

Office of Health Information Technology & Quality

Tips for Minimizing Loss of Productivity During EHR Implementation

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US Department of Health and Human Services
Health Resources and Services Administration
Office of Health Information Technology

Introduction

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Office of Health Information Technology

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- US Department of Health and Human Services
- Health Resources and Services Administration
- Office of Health Information Technology

Minimizing Loss of Productivity During EHR Implementation

Fred D. Rachman, MD

Overview

- Provide Brief background on Alliance experience
- Emphasize aspects of implementation and ongoing use which connect to productivity
- Share perspectives on productivity in realm of health information technology

Before anything else, preparation is the key to success.

- Alexander Graham Bell

Alliance Overview

- HRSA funded Network founded by 4 Federally funded Health Centers located on the Near North Side of Chicago
- Built upon long standing history of collaboration and close relationship among Medical Directors
- Health Centers target Latino, African American, Gay and Lesbian, and Immigrant and Homeless populations
- Services encompass comprehensive Primary Care, Dental, Mental Health and Social Services, Health Education, and Research

Pillars of Alliance Strategy

HIT Enabled Quality:

- EHRS implementation and support
- Innovation
- Research and Data Use
- Consulting/technical Assistance

Status of EHR use at Alliance Founding Members

- Live across delivery sites of 4 founding Health Centers
- Implementation includes specialized settings: school based, youth drop-in, dental
- “Big Bang” - All staff, with full functionality of the system
- Productivity at pre-implementation levels or greater
- 265 concurrent users, more than 500 individual users.“
- Regular quality reporting in dashboard format
- Formalized implementation approach and toolkit
- Expansion to other Health Centers
- Focus on post implementation optimization
- Pilot projects in Medical Device integration, Health Information Exchange and patient portal

Larger EHR user community

Collaboration has grown to encompass 22 Safety Net health care organizations in 8 states, covering wide range of populations:

- 92 Clinical delivery sites
- >325 FTE Providers
- >260,000 Patients
- ~1,000,000 Patient visits

EHR Services provided by the Alliance

- Procurement and management of licenses /Vendor relations
- Hosting
- Clinical content development
- Implementation support
- Help desk
- Development and management of interfaces
- Optimization of Use

Transition Factors

- “Readiness”
- Data Conversion
- Workflow redesign
- Software setup and customization
- Appropriate hardware configuration
- Training
- Go-live/transition support

Readiness

- Staff comfort with computers and technology
- Ability to devote adequate resources to implementation process and ongoing support
- Anticipation of change management and inevitable resistance.

Top Reasons for HIT Implementation Failure

Lack of alignment with
business strategy

Weak executive-level
sponsorship

Underestimating impact on
organization

No readiness assessment for
change

Unrealistic expectations

No definition or measures for
progress or success

No organized mechanism for
communication and
feedback

Lack of formal training plan

Lack of effective physician
leadership

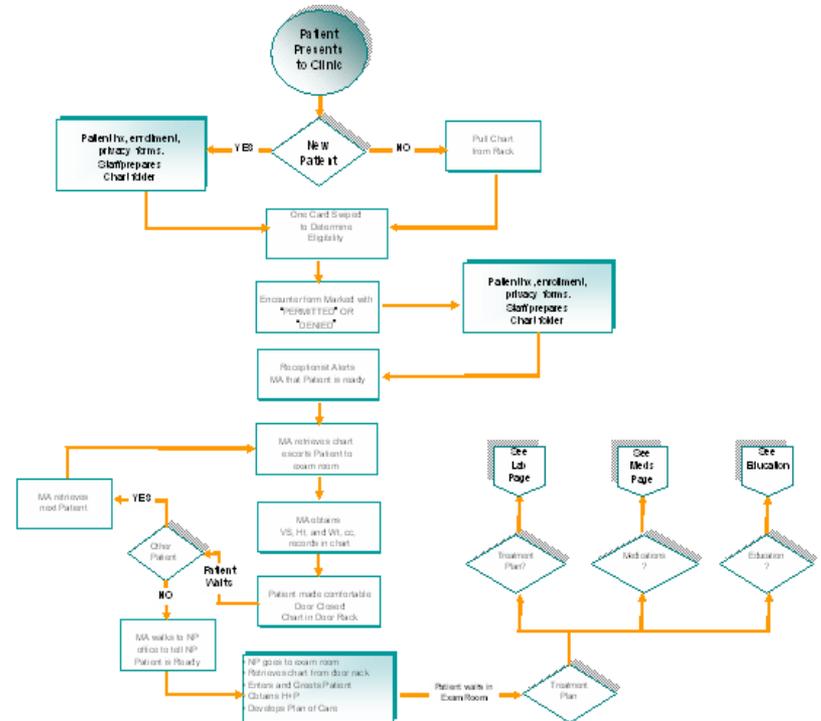
Lack of an effective cross-functional
implementation team

Workflow Redesign

Optimizing workflow and its interaction with software functionality

- Documentation
- Analysis
- Redesign

Best undertaken in context of knowledge of system functionality and options



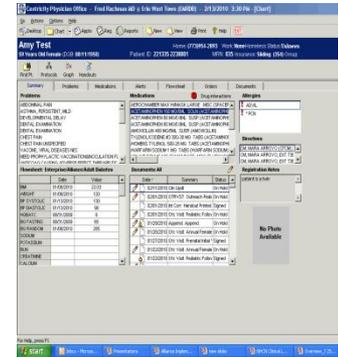
Data Conversion

- Strategies to import as much useful data in a useable format prior to patient being seen by the provider
- Preload/ electronic data transfer
- Scanning has a limited role in data conversion

