Thursday, May 28:

10:30 – 11:30 AM

S01: Lessons Learned from a Vendor EHR Implementation

Ellen Pollack, RN, Chief Nursing Informatics Officer, UCLA Health System

S01 QUESTIONS:

S01-1: Which is the most effective training strategy for an EHR implementation?

    a. Didactic instruction

    b. Instructor led demonstration

    c. Blended didactic & simulation

    d. Reviewing user guide manuals

S01-2: Which statement is <u>not</u> true regarding governance?

    a. Keep the focus on the patient

    b. Decisions should be made at the departmental level

    c. The CIO is the best person to lead an EHR implementation

    d. Establishing guiding principles is recommended

S01-3: Readiness leads should focus on all topics <u>except</u>?

    a. Ensuring staff register for training

    b. Prioritizing optimization requests

    c. Confirming department specific workflows

    d. Confirming super user requirements

S01 ANSWERS:

S01-1: Which is the most effective training strategy for an EHR implementation?

    a. Didactic instruction

    b. Instructor led demonstration

    c. ✓Blended didactic & simulation

    d. Reviewing user guide manuals

Explanation: Simulation training is best, although it is often challenging when training large numbers of staff. Best to add simulation exercises for high-volume and high-risk workflows (examples: bar-coded medication administration or blood administration).

S01-2: Which statement is <u>not</u> true regarding governance?

    a. Keep the focus on the patient

    b. Decisions should be made at the departmental level

    c. The CIO is the best person to lead an EHR implementation

    d. Establishing guiding principles is recommended

Explanation: The recommendation is to designate the EHR implementation as a clinical program rather than an IT initiative.

S01-3: Readiness leads should focus on all topics <u>except</u>?

    a. Ensuring staff register for training

    b. Prioritizing optimization requests

    c. Confirming department specific workflows

    d. Confirming super user requirements

Explanation: Readiness leads focus on helping to prepare for implementation. They can help to gather ideas for optimization, but would not start prioritizing these requests.

10:30 – 11:30 AM

S02: Tools to Facilitate Proactive Risk Assessment of Electronic Health Records

Carl Vartian, MD, MS, Chief Medical Information Officer, HCA Gulf Coast Division
David C. Classen, MD, MS, Chief Medical Information Officer, Pascal Metrics; Associate Professor of Medicine, University of Utah
Gianna Zuccotti, MD, MPH, Clinical Content Director, Partners eCare
Adam Wright, PhD

S02 QUESTIONS:

S02-1. All of the following are correct statements concerning the SAFER guides EXCEPT:

A. CMS requires their use as a Condition of Participation (COP) for hospitals

B. Their use is recommended in The Joint Commission Sentinel Event Alert 54

C. They were developed under the auspices of the Office of the National Coordinator for Health IT (ONC)

D. They were designed as a self-assessment tool to assess EHR-related safety concerns

E. They were developed to address the potential of negative unintended consequences of EHRs

S02-2: Your Hospital has just taken the AHRQ EHR/CPOE Flight Simulation Test through the Leapfrog Website. Your Overall Score was a half moon and you had lots of variation in scores in the specific categories. You should:

A. Ignore the results of the test because it has no connection with actual rates of adverse drug events

B. Assume the test results are inaccurate because of the great variability in your category scores

C. Identify the categories that you performed poorly in and begin efforts to improve your decision support approach in those categories

D. Wait six months and take the test again as you will likely get an easier test and do better

S02-3: A CMIO is looking to prioritize development of new CDS interventions for her organization. She decides to review safety event reports from her organization to identify important issues. Which type of safety event report would she expect to contain the most serious and publicly visible events, but the fewest total number of events?

       A. adverse events

       B. near misses

       C. malpractice claims

       D. hazardous conditions

S02 ANSWERS:

S02-1: **All of the following are correct statements concerning the SAFER guides EXCEPT:**

A. CMS requires their use as a Condition of Participation (COP) for hospitals

B. Their use is recommended in The Joint Commission Sentinel Event Alert 54

C. They were developed under the auspices of the Office of the National Coordinator for Health IT (ONC)

D. They were designed as a self-assessment tool to assess EHR-related safety concerns

E. They were developed to address the potential of negative unintended consequences of EHRs

Explanation:

A. This is an INCORRECT statement. The use of the SAFER guides is entirely voluntary and is not required by any state or federal agency.

B. This is a CORRECT statement. The Joint Commission Sentinel Event #54 recommends the use of SAFER guides, or a similar method, to proactively assess EHR patient safety risks.

C. This is a CORRECT statement. The ONC commissioned and supported the development of the SAFER guides.

D. This is a CORRECT statement. The SAFER guides are designed to be a self-assessment tool.

E. This is a CORRECT statement. The SAFER guide were developed to address reports of negative unintended consequences from the use and proliferation of EHRs.

