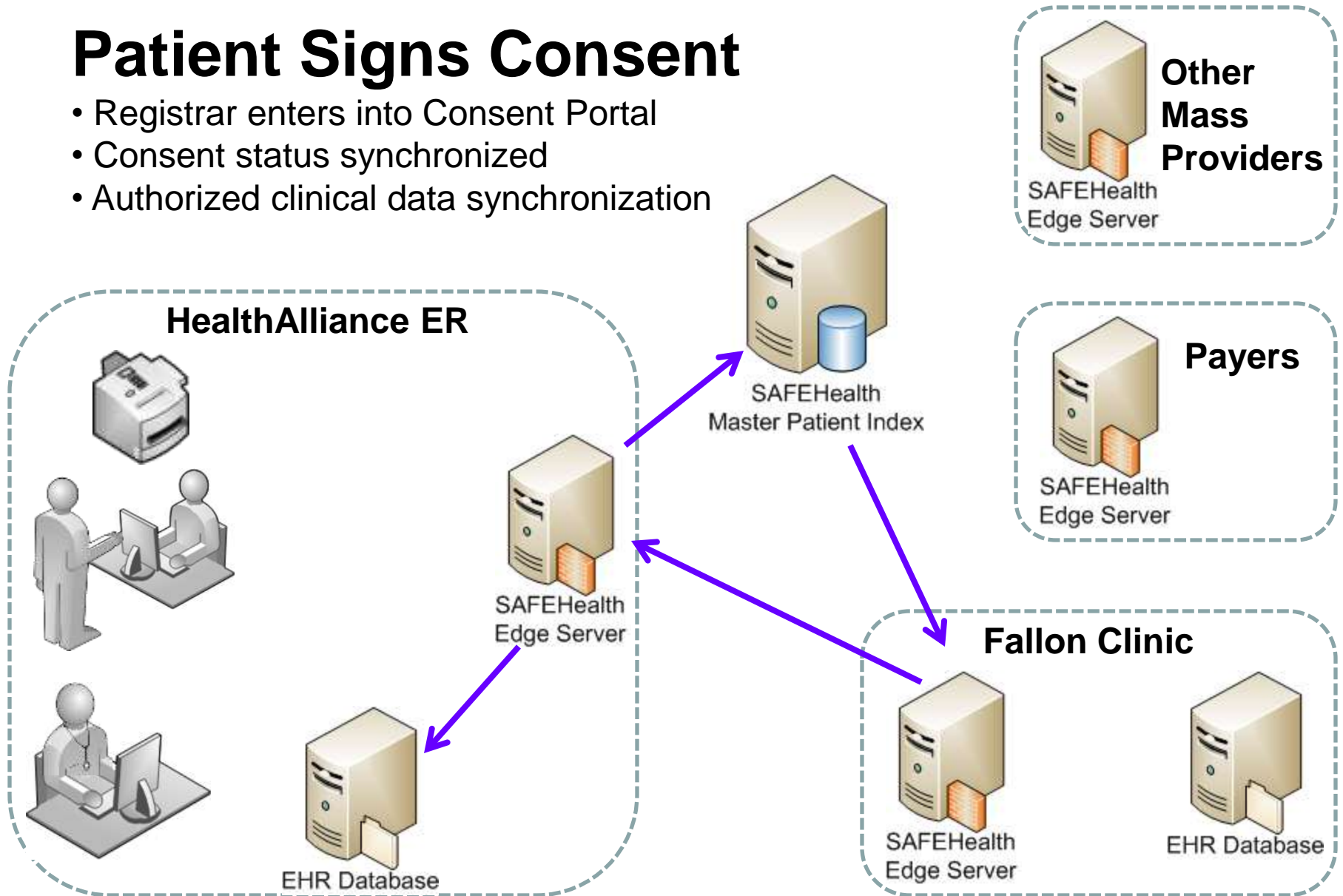
Consent?