**Preload
Plan
and
Execution**

**Scanning Plan
and
Solution**

**Interfaces –
Identification,
Construction
and Testing**



Software Setup and Configuration

- Software setup decisions made to optimize workflow
- Roles and privileges, including administrative rights adequately assigned
- Customization where indicated to meet specific need
- Settings such as time out and hard stops used judiciously

EHR Set Up

- Decision making around use of product
- Customization of software
 - Gathering necessary information
 - Setting up users and assigning roles and privileges
 - Identification and creation of needed documents
(e.g. letters and handouts)
 - Setup of orders
(tests, procedures, referrals, services)

Training

- Comprehensive training on application **AND** workflow
- Trainer's curriculum and approach
- Content geared to individual user
- Combination of modalities: Classroom, self teaching, practice experience/use
- Contemplate ongoing training needs
- Identification of Super Users
- Encourage **“Train the Trainer”** approach for ongoing rollout

Go Live Support

- Simulations
- Dress rehearsal
- Identification, training and support of “Super Users”
- Adequate support for clinicians during go live period
- Realistic workloads
- Important role of clinical champions and Health Center leadership

Ongoing Use Factors

- Software features
- Clinical Content
- IT Environment
- Enhancements

Software Features

- Intuitive use
- Data entry and presentation strategies matched to clinical care scenarios
- Flexibility balanced by data integrity

Clinical Content

- Scope of care adequately addressed
- Strategic data management: balance between sufficient detail and ease of entry
- Decision support strategies which improve rather than interfere with care processes

IT Environment

Availability/suitability of hardware

System response time

Help desk availability

Enhancements

- Added functionality can sometimes improve efficiency and usability of the system
- May add initial complication and so might be better added later
- Reimbursement optimization does not always follow efficiency optimization

What is Optimization?

Measures to improve the EHR after it has gone live
Efforts are primarily targeted towards...

Efficiency

Completeness

Consistency

Quality

Usability

Performance

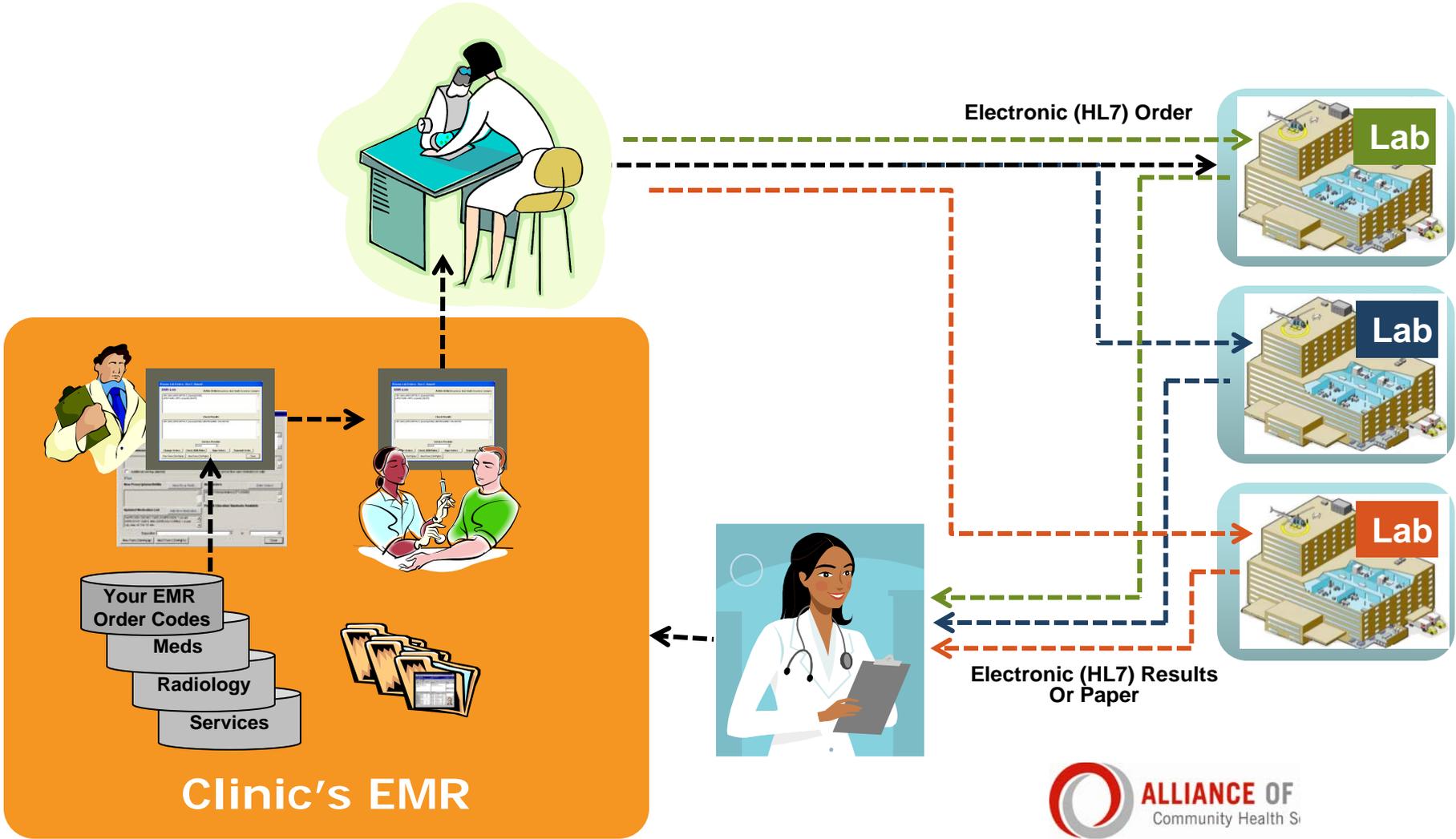
Satisfaction (patient and user)



