The increasing adoption of Electronic Health Records (EHR) systems in the USA has resulted in many new studies. In this issue of JAMIA, Krist (See page 764) reports on needed functionality to better support primary care, while Feeley (See page 772) describes how cancer care can benefit from information technology. However, it is well known that the quality of EHR notes is highly variable. Burke (See page 910) proposes an instrument to assess the quality of EHR clinical notes that will help make comparisons across providers and inform the development of systems. We are just starting to quantify and fully understand the limitations of current EHR systems. Hanauer (See page 925) compares associations found in structured diagnoses in clinical datasets and associations found in Medline. The study reveals that there is not much concordance among these sources, which calls for further investigation in this area, especially since electronic surveillance for public health or quality improvement often relies on EHR data. Examples are found in articles by Wang (See page 938) and de Bruin (See page 942), which report on the use of electronic sources for tuberculosis and nosocomial infection surveillance, respectively.

There are advantages and disadvantages in the use of narrative text in the EHR. The expressiveness of narrative text will probably not ever be achieved by structured data. However, the paucity of structured data requires that information in narrative text be extracted, but this extraction may lead to significant problems when machines are used to interpret clinical text. Additionally, data in structured fields are not always standardized. Standards are necessary to ensure that data are computable. In this issue of JAMIA, Savaris (See page 917) describes a standardized storage model based on DICOM, Liou (See page 792) describes mappings of laboratory terminologies to LOINC, and Campbell (See page 885) analyzes the adequacy of SNOMED CT to represent histopathology findings.

Natural language processing (NLP) applications for structuring clinical text have always been an important subject area for JAMIA. “Phenotyping” (i.e., extracting phenotypes or clinical events of interest from clinical records) is fast developing into one of the most common informatics interventions to prepare data for use in a variety of applications, and most applications rely on NLP. Solti (See page 776) describes an algorithm to identify adverse events and medical errors in a neonatal ICU setting; Marafino (See page 871) reports on the use of support vector machines for classification of diagnoses and procedures; and Abhyankar (See page 801) identifies dialysis patients using narrative text from ICU settings. Several other phenotyping applications help identify patients with influenza (See page 815), epilepsy (See page 866), asthma (See page 876), and on antidepressant medication (See page 785). Additional articles related to medication extraction (See page 838), lymphoma classification from pathology reports (See page 824), classification of radiology reports (See page 893), clinical text classification (See page 850), and assisted annotation of clinical text (See page 833) show the breadth of NLP applications based on EHRs. Methods for named entity recognition (See page 808), word sense disambiguation (See page 842) and for extraction of patterns from online medical forums (See page 902) also appear in this issue.

As our field matures, it is gratifying to see how health professionals are increasingly aware of the importance of informatics, and how it impacts healthcare, biomedical research, and public health. With this recognition comes also the responsibility of learning from past lessons and moving ahead in the most cost effective way. Healthcare is changing fast and informatics innovations are critical to improve patient care, accelerate biomedical research, and promote public health.