Onward and upward with proposed new EMRAM requirements

The HIMSS Analytics Acute Care Electronic Medical Record Adoption Model (EMRAM) – which measures healthcare provider organisations' technology adoption progress on an eight-stage scale – is more than a decade old. While the model has helped steer hospitals toward greater technology utilisation, the time for change has arrived.

With EMRAM leading the way, the journey toward greater technology adoption in healthcare has been well worth the effort, according to Lorna Green, RN, lead, customer advisor and consulting at Hyland, creator of OnBase®, a Westlake, Ohio-based software company.

"This year is my 35th anniversary as a nurse. I remember the challenges of paper charts. The days when I needed the chart to reference something but another clinician had the chart – sometimes for hours. It was challenging at times to get a total picture of the patient from the fragmented paper record. Much of our information that was shared was through verbal communication, not written anywhere for reference," wrote Green in a blog post that previewed "A Deeper Dive into the Future of EMRAM," a HIMSS16 educational session sponsored by Hyland. "I am a supporter of helping hospitals move to HIMSS Stage 7 because I see value in the . . . EMRAM guidelines. I have seen medication errors decrease due to closed-loop medication administration and clinical decision support. Coordinated care between clinicians is now the standard and not the exception thanks to technology."

OnBase® by Hyland

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Executive Vice President
Emeritus
HIMSS Analytics

EMRAM: upping the ante

After existing in its current state with only incremental tweaks for the past 10 years, though, HIMSS Analytics is now making substantial changes to the EMRAM in an effort to push healthcare provider organisations even further. During the HIMSS16 session, John Hoyt, executive vice president emeritus of HIMSS Analytics, outlined why extensive changes now are needed; provided an overview of some of the overarching adjustments; and drilled down to the details of the changes associated with specific stages.

To start, Hoyt explained the motivation behind the transformation stems from the desire to up the adoption ante, as healthcare organisations in large part have made substantial progress under the original model and now need to reach for more.

As Hoyt reflected on the events of the past several years, he shed light on this progress. After EMRAM was introduced in 2005, healthcare organisations made slow EMR adoption gains. However, after the meaningful use program was signed into law in 2009, EMR adoption accelerated significantly. Indeed, the number of acute-care organisations reaching at least Stage 5 on the scale grew from 3 percent in 2009, to 6 percent in 2013, to 37 percent in 2014, to 67 percent in 2015. With so many hospitals reaching these advanced levels of EMR maturity, the need to make more significant changes to the EMRAM model became apparent.

One of the fundamental changes of the new EMRAM model is that the criteria focus more on the functions accomplished through e-health and less on the descriptions of the technology itself, Hoyt explained. "What do nurses do with a document? What do they document? We're going to ask for these specific examples. We're not necessarily asking: do you have a nursing information system?" he said.

In addition, EMRAM standards will become universal, with no variation by continent or region. As such, all organisations reaching certain milestones will be operating on the same plane. "We're having one worldwide global standard," Hoyt said.

With the industry reeling from a rash of recent data breaches, HIMSS Analytics also is addressing security in each of the stages, according to Hoyt. However, instead of requiring organisations to implement specific security technologies, they will be asked to simply describe their security protocols.

"The current EMRAM that you know and love has nothing in it about security" – and that is really a vital component with the growing number of data breaches that are affecting healthcare organisations, Hoyt said. "So, now we are building security expectations into each of the stages. We're not having a requirement; we're just collecting the data, for some of the items," he noted. "For example, we're going to ask for a description of how you physically get into the data center. How do you get in the door? Is it double authentication? Is it key pass? Is it retina scan? For now, we're just collecting the information. In a couple years, we will probably say 'OK, let's go with double authentication, for example.'"

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Digging into details

Hoyt highlighted a variety of the specific changes that will be applied to the various EMRAM stages (see chart below).