The SAFER guides were developed to address the reports of negative unintended consequences resulting from EHR use. The rapid proliferation of EHR systems in hospitals and office practices taking advantage of Meaningful Use incentives made this a pressing concern. Developed under the auspices of the ONC, the SAFER guides are a series of self-assessment tools, designed for offices and hospitals to proactively gauge their potential EHR-related safety problems in nine high-risk areas. The Joint Commission's Sentinel Event Alert 54 (Safe use of health information technology) recommends hospitals "develop a proactive, methodical approach to health IT process improvement that includes assessing patient safety risks. Use the SAFER Guides for EHRs checklists, Failure Mode and Effects Analysis, or a similar method to identify potential system failures before they occur."

S02-2: **Your Hospital has just taken the AHRQ EHR/CPOE Flight Simulation Test through the Leapfrog Website. Your Overall Score was a half moon and you had lots of variation in scores in the specific categories. You should:**

A. Ignore the results of the test because it has no connection with actual rates of adverse drug events

B. Assume the test results are inaccurate because of the great variability in your category scores

C. Identify the categories that you performed poorly in and begin efforts to improve your decision support approach in those categories

D. Wait six months and take the test again as you will likely get an easier test and do better

Explanation:

The results of the test should guide internal quality improvement and optimization of your EHR through enhancement of clinical decision support capabilities.

A is false as the test performance has been directly correlated with rates of adverse events in hospitals.

B is false as hospitals usually have variable scores in different categories.

D is false as repeat tests using the same hospital EHR operational system give similar test scores.

S02-3: A CMIO is looking to prioritize development of new CDS interventions for her organization. She decides to review safety event reports from her organization to identify important issues. Which type of safety event report would she expect to contain the most serious and publicly visible events, but the fewest total number of events?

A. adverse events

B. near misses

C. malpractice claims

D. hazardous conditions

1:00 – 2:00 PM

S03: Leveraging HIT to Improve Patient Safety

Loran Hauck, MD, Senior Vice President, Chief Medical Officer, Office of Clinical Effectiveness, Adventist Health System

S03 QUESTIONS:

S03-1: **All of the following were considered significant factors in the reduction of serious harm at Adventist Health System EXCEPT:**

> A. Implementation of CPOE with evidence-based electronic order sets
>
> B. System wide safety improvement collaboratives
>
> C. Implementation of clinical documentation improvement (CDI) for electronic physician documentation.
>
> D. Implementation of evidence-based interdisciplinary plans of care (IPOC's)
>
> E. Implementation of positive patient ID (bar coding) for medication administration

S03-2: A patient sustains a serious adverse event (harm) which requires transfer to ICU, intubation, mechanical ventilation, and heroic life sustaining measures to prevent their death. This is an example of which NCC MERP level of harm?

> a.   Level F
>
> b.   Level G
>
> c.   Level H
>
> d.   Level I

S03-3: **A patient has a steeply increasing Global Safety Risk Score (GSRS) and has had two electronic risk triggers detected. This patient is:**

> a. Safe and at low risk of an adverse event occurring
>
> b. Harm has already occurred because an electronic risk triggers have fired
>
> c.   A patient that should be watched very carefully by the bedside care team because they are at very high risk for an adverse event
>
> d. Nothing further can be done to help this patient because something adverse has already occurred

S03 ANSWERS:

S03-1: **All of the following were considered significant factors in the reduction of serious harm at Adventist Health System EXCEPT:**

A. Implementation of CPOE with evidence-based electronic order sets

B. System wide safety improvement collaboratives

C. Implementation of clinical documentation improvement (CDI) for electronic physician documentation.

D. Implementation of evidence-based interdisciplinary plans of care (IPOC's)

E. Implementation of positive patient ID (bar coding) for medication administration

S03-2: **A patient sustains a serious adverse event (harm) which requires transfer to ICU, intubation, mechanical ventilation, and heroic life sustaining measures to prevent their death. This is an example of which NCC MERP level of harm?**

a.   Level F

b.   Level G

c.   Level H

d.   Level I

Explanation: This description sounds like the very worst outcome. However, an "I" level harm contributes to the patient's death.

