

## Outpatient EMR Adoption Model<sup>SM</sup>

The HIMSS Analytics Outpatient Electronic Medical Record Adoption Model<sup>SM</sup> (O-EMRAM) incorporates methodology and algorithms to score clinics on the maturity of their EMR environments. It is intended for clinics where there is an encounter between a care giver and a patient, and the care giver is licensed to assess, diagnose, treat, prescribe and generate orders and documentation. The O-EMRAM tests for clinician documentation including orders, e-prescribing, patient engagement, and population health analytics.

STAGE	HIMSS Analytics O-EMRAM Outpatient EMR Adoption Model Cumulative Capabilities
7	Complete EMR: external HIE, data analytics, governance, disaster recovery
6	Advanced clinical decision support; proactive care management, structured messaging
5	Personal health record, online tethered patient portal
4	CPOE, Use of structured data for accessibility in EMR and internal and external sharing of data
3	Electronic messaging, computers have replaced paper chart, clinical documentation and clinical decision support
2	Beginning of a CDR with orders and results, computers may be at point-of-care, access to results from outside facilities
1	Desktop access to clinical information, unstructured data, multiple data sources, intra-office/informal messaging
0	Paper chart based

The stages of the model are as follows:

**Stage 0:** The organization is paper based without any on-line access to clinical content data or reference material.

**Stage 1:** Physicians and nurses have desktop access to on-line reference material, patient eligibility information, and outside testing results in view-only mode.

**Stage 2:** The beginning of a Clinical Data Repository (CDR) exists where results from diagnostic tests reside no matter where they are generated. Other items in the repository at this point could be patient demographics, basic clinical documentation from nursing personnel, etc. completed.

**Stage 3:** Charting is conducted and at point of care by nursing and support personnel who room the patient and record medication history, vital signs, some history of present illness, etc. Physicians maintain an on-line problem list and generate e-prescribing orders during the patient encounter.

**Stage 4:** All types of orders are entered electronically into the record by the physician or other licensed provider during the patient encounter, and clinical decision support is interacting with the orders. Physicians are documenting in the record in structured templates that produce some discrete data for interaction with clinical decision support. All lab results are electronically imported and stored in discrete structured form enabling clinical decision support interactions. Reporting to various external registries such as state immunization registries, tumor registries, and others is electronically submitted.

**Stage 5:** A patient portal exists with capabilities to see testing results, obtain patient education material, interact with care givers, update demographic and allergy information, and schedule or request an appointment. At this point, there should be some evidence that the provider has activity to promote patient engagement, and a proportion of the patient population using the portal is known.

**Stage 6:** Advanced clinical decision support such as protocols and pathways are in use and can be demonstrated. Health status and preventive care reminder flags are set and in use and can be demonstrated. Evidence exists and results can be shown of the beneficial use of the patient engagement program with improved health status indicators in the served patient population. There are some connected medical devices operating in the patient care areas. The clinic maintains and utilizes disease registries for case management and population health improvement.

**Stage 7:** The ambulatory facility no longer uses paper charts. The EMR has a mixture of structured documentation, discrete data elements to drive analytics and clinical advice, data from connected intelligent medical devices, images, test results, etc. The organization is participating in HIE with same vendor systems as well as other vendors. Disaster recovery and business continuity plans exist and are tested routinely. System governance is solid and has a demonstrable history of solving problems and adapting to requested change. Finally, the business and clinical analytics is very good and able to demonstrate improved patient care and improved population health through patient engagement.