Bay Area Retina Associates

Diseases and Surgery of the Retina and Vitreous

Selecting an Electronic Health Record System: Step by Step

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Disclosures

- No corporate sponsorship
- No EHR vendor support or involvement

Electronic Health Records

Good reasons to adopt

- Increase practice efficiency
- Improve chart documentation
- Reduce audit liability
- Increase patient safety
- Reduce practice costs
- Medicare penalties in 2015

Bad reasons to adopt

- Incentive money
- Everyone else is doing it
- I can get a good deal right now
- Local hospital uses this system

E-Rx incentives and EHR incentives are mutually exclusive. E-Rx incentives depend on Medicare volume.

What If I Do Nothing?

- *No change* in practice efficiency
- *No change* in practice liability
- *No change* in Medicare payments until 2015
- Software will improve with time
- Providers will probably consolidate

What If I Choose the Wrong EHR?

- Reduced productivity
- Increased practice costs
- No reduction in practice liabilities
- Wasted time and money
- Difficulties regaining possession of data
- Switching back to paper or another system is disruptive

How Can An EHR Help?

- Increased productivity
- Reduced audit liability
- Reduction of medical errors
- View trends/patterns/comparisons
- Data backup
- Access to charts anytime/anywhere
- Reduced time dictating after hours

Financial Benefit/Cost

Benefits

- Long-term productivity growth
- Value of decreased liability
- Reduce practice overhead
- Stimulus money

Costs

- Short-term productivity drop
- Training fees
- Hardware
- Up-front EHR costs
- Ongoing EHR costs

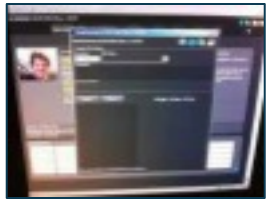
*Most of the **benefits are difficult to quantify** .*
Most of the costs are known or predictable.

The EHR is Part of A System

Doctors

Patients

Electronic Charts



Electronic Technologies

Data Infrastructure

Staff

Data Input Devices

The *Entire System* Must Work

- A cloud-based EHR is useless if you lose internet connectivity…
- Complete documentation is useless if default normals reduce accuracy…
- An EHR fails if it causes doctors to retire early or seek psychiatric help…
- Clicking a mouse 5,000 times a day can cause repetitive stress injuries…

Which Players Should Be Involved In Evaluating EHR Systems?

This is NOT a multiple-choice question

- Doctors
- Front desk staff
- Technicians and photographers
- Practice administrator(s)
- Billing staff
- Contract consultant/lawyer

*We chose **1-2 from each category** based on skill and enthusiasm.*

Step 1: Identify Goals

- Reduce financial liability in case of audit
  - Millions of dollars may be at stake
  - Little recourse in event of penalty
- Improve patient care: quality and safety
  - Less redundant data entry = fewer mistakes
  - Chart data available in any office or on call
- Implement fully before Medicare penalty
  - Identify a realistic timeline starting at the end

* These goals will differ by practice/specialty

*With **multiple offices and doctors**, our primary concerns were good documentation and accessibility.*

Step 2: Identify Threshold For Adoption

- All key players must be committed to the process
  - All doctors, not just the EHR champions

- If no system meets minimum criteria, then no transition to EMR

Step 3: Identify The Team

- Physician champion(s)
- Front desk champion(s)
- Technician champion(s)
- Photographer champion(s)
- Administrator(s)
- Billing staff

CHAMPIONS

- Learn quickly
- Understand technology as well as clinical needs
- Ask questions
- Teach others with patience and enthusiasm

Step 4: Evaluate In Stages

- Web demos for as many products as possible = survey the space
  - To pass this round: Not horrendously bad
- On-site demos for products that pass the first cut, with in-house evaluation team
  - To pass this round: No major deal-breakers
- Second round of on-site demos for products that pass the second cut, for all partners
  - To pass this round: All docs willing to use it
- Site visits for short list of contenders
  - Decision: adopt or hold off

Minimum Criteria

- EHR company must demonstrate an understanding of ophthalmology needs
- EHR must be installed and working in the offices of comparable practices
- EHR company must perform demos based on our specifications, not theirs
- Every part of the EHR must work correctly today

Minimum Criteria

- EHR must create intelligent connections between data:
  - No need for redundant data entry
  - Links between findings, diagnoses and ICD-9
- The interface must be intuitive
- Critical information accessed in 2-3 clicks
- Typing should be an uncommon input
- Letter output should be good enough to forego dictation

Product Evaluations

- CompuLink
- GloStream
- Hill NextGen
- ifa
- Integrity
- IO Practiceware
- MD IntelleSys
- MD Office
- MedFlow
- NextGen
- VersaSuite
- And more…