S03-3: A patient has a steeply increasing Global Safety Risk Score (GSRS) and has had two electronic risk triggers detected. This patient is: (Correct answer is: "C")

a.   Safe and at low risk of an adverse event occurring

b.   Harm has already occurred because an electronic risk triggers have fired

c.   A patient that should be watched very carefully by the bedside care team because they are at very high risk for an adverse event

d.   Nothing further can be done to help this patient because something adverse has already occurred

Explanation: An increasing GSRS predicts patients at increasing **likelihood** to suffer an adverse event. Electronic risk triggers predict patients who **might** have suffered a harm. They require clinician review to determine if a harm **actually** occurred. Even if a patient has

a high GSRS, and has suffered one adverse event, they remain at high risk for subsequent adverse events. Example slides of GSRS graphs from the presentation will illustrate this point – that a high or increasing GSRS predicts patients at risk for one or multiple adverse events. "D" is not the correct answer because electronic risk triggers do not mean an adverse event (harm) has already occurred.

1:00 – 2:00 PM

S04: Healthcare Payment Models, Technology and Care Coordination

Todd Rothenhaus, MD, Chief Medical Officer, SVP of Network Knowledge, athenahealth

Kelly Cronin, Director, Office of Care Transformation, Office of the National Coordinator for Health Information Technology

S04 QUESTIONS:

S04-1: The principle challenge to achieving Stage 2 meaningful use has been:

- a. Meeting criteria for all quality measures

- b. Capturing smoking cessation

- c. Secure electronic messaging

- d. Meeting threshold for clinical lab test results

S04-2: Which of the following is the most expensive response to the complexities of health-system integration:

- a. Scaling of traditional HL7 messaging within enterprises
- b. Implementation of private health information exchanges
- c. System replacement with a combined inpatient-outpatient EHR
- d. Patient context enabled single-sign on solutions

S04-3: Which of the following components of population health management is responsible for the most IT spend:

- a. Claims-based utilization and cost analytics

- b. Integration of clinical data to support quality registries

- c. Care management systems or components

- d. Reporting

S04-4: What are the 2 Alternative Payment Models with the most Medicare providers participating across the US?

    a. Medicare Shared Savings Program (MSSP), Bundled Payments for Care Improvement

    b. Transforming Clinical Practice Initiative, MSSP

    c. MSSP and Comprehensive Primary Care Initiative

S04-5: What type of health IT infrastructure will be necessary for eCQMs and longitudinal outcomes measures?

    a. certified EHRs alone

    b. clinical data registries or other intermediaries/aggregators

    c. both certified EHRs and intermediaries that aggregate   clinical and claims data

S04 ANSWERS:

S04-1: **The principle challenge to achieving Stage 2 meaningful use has been:**

  a. Meeting criteria for all quality measures

  b. Capturing smoking cessation

  c. Secure electronic messaging

  d. Meeting threshold for clinical lab test results

Explanation: Secure electronic messaging (SM) requires patients to take action, and are not directly under the control of practices or providers. SM and other patient engagement measures were the most difficult to achieve in year one of Stage 2 MU.

S04-2: **Which of the following is the most expensive response to the complexities of health-system integration:**

  a. Scaling of traditional HL7 messaging within enterprises

  b. Implementation of private health information exchanges

  c. System replacement with a combined inpatient-outpatient EHR

  d. Patient context enabled single-sign on solutions

Explanation: While causes for EHR replacement are multifactorial, replacement of separate inpatient and outpatient solutions with a single EHR system across care venues accelerated over the past few years in response to the complexities of care coordination and clinical integration.

S04-3: **Which of the following components of population health management is responsible for the most IT spend:**

  a. Claims-based utilization and cost analytics

  b. Integration of clinical data to support quality registries

  c. Care management systems or components

  d. Reporting

Explanation: Especially among heterogeneous, multiple-EHR provider organizations, the cost of automating data flow between transactional systems such as PMIS and EHRs is the principle cost associated with population health management solutions.

S04-4: What are the 2 Alternative Payment Models with the most Medicare providers participating across the US?

    a. Medicare Shared Savings Program (MSSP), Bundled Payments for Care Improvement

    b. Transforming Clinical Practice Initiative, MSSP

    c. MSSP and Comprehensive Primary Care Initiative

Explanation: There are over 300 Medicare ACOs across 47 states and hundreds of providers in the Bundled Payments for Care Improvement across many states.

S04-5: What type of health IT infrastructure will be necessary for eCQMs and longitudinal outcomes measures?

    a. certified EHRs alone

    b. clinical data registries or other intermediaries/aggregators

    c. both certified EHRs and intermediaries that aggregate   clinical and claims data

Explanation: As public and providers transition a majority of payment from fee for service to value, longitudinal outcome measures and total cost of care measures will require claims and clinical aggregators in and across regional markets as well as structured data elements from certified EHRs.

3:00 – 4:00 PM

S05: Evaluating the Outcomes of Health IT

Trenor Williams, MD, CEO & Co-Founder, Clinovations

S05-1: What percentage of optimization solutions are truly technical-focused?

