



Data Exchange: It is possible to achieve a level of interoperability without standards in place

CHITA Forum – Session XVIII

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Driving Forces and Barriers

- We needed to have a more complete set of patient centered information
- Provider community needed access to more complete clinical information on demand from their offices and homes to support patient care and improve clinical quality
- Y2K there wasn't much energy or attention on the need for a NHI or data exchange standards
- HIPAA loomed large on horizon as potential deal breaker for us
- We couldn't find any organizations that had already done what we were contemplating to learn from

EHI Works Purpose and Operating Model

- EHI Works is the business model developed, approved, and resourced by the PeaceHealth Executive Team and PeaceHealth System Board to extend connectivity and the use of our clinical applications to independent provider groups. It was formed to meet numerous needs/interests for the access to and use of PeaceHealth systems across our regions.
- EHI Works is an operating arm of the Healthcare Improvement Division (HID) of PeaceHealth, through which a range of clinical applications, implementation, enhanced connectivity, and support services are provided to independent providers. It is a part of PeaceHealth, not a separate company or legal entity.
- EHI Works functions as an application service provider and internet service provider that delivers its applications via a secure private network. Services are offered for a cost/market based fee.
- **EHI Works is guided by two simple rules:**
 - **Preserve and promote the CHR** (Community Health Record) **vision by maintaining a patient-centered context across systems/entities**
 - Desired outcome: All clinical results available to providers in the CHR database regardless of provider (e.g., PeaceHealth or non-PeaceHealth)
 - **The business model must be financially sustainable**
 - Desired outcome: Low/No capital entry for providers, low but legal pricing, manageable long-term financial commitment



Operationalizing the Business Model

- Governance
- Contracts/Legal Issues
- Pricing Models
- Resource Plan

Business Model - Governance

- Depends on what your community and relationships will support?
 - Separate company may be required
 - We formed an operating arm within the organization
- Rights of the parties
 - Participants get a vote and seat at the table
 - Use of data
 - Vendor selection
 - Implementation and support oversight



Business Model - Legal

- Stay out of trouble
 - Stark II, anti-kickback, inurement
- Stay out of court
 - Clear agreement on services provided and not provided
- Avoid fines and sanctions
 - We don't do billing services for independent groups
- “ASP” related issues
 - Use of software/system – vendor agreements
 - Compliance with policies and procedures
 - Logons/confidentiality agreements

Business Model - Legal (continued)

- Privacy & Security (HIPAA, state and other federal laws)
 - Agreements limit uses of health information
 - “TPO”
 - PeaceHealth is a “business associate” of providers
 - Patient rights – provider responsibilities
- Liability
 - Agreements place liability on providers and their “workforce”
 - Providers must indemnify PeaceHealth and other independent users

Pricing Model

Higher of Cost or Market

Pricing for XYZ Imaging Center

	Yr1	Yr2	Yr3	Yr4	Yr5
Share of Infrastructure HW/SW/Install (1)	\$1,112,222	\$0	\$0	\$0	\$0
Share of Interfaces (2)	\$10,889	\$0	\$0	\$0	\$0
Incremental HW purchased for XYZ Imaging Center (3)	\$0				
Incremental SW purchased for XYZ Imaging Center (4)	\$0				
Interfaces to XYZ Imaging Center System(s) (5)	\$45,000				
Incremental Training/Install/Config (6)	\$0				
Share of Maintenance (7)	\$102,667	\$105,747	\$108,919	\$112,187	\$115,552
Incremental Support (8)	\$35,043	\$36,095	\$37,177	\$38,293	\$39,442
Overhead and CMPI (9)	\$114,833	\$116,898	\$119,025	\$121,216	\$123,473
Total Expense	\$1,420,654	\$258,740	\$265,122	\$271,695	\$278,466
Price Per Stored Study	\$6.91	\$7.12	\$7.33	\$7.55	\$7.78
Annual Fees Paid by XYZ Imaging Center	\$483,700	\$528,104	\$576,584	\$629,514	\$687,303
XYZ Imaging Center Stored Study Volume	70,000	74,200	78,652	83,371	88,373
Cash Flow for NPV Calculation	-\$936,954	\$269,364	\$311,462	\$357,818	\$408,837
					\$1,574 <- NPV @15%
Total Organization Imaging Support Operating Cost	\$442,500	\$455,775	\$469,448	\$483,532	\$498,038
% of Total Organization Operating to XYZ Imaging Center	16%	16%	16%	16%	16%
Total Organization Volume including XYZ Imaging Center Volume	450,000	477,000	505,620	535,957	568,115
Infrastructure-Core System HW/SW/Install (Imagecast...)	\$7,150,000				
Interfaces (to HIS and/or related systems interface)	\$70,000				
Annual Maintenance-Core System HW/SW (Imagecast...)	\$660,000				
CMPI Annual Cost Allocation to Imaging	\$46,000				