Detailed, uniform criteria for evaluation

Examples of *Unacceptable* Flaws

- If a doctor wants to add to tech's history, he/she must erase the entire history and start over
- Drawings have only one graphical layer
- Findings mixed up with diagnoses:
  - CME is listed under DR or RVO, not freestanding
- Lack of connection between diagnoses and ICD-9 codes

Site Visits Were Invaluable

- Staff and doctors at host sites described the pros and cons of their systems honestly
- Hosts recommended changes to the implementation process
- Different practices use the same software in very different ways
- Unrelated to EHR evaluation, clinical observation was highly educational

Interlude: Parallel Decisions

- Stand-alone EHR vs. integrated with EPM
  - Best-in-breed versus convenience
  - Integrated may have less robust PM functions
  - Stand-alone may require upgrade of EPM
  - Stand-alone requires investigation of data bridge

Interlude: Parallel Decisions

- Cloud-based EHR vs. Client-server EHR
  - Dependence on internet connection vs. local server maintenance
  - Cloud-based requires internet uptime guarantee or redundant connectivity
  - Client-server requires dependable local IT service and more variable costs for maintenance and service
  - Security of data backup versus data possession: do you trust what you cannot see, and do you have it in writing?

Small EHR companies

Good

- Willing to customize
- Personal service
- Lower cost (in general)
- More willing to spend time building a data bridge with your EPM

Bad

- Willing to customize
- May fold if unsuccessful
- May be acquired if successful
- May not have previously built a data bridge with your EPM

Step 5: Final Review

- Confirm decision with stakeholders
- Confirm adequate support provided
- Analyze integration with PM system
- Confirm full certification to avoid penalty
- Review contract terms:
  - Cost, data ownership, etc.
  - Independent contract review

We took our contract review to a consulting firm that specializes in EHR contracts.

Integration With Practice Management Software

HL7 bridge

- Requires reasonably modern EPM
- Works best if both EHR and EPM vendors cooperate on the development

Additional data bridge?

- Some useful data may not be included in the HL7 bridge

Step 6: Plan Implementation

Timeline for preparations

- Hardware, internet, HL7 bridge

Staged rollout versus all-at-once

- Start with physician and staff champions
- Start with slower office(s)

Unlike EPM implementation, EHR implementation can be rolled out slowly rather than all at once.

Implementation Preparation

Upgrade internet connections to all offices

- Business level of service from one company
- Redundant connections
- Adequate speeds for EHR

HL7 data bridge discussions

- Review of specific data variables
- Commitments from both EHR and PM sides

*MD IntelleSys requires: **2** MB/s down and **1** MB/s up.*
*Comcast Business Cable starts at **12** down and **2** up.*

Implementation Preparation

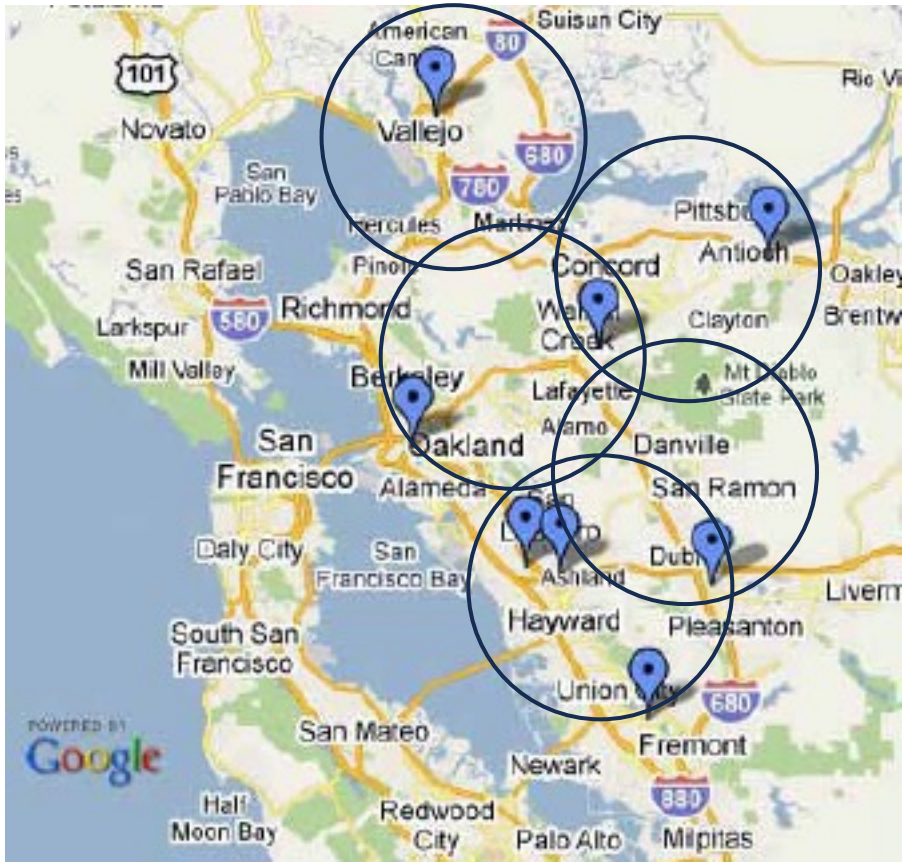
- We are part of a national community
- We can learn from the mistakes of others

