

Use of electronic health record systems for decision support

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This issue of *JAMIA* completes my first year as the Editor-in-Chief. The extended scope, improved workflow, and increase in editorial staff have allowed us to reduce the median review time to <30 days, even with a nearly 70% increase in original submissions. It is exciting to see an increasing number of authors with diverse backgrounds submitting from many different institutions in numerous countries, reinforcing our intent to reflect the best work of *informatics without borders*.

This issue focuses on electronic health records (EHRs, including medical and personal health records (PHRs)) and Clinical Decision Support Systems (CDSS). The debate on what really constitutes meaningful use of information technology (IT) in healthcare has never been so intense, with informatics professionals playing a central role in designing, implementing, and evaluating relevant information systems. EHRs and CDSS are critical components of meaningful use.

An editorial by Johnson (*see page 730*) elaborates on the current role of computer-based provider order entry systems and CDSS designed to reduce pharmacotherapy-related errors. Several articles on this topic appear in this issue (*see pages 754–804*).

This issue features excellent reviews and tutorials that help readers place research and applications articles in context: Holroy-Leduc (*see page 732*) systematically reviews the international literature on the effects of EHRs in healthcare documentation, processes, and outcomes. Gooch (*see page 738*) reviews implementation challenges addressed by different strategies for modeling workflows, practice guidelines, and care path-

ways. Kern (*see page 749*) describes lessons learned in applying principles of community-based participatory research to evaluate health IT initiatives.

The usability of different types of EHRs is still highly variable. Baker (*see page 805*) shows that there is little difference between adoption of EHR-based versus paper-based reminder for certain clinicians, concluding that inflexibility to change in workflows and practice probably extends beyond IT interventions for these clinicians. Zheng (*see page 883*) describes workaround strategies that clinicians developed to circumvent limitations of EHRs. Carayon (*see page 812*) describes significant improvement in nurses' perceptions of usefulness after 3 to 12 months of EHR implementation. Dennehy (*see page 820*) describes the results of applying a similar model in 30 safety net clinics in two different states. Weir (*see page 827*) provides a qualitative analysis of the importance of IT in a quality-improvement initiative for geriatrics education conducted at 33 primary care clinics in Utah. Also related to utilization, clinician access to mobile platforms for healthcare information is on the rise. An example is illustrated in the brief communication by Desai (*see page 875*) about a nephrology information resource.

Different settings motivate the development of specialized EHRs: Bostrom (*see page 835*) compares a specialized application to manage bladder cancer with a conventional EHR in a randomized controlled study that includes comparison of human factors, time spent, and quality of documentation. Lenert (*see page 842*) reports on the feasibility of a wireless EHR

system for deployment in disasters. Rudin (*see page 853*) describes the frequency and type of transitions of care that occur in the treatment of senior patients in order to inform the design of systems.

Related to EHRs and decision support, Wright (*see page 859*) evaluates the performance of human-developed rules to infer problem lists from other items in the EHR, a prerequisite for the successful implementation of CDSS. Tools to facilitate and evaluate CDSS implementation are also described in this issue. Landis Lewis (*see page 868*) shows that even in resource-poor environments in which simple EHR systems are implemented, it can be beneficial to implement clinical practice guidelines. Ash (*see page 879*) describes a case in which a diverse, independent physician association successfully adopted a CDSS by identifying barriers and facilitators for its implementation.

As this issue exemplifies, *JAMIA* is our community's prime source for scholarly work in biomedical informatics. I remain indebted to the authors, reviewers, and readers for their positive feedback and relentless energy dedicated to making *JAMIA* a better journal. During the next year I plan to publish focus issues on Clinical Research Informatics, Translational Bioinformatics, and Imaging Informatics. We will continue to emphasize clinical informatics and novel informatics approaches to healthcare and biomedical research. As always, feedback from the community is welcome. I look forward to continually featuring the best informatics work in *JAMIA* in 2012 (stay tuned for an extraordinary online issue in January!).