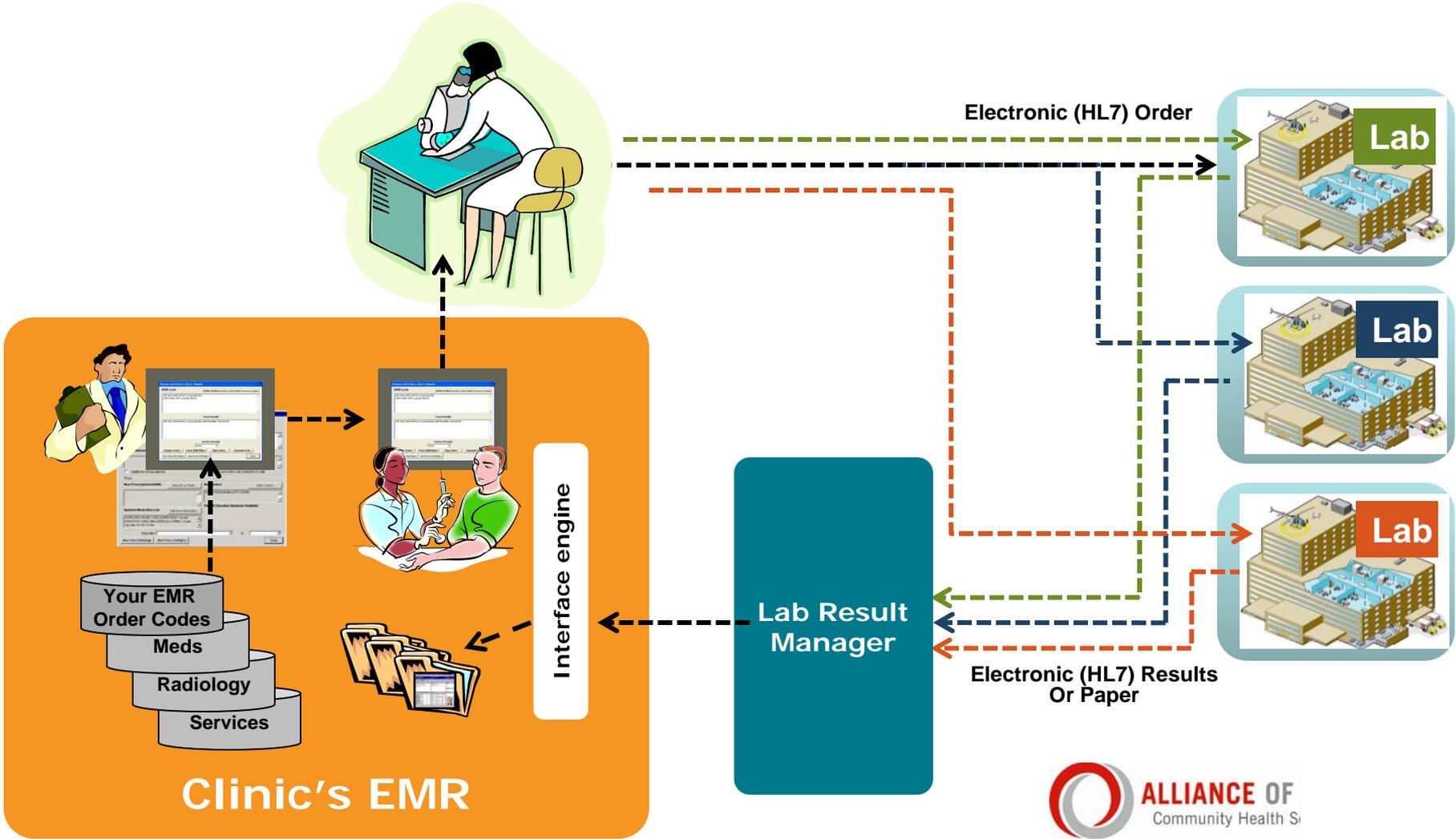
Laboratory Interface

- Saves staff time
- Reduces errors/missing data
- Provides real time diagnosis code requirements
- Ability to import historic data
- Can be one way or two way
- Usually will incur cost