    A. 15%

    B. 25%

    C. 50%

    D. 75%

S05-2: What are the five main focus areas of successful optimization initiatives?

    A. Environment, Clinical Equipment, Technology, Strategy, ROI

    B. Clinical Workflow, Engagement, ROI, Organizational Strategy, Technology

    C. IT, Training, Clinical Workflow, ROI, Technology

    D. Operational Staff, Clinical Policies, Network, Workflow, Engagement

S05-3: What are the four areas of success that should be measured when implementing an optimization solution?

    A. Technology, ROI, Operations, Engagement

    B. Workflow, Clinical, Operational, Satisfaction

    C. Financial, Environment, Technology, Clinical

    D. Clinical, Financial, Operational, Satisfaction

S05 ANSWERS

S05-1: What percentage of optimization solutions are truly technical-focused?

    A. 15%

    B. 25%

    C. 50%

    D. 75%

Explanation: The presenter referenced observations and a case study about the misperception that most problems and solutions are technical in nature. Talking point by the presenter is that roughly only 15% of solutions truly require a technical fix rather than a change in workflow, training, communication or process.

S05-2: What are the five main focus areas of successful optimization initiatives?

    A. Environment, Clinical Equipment, Technology, Strategy, ROI

    B. Clinical Workflow, Engagement, ROI, Organizational Strategy, Technology

    C. IT, Training, Clinical Workflow, ROI, Technology

    D. Operational Staff, Clinical Policies, Network, Workflow, Engagement

Explanation: Slide 8 defined optimization initiatives as an increase in value across multiple fronts. The presenter identified the main areas of focus around Clinical Workflow, Staff and Physician Engagement, Return on Investment, Organizational Strategy, and Technology.

S05-3: What are the four areas of success that should be measured when implementing an optimization solution?

    A. Technology, ROI, Operations, Engagement

    B. Workflow, Clinical, Operational, Satisfaction

    C. Financial, Environment, Technology, Clinical

    D. Clinical, Financial, Operational, Satisfaction

Explanation: Slide 11 dives into a common optimization methodology and identifies four phases: Assessment, Prioritization, Execution, and Sustainability. Once organizations have realized benefits from this process, they will see the impact on their Clinical, Financial, and Operational objectives. The talking points hit on a fourth area of success around Satisfaction from providers, staff, and hospital leadership upon implementing an organizational optimization solution.

3:00 – 4:00 PM

S06: Innovations Designed to Increase Patient Safety and Dignity and Respect

Patricia Dykes, PhD, RN, FAAN, FACMI, Senior Nurse Scientist, Director Center of Patient Safety Research and Practice, Brigham and Women's Hospital
Adam Sapirstein, MD, Director, Division of Adult Critical Care Medicine for Anesthesiology Department and Co-Director, Surgical Intensive Care Unit, Johns Hopkins Hospital
Priyanka Agarwal, MD, MBA, Assistant Clinical Professor of Medicine, University of California at San Francisco
Kenneth F. Sands, MD, MPH, Chief Quality Officer, Beth Israel Deaconess Medical Center

S06 QUESTIONS:

S06-1: **Which of the following strategies is consistent with user-centered design?**

   a. The design team includes end-users with an understanding of tasks and environments.

   b. The process is linear with a stage gate between each phase where requirements are reviewed and approved before continuing to the next phase.

   c. The design mainly addresses one aspect of the user experience.

   d. The design team includes multidisciplinary skills and perspectives.

S06-2: Choose the Single Best Answer

   a. Hospitals and Intensive Care Units, in particular, are considered models of high reliability organizations.

   b. Health IT solutions have resulted in unparalleled improvements in the quality and safety of patient care.

   c. A systems engineering approach to healthcare could be a cornerstone of a continuously learning healthcare organization.

   d. The drive toward personal excellence has promoted "systems thinking" in health care.

S06-3: **Taking a macro, systematic view of an ICU to understand its varying levels of risk can help mitigate harms from occurring. There are a number of drivers that contribute to risk. Which of the following are concerns you would identify as being be most strongly associated with risk?**

    a. Day of Week

    b. Local event outside of hospital

    c. Nursing workload intensity

    d. Length of Hospital Stay

S06 ANSWERS:

S06-1: Which of the following strategies is consistent with user-centered design?

a. The design team includes end-users with an understanding of tasks and environments.

b. The process is linear with a stage gate between each phase where requirements are reviewed and approved before continuing to the next phase.

c. The design mainly addresses one aspect of the user experience.

d. **The design team includes multidisciplinary skills and perspectives.**

Explanation:

a: This is not correct because while end user requirements need to be considered from the beginning and included into the whole product cycle, the design team does not need to include end users as members.

b: This is not correct because the UCD process is iterative (not linear).

c: This is not correct because UCD should address all aspects of user experience.

d: This is correct because a core requirement of UCD is that the design team includes multidisciplinary skills and perspectives.