- Signed
 Refused
 Not Entered

Last Date/Location
Consent Form Printed: 6/19/2009 9:29:46 AM at department

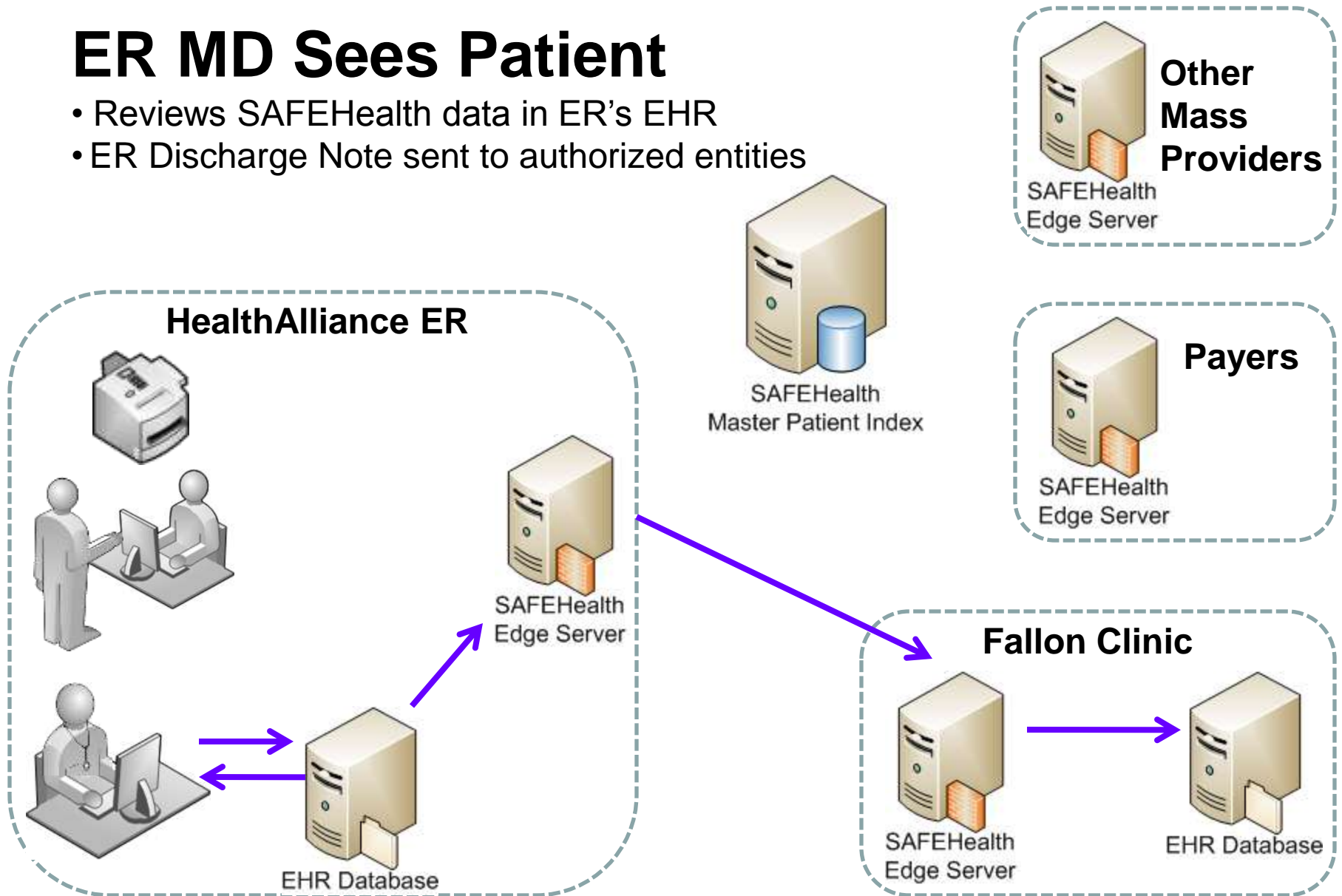
Patient Signs Consent

- Registrar enters into Consent Portal
- Consent status synchronized
- Authorized clinical data synchronization



