

# HIMSS Analytics<sup>®</sup> EMRAM

The HIMSS Analytics EMRAM incorporates methodology and algorithms to automatically score hospitals around the world relative to their EMR capabilities.

STAGE	HIMSS Analytics <sup>®</sup> EMRAM EMR Adoption Model Cumulative Capabilities
7	Complete EMR; External HIE; Data Analytics, Governance, Disaster Recovery, Privacy and Security
6	Technology Enabled Medication, Blood Products, and Human Milk Administration; Risk Reporting; Full CDS
5	Physician documentation using structured templates; Intrusion/Device Protection
4	CPOE with CDS; Nursing and Allied Health Documentation; Basic Business Continuity
3	Nursing and Allied Health Documentation; eMAR; Role-Based Security
2	CDR; Internal Interoperability; Basic Security
1	Ancillaries - Laboratory, Pharmacy, and Radiology/Cardiology information systems; PACS; Digital non-DICOM image management
0	All three ancillaries not installed

## The stages of the model are as follows:

### Stage 7

The hospital no longer uses paper charts to deliver and manage patient care and has a mixture of discrete data, document images, and medical images within its EMR environment. Data warehousing is being used to analyze patterns of clinical data to improve quality of care, patient safety, and care delivery efficiency. Clinical information can be readily shared via standardized electronic transactions (i.e., CCD) with all entities that are authorized to treat the patient, or a health information exchange (i.e., other non-associated hospitals, outpatient clinics, sub-acute environments, employers, payers and patients in a data sharing environment). The hospital demonstrates summary data continuity for all hospital services (e.g., inpatient, outpatient, ED, and with any owned or managed outpatient clinics). Physician documentation and CPOE has reached 90% (excluding the ED), and the closed-loop processes have reached 95% (excluding the ED).

### Stage 6

Technology is used to achieve a closed-loop process for administering medications, blood products, and human milk, and for blood specimen collection and tracking. These closed-loop processes are fully implemented in 50 percent of the hospital. Capability must be in use in the ED, but ED is excluded from 50% rule. The eMAR and technology in use are implemented and integrated with CPOE, pharmacy, and laboratory systems to maximize safe point-of-care processes and results. A more advanced level of CDS provides for the “five rights” of medication administration and other 'rights' for blood product, and human milk administrations and blood specimen processing. At least one example of a more advanced level of CDS provides guidance triggered by physician documentation related to protocols and outcomes in the form of variance and compliance alerts (e.g., VTE risk assessment triggers the appropriate VTE protocol recommendation). Mobile/portable device security policy and practices are applied to user-owned devices. Hospital conducts annual security risk assessments and report is provided to a governing authority for action.

### Stage 5

Full physician documentation (e.g., progress notes, consult notes, discharge summaries, problem/diagnosis list, etc.) with structured templates and discrete data is implemented for at least 50 percent of the hospital. Capability must be in use in the ED, but ED is excluded from 50% rule. Hospital can track and report on the timeliness of nurse order/task completion. Intrusion prevention system is in use to not only detect possible intrusions, but also prevent intrusions. Hospital-owned portable devices are recognized and properly authorized to operate on the network, and can be wiped remotely if lost or stolen.

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## Stage 4

50 percent of all medical orders are placed using Computerized Practitioner Order Entry (CPOE) by any clinician licensed to create orders. CPOE is supported by a clinical decision support (CDS) rules engine for rudimentary conflict checking, and orders are added to the nursing and CDR environment. CPOE is in use in the Emergency Department, but not counted in the 50% rule. Nursing/allied health professional documentation has reached 90% (excluding the ED). Where publicly available, clinicians have access to a national or regional patient database to support decision making (e.g., medications, images, immunizations, lab results, etc.). During EMR downtimes, clinicians have access to patient allergies, problem/diagnosis list, medications, and lab results. Network intrusion detection system in place to detect possible network intrusions. Nurses are supported by a second level of CDS capabilities related to evidence-based medicine protocols (e.g., risk assessment scores trigger recommended nursing tasks).

## Stage 3

50 percent of nursing/allied health professional documentation (e.g., vital signs, flowsheets, nursing notes, nursing tasks, care plans) is implemented and integrated with the CDR (hospital defines formula). Capability must be in use in the ED, but ED is excluded from 50% rule. The Electronic Medication Administration Record application (eMAR) is implemented. Role-based access control (RBAC) is implemented.

## Stage 2

Major ancillary clinical systems are enabled with internal interoperability feeding data to a single clinical data repository (CDR) or fully integrated data stores that provide seamless clinician access from a single user interface for reviewing all orders, results, and radiology and cardiology images. The CDR/data stores contain a controlled medical vocabulary and order verification is supported by a clinical decision support (CDS) rules engine for rudimentary conflict checking. Information from document imaging systems may be linked to the CDR at this stage. Basic security policies and capabilities addressing physical access, acceptable use, mobile security, encryption, antivirus/anti-malware, and data destruction.

## Stage 1

All three major ancillary clinical systems are installed (i.e., pharmacy, laboratory, and radiology). A full complement of radiology and cardiology PACS systems provides medical images to physicians via an intranet and displaces all film-based images. Patient-centric storage of non-DICOM images is also available.

## Stage 0

The organization has not installed all of the three key ancillary department systems (laboratory, pharmacy, and radiology).

**For more information visit: [www.himssanalytics.org/EMRAM](http://www.himssanalytics.org/EMRAM)**