Facts about HIMSS Stage 6 and 7

To achieve the Stage 6 Award, UC Davis Health System deployed a number of clinical technologies and EMR functions, as well as redesigned and optimized many clinical processes. The requirements for this penultimate level are highly detailed and include the following elements:

- **A Laboratory Information System and laboratory clinical results, interfaced to EMR:**
  - Chemistry
  - Hematology
  - Microbiology
  - Blood Bank
  - Anatomical Pathology

- **A Radiology Information System to accept imaging orders and schedule exams, and that supports clinical results and readings for all modalities and links clinical results into the EMR**

- **Picture Archiving and Communication System (PACS) technology to support the following imaging modalities:**
  - Angiography
  - CT
  - CR
  - DR
  - DF
  - MRI
  - Ultrasound
  - Nuclear medicine
  - Mammography (optional)

- **Use pharmacy clinical software that has high-level functionality:**
  - It receives electronic medication orders.
  - It ensures all pharmacy orders are interacted against a clinical decision support system environment for conflict checking.
  - The EMR supports pharmacist order review inside the closed-loop medication ordering and administration process.
  - Pharmacy orders are interfaced to the EMR and the EMR supports conflict-checking and other knowledge-based reviews.
  - Medication profiles are automated and managed from transaction updates captured from ordering and medication administration processes.
Medication dispensing functions are automated, medications and IVs are labeled with barcodes, and patient medication profiles are automated and managed.

- A sophisticated clinical data repository is used to support care and decision support.
- Nursing software applications are used to support patient care documentation and care plans, including the reporting of vital signs, flow sheets, nursing notes, care plans, and electronic medical administration records.
- Interfaces are created between clinical equipment and the EMR to support the exchange of patient data.
- Medication reconciliation is done with EMR support.
- Computerized Practitioner Order Entry (CPOE) is used by all clinicians.
- Physicians can enter clinical orders remotely.
- Clinical decision support with alerts or reminders is in use and include:
  - drug-drug interactions
  - drug-allergy interactions
  - dose and range check interactions
- Support closed-loop medication administration.
- At least one inpatient-care unit uses barcode supported medication administration technology to ensure the 'five rights' of safe medication administration.
- Physician documentation is done in the EMR using structured online templates for:
  - daily progress notes
  - operative notes
  - history and physicals
  - consult notes
  - discharge summaries
  - Emergency Department visits
  - with optional support of voice recognition technology for physician documentation
- Uses structured documentation templates in the EMR to generate discrete data that drives clinical decision support or order sets.
- One hundred percent of any paper medical records documents must be scanned and made available through the EMR.
- Uses discrete data from the EMR to create clinical outcome reports and monitor core measures and other care improvement metrics, with many specifics.
Advancing to Stage 7

With Stage 6 requirements accomplished, and most of the Stage 7 criteria now under way, the remaining requirements for Level 7 include the following:

- Near real-time scanning or direct data entry for some clinical encounters currently documented only on paper.
  - intraoperative anesthesia record, and for anesthesia medications, to be entered into the medication record as discrete data elements.
  - code blue event records (especially for code medications given) to be entered into the medication record as discrete data elements.
  - chemotherapy and TPN orders.
  - outside records brought by patients to the emergency department and to other departments.

- Structured laboratory results using LOINC (Logical Observation Identifiers Names and Codes).

- Perinatal record is codified (i.e., OBJ data sets, APGAR scores) and will be accomplished in the spring when the health system goes live with its Epic Stork Obstetrics management system.

- Back-end speech recognition, which is technology that includes the ability to analyze textual content and create new, discrete data fields.

- Radiologists capture important findings as discrete data elements.

- Deployment of barcode medication administration in all inpatient care units.