Assuring End-User Adoption: The Challenges of Implementing an Electronic Health Record (EHR)

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What Is The Primary Goal Of IT In Healthcare Today?

To use information technology to solve the big problems and transform healthcare …

- Improve the health of the population
- Enhance the quality of care and improve outcomes
- Reduce the cost of healthcare
- Integrate care delivery across the continuum
- Aggregate data for population reporting, research, and outcomes analysis

How Does IT Achieve This Goal?

- Construct computer health information systems that meet the needs of physicians, clinicians, and the healthcare organizations they serve
- Create an Electronic Health Record (EHR) that provides a longitudinal record of patient data (HIMSS definition)
- Create a digital Personal Health Record (PHR) for individuals that maintain their personal health data in a way that is meaningful for them to participate in managing their health
- Create health networks that allow clinicians to share knowledge and best practices for patients without geographical boundaries
- Analyze data from health networks to develop evidenced-based practices for improved outcomes

Assuring End User Adoption

In this session, we will focus our attention on the challenges of implementing an Electronic Health Record (EHR) while achieving a high rate of end user adoption.

We will look at the three phases of EHR implementation, review key steps in each phase, and explore several helpful tools that ensure end user adoption.

The Promise of EHRs…

The promise of EHRs is that they will improve patient care, reduce medical errors, and lower healthcare costs though better coordination of health services.

How Is This Achieved With An EHR?

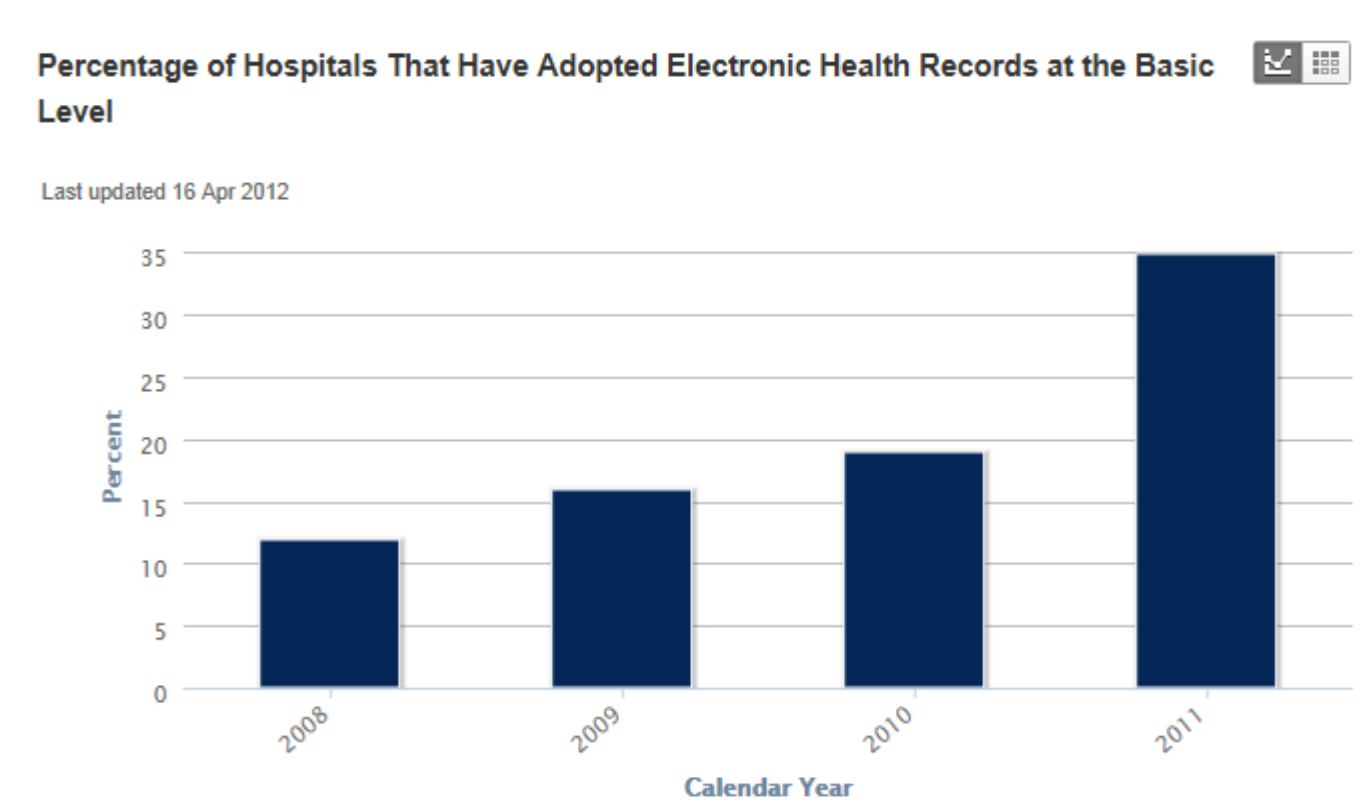
- Improved accuracy of patient data due to information legibility
- Increased productivity by having information instantly available electronically
- Increased patient safety with clinical decision support
- Increased security of patient information
- Decreased costs in supplies, printing, and space for document storage
- Simplified auditing of data and reporting
- Greater accountability for staff since actions are tracked electronically

Driving Forces…

These promises coupled with government reimbursements and mandates for implementing EHRs has incentivized many hospitals and providers to implement an EHR.