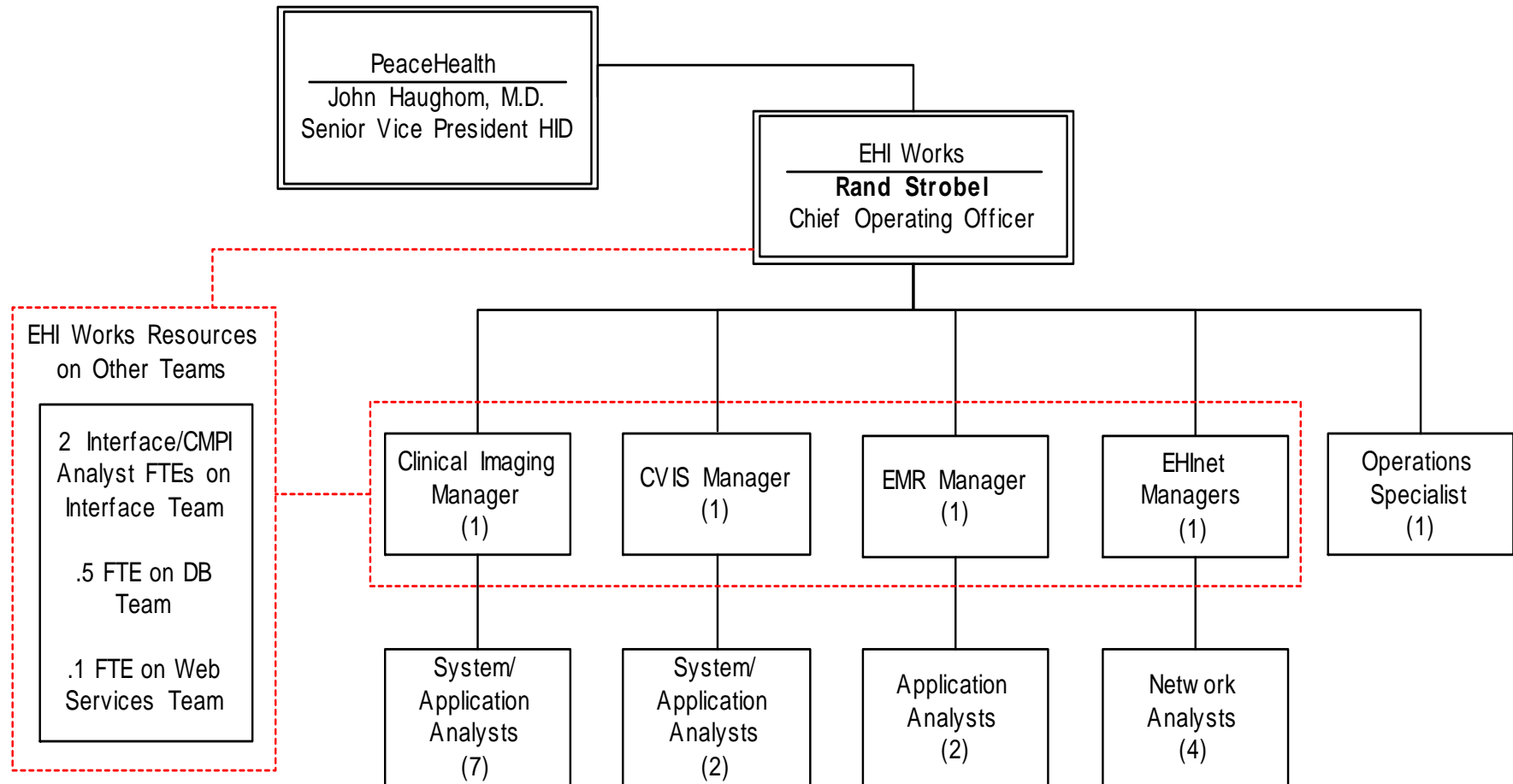
- (1) XYZ Imaging Center's respective share of the core system HW/SW and installation costs.
 (2) XYZ Imaging Center's respective share of the primary interfaces.
 (3) This is for any incremental HW beyond the HW in Line 1 that is being rolled into the per exam pricing for XYZ Imaging Center
 (4) This is for any incremental SW beyond the SW in Line 1 that is being rolled into the per exam pricing for XYZ Imaging Center
 (5) This is for any additional or specific interfaces to XYZ Imaging Center specific systems that are being rolled into the per exam pricing for XYZ Imaging Center
 (6) This is for any additional training, installation, or configuration beyond the standard being rolled into the per exam pricing for XYZ Imaging Center
 (7) XYZ Imaging Centers respective share of the annual maintenance charged by the vendor.
 (8) This is organization cost for general data center, help desk, etc... calculated as a percentage of core and incremental costs on lines 1-5
 (9) This is XYZ Imaging Center's respective share of the cost for organization to purchase and support the system, plus the annual CMPI cost allocated to imaging.