S06-2: **Choose the Single Best Answer**

a. Hospitals and Intensive Care Units, in particular, are considered models of high reliability organizations.

b. Health IT solutions have resulted in unparalleled improvements in the quality and safety of patient care.

c. **A systems engineering approach to healthcare could be a cornerstone of a continuously learning healthcare organization.**

d. The drive toward personal excellence has promoted "systems thinking" in health care.

Explanation:

A is incorrect.

- In general healthcare organizations are not considered HROs. In 2013 Chassin and Loeb wrote in the Milbank Quarterly, "…the ways that high-reliability organizations generate

and maintain high levels of safety cannot be directly applied to today's hospitals. We defined a series of incremental changes that hospitals should undertake to progress toward high reliability. These changes involve the leadership's commitment to achieving zero patient harm, a fully functional culture of safety throughout the organization, and the widespread deployment of highly effective process improvement tools." [Milbank Q. 2013 Sep;91(3):459-90] In the introductory section of this talk we described the high failure rates of therapy delivery that may lead to preventable harm in the ICU. Cultures of resilience are another key component of an HRO and studies demonstrate shortcomings in this area. [*Best Pract Res Clin Anaesthesiol*. 2011 Jun;25(2):133-44]

B is incorrect.

- The effect of health-IT solutions on patient care, safety, and efficiency is patchy at best. There have been some success stories related to health-IT but there are persistent concerns that health IT has not adequately engaged stakeholders and has overall costs of care. [Institute of Medicine, *Best Care at Lower Cost: The Path to Continuously Learning Health Care in America*, 2012, The National Academies Press: Washington, DC.] EHRs have had profound effect on nursing and physician workflow [*Int J Med Inform*. 2015 Apr 15. pii: S1386-5056]

C is correct: "A systems engineering approach to healthcare could be a cornerstone of a continuously learning healthcare organization."

- **The IOM and other groups have recognized that systems engineering approaches have been used in numerous HROs to achieve improved outcomes and reduce costs. A continuously learning system is dependent upon data acquisition, data analysis, transparency, feedback, and performance evaluation. Systems of systems integrate technology-culture-people- workflow so achieve desired results. [*Best Care At Lower Cost - The Path To Continuously Learning Health Care In America*. Committee On The Learning Health Care System In America, National Academy Of Sciences. 2012]**

D is incorrect.

- Paradoxically the drive toward personal excellence has minimized systems approaches in healthcare [*Anesthesiology*. 2014 Mar;120(3):526-9]. The physician as hero or "captain of the ship" is an artifact of medical culture that promotes heroism instead of safe design. In this discussion we have indicated that as the complexity of medical care has increased the over-reliance on human performance has created an environment where errors are inevitable. More importantly in a medical model of individual performance improvements can only be made at the level of the individual and are not generally sustained.

S06-3: **Taking a macro, systematic view of an ICU to understand its varying levels of risk can help mitigate harms from occurring. There are a number of drivers that contribute to risk. Which of the following are concerns you would identify as being be most strongly associated with risk?**

a. Day of Week

b. Local event outside of hospital

c. **Nursing workload intensity**

d. Length of Hospital Stay

Explanation: Nursing workload intensity during a given shift in the critical care environment has been identified as having a significant correlation with occurrence of harm events during that same shift.

The other factors listed have been evaluated and to date have not showed a strong correlation with risk of harm.

4:15- 5:15 PM

S07: OpenNotes - Getting Patients and Clinicians on the Same Page

Bradley Crotty, MD, MPH, Director of Patient Portals, Associate Program Director for Informatics Training in the Division of Clinical Informatics, Beth Israel Deaconess Medical Center Jay D. Eisenberg, MD MMI, CMIO, PeaceHealth

S07 QUESTIONS:

S07-1. Which statement best describes Open Notes?

a. Open Notes relies on technology such as a patient portal or application programming interface to deliver content to patients.

b. Open Notes is a philosophy of added transparency with patients through the sharing of visit notes.

c. Open Notes generally increases anxiety among patients, but this may be overcome through discussion of notes by doctors.

d. Open Notes has been proven to improve hemoglobin a1c in patients with marginally controlled type 2 diabetes.

S07-2. Which one of the following concerns was most prevalent among patients in the original OpenNotes study?

a. Patients found notes to be more confusing than helpful.

b. Reading notes caused patients to worry more.

c. Patients were concerned about the privacy of their notes.

d. Patients felt offended by what their doctors wrote.

