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Safety Assurance Factors for EHR Resilience (SAFER) guidelines

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Introduction

- Background
- Applicable Guidelines for Pathology
- Future Directions

Background

- July 2013
  - Publication of Health IT Patient Safety Action and Surveillance Plan
  - Building on IOM report about errors in Medicine "To Err is Human: Building a Safer Health System"
  - Follow-up IOM Report "Health IT and Patient Safety: Building Safer Systems for Better Care"
    - Use Health IT to make care safer
    - Continuously improve the safety of Health IT

Background - 2

- January 2014
  - Release of the nine Safety Assurance Factors for EHR Resilience (SAFER) Guides
    - 158 recommended practices in areas of recognized risk
    - Self assessment guides
    - Evidence-based
    - Help EHR users evaluate
      - The safety of EHR technology itself
      - The safe use of EHRs
      - Continual monitoring and improvement

Background - 3

- Implementation of SAFER Guides is tied to Meaningful Use adoption
- Recommended practices – not requirements

Background - 4

- EHRs introduce new kinds of risks into an already complex health care environment
- For Jan 2010 – June 2013, 120 events were health-IT related
- The events have been broken into eight main factors by Sittig and Singh

Sittig and Singh, 2010

Factors affecting Health IT errors

1. Human-Computer Interface (33%) – ergonomics and usability issues resulting in data-related errors
2. Workflow and Communication (24%) – issues relating to health IT support of communication and teamwork
3. Clinical Content (23%) – design or data issues relating to clinical content or decision support
4. Internal Organizational policies, procedures and cultures (6%)

Sentinel Event Alert #54, Joint Commission

Factors Affecting Health IT Errors -2

5. People (6%) – training and failure to follow established procedures
6. Hardware and Software (6%) – software design issues and other hardware/software problems
7. External Factors (1%) – vendor and other external issues
8. System Measurement and Monitoring (1%)

Sentinel Event Alert #54, Joint Commission

SAFER Guides – Clinical Process Guides

1. Test Results Reporting and Follow Up
2. Computerized Physician Order Entry (CPOE) with Decision Support
3. Patient Identification
4. Clinician Communication

SAFER Guides – Infrastructure Guides

5. System Configuration
6. Contingency Planning
7. System Interfaces

SAFER Guides – Foundational Guides

8. High Priority Practices

9. Organizational Responsibilities

What is Contained in the "Guides"

- Introduction to the topic covered by that "Guide"
- Checklist items (ranging from)
- Recommended practice worksheet (examples of safe practices)

Who to Engage

Sources of input			
	Key player	Ancillary players	Additional players
Health IT support staff			
EHR developer			
Clinicians			
Support staff			
Clinical administration			
Diagnostic services			
Pharmacy			
Leadership team			
Multi-professional team			
Health informatics team			

Courtesy of Dr. S. Hasley

Test Results Reporting

- Test names, values, and interpretations for laboratory results are stored in the EHR at structured data using standardized nomenclature
- Predominantly text-based reports (e.g. radiology or pathology reports) have a coded (e.g. abnormal/normal at a minimum) interpretation associated with them

Test Results Reporting -2

- After system changes in components or applications related to CPOE and diagnostic services, the data and data presentation are reviewed to ensure accuracy and completeness
- Orders for diagnostic tests are placed using CPOE and electronically transmitted to the diagnostic service provider (e.g. laboratory or radiology)

Test Results Reporting -3

- The EHR is able to track the status of all orders and related procedures (e.g. specimen received and collected or test completed, reported, and acknowledged)
- The ordering clinician is identifiable on all ordered tests and test reports, and, if another clinician is responsible for follow-up, that clinician is also identified in the EHR

Test Results Reporting -4

- When test results are amended, the changes is clearly visible in the EHR and printed reports
- When test results are changed or amended, the ordering clinician and other clinicians responsible for follow-up are notified electronically. For clinically significant changes, the clinicians are also contacted directly.

Test Results Reporting -5

- "Send out" (or reference lab) tests are electronically tracked, and their results are incorporated into the EHR, with a coded test name, result value, and interpretation.
- Written policies specify unambiguous responsibility for test results follow-up with a shared understanding of that responsibility among all involved in providing follow-up care

Test Results Reporting -6

- Workflows that are particularly vulnerable to mishandling of test results, especially critical ones, are identified, and back-up procedures ensure test results are received by someone responsible for the affected patient's care
- Results outside normal reference ranges (or otherwise determined to be abnormal) are flagged (presented in a visually distinct way)