Total Cost

- Capital
- Interfaces
- Maintenance
- Patient Matching
- Operating
- Overhead Allocation
- Cost of Capital
- Volume

Market Rate (Usually a range)

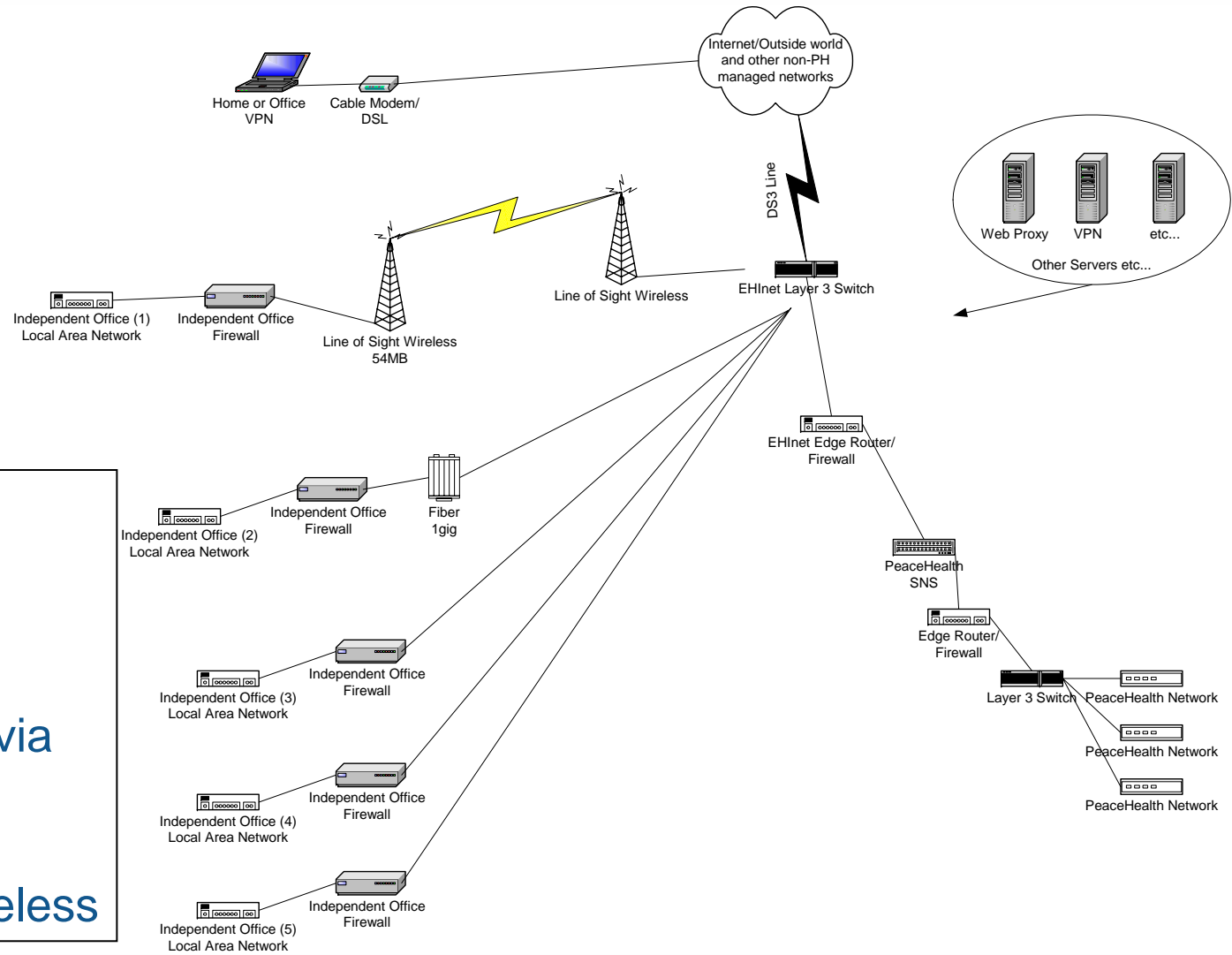
- Was hard to find in the beginning
- Be able to explain your price point in the market range