S07-3. You are the CMIO of an institution that serves pediatric patients, and would like to participate in Open Notes. What is the best way of addressing sensitive information contained in adolescent notes?

a. Make an executive decision and disable Open Notes to patients and/or parents of patients ≤18 years of age

b. Make an executive decision and disable Open Notes to patients and/or parents of patients ≥13 and ≤18 years of age

c. Allow clinicians to make decisions on a case by case basis to withhold the note from patients or not based on the content

d. Convene a group of patients, clinicians, and hospital stakeholders including general counsel to craft a policy that suits local needs

S07-4. Which of the following statements regarding notifications of new notes is true?

a. Alerting patients of new available notes increases their rate of reading notes.

b. Patients who read notes have the same rate of note reading if email reminders go away.

c. Patients dislike having email reminders to read notes.

d. Notifications of new available notes drive questions and requests for corrections of notes.

S07 ANSWERS:

S07-1. Which statement best describes Open Notes?

a. Open Notes relies on technology such as a patient portal or application programming interface to deliver content to patients.

b. Open Notes is a philosophy of added transparency with patients through the sharing of visit notes.

c. Open Notes generally increases anxiety among patients, but this may be overcome through discussion of notes by doctors.

d. Open Notes has been proven to improve hemoglobin a1c in patients with marginally controlled type 2 diabetes.

Explanation: The answer is (b). **OpenNotes is more of a philosophy**. While many practices and providers implement open notes through patient portals, printing and copying notes may be just as effective (but logistically unsustainable).

S07-2. Which one of the following concerns was most prevalent among patients in the original OpenNotes study?

a. Patients found notes to be more confusing than helpful.

b. Reading notes caused patients to worry more.

c. Patients were concerned about the privacy of their notes.

d. Patients felt offended by what their doctors wrote.

Explanation: The correct answer is (c). Up to a third of patients were concerned about the privacy of their notes. Rarely did patients find notes to be confusing worry-inducing, or were patients offended. Portals are implemented with privacy as a cornerstone, so education about portals and notes may be helpful.

S07-3. You are the CMIO of an institution that serves pediatric patients, and would like to participate in Open Notes. What is the best way of addressing sensitive information contained in adolescent notes?

a. Make an executive decision and disable Open Notes to patients and/or parents of patients ≤18 years of age

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c. Allow clinicians to make decisions on a case by case basis to withhold the note from patients or not based on the content.

d. Convene a group of patients, clinicians, and hospital stakeholders including general counsel to craft a policy that suits local needs

Explanation: The correct answer is (d), **craft a local policy**. This is often no one size fits all, and solutions can range from redacting individual medication entries and sentences to turning off Open Note to all patients and parents of patients less than 18 or 19 depending on state laws.

S07-4. Which of the following statements regarding notifications of new notes is true?

a. Alerting patients of new available notes increases their rate of reading notes.

b. Patients who read notes have the same rate of note reading if email reminders go away.

c. Patients dislike having email reminders to read notes.

d. Notifications of new available notes drive questions and requests for corrections of notes.

Explanation: The correct answer is (a). Data show that patients make use of notifications to prompt them to go to the patient portal. Clinicians have variable times for signing notes, and patients may not know when notes are available. An important issue is reminder overload, as reminders may clutter inboxes, particularly for any time a note, telephone contact, or administrative task is charted in the electronic health record.

4:15- 5:15 PM

S08: Practical Approaches to EHR Governance for Interprofessional Documentation and Communication

Ann O'Brien, RN MSN CPHIMS, Senior Director of Clinical Informatics, Kaiser Permanente
Richard Schreiber, MD, FACP, Chief Medical Informatics Officer, Holy Spirit Hospital

SO8 QUESTIONS:

S08-1. The principles of EHR governance mainly apply to:

      a)   Large university hospitals
      b)   Teaching hospitals only
      c)   Small community hospitals
      d)   All of the above

S08-2. The most critical success factor in EHR governance is:

    a) assuring purchase of the newest technology

    b) managing and leading the change transformation processes of the people who will use the EHR

    c) establishing the best infrastructure prior to EHR installation

    d) rewarding staff for meeting or exceeding goals

S08-3. Effective governance requires effective communication for EHR optimization as well as implementation. All of the following have been shown to be successful forms of communication, but the *least effective* is:

    a) Rich channels of communication such as personal interaction and audiovisual aids are better than email alone

    b) Encouraging leaders to disseminate information to users

    c) Just-in-time training—not too soon, not late; as well as "at-the-elbow" support

    d) Involvement of clinicians as well as technical experts in creating the communication plans

S08 ANSWERS:

S08-1. **The principles of EHR governance mainly apply to:**

a)   Large university hospitals

b)   Teaching hospitals only

c)   Small community hospitals

d)   All of the above

Explanation: A fundamental learning outcome of the panel discussion is that the principles and practice of EHR governance apply to healthcare environments universally—large or small, teaching or non-teaching, academic or community. The second question below highlights why this is true.