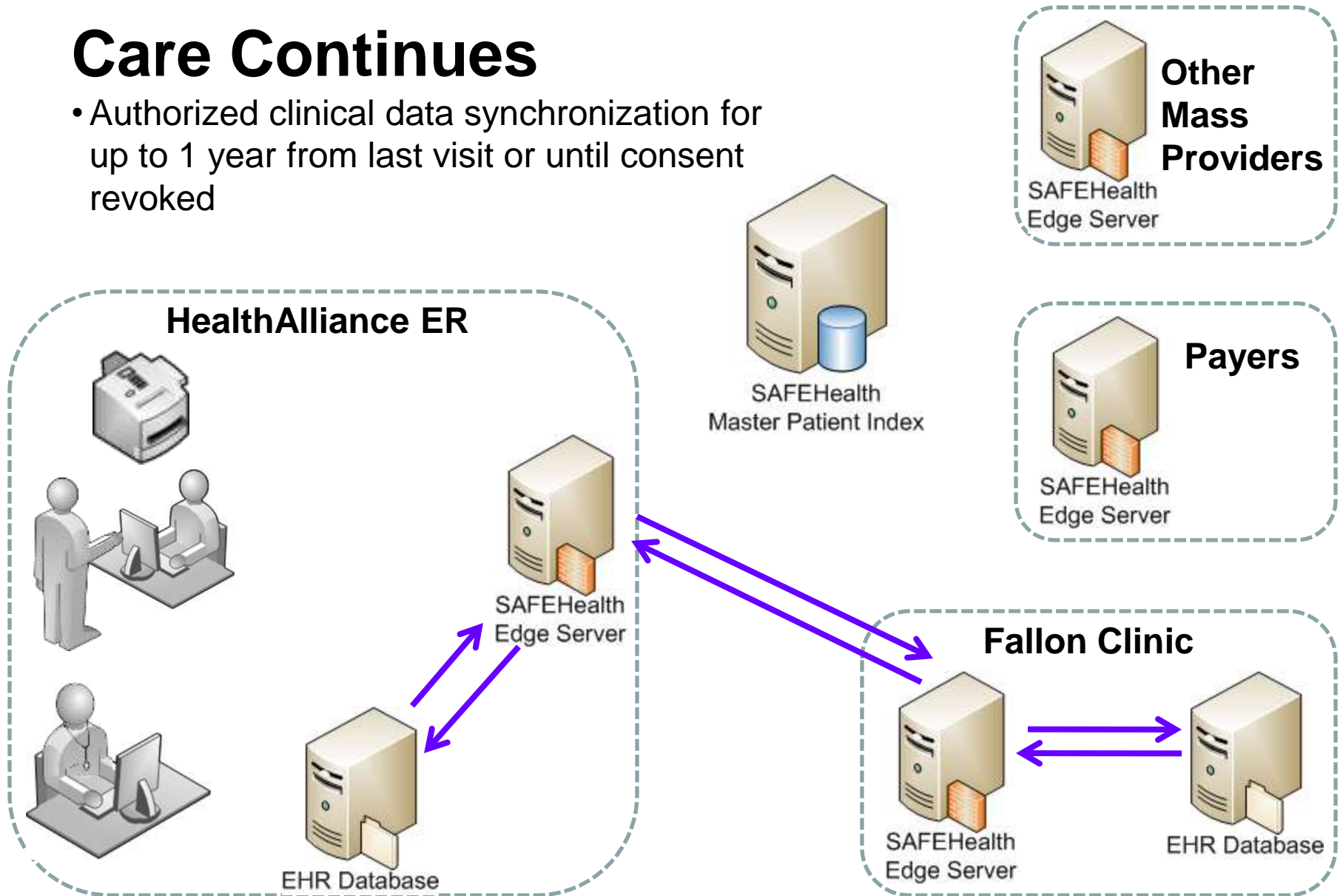
ER MD Sees Patient

- Reviews SAFEHealth data in ER's EHR
- ER Discharge Note sent to authorized entities



Care Continues

- Authorized clinical data synchronization for up to 1 year from last visit or until consent revoked



Current Status of SAFE Health

Current Status of SAFE Health

- ⊕ Local Servers were installed and connected at Fallon Clinic and Health Alliance Hospital Leominster Campus
- ⊕ Core Server is hosted by Fallon Clinic
- ⊕ 1 Million patients were pre-loaded into EMPI
- ⊕ 2 years of clinical data pre-loaded into CDR
- ⊕ HealthAlliance is currently providing ER notes