Let's Look At The Facts…

Hospitals have increasingly adopted EHRs over the years



Published by *Assistant Secretary for Planning and Evaluation* (*ASPE)*

Where Are We Today?

At the end of April 2013, Health and Human Services reported that 291,000 eligible professionals and 3800 hospitals had received incentive payments.

The goal for 50% of physician practices and other eligible providers and 80% of eligible hospitals having EHRs by the end of 2013 will be achieved.

Yet, There Is Clinician Resistance To Adopting EHRs

- It takes time to learn and use new technology
- Technology upends old habits and threatens productivity; end users are reluctant to embrace significant changes to their daily work habits
- New processes often are not clear and well defined
- Technology is not always intuitive for the end user requiring staff to spend additional time searching for information.
- Interoperability between systems is an issue
- An integrated, interdisciplinary patient record is a new concept
- Difficulty balancing bedside care and inputting of data
- Benefits of the EHR are not well understood and best practices are not well-published
- Expected outcomes are not always apparent
- Increased regulation and new performance measurements are complicated and confusing

How Big Is This Issue?

Studies report failure rates of EHR implementations to be as high as 50%

And there have been many studies to understand why…

Change Is Hard…

What we do know about transforming Healthcare with IT

- **Installation** is ***hard***, and mainly technical.
- **Implementation** is ***really hard***, and mainly organizational.
- **Transition** (lasting change) is ***incredibly hard***, and purely human.
- **Transformation** is a state of profound new personal and enterprise behavior.

Regenstrief Institute, Inc.: A Healthcare Laboratory and a Community of Scholars

How Do We Bring About Change?

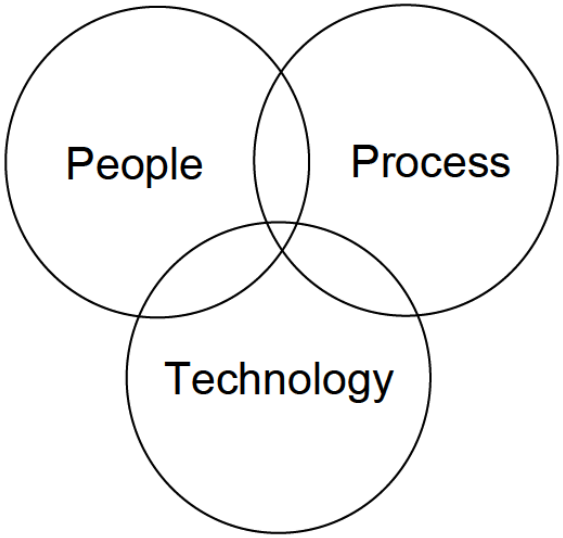
A partnership between IT and clinical staff can alleviate many of the barriers to adoption and lead to successful transformation

- Healthcare informatics is the merging of technology and clinical expertise; nursing informatics specialists who support this work are critical to the successful implementation of EHR's
- Healthcare informatics is very much a **social science**
  - *The success of a project is **80%** dependent on people and **20%** on the implementation of the hardware and software technology!*

Source: Reed Gardner, Intermountain Health Care

Key Factors

A roadmap to successful transformation involves:



How do we make this integration happen?

Change Management Strategies for an Effective EMR Implementation, HIMSS, 2010

What Do Studies Tell Us?

Essential steps for adoption of the EHR

#1 Involve the right people in selecting, customizing, validating, training and implementing the EHR—nurses and nurse informaticists are key

#2 Be sure your infrastructure can support an EHR—involve end users in the selection and placement of equipment

#3 Determine and document new processes and know the impact on your end users

#4 Prepare your staff well and plan for resistance

#5 Have a solid communication plan

#6 Train to the processes and new workflow not system functionality—training and education are key factors in adoption

#7 REALLY prepare for go-live—plan for 24-7 support

#8 REALLY prepare for post-go live; go-live is just the beginning…it is a journey, not a destination