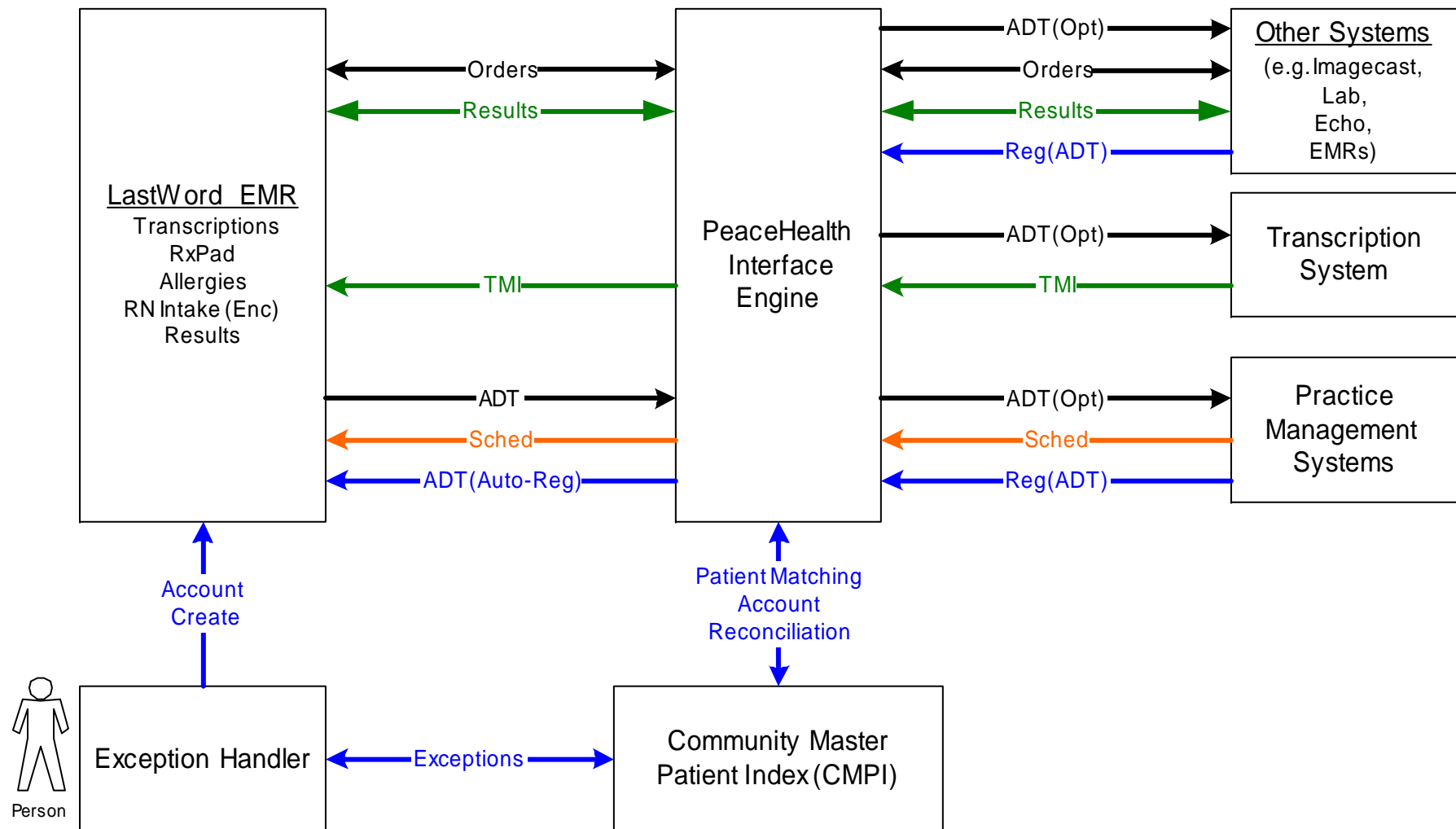
Building the foundation

- ✓ Governance
- ✓ Contracts/Legal
- ✓ Pricing Models
- ✓ Resource Plan
- Connectivity
- Patient Matching
- Pilots and early adopters



Options:

- SSL VPN
- Site to Site VPN
- Client Server VPN
- Direct to Network via
 - Fiber
 - 10/100
 - Line of Sight Wireless



Product	Description
RxEMR	Prescription management module and allergy documentation only. This includes use of standard workflow and basic training and support. Does not include any interfaces to or from a clients practice management system.
Basic EMR	This product is the basic functionality of an EMR and includes registration module access, orders to connected ancillary service providers, allergies, Rx pad, and chart summary view. This product includes an ADT interface from the clients practice management system.
Encounters EMR	Includes all of the functionality of Basic EMR, plus problem list, alerts, clinic and telephone encounters documentation, clinical transcriptions, and all functionality of the outpatient EMR. This product includes an ADT interface from the clients practice management system as well as TMI.
EMR Data Exchange	This is a real time bi-directional interface of clinical reports and other clinical data between a clients EMR and Lastword Provider Tools. This is facilitated using CMPI for patient identity matching.
Transcription Import	TMI = Transcription Mass Import. Interface to allow for mass import of transcriptions. Eliminates manual process of connecting a transcription with the patient record in the EMR.

Product	Description
Imaging (RIS/PACS/Dig Echo)	<p>RIS is a radiology information system that provides for the range of radiology administrative/operations functions including registration, scheduling, ordering, billing, and reporting.</p> <p>PACS is the capture, storage, and distribution of electronic images.</p>
Echo/Cath CVIS	<p>Dig Echo is the capture, storage, reporting, and distribution of digital echo studies, and includes structured results reporting functionality.</p>
Desktop Services	<p>Provides traditional desktop configuration, installation, maintenance, and trouble-shooting services.</p>
EHInet	<p>A range of network connectivity options to independent organizations LAN's/Devices with the PeaceHealth Wide Area Network. Options include T1 frame relay, 11 and 54 Megabit line of sight wireless, and VPN. Service provides e-mail, shared DS3 internet access, and an early generation EHInet 'Provider Office Portal' site. Intra/internet site hosting is being evaluated based on level of interest.</p>
Consulting	<p>Provides a range of consulting services to include technical application consulting, advanced application training consulting, work process redesign consulting, and clinical and operating quality improvement consulting.</p>