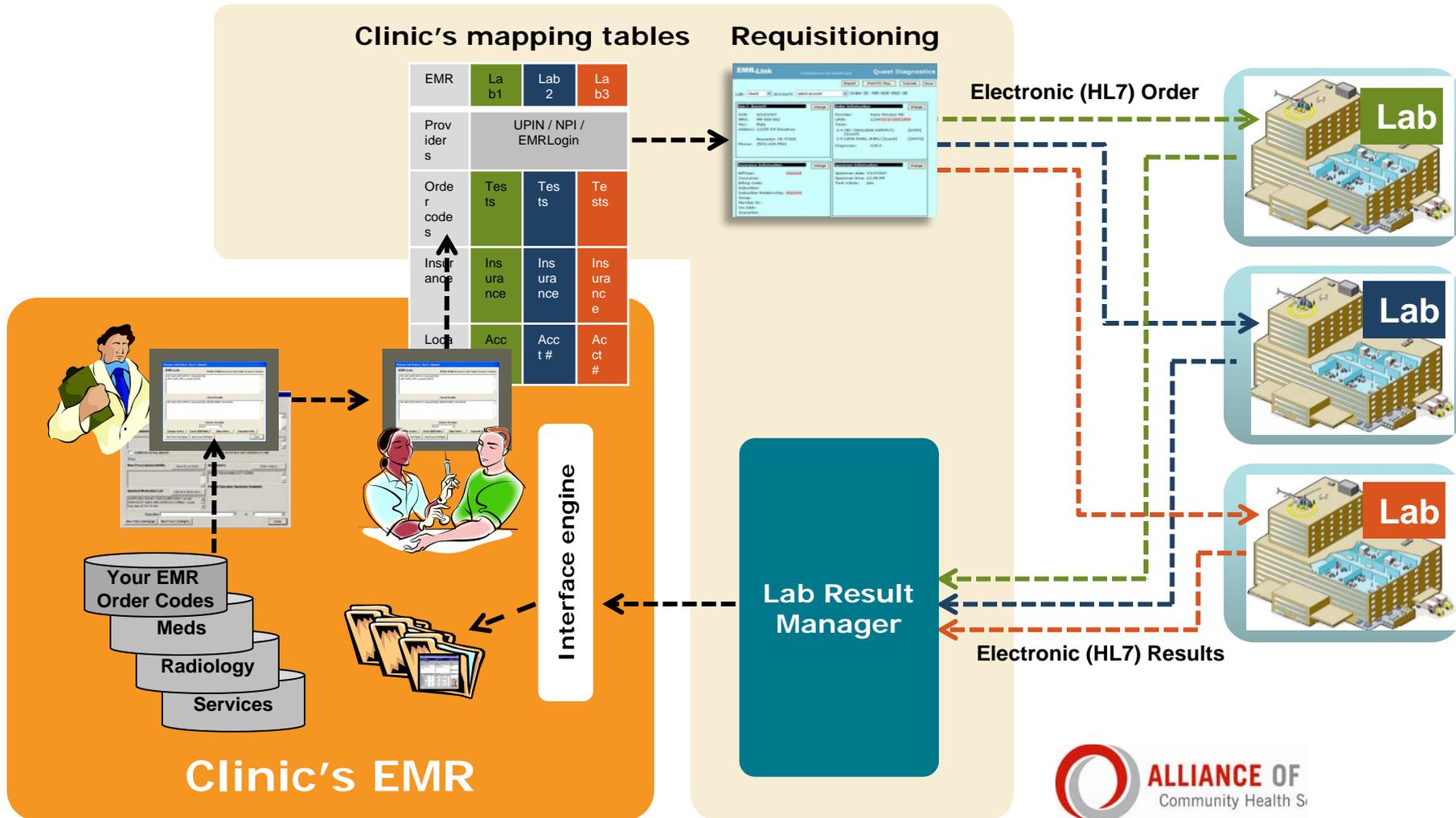
Laboratory Interface



Laboratory Interface



Laboratory Interface



Medical Device Integration

Integration of devices can streamline and improve accuracy of data capture



Potential Benefits to Medical Device Integration

- Efficiency
- Accuracy
- Availability of new data for clinical decision making and clinical decision support
- Telemedicine applications

Anticipate Ongoing EHR support needs

- Vendor relations/Management of software
- Hosting
- Application Delivery
- Ongoing Clinical content development
- Ongoing training and implementation support
- Help desk
- Development and management of interfaces
- Assessment and Optimization of Use
- Assessment and implementation of emerging technology

Recommendations

- Implementation team has ongoing role
- Structured measures of system use, user satisfaction and system performance should be utilized
- A structured pre and post implementation assessment process will identify gaps and opportunities

Closing thoughts

- Productivity should be viewed in terms of the entire system, not just the billable provider
- Viewing the EHR as a tool, means that it is desirable for clinicians to invest more time
- Financial incentives may not yet align with quality and efficiency goals



COMMUNITY HEALTH
INTEGRATED PARTNERSHIP
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Electronic Medical Record Implementations Minimizing Productivity Losses

Health Resources & Services Administration
Bureau of Primary Health Care
Friday, April 23, 2010

Agenda

- CHIP Overview
- CHIP Electronic Medical Record Goals
- Productivity Losses in EMR Implementations
- Minimizing Productivity Losses
- Questions?

Community Health Integrated Partnership

- Founded in 1996 with HRSA ISDI grant; current funding mix of member dues, service fees, consulting fees & grants
- Provide FQHCs with management, financial, quality improvement, & technology services
 - Management Services – managed care contracting, business consulting (insurance contracting, Medicaid/Medicare reimbursement, credentialing, strategic planning, provider contracting, primary care access expansion support & program development
 - Information Systems - practice management system, electronic patient record system, health center IT infrastructure support & systems implementation support
 - Financial – billing function development, revenue cycle management, Medicare & Medicaid billing compliance, financial/operations benchmark reporting
 - Quality Improvement - JCAHO accreditation, HDC facilitation, patient satisfaction surveys & Community Health Quality Institute