  - ***We contacted colleagues*** *who had recently implemented MD IntelleSys*
  - ***We compared notes*** *and learned from each other*
  - ***We are setting up a working group*** *with others who are implementing MD IntelleSys to facilitate ongoing discussion and learning*

Implementation: Staged Rollout

The challenge:

- 8 Offices
- 6 Doctors



Speed of Implementation

- Add new office(s) every month after the pilot phase, if all goes smoothly

- Start each doctor on EHR for only a few patients a day initially
  - Each doctor will learn MDI at a different pace
  - Each doctor has a unique clinic flow

Speed of Implementation

- Rushing is a bad idea…

- Maximum incentive payment if complete implementation by Q3 of 2012
  - Cost of waiting extra 1 year: ≤$5k/doctor
  - Cost of rushing: More than $5k/doctor…

How Much Initial Exposure is Right?

- When a doctor first starts using EHR:
  - Transitioning the entire workday is risky
    - Loss of productivity due to slow pace
    - Physicians, staff, and patients' frustration
- Transitioning too slowly is problematic too
  - Inadequate exposure to build basic skills/comfort
  - Need psychological commitment to the new system

Existing Patients: Data Transition

- How much data from the paper chart should be entered into the EHR?
  - New patient note
  - Procedure notes
  - Surgery notes
- Set up a protocol for staff to follow

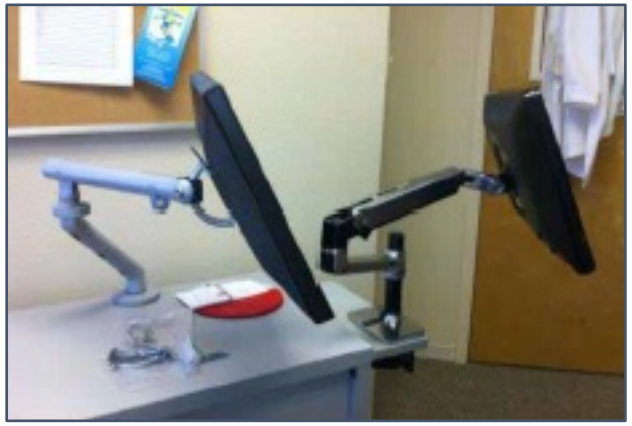
- Paper charts will remain for reference during a transition period of at least 6-12 months

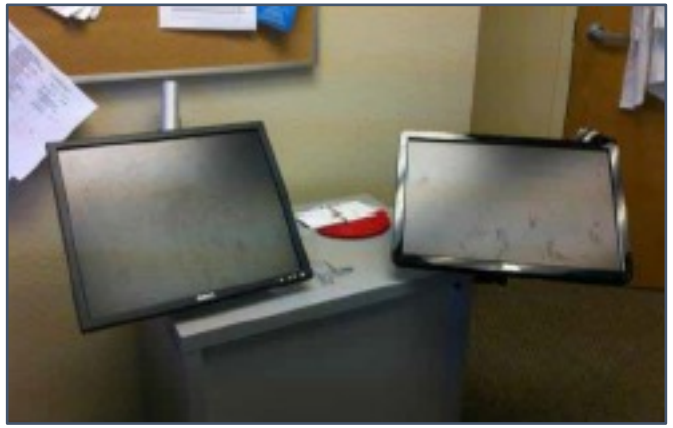
Usability: Factors to Consider

- *Inputs:* mouse, keyboard, finger, stylus
- *Ergonomics:* how does EHR change the exam room?
- *Face time:* how will EHR change doctor positioning and patient eye contact?
- *Scribes:* do you use them / need them?

*Watching other docs in action during our **site visits** provided valuable information about usability.*

Hardware / Ergonomics





Summary

- Step 1: Identify goals
- Step 2: Identify the threshold for adoption
- Step 3: Identify the team
- Step 4: Evaluate in stages
- Step 5: Final review
- Step 6: Plan Implementation

Summary

- A detailed, systematic approach may reduce the chance of a bad decision
- Different practices may have different needs and goals:
  - Integration of optical shop or other services
  - Relative frequency and complexity of diagnostics and procedures
  - Different perceived liabilities
  - Differential willingness to invest in new system
  - Potentially different timelines based on valuation

Summary

- Using a common system has potential benefits if it makes sense for everyone
- Sharing what we learn along the way can only benefit the entire community
- We all want to be careful and thoughtful, without reinventing the wheel

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