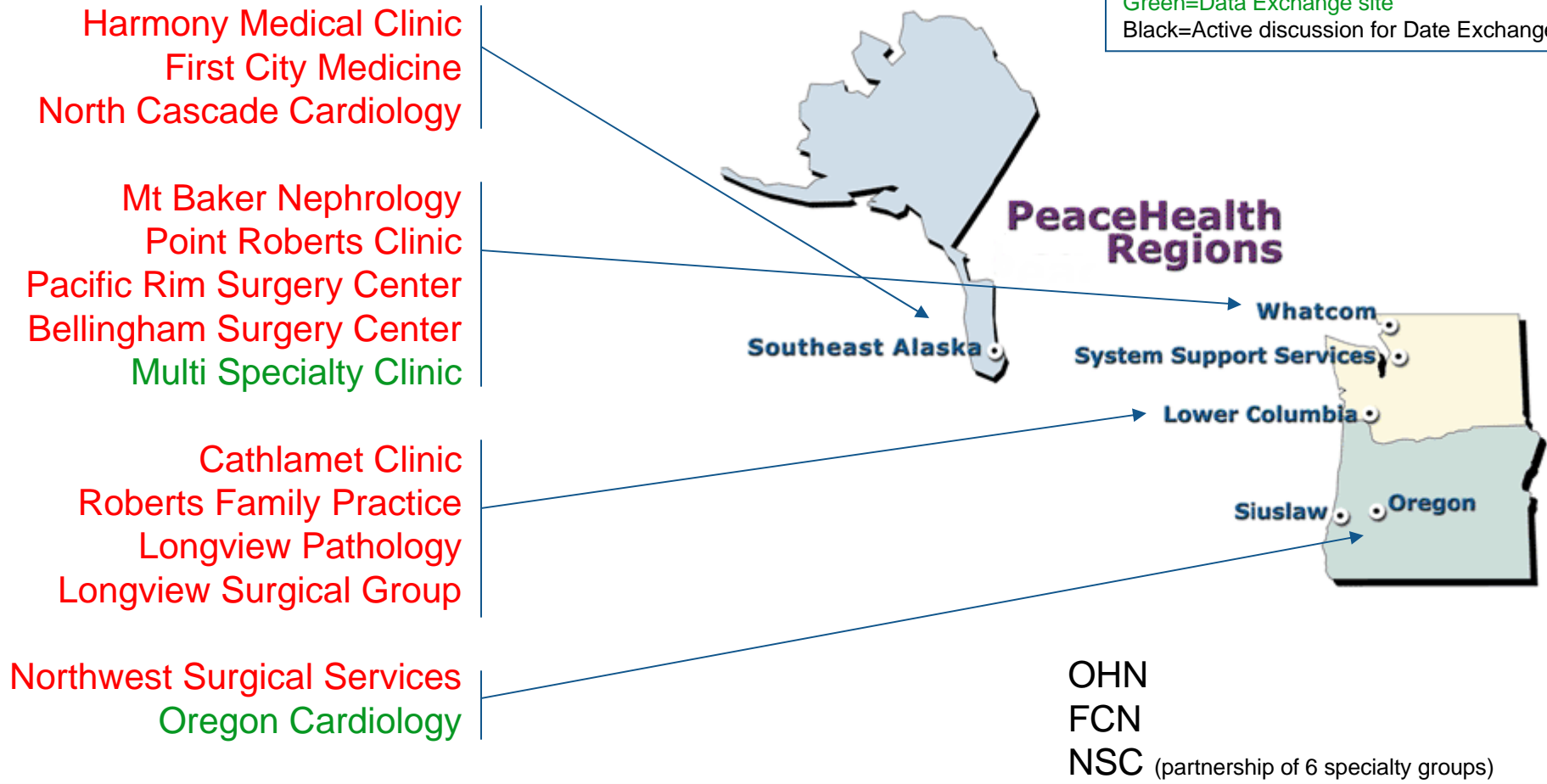


Current Activity

- ~1,800 users subscribed to our EHInet connectivity service, additional ~1,400 subscribed to our HInet connectivity service
 - Primarily physicians and their office staff but includes SNF's, payors,...
- 54 providers using our EMR or transcription import services
 - Physicians, PA's and nurse practitioners
- 80 providers in various stages of real time bi-directional data exchange with their clinic EMRs
- 10 physician pathology group purchasing use of anatomic pathology system with path reports flowing to our EMR
- 14 physician cardiology group purchasing use of digital echo system (image archive and echo reporting)
- 8 independent radiology groups/imaging centers using our RIS and PACS services. Two more in the queue.