S08-2. **The most critical success factor in EHR governance is:**

a) assuring purchase of the newest technology

b) managing and leading the change transformation processes of the people who will use the EHR

c) establishing the best infrastructure prior to EHR installation

d) rewarding staff for meeting or exceeding goals

Explanation The best answer is b) because use of an EHR depends on supporting the workflow requirements of users. The latest and greatest technology (answer a) is only as good as the ability of personnel to use it. Although solid infrastructure is necessary (answer c), it is not sufficient. Keeping pace with every desire (answer d) can lead to chaos and cost overruns without necessarily addressing the true needs of a dynamic institution and its personnel.

S08-3. Effective governance requires effective communication for EHR optimization as well as implementation. All of the following have been shown to be successful forms of communication, but the *least effective* is:

a) Rich channels of communication such as personal interaction and audiovisual aids are better than email alone

b) Encouraging leaders to disseminate information to users

c) Just-in-time training—not too soon, not late; as well as "at-the-elbow" support

d) Involvement of clinicians as well as technical experts in creating the communication plans

Explanation: Although most successful programs use all of the above forms of communication, answer b) is the least effective. It is critical to loop in clinicians and others who miss meetings. Depending on "top-down" communication is risky. All the other answers involve face-to-face interactive communication methods.

FRIDAY, May 29:

10:30 – 11:30 AM

S11 QUESTIONS:

S11: Evidence-based Approaches and Practical Tools for the Never Ending Implementation Journey

Dean F. Sittig, PhD, Professor of Biomedical Informatics, UTHealth Science Center at Houston
Marcy Stoots, DNP, RN-BC, Principal, xG Health Solutions, Inc.
Lydon Neumann, Vice President, Impact Advisors

S11-1. The 8-dimension socio-technical model of safe and effective EHR implementation and use is designed to help executives, clinical leaders, and those responsible for implementing and managing the EHR to:

    a. Remember all the key socio-technical factors that must be addressed to ensure success

    b. Allocate financial resources to the EHR implementation project

    c. Decide how to prioritize requests for system modifications

    d. Create a project management timeline

S11-2: When planning, staffing, implementing, deploying and leading an EHR Implementation Project, what is the most effective organizational response?

    A. IT-led Project

    B. Operations-led Project

    C. Consulting-led Project

    D. Respected Organization Leader(s)

S11-3. Vendor agnostic EHR Apps that use SMART-on-FHIR support workflows by all of the following _except_:

    a. Extracting and re-organizing data and presenting data to clinicians in an meaningful and actionable manner

    b. Integrating clinical logic results into workflows

    c. Providing embedded decision support based on analysis of data from the EHR

    d. Auto-faxing visit summaries to medical records so they can be scanned back into the EHR

S11 ANSWERS:

S11-1. The 8-dimension socio-technical model of safe and effective EHR implementation and use is designed to help executives, clinical leaders, and those responsible for implementing and managing the EHR to:

a. **Remember all the key socio-technical factors that must be addressed to ensure success**
b. Allocate financial resources to the EHR implementation project
c. Decide how to prioritize requests for system modifications
d. Create a project management timeline

Explanation: Correct answer is A. Remember all the key socio-technical factors that must be addressed to ensure success

Successful EHR implementation and use rests on the concept that all 8 dimensions of the socio-technical model must be addressed in at least a satisfactory manner. Failure in any one dimension can result in failure of the entire system or project.

S11-2: When planning, staffing, implementing, deploying and leading an EHR Implementation Project, what is the most effective organizational response?

A. IT-led Project
B. Operations-led Project
C. Consulting-led Project
D. **Respected Organization Leader(s)**

Explanation: Correct answer is D. Respected Organization Leader(s)

The most successful Project Leadership approaches begin by identifying, recruiting and assigning the most respected and knowledgeable leaders within an organization. The best Projects are often led by dedicated leaders, who understand the organization's mission, vision, values and culture and more clearly understand how the enterprise behaves today and what it needs to do in the future. They have "connected the dots" on what needs to happen and will empower others to pursue the right approach, decisions and commitment to the organization's best or optimum results.

S11-3. **Vendor agnostic EHR Apps that use SMART-on-FHIR support workflows by all of the following _except_:**

    a. Extracting and re-organizing data and presenting data to clinicians in an meaningful and actionable manner
    b. Integrating clinical logic results into workflows
    c. Providing embedded decision support based on analysis of data from the EHR
    d. Auto-faxing visit summaries to medical records so they can be scanned back into the EHR

Explanation: Correct answer is D. Auto-faxing visit summaries to medical records so they can be scanned back into the EHR

EHR Apps that use SMART-on-FHIR pull and push discrete data from the EHR in real time and present data in a specialty specific view that is meaningful, actionable, and embedded into workflows.