Phase 1: Preparing for Change

Phase 1-Preparing for Change

Identify Super Users

Organize Workgroups

Analyze current and future state workflows

- **Identify champions and leaders who support this work**
- **Organize an Executive Leadership group and a Facility Implementation team**
- **Engage clinical staff who are experienced and knowledgeable and can serve as informatics resources**
- **Learn from past implementations**
- **Dig into the workflows—understand current workflows and processes**
- **Identify gaps between current and future state workflows**
- **Identify needed hardware**
- **Demonstrate transparency about what is changing – the good and the not so great**
- **Begin to develop tools for adoption**

Involve the Right People

- Individuals who have awareness of the needs of the direct care providers, including physician champions
- Leadership with strong project management skills and change management expertise and tools
- Active, engaged sponsors (CNO.CEO,CFO, CMO, COO, CMIO)
- Directors, managers, and supervisors
- Nursing informaticists and staff nurses
- Plenty of staff Super Users
- Patient Safety, Health Care Improvement, and Quality teams
- Early adopters, late bloomers, and naysayers
- A multidisciplinary team with technical strengths and process strengths

Five Biggest Mistakes Made By Sponsors*

- Failed to personally engage in the project
- Avoided direct communications with employees
- Abdicated or delegated his or her role as sponsor
- Wavered in his or her support
- Failed to build a coalition of sponsorship with key leaders in the organization

* According to Prosci Research

Activities for Phase 1 - Preparing for Change

- Establish guiding principles for implementation
- Review all workflow processes and reporting needs—be comprehensive
- Identify where different systems support activities in each workflow and outline how data will be transferred
- Obtain group feedback
- Make recommendations/decisions
- Identify opportunities for rapid improvement—quick wins
- Assess impact to care process—adjust solutions to minimize disruption while maximizing potential—simplify where you can
- Determine new processes to eliminate current inefficiencies
- Confirm new processes
- Identify hardware needs
- Develop tools to support this work

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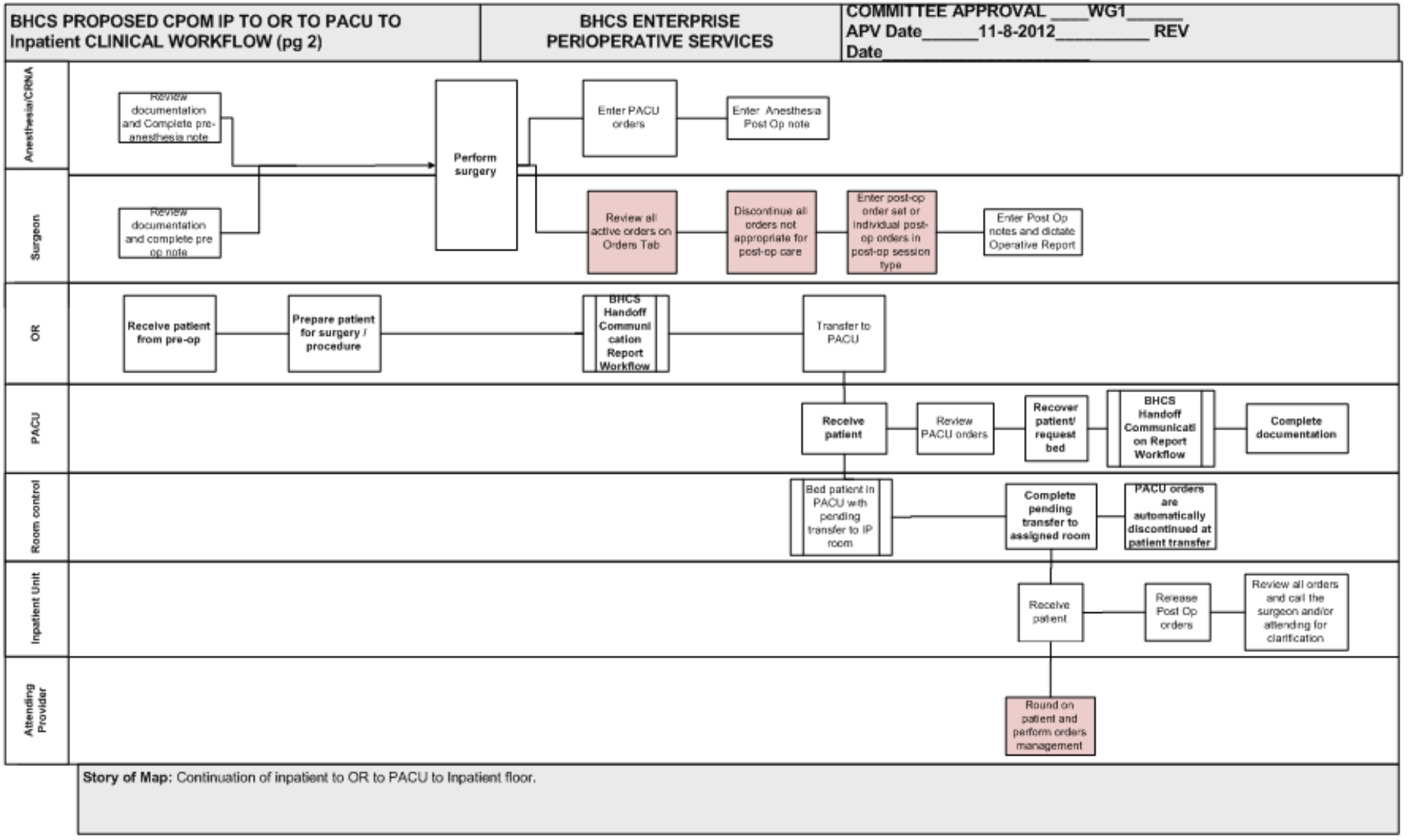
Create Detailed Workflows