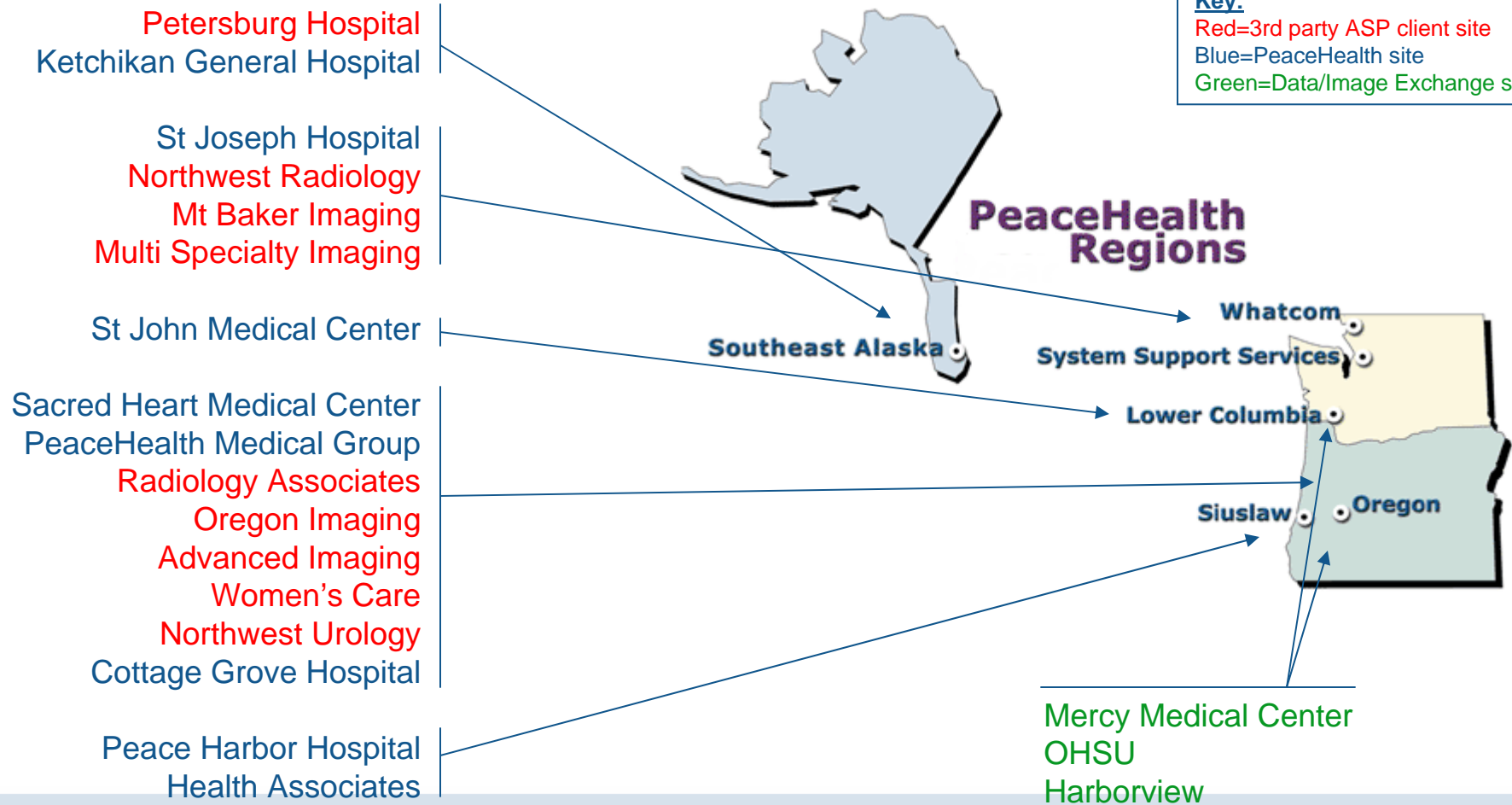
EMR Implementations

Key:
 Red=3rd party ASP client site
 Green=Data Exchange site
 Black=Active discussion for Date Exchange



RIS and PACS Implementations

Key:
 Red=3rd party ASP client site
 Blue=PeaceHealth site
 Green=Data/Image Exchange site





Overall Observations

- It's not about technology
 - It's changing how care is provided and work is done
 - It's changing social and political structure
 - O.K., there may be a bit of technology involved
- Transparency and Trust
 - Systems and data are not a weapon
 - Never give a reason to not trust
- Do what you can today
 - Start with just one or a few willing partners
 - Pick a reasonable set of information to start exchanging
 - Don't wait for an entire community or region to get organized
 - Minimum functional datasets, IHE, CCR will come...HL7 is enough to start