Proposed Acute Care EMRAM Revisions

STAGE	NEW REQUIREMENTS
1	• PACS for DICOM • Patient-centric storage of non-DICOM images
2	• Clinical Data Repository installed or other multiple data stores installed in such a way that users DO NOT have to sign into different systems • Such systems are context aware (i.e., patient does not need to be re-selected in each disparate data store) • Security: description of data center security & user security training • Description of encryption & disposal policy • Description of antivirus, antimalware & firewall program
3	• Documentation typically performed by nursing is on-line such as: admission processing, H&P, care documentation, nursing orders & tasks related to Dx & procedure, e-MAR, discharge planning, etc. • Routine allied health documentation completed on-line • >50% criteria for all wards/ patient days/ inpatient cases – client chose % method • It must also be live in the ED, if any • Security: role-based security is in place • Description of intrusion detection program
4	• CPOE usage criteria increased to >50% criteria for all wards/ patient days/ inpatient cases – client chose % method • CPOE live in the ED, if any • STAIRSTEP: Documentation by nursing & allied health usage criteria at 90% • Where publically available, physicians use access to public data bases for medica-tions, images, immunisations & lab results • Business continuity services: access to: Pt allergies, Problem & Dx, medications, recent lab result when system or network is down
5	• Physician documentation creating discrete data or derived via NLP for alerts, clinical guidance and to serve analytical capabilities • Or background processes that are watching multiple variables that fire alerts to physicians • >50% criteria for all wards/ patient days/ inpatient cases – client chose % method • Physician documentation must be live in ED, if any • Description of intrusion prevention system • Description of portable device security
6	• Technology is used to order medications • Technology is used to verify medication orders • Technology is used to verify medications at the point of administration (medication, strength, route, patient, time) • Technology is used to verify blood products administration • Technology is used to verify human milk mother/baby match where there is communal storage of milk • Bar code technology is used at point of care for specimen collection • >50% criteria for all wards/ patient days/ inpatient cases – client chose % method • ED must also meet these criteria but no % required • Security risk assessments reported to governing authority
7	• Implementation & use of anesthesia information system (five years' notice) • CPOE-enabled infusion pumps (seven to ten years' notice) • Provide an overview of the privacy and security program

Source: Acute Care EMRAM Revisions, Presented by HIMSS Analytics at HIMSS16

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John Hoyt

For example, under Stage 1, healthcare providers previously were required to supply results from radiology, laboratory and pharmacy systems online. The new requirements add results from picture archiving and communications systems (PACS) to the list.

"PACS, which used to be in Stage 5, is now in Stage 1. PACS is no longer an evolving product. It's really mature with massive market saturation. In fact, there's a replacement market in place," Hoyt said, pointing to the fact that technology implementation has changed significantly in the past decade.

To earn Stage 2 recognition, organisations still need to install and maintain a clinical data repository. However, under the revised definition, users must be able to sign in once to access information from multiple context-aware systems, which is not uncommon in large university hospitals in Europe.

"[Some] hospitals, though, have one system for the ICU, a different system in cardiology, a different system in ED, a different system for MedSurg, but the user doesn't know that the information is from different systems," Hoyt said. "That's what we are looking for. You've got to have a single user interface [that enables access to] multiple data stores that have context-aware linkage."

Another major change that surfaces in Stage 3 and subsequent stages is the fact that healthcare provider organisations will now need to meet specific criteria in more than 50 percent of their departments to get credit for the function.

"When we started EMRAM in 2005, if you were live on one nursing ward you get credit for that function. We are no longer doing that. What we are saying is you must be live on greater than 50 percent of wards or patient bays or inpatient cases," Hoyt said. In addition, the functionality must be live in the emergency department.

The new requirements also employ a "stair-step" approach that raises the requirements as organisations move up the ladder of stages. For instance, at Stage 3, nursing and allied health will be required to reach 50 percent electronic documentation but at Stage 4, they need to hit 90 percent.

With the proposed new guidelines in place, HIMSS Analytics now is drafting survey questions, definitional text, scoring mechanisms and an implementation timeline. The new criteria are expected to be put into effect no earlier than January 1, 2017. Healthcare provider organisations can look to their trusted healthcare IT partners to help guide them to success under the evolving EMRAM.

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