The Advantages of Mapping Workflows

- Encourages multidisciplinary dialogue and review
- Allows for discussion about current processes and highlights limitations
- Identifies all activities which frequently leads to process in improvement
- Focuses attention on the details of work processes
- Assures that future state workflows support clinical processes
- Provides an overview of a process from beginning to end
- Provides a method for validating future state processes and fosters an understanding and acceptance of the future state
- Creates outstanding tool for education at multiple levels

The Value Of Workflows - Key Decisions

Use Workflows to Make Key Decisions

- Where and what type of equipment is needed to support workflow
  - Desktop
  - Laptop
  - Dual monitors
  - Mobile devices
- What type of access will be required
  - Single sign on
  - Team workstations
  - Virtual desktops

The Value Of Workflows - Design Decisions

Utilize This Information for Design Decision-making

- The activity of analyzing workflows and identifying gaps between current and future processes should serve as a guide for design/build decisions for the EHR
- Often changes, modifications, and additions are required to the EHR so that clinical workflow is supported and required tools are available at the bedside to maximize care
- These decisions can include design of templates/documents, content including data points needed, and required interfaces between different systems
- Document all decisions, who made them, and why

Illustrating Change

Create a Start-Stop Document

A tool to communicate the differences between current and future process: actions to stop, start or continue in the new system

- Clear visual of the changes
- Quick reference guide for workflow that will need to be adapted to future processes
- Helps identify processes which need to be streamlined
- Useful in education of end users
- Can be shared with all clinical groups so everyone is aware of changes that will occur across all disciplines

Start-Stop Document

A	B	C	D
In Scope			**Continue**
Patient Status Changes	STOP Relying on hand written status change orders	START Providers to begin changing patient status as appropriate using the "status change" order in eclipsys	CONTINUE Care Coordination to continue to ensure that patient has the correct admission status.
Bed Management			CONTINUE to request bed transfers via Teletracking CONTINUE receiving room assignment from Room Control via Teletracking CONTINUE department receiving patient notifies Room Control via Teletracking that patient has arrived
Patient Location History			CONTINUE viewing a patient's location history for the current visit by selecting Visit Location screen from the Registration menu and clicking Location History