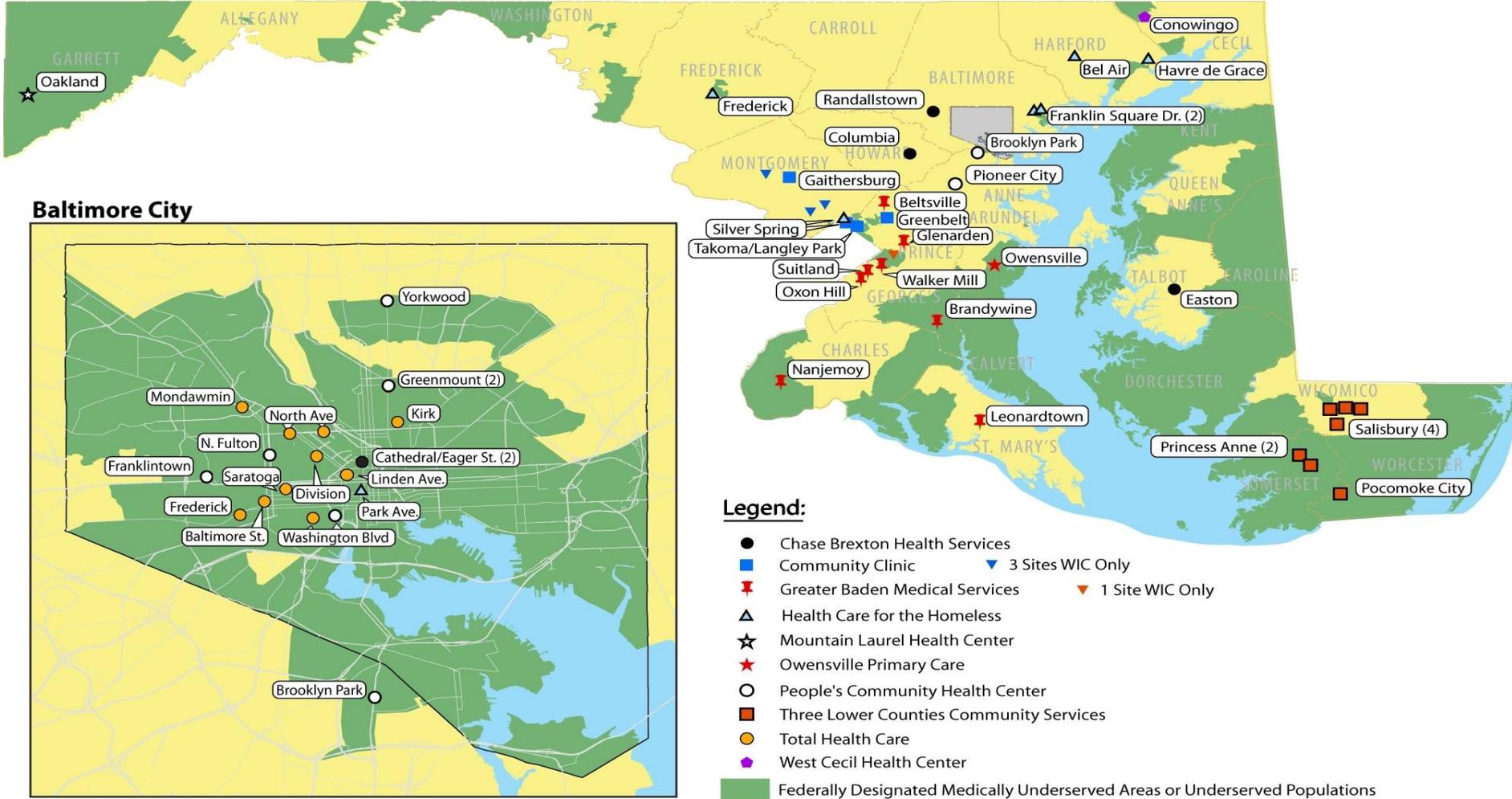
Community Health Integrated Partnership

- CHIP membership is diverse encompassing urban, rural & suburban locations

Health Center	# Sites	# Patients	# Annual Encounters	Provider FTE
Community Clinic	4	10,535	40,642	19.82
Greater Baden Medical Services	8	11,441	25,668	37.73
Healthcare for the Homeless	5	6,197	42,965	57.27
Owensville Primary Care	1	3,266	11,796	8.33
Peoples Community Health Centers	9	13,349	52,850	28.00
Three Lower Counties Community Services	9	33,049	146,298	29.60
Total Health Care	10	28,444	118,269	23.98
Mountain Laurel Medical Center	1	5,262	14,483	4.60
Chase-Brexton Health Services	4	15,040	115,094	24.62
West Cecil Health Center	1	2,174	6,369	2.45
Totals	52	128,757	574,434	236.40

Community Health Integrated Partnership

Health Center Delivery Sites



CHIP Health Centers' Goals for its EMR

- Identify areas for delivery system improvement & measure results of performance improvement initiatives
- Identify areas for clinical care improvement, employ interventions & measure pre/post-intervention outcomes
- Identify variances, by race, ethnicity, age, gender in health care access/delivery, employ interventions & measure results in closing gaps
- Improve quality of after hours care decision-making with 24/7/365 provider access to patients' records from any location
- Reduce medication errors with e-prescribing & providers having access to medication history
- Improve patient care & compliance using alerts for preventive/diagnostic tests, immunizations, follow up visits, prescription refills, etc.
- Improve delivery system efficiency by replacing paper patient records with electronic system that employs alerts & other tools for proactive patient management, tracks referrals, etc.