1:00 – 2:00 PM

S12: Geisinger's Journey to Inter-APP-ability: Using SMArt on FHIR Standards to Connect Clinical Data in Real-Time across Disparate EHR Platforms

Alistair Erskine, Chief Clinical Informatics Officer, Practicing Hospitalist, Geisinger Health System

S12 QUESTIONS:

S12-1: A physician informaticist partners with his hospital Health IT team to add new functionality not currently available from the two EHRs offered by hospitals in the health system. In order to minimize the re-work needed to move functionality across EHRs in a timely manner, the informaticist should:

A. Build an application using SMART Platform and FHIR data exchange resources that work with both EHRs

B. Customize each EHR by configuring the respective system to take advantage of the native EHRs

C. Submit an enhancement request to both EHR vendors for the new functionality sought

D. Join a local Health Information Exchange to move clinical data across EHRs

S12-2: HL-7 sponsored FHIR (Fast Healthcare Interoperability Resource) is a(n):

A. Interface engine that facilitates the exchange of clinical data across Health Information Exchanges

B. Internet protocol that improves the efficiency of transmitted clinical data

C. Draft standard and RESTful Application Programming Interface to transmit clinical data

D. Meaningful Use protocol adopted by the Office of the National Coordinator (ONC) for Stage 2 certification

S12-3: Learning Health System aims to accomplish all of the following except:

A. Promotes the progress of science

B. Generates new knowledge or insight

C. Analyze data produced as a by-product of care

D. Encourages continuous improvement

E. Avoids deviation from common practice

S12 ANSWERS:

S12-1: A physician informaticist partners with his hospital Health IT team to add new functionality not currently available from the two EHRs offered by hospitals in the health system. In order to minimize the re-work needed to move functionality across EHRs in a timely manner, the informaticist should:

> **A. Build an application using SMART Platform and FHIR data exchange resources that work with both EHRs**

> B. Customize each EHR by configuring the respective system to take advantage of the native EHRs

> C. Submit an enhancement request to both EHR vendors for the new functionality sought

> D. Join a local Health Information Exchange to move clinical data across EHRs

Explanation: The JASON Reports presented to the ONC offered that the use of public APIs and non-proprietary interfaces between EHRs would help interoperability. In addition, the JASON report also described adding functionality in the form of "apps" developed once and made useful across multiple EHRs with minimal modifications. The ONC funded a series of SHARP grants, including the SMART Platform project. SMART Platform offers software developers a non-proprietary way to exchange authentication, user, patient and encounter information between app and EHR. The latest iteration of HL-7 interface standards, while still in draft/test use, provides a simpler and web-based (RESTful API) means to exchange clinical information between app and EHR. Submitting enhancement requests to EHR vendors while feasible does not guarantee that the EHR vendor will take on the enhancement, nor it such an approach consistent with the desired timelines to production. The customization of each EHR requires subspecialized skills and re-work as the developer goes across different EHR vendors. Joining a HIE only moves clinical data itself, not functionality or clinical workflow.

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> A. Interface engine that facilitates the exchange of clinical data across Health Information Exchanges

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> **C. Draft standard and RESTful Application Programming Interface to transmit clinical data**

D. Meaningful Use protocol adopted by the Office of the National Coordinator (ONC) for Stage 2 certification

Explanation: FHIR resources are draft HL-7 standards that use web-based language or RESTful API to transmit clinically relevant data between software applications. Details accessible at http://www.hl7.org/fhir. FHIR resources are not an interface engine but rather a set of standards and APIs; The use of FHIR resources does not increase the transmission speed of the transaction; and FHIR standards were not part of Meaning Use Stage 2 certification, in particular because Stage 2 certification criteria emerged before FHIR standards were released and FHIR standards remain in draft.

S12-3: Learning Health System aims to accomplish all of the following except:

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B. Generates new knowledge or insight

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Explanation: The Institute of Medicine defines the Learning Health System (LHS) as "progress in *science*, *informatics*, and *care culture* align to *generate new knowledge* as an ongoing, natural *byproduct of the care experience*, and seamlessly refine and deliver best practices for continuous improvement in health and healthcare." The entire series from the IOM is available online for *free* PDF download at http://www.nap.edu/catalog/13301/the-learning-health-system-series. The LHS tends to question common practice, rather than avoid deviation from it, in favor of developing practice-based evidence practice through a series of continuous feedback.