Tools For Greater Understanding

Documentation Crosswalks

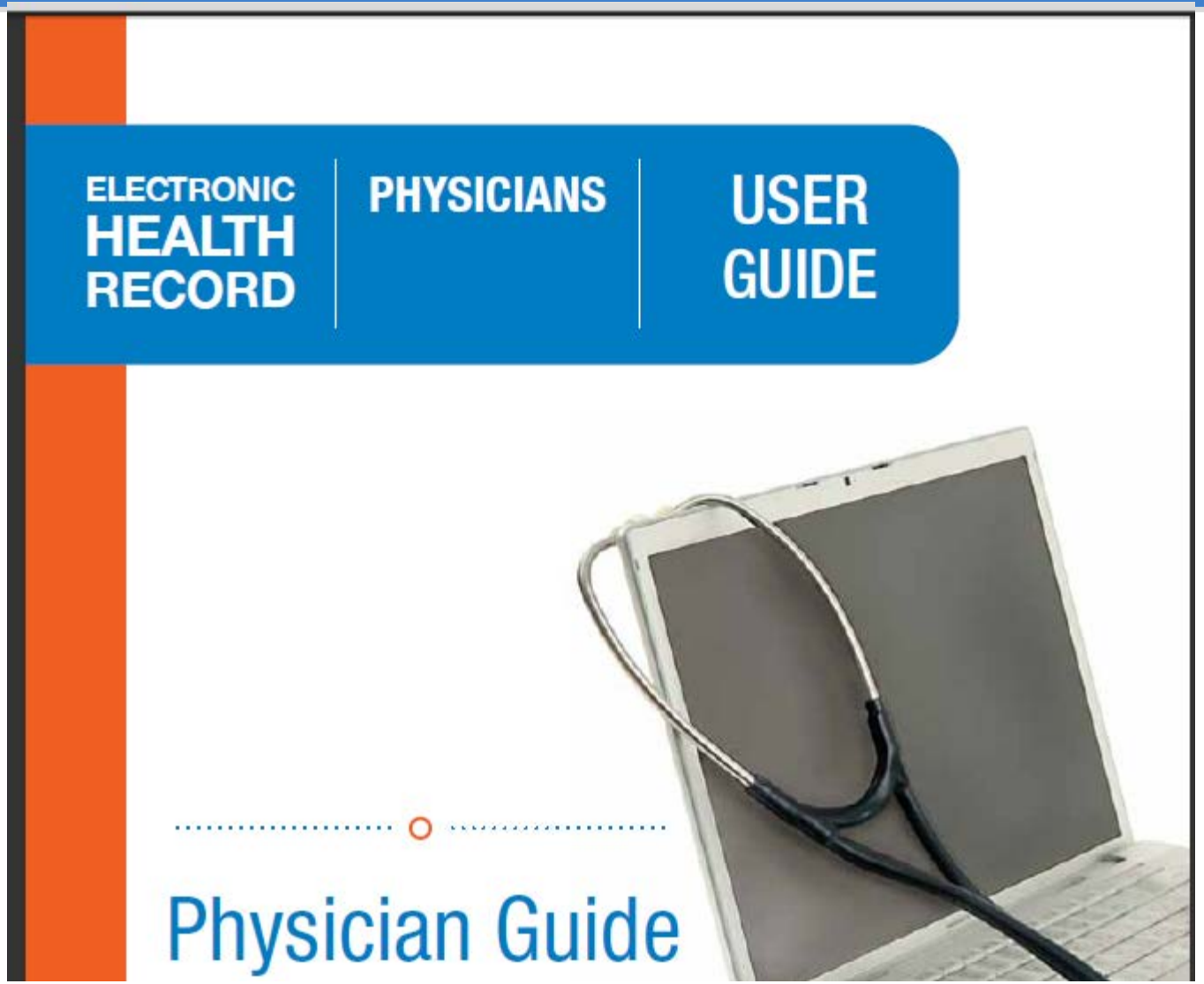
Develop paper tools to distribute for staff reference to highlight changes in workflow

- Involve facility informatics resources in gathering this information
- Define a one for one correlation of previous paper documentation fields to new clinical systems
- Keep at a high level
- Review with clinical teams
- Make a pocket size for clinicians
- Plan for distribution