Productivity Losses in EMR Implementations

- Productivity losses in electronic medical record implementations significantly different challenge than in practice management system implementations
 - EMR implementations involve staff at every level of the organization, not just the “front desk” or “billing” staff from the product decision stage through “go-live”
 - EMR implementations have distinct “projects within the project” that occur simultaneously & over a comparatively (to an PMS) protracted time period
 - Implementation segments/tasks are inter-dependent requiring that target dates be met
 - Not meeting target dates on any one segment impacts overall implementation (especially critical in multi-site implementations)

Productivity Losses in EMR Implementations

➤ Productivity losses.....continued

➤ EMR implementation segments involve your revenue generation human resource – providers

➤ Product selection

➤ Workflow discovery

➤ Clinical content development

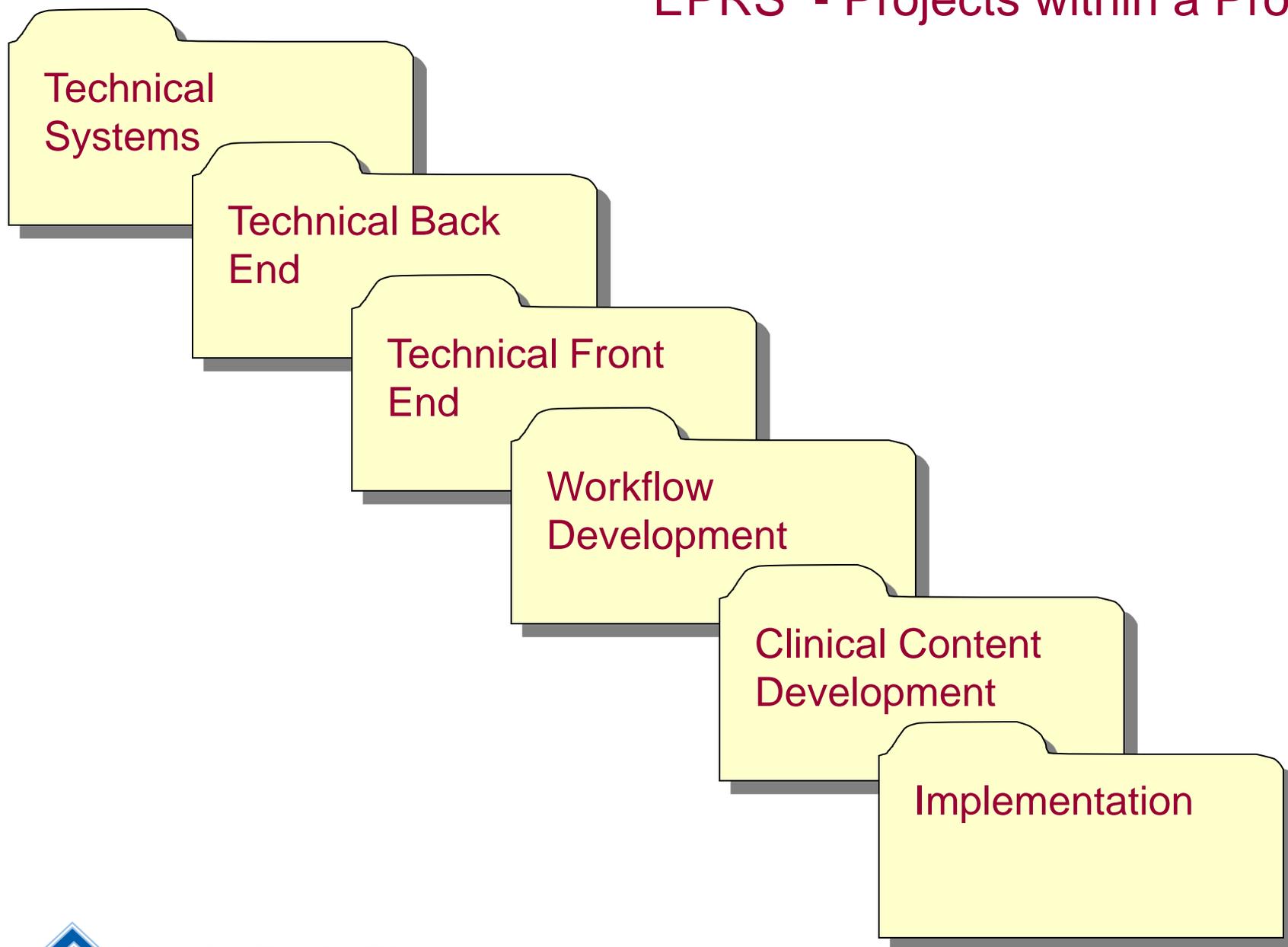
➤ Preventive services alerts

➤ Informatics/Analytics design

➤ Learning curve for providers & clinical support staff varies by techno-comfort level & enthusiasm for EMR & change in general