Test Results Reporting - 7

- Display of results (e.g. numeric, text, graphical or image) should be easily accessible, clearly visible (and not easily overlooked), and understandable
- Automated non-interruptive results notifications (also called “in-basket alerts” or flags) are limited to those that are clinically relevant in order to minimize “alert fatigue”

Test Results Reporting - 8

- Results notifications remain in the clinician inbox until a clinician action occurs to address them
- There is an EHR-based process for clinicians to either assign surrogates for reviewing notifications or enable surrogates to look at the principal clinicians' inboxes
- There are mechanisms to forward results and results notifications from one clinician to another

Computerized Provider Order Entry with Decision Support

- Evidence-based order sets are available in the EHR for common tasks/conditions and are updated regularly
- User-entered orderable items are matched to (or can be looked up from) a list of standard terms
- The EHR can facilitate both cancellation and acknowledgement of receipt of orders for laboratory, radiology and pharmacy

Computerized Provider Order Entry with Decision Support - 2

- CDS incorporates current “best practices” and guidelines from authoritative sources, such as national organizations and medical specialty professional associations
- CPOE is used for ordering all medications, diagnostic tests, and procedures for which CPOE is available
- Duplicate order checking occurs for high-risk medication, diagnostic tests, and procedure orders (excluding as needed “PRN” medications)

Computerized Provider Order Entry with Decision Support - 3

- Corollary (or consequent) orders are automatically suggested when appropriate and the orders are linked together so that changes are reflected when the original order is rescheduled, renewed or discontinued.
- Users can access authoritative clinical reference materials directly from the EHR, including organization-specific information when available

Clinician Communication

- Urgent clinical information is delivered to clinicians in a timely manner, and delivery is recorded in the EHR
- The EHR includes the capability for clinicians to look up the status of their electronic communications (e.g. sent, delivered, opened, acknowledged)
- Message clearly display the individual who initiated the message and the time and date it was sent

Clinician Communication - 2

- The EHR facilitates accurate routing of clinician-to-clinician messages and enables forwarding of messages to other clinicians
- Clinicians are able to electronically access current patient and clinician contact information (e.g. email address, telephone and fax numbers, etc.) and identify clinicians currently involved in a patient's care

Clinician Communication - 3

- Electronic message systems include the capability to indicate the urgency of the messages
- The EHR displays time-sensitive and time-critical information more prominently than less urgent information
- Both EHR design and organizational policy facilitate clear identification of clinicians who are responsible for action or follow-up in response to a message

Clinician Communication - 4

- Mechanisms exist to monitor the timeliness of acknowledgment and response to messages

Patient Identification

- Patient names on adjacent lines in the EHR display are visually distinct
- Users are warned when they attempt to create a new record for a patient (or look up a patient) whose first and last name are the same as another patient
- Patients are registered using a centralized, common database using standardized procedures

Patient Identification - 2

- Patient identity is verified at key points or transitions in the care process (e.g., rooming patient, vital sign recording, order entry, medication administration, and check out).
- The EHR limits the number of patient records that can be displayed on the same computer at the same time to one, unless all subsequent patient records are opened as “Read Only” and are clearly differentiated to the user.

Patient Identification - 3

- Patients who are deceased are clearly identified as such
- The organization regularly monitors their patient database for patient identification errors

Future Directions

- Letter from concerned physicians requesting:
  - Decouple EHR certification from the Meaningful Use program
  - MU has taken priority over for meeting physician customers' needs, patient safety and product innovation
- Signed by AMA, AAFP, ACS, ASCO and many others (35 medical organizations)

Future Directions - 2

- Per ASCP, recent SGR repeal law consolidates and streamlines the Physician Quality Reporting System, Value-based Payment Modifier program, and Meaningful Use program into one compulsory quality reporting and improvement program under the Centers for Medicare and Medicaid Services

www.ascp.org/advocacy/President-Signs-SGR-repeal-into-law.html

References

1. http://www.healthit.gov/safer/safer-guides
2. Sittig DF, Singh H. A New Socio-technical Model for Studying Health Information Technology in Complex Adaptive Healthcare Systems. *Quality & safety in health care*. 2010;19(Suppl 3):i68-i74. doi:10.1136/qshc.2010.042085.
3. http://www.jointcommission.org/sentinel_event.aspx

High Priority Practices

- The status of orders can be tracked in the system
- The EHR is used for ordering medications, diagnostic tests, and procedures
- Pre-defined orders have been established for common medications and diagnostic (laboratory/radiology) testing

Organizational Responsibilities

- Workflow analysis to map how work is actually done is conducted regularly
- Organizational policy facilitates reporting of EHR-related hazards and errors and ensures that reports are promptly investigated and addressed
- Records of reported and addressed EHR-related hazards and errors are maintained