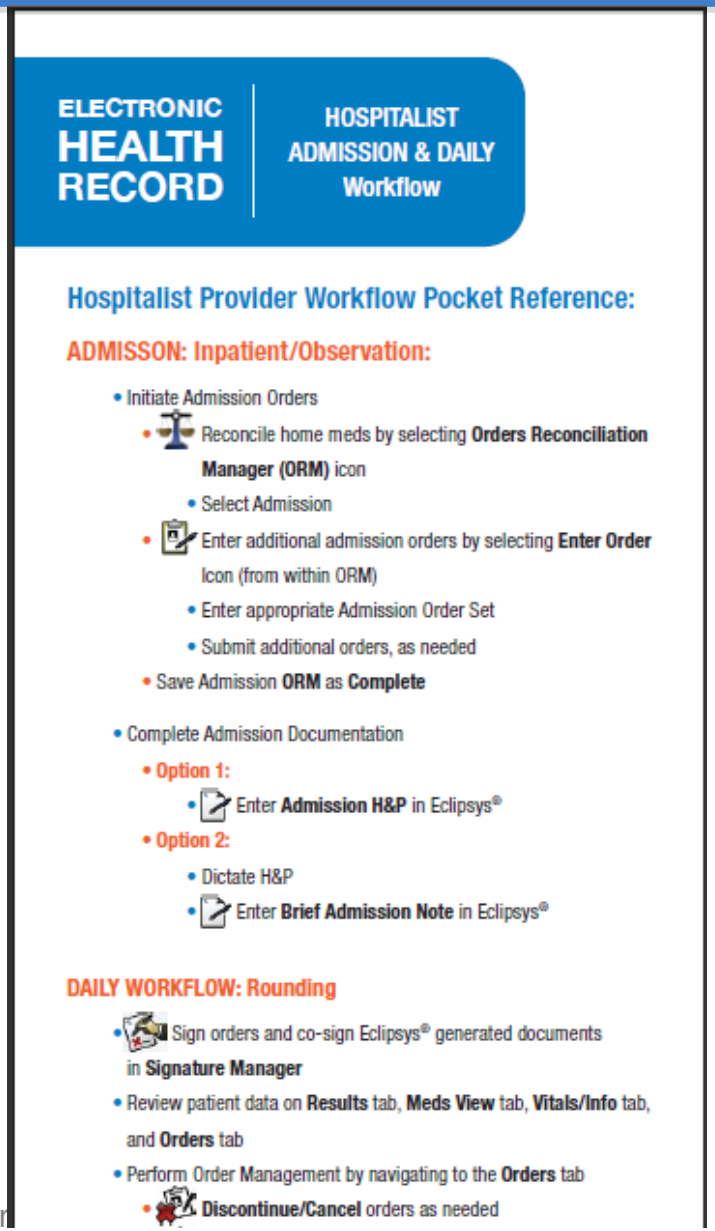
Crosswalk Of Clinical Documentation

A	B	C	D	E
	Crosswalk of Clinical Documentation at Baylor Medical Center at Garland			
			ICU	
	CURRENTLY CHARTED ON PAPER	**REMAINS ON PAPER?**	**WHERE YOU WILL DOCUMENT IN ECLIPSYS**	**NOTES**
Interdisciplinary Admission Assessment (0266)				
	Orientation to Room	No	Comprehensive Patient Profile (CPP)	
	Pneumonia Vaccine Screen	No	Comprehensive Patient Profile (CPP)	
	Pain Management	No	Shift Assessment Flow Sheet or Vital Signs Flow Sheet	
	Discharge Plans	No	Comprehensive Patient Profile (CPP) and Progress Notes Flow Sheet (Care Coord.)	
	Ability and/or Willingness of PT/SO to Learn	No	Comprehensive Patient Profile (CPP)	
	Referrals/Interventions	No	Comprehensive Patient Profile (CPP)	
	Fall Scale	No	Shift Assessment Flow Sheet	
	Biophysical Information	No	Shift Assessment Flow Sheet	
	Admission Vital Signs	No	Vital Signs Flow Sheet	
Nursing History (0259)				
	Height, Weight	No	Patient Info Tab	
	Allergies	No	Comprehensive Patient Profile (CPP)	
	Medical History	No	Comprehensive Patient Profile (CPP)	
	History of MRSA	No	Comprehensive Patient Profile (CPP) and Significant Events	
	Sleep Apnea Screening	No	Comprehensive Patient Profile (CPP)	
	Smoking Screening	No	Comprehensive Patient Profile (CPP)	
	Social History	No	Comprehensive Patient Profile (CPP)	
	Suicide Screening	No	Comprehensive Patient Profile (CPP)	

User Guides


ELECTRONIC HEALTH RECORD
PHYSICIANS
USER GUIDE
Physician Guide

Workflow Cards



ELECTRONIC HEALTH RECORD

HOSPITALIST ADMISSION & DAILY Workflow

Hospitalist Provider Workflow Pocket Reference:

ADMISSON: Inpatient/Observation:

- Initiate Admission Orders
  - Reconcile home meds by selecting **Orders Reconciliation Manager (ORM)** icon
    - Select Admission
  - Enter additional admission orders by selecting **Enter Order** Icon (from within ORM)
    - Enter appropriate Admission Order Set
    - Submit additional orders, as needed
  - Save Admission **ORM** as **Complete**
- Complete Admission Documentation
  - **Option 1:**
    - Enter **Admission H&P** in Eclipsys®
  - **Option 2:**
    - Dictate H&P
    - Enter **Brief Admission Note** in Eclipsys®

DAILY WORKFLOW: Rounding

- Sign orders and co-sign Eclipsys® generated documents in **Signature Manager**
- Review patient data on **Results** tab, **Meds View** tab, **Vitals/Info** tab, and **Orders** tab
- Perform Order Management by navigating to the **Orders** tab
  - **Discontinue/Cancel** orders as needed

Utilizing Human Factors

Employ human factors assessment to improve workflow and build…

- Many organizations do not have the luxury of having access to experts in this area for successful software design
- If not, utilizing expert users or graphic designers is another alternative
- The key is to use observational techniques to consider if items such screen layout, equipment locations, arm bands, work processes, and so on, reflect the actual workflow and thinking pattern of the user
- Consider a design that maximizes patient safety outcomes and usability

Cognitive Informatics

- CI is an interdisciplinary science that encompasses the fields of informatics, computer science, mathematics, knowledge theory, neurobiology, psychology, physiology and cognitive science
- Studies the influence of the human brain on the acceptance of data and the processing of that data into knowledge and information
- Applying CI principles to the development and design of the EHR will help us develop usable, efficient and intuitive systems which support clinical workflow and increase acceptance and adoption of the EHR