➤ Proficiency is a direct result of continual system use

EPRS - Projects within a Project



Minimizing Productivity Losses

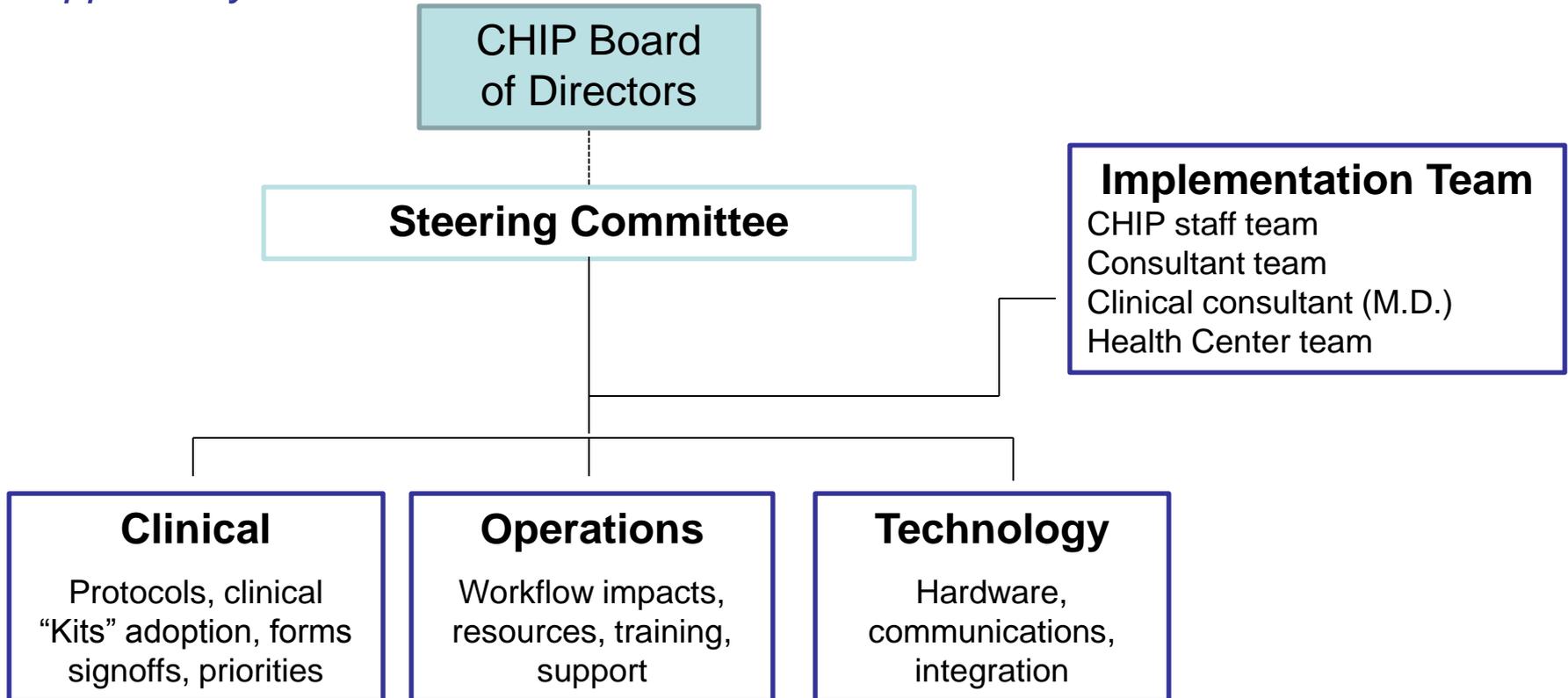
- Patient visit revenue/provider productivity is the visible revenue loss – wasting management & operational staff time is the “hidden” opportunity cost to a health center
- Minimizing productivity losses begins with a thoughtful, thorough implementation design & master workplan
 - Identify each segment (projects within the project) of implementation & develop detailed “segment” workplan
 - Engage project leadership to review workplans & establish target dates accounting for inter-dependencies
- Workplans provide the discipline essential to using human (& financial) resources effectively & efficiently as possible
- Workplans ensure that everyone involved in implementation is informed about status of tasks, scope creep, where slippage is occurring & who is accountable for resolving challenges
 - Update continuously & specifically
 - Volume of details/work/decisions in an implementation means slippage can occur easily which equals wasting staff & consultant time in non-productive meetings

Minimizing Productivity Losses

- Define project governance structure & decision-making process
 - Decide how you want to manage the implementation
 - Top down decision-making.....everyone gets to weigh in
 - Charter governance team to ensure clear understanding of commitment, decision-making authority & scope of responsibility up front
 - Workgroups should have clear scopes of work
 - Decide what happens if participants “check out”
- Establish process & schedule for status reporting
 - Maintain meeting discipline (start & end times; time allocation for reports, discussion, etc.)
 - Create discipline for decisions; avoid revisiting decisions unless mission critical
 - Implementations are complex; anticipate the unexpected & build the flexibility into workplans & processes to deal with the stuff that happens

Project Organization & Governance

Goal - Successful implementation effectively utilizing CHIP, Consultants & Health Center resources and time, minimizing loss of productivity and revenue and opportunity costs.



