

ELECTRONIC MEDICAL RECORD/CLINICAL INFORMATION SYSTEM

Where we've been...

With health care costs and quality improvement taking central roles in the healthcare arena, increasing attention is being directed towards the potential of health information technology (HIT) to lower healthcare spending and improve efficiency, quality and safety of medical care delivery. In fact, shortly after the installation of the new administration in January 2009, the American Recovery and Reinvestment Act was passed into law by the US Congress. The economic stimulus package is composed, in part, by some \$19.2 billion for HIT.

Additionally, a growing body of research has explored the potential of HIT systems to increase adherence to clinical guidelines, enhance disease surveillance, and decrease medication errors. One major component is the electronic medical record (EMR). EMRs are primarily intended for healthcare providers and are stored within an organization, such as hospital or health delivery system. Generally, EMRs refer to a set of databases that store the health information of patients (drug allergies, diagnoses, treatments, lab results, and medical history) which are adapted to fit an organization's standards and clinical delivery processes, such as pharmacy data and preventive care delivery. Streamlining existing paper medical records, EMR systems can enhance communication, coordination, measurement, and decision support in healthcare settings, especially when utilized in disease prevention and chronic disease management. They allow healthcare providers across a system to identify and recommend patient-specific services, generate reminders to increase compliance with recommendations, and communicate and coordinate with other specialists treating the same patient.

Baystate Health (BH) has led the way in adopting computerized physician order entry technology beginning with PCIS in 1991. Our current Clinical Information System, known as CIS, is considered a state-of-the-art order entry system and electronic medical record.

Where we are now...

BAYSTATE MEDICAL CENTER BMC currently has several components of the EMR in place which help to drive quality and safety. In April of this year, Baystate Medical Center was recognized as being in the top 1% of more than 5000 acute care hospitals in the country for its EMR development. BMC is 1 of 41 hospitals to achieve this level of development (level 6 of 7). The key EMR components in place are:

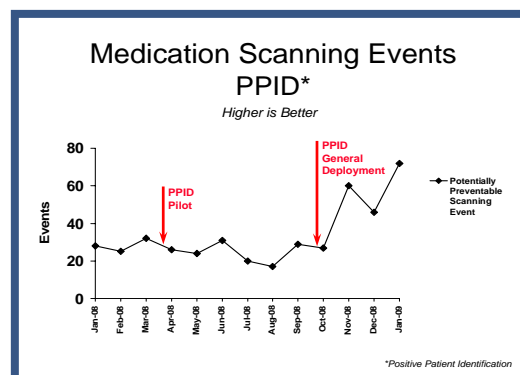
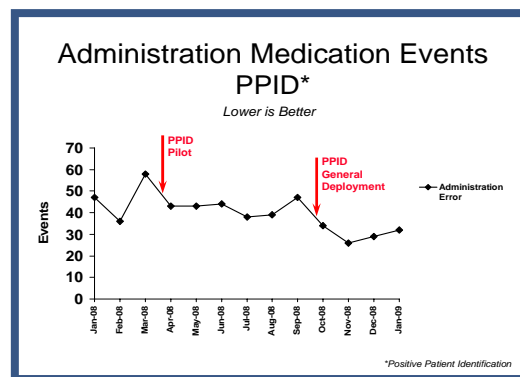
Computerized physician order entry (CPOE): increases efficiency by allowing clinicians to electronically order tests, medications, services, and referrals for patients. Alerts, reminders and other features can warn physicians of patient conditions or potential adverse drug events and prevent medication errors, as well as drive population-based care.

Electronic Results: provides opportunities to review laboratory, radiology and other test results as they arrive. These results can be viewed, signed and acted upon by the ordering physician with relative ease and efficiency. Since the results are embedded in the EMR, physicians can generate reminders for themselves, messages to others, correspondence letters in the midst of their review, and result follow-up on a particular patient, thereby enhancing communication among the healthcare team. Additionally, scoring systems have been built to alert clinicians if there are changes in the patient's clinical condition to identify early and prevent clinical deterioration.

ELECTRONIC MEDICAL RECORD/CLINICAL INFORMATION SYSTEM

Positive Patient Identification (PPID): ensures that the right medication is administered to the right patient, and that laboratory specimens are secured using handheld scanners and patient wristbands equipped with bar codes. Efficacy of PPID has been demonstrated by a decrease in both dispensing and administration errors, with a concomitant increase in “near-misses.”

INet/IView: provides a centralized repository of data for patients in critical care and medical/surgical areas that represents a revolutionary change in the way that data is presented to the clinician.



Where we are going...

We are currently evaluating a variety of technologies available to support clinical documentation and other new technologies designed to facilitate seamless entry of electronic documentation into the medical record. The following areas will be evaluated and adopted if they add value to our process of care: Bedside Medical Device Interface (BMDI) for all critical and intermediate care beds; Acute Physiology And Chronic Health Evaluation (APACHE) risk stratification for the critically-ill; Expansion of CIS to Baystate Vascular Services, D'Amour Cancer Care Center and Baystate Behavioral Health; Re-introduction of the immunization schedule; Ongoing improvements to the CIS user interface and tools; Enhancement of medication safety tools; Continued expansion of PowerNote and order set/CPG inventories; and *PowerChart Outreach*, web-based read-only access to CIS for community and referring physicians.