Maria Mihalko, MSN, RN
Cognitive Informatics and Nursing: Considerations for Increasing Electronic Records Adoption Rate

Phase 2: Managing Change

Phase 2 – Managing Change

Present Phase 1 findings to leadership

Decision day for key issues

Plan for education

Plan for activation and support

- **Leadership review of Phase 1 work**
- **Continue to work with facility informatics resources**
- **Finalize and distribute tools**
- **Create a testing plan and test, test, test**
- **Identify bylaws, procedure and policy changes**
- **Identify facility trainers--engage physicians/clinicians to educate others in their discipline**
- **Develop a flexible training plan**
- **Manager, employee, and physician coaching plan**
- **Create a communication plan**
- **Plan for change management activities**
- **Develop a support plan**

Activities for Phase 2 - Managing Change

- Identify any outstanding decisions requiring leadership review
- Create a plan for unit, functional, and integrated testing
- Plan for education and training of clinical groups, including flexibility in the plans to accommodate different schedules
- Create a communication plan and communication materials to keep everyone informed of progress
- Communicate and own the decisions
- Begin change management activities
- Develop an activation and support plan for go-live and post go-live

Involve the Right People in Testing

- Use actual patient charts to create test scenarios
- Involve Super Users in structured testing
- Have Super Users do unstructured testing
- Have active communication with downstream systems during testing
- Test the printing of all reports and get sign off from HIM and Compliance
- Remember to test data from medical device interfaces to verify that data posts correctly
- Have clinicians test the processes for accessing patient data

Training Plan

- Tailor training to specific clinical groups
- Recruit staff members to become trainers
- Training must be adequate and timely
- Training must be mandatory
- Clinicians should be given protected time to practice and the ability to practice simulated patient encounters
- Competency must be demonstrated
- Updates and refreshers should be available

Train To The Real Clinical Situation - Not To System Functionality

- The Education Team and the Project Team must work closely together, starting with the current state assessment
- Plan on multiple training modalities including e-learning
- Provide focused training for Super Users
- Post new process maps and revised P&P's in training rooms
- Include the "one-off" scenarios = teach people to problem solve
- Plan for 1-on-1 training for physicians and others who are on difficult schedules; adjust the training location as needed
- Provide cheat sheets and pockets guides

Have a Solid Communication Plan

- Put together a team who will provide communication updates to end users
- Determine what types of communication to use to reach different groups and the frequency of communication
- Develop templates for each communication format
- Initiate the communication plan during the planning stages and continue formal communication through implementation and post go-live
- Avoid information overload, but provide updates on progress and issues.

Communication for Clinicians

ELECTRONIC HEALTH RECORD | SYSTEM UPDATES

Baylor Health Care System
Inpatient Electronic Health Record (EHR)
Changes Effective Tues., May 21, 2013

Nurses and Pharmacy – All Facilities

OMM Update: New Message Reason

- Nurses now have access to a new OMM **Reason** of "First dose antibiotic" with the default text that auto-populates of "First dose antibiotic due at:_____. Nurse call-back number _____."
- This reason will only be available when a Message Category "Message" is selected.

Change Management

Change Management is “a structured process and set of tools for managing the people side of change to achieve a desired outcome.” ~ *Prosci*

- Change management is
  - A process
  - A competency
  - A strategic capability

- It supports integrating clinical and non-clinical processes with technology, in a way that **transforms** healthcare delivery creating **clinical transformation**

The Importance Of Planning For Change

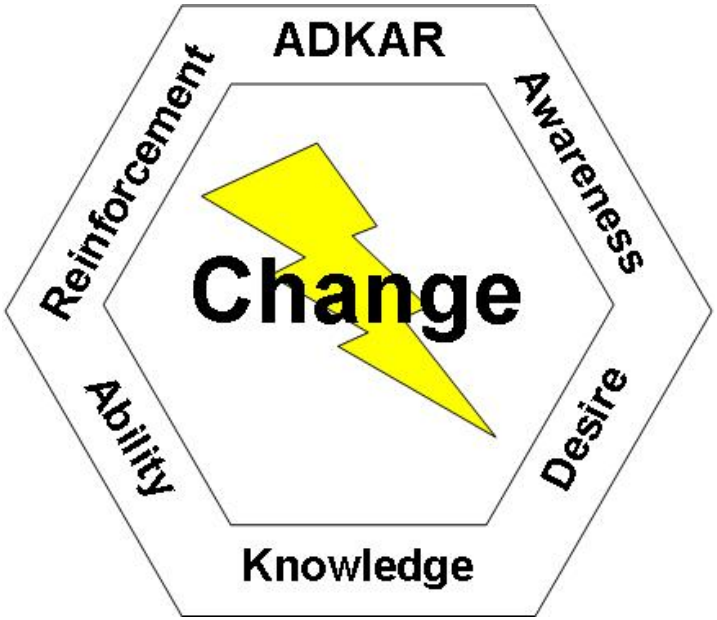
Change Management increases the probability of project success by answering the following questions:

- Are we ensuring people understand “Why” this change is happening and what the risks are of not changing?
- Are we conveying clear goals and anticipated benefits?
- Are we assessing expectations and helping to set realistic expectations?
- Are we answering the question “What’s in it for me?” and “How will I be impacted?” that *all* people resolve before making lasting change?
- Are we equipping people for the change that is being asked of them?
- Are we supportive of those people who are undergoing or having difficulty adjusting to the change?

Assessing Readiness for Change

- Kotter Model of Change Management
  - Theory: “ The only way organizations change is by changing the people within the organization”
  - Eight Steps
    - Increase urgency
    - Build the guiding team
    - Get the vision right
    - Communicate for buy-in
    - Empower action
    - Create short-term wins
    - Don’t let up
    - Make change stick

- ADKAR Model of Change Management
  - Defines the stages individuals should go through when making a change



“If you could do it all over…?”

In a study of companies undergoing major change initiatives, when asked the following question

> ***“If you had the chance to do it again, what would you do differently?”***

Of the 327 project teams who answered, the number one response was:

> ***“Use an effective and planned change management program.”***

* According to Prosci Research

Phase 3: Reinforcing Change

Phase 3-Reinforcing Change

Activities to reinforce new workflows

Collect and analyze feedback during and post go-live

Diagnose gaps and manage resistance

Implement corrective actions where needed

Celebrate successes

- **Final preparations for implementation**
- **Dress rehearsal/Mock go-live**
- **Work with the facility informatics resources to finalize plans for go-live and support**
- **Plan for downtime**
- **Review compliance and utilization metrics**
- **Communicate and evaluate progress**
- **Establish a process for change requests and future enhancements**

Activities for Phase 3 - Reinforcing Change

- Dress rehearsal of future state workflows—engage facility informatics resources in planning and execution
- Provide tools for references—a user's guide or toolkit, a downtime guide, user updates
- Plan at the elbow support for go-live as well as on-going workflow support
- Plan for communication during go-live to keep staff well informed
- Plan for downtime—policy, binder with needed information, and copies of downtime documentation
- Plan for post-implementation activities: on-going communication, managing change requests, reporting and data analysis

Final Preparation: Dress Rehearsal

- Use data from a real chart with test patient identifiers
- Use the new workflows and clinical system to enter patient data
- Shadow chart activities that will occur in future state
- Complete this activity early in Phase 3 to allow time to address any issues identified during this event
- Make participation as wide as possible, including representatives from all clinical groups

Create a Tool Kit for Staff

Distribute a binder including the following sample information and distribute to each clinical area

- Instruction Sheets
- Tips
- Updated Bulletins
- Crosswalks
- Start-Stop Document
- Training Documents
- Downtime Process
- Important Numbers (i.e., Help Desk)
- Future Updates

SINI 2013 Really Prepare for Go-Live

- Create a detailed activation plan that controls scope creep but allows for last minute changes
- Super Users should be out of staffing to provide at the elbow support when it is needed
- Provide Rovers to offer support to Super Users
- Staff a chat-line 24/7 with technical and workflow experts to offer additional support for Super Users and Rovers
- Do catch-up training including 1-on-1 training for physicians and plan on 1-on-1 support for physicians during go-live
- Give plenty of attention and rewards to your Super Users
- Step up communications; schedule daily briefings
- Do consistent leadership rounding
- Hold shift change and daily manager's meetings where problem resolution is documented via "Tip Sheets"

Really Prepare for Post Go-Live

- Prepare facility for Post-Live Transition
- Provide constant communication to the users
- When issues arise be transparent and involve users in the problem-solving process
- Plan for continuing feedback from users and target problem areas with additional attention
- Create a formal change request process
- Allow for an “optimization” phase
- Develop a help line and a process for users to submit break/fix issues
- Plan on engaging end users in future development and enhancement activities.

Personal Lessons

- Be inclusive—encourage participation from all groups impacted by the change
- Communicate—never assume that someone knows—tell them
- Things change all of the time—you need to adapt to change too
- The work is never done—implementation is just the beginning—the EHR is a work in progress
- Consensus and collaboration is necessary, but someone needs to make a decision
- Follow the 80/20 rule—you will never achieve 100% agreement
- Planning for post-implementation change requests, enhancements and upgrades is just as important as the initial planning for implementation

Questions

Please don't hesitate to contact me

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