Minimizing Productivity Losses

- Develop training schedules to minimize loss of staff time
 - Prepare staff in advance for training; post training schedule, etc.
 - Training materials should be well developed with leave-behind tools to reinforce the learning experience
 - Suggest two trainers per class – one conduct training, one monitoring trainees
 - Consider training providers evenings to minimize loss
- “Go-live” month accounts for most significant revenue loss
 - Communicate with patients that health center is converting to an EMR
 - 3-4 months prior to “go live” consider adding 1-2 additional patient visits to provider schedules to increase revenue
 - Identify patients that can be scheduled in the weeks before “go-live” to minimize overall loss of revenue
 - EMR will provide opportunity to more effectively utilize experienced CNA/MA staff (standing orders, etc.) that can optimize provider patient visit time
 - More providers use the EMR, more proficient they become, faster providers return to pre-EMR productivity levels

Minimizing Productivity Losses

- “Post-live” support critical
 - Superusers are critical to keeping health center work processes moving forward
 - When selecting “superusers” be sure it is staff with the time & flexibility to support new users during “go-live” and “post-live”
 - Superusers need to be enthusiastic champions of the EMR
 - Unavailable or poorly trained superusers will impact end users, including providers, productivity
 - Most questions require quick “how to” refresher information
 - Implementation team (1-2 people) should be on-site 2 weeks
 - Help Desk staff need to be trained & prepared to resolve staff (customer) issues
 - Develop an inquiry management system to capture inquiry types with the ability to manage call resolution
 - Analyze call types to identify immediate training needs “post-live” & on-going basis



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THANK YOU



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Petaluma Health Center (PHC)

Electronic Health Record Implementation Summary





Overview of PHC

- ❏ Located in southern Sonoma county
 - ❏ Serve 15,000 patients
 - ❏ 15 family medicine providers
 - ❏ 2 Ob/Gyn
 - ❏ 2 CNMS
 - ❏ 1 psychiatrist, 1 psychologist, and 3 LCSW
 - ❏ Over 100 staff members

 - ❏ We implemented eClinicalWorks (eCW) on October 1, 2009
- ❏ Redwood Community Health Coalition (RCHC) is a non-profit regional coalition of health centers in three counties of Northern California; PHC is a member of RCHC.
 - ❏ RCHC contracted for a group purchasing price for eCW licenses.
 - ❏ RCHC supplied IT support and training on the system.
 - ❏ Phased implementation of ten health centers began in January 2009, PHC was fourth to implement.
 - ❏ Implementation of all clinics to be completed by end of 2011.





We attribute minimal productivity loss to:

- Strong, cohesive, principle centered leadership at all levels
- Focus on quality, patients, and staff morale
- Robust QI program
- Financial commitment for staff development time
- Ability to plan ahead, anticipate impact of changes, think abstractly
- Managing provider panels well
- Collaborating with consortium clinics





Planning for Implementation

Planning:

-  August 2007: RCHC and health centers narrowed systems down to 3. PHC physician champion named.
-  October 2007: RCHC Clinician Committee was formed, product chosen.
-  December 2007: PHC physician champion trained on the system and attended monthly Clinician Committee meetings to learn the system.
-  Summer 2008 PHC eCW Steering Committee formed and monthly meetings begun at PHC to conceptualize the change and begin to plan implementation.
-  February/March/April 2009: Project timeline finalized, project coordinator hired, weekly meetings commenced; demo database received and workflow analysis initiated.
-  June/July/August 2009: trainings for super users; system prep included lab interface, wiring for building, migration of data from previous registry, workflow completion and many other tasks!
-  September/October 2009: Provider/Staff training

**** Since August 2007 over 1000 emails for our physician champion!!**



Go Live!!

Go Live Date:

-  October 1, 2009 for front office
-  October 15, 2009 for three super-users
-  November 1, 2009 for all staff and providers except billing
-  December 15, 2009 for billing department.





Productivity after Go Live

- Month 1: 80% of normal productivity
 - Week 1: 65%
 - Week 2: 85%
 - Week 3: 81%
 - Week 4: 83%
- Month 2: 85%
- Month 3: 90%
- Month 4: 95%
- Month 5: 100%





Scheduling for Go Live: Family Medicine

- Month 1: normal schedule is 12 visits/4 hours with 2 potential add on visits.
 - Week 1: scheduled 6 visits
 - Week 2: scheduled 8 visits
 - Week 3: scheduled 10 visits
 - Week 4: scheduled 10 visits
- Month 2: scheduled 12 visits
- Month 3: scheduled 12 visits
- Month 4: scheduled 12 visits + 1 add on
- Month 5: scheduled 12 visits + 2 add on





Continuity of Care during Implementation

- For the first month of go live we had up to two urgent care providers working to see sick visits to allow providers to ramp up slowly. Continuity of care was minimal.
- Month two we scheduled urgent care providers infrequently but continuity of care suffered from limit of 12 patients per 4 hours.
- Month three and forward continuity returned to our normal rate of 85%



Effects on Culture and Staff and Quality of Care

- One significant change is higher level of accountability for patient care of both staff and providers.
- Another change has been that collaboration among different types of providers has increased dramatically.
- Quality of Care rises dramatically for the obvious reasons. For example, we did a baseline test of universal HIV screening of medical providers for January 2010. We then implemented a decision support tool within eCW that gave a reminder and allowed for easy ordering of the test. For half of our providers, their rate of screening patients doubled!!



Coping with the Challenges

- ❏ The training and administrative time both before, during, and after implementation are significant. However, the challenges of poorly trained staff and inefficient workflows is much more costly. It is important to budget well for this time. The role of project coordinator to ensure initial training, competency monitoring, retraining, and ongoing training cannot be overemphasized.
- ❏ Staff morale must be boosted with meetings, recognition, healthy food. If you have a staff incentive bonus program, base it on implementation.
- ❏ Providers must be recognized and appreciated. If you have a provider incentive bonus program, use EMR implementation as your main measure during go live time.
- ❏ Warn your patients before, during, and after go live. Share the system with them, they will be amazed at what it can do and how much better their medical record is organized.
- ❏ Truly incorporate the electronic record into the health care experience, it will make the challenges worthwhile.





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