



EHR in Dialysis

By Linda McCann, Jay Grussing
August 20, 2014

Patients with chronic kidney disease (CKD) need frequent, ongoing dialysis care.

Many present with multiple chronic conditions, resulting in a complicated medical history involving a multitude of medications, treatment plans and lab results coming from a host of providers.

The sheer volume of data makes the dialysis setting an obvious place to institute