Current Status (Continued)

- ⊕ Fallon Clinic is currently providing notes with:
 - Medication List
 - Allergies
 - Problem List
 - Immunization History
 - Code Status
 - Advance Directive Status
 - PCP and phone number
 - Vital Signs
 - Recent Lab/Rad Results

Statistics after first year:

- ⊕ 2,000 patients have signed consents
- ⊕ 10 people revoked their consents
- ⊕ 50% have consented for all of Massachusetts
- ⊕ 75% agreed to receiving payer data
- ⊕ 22,000 documents have been securely exchanged

Value of SAFE Health

Value of SAFEHealth

Based on surveys:

- ⊕ Higher quality, faster, safer care
- ⊕ Fewer tests/admissions
- ⊕ Consent process didn't interfere with registration process
- ⊕ Access to clinical data fits into the workflow of clinicians

Where to file data

1. In a separate portal,
is not as good as...
2. In EHR in a separate area,
which is not as good as...
3. In EHR integrated with similar types of data

SAFEHealth uses #2 and #3

Sustainability of SAFE Health

Sustainability of SAFEHealth

- ⊕ Focus has been on reducing operating expenses
 - Internally-developed software
 - Hosting core server in Fallon Clinic's data center
 - No formal third-party organization/RHIO
- ⊕ Just need a **Data Use and Reciprocal Support Agreement (DURSA)** in order to establish trust and baseline requirements for HIPAA and state regulations (e.g. minimal requirements for authenticating users)

Sustainability of SAFEHealth

- ⊕ Each organization is responsible for their own server maintenance/license/replacement and data mapping costs...
- ⊕ **Currently ~\$2,000/year/organization!**
- ⊕ And smaller organizations will cost less...
- ⊕ So the actual cost savings becomes almost irrelevant

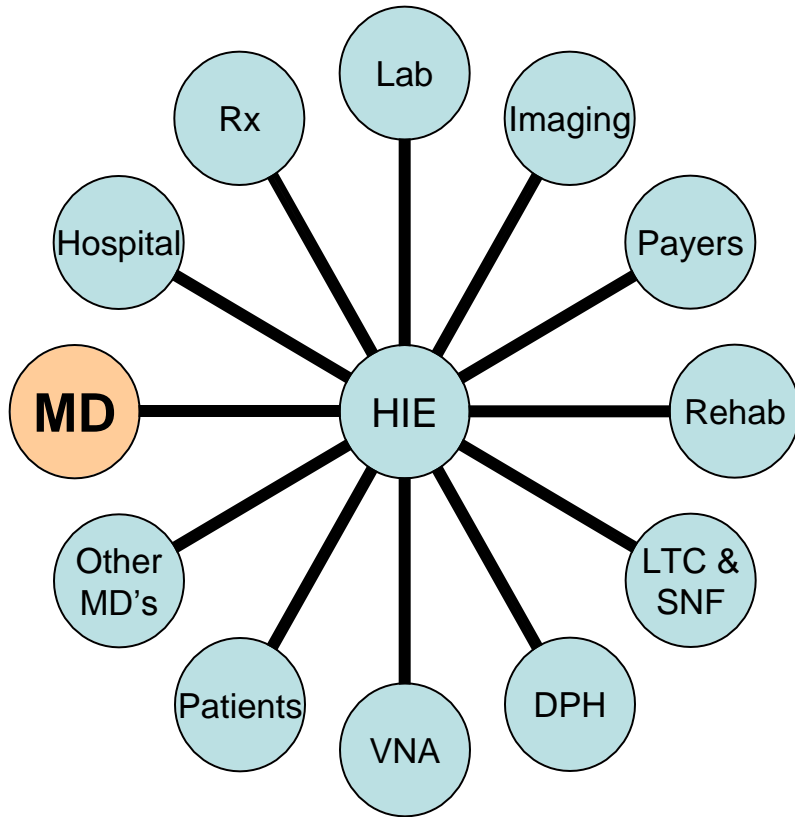
Summary

SAFEHealth has:

- ⊕ Earned the trust of the community stakeholders
- ⊕ Fit into real-world workflows
- ⊕ Provided value at the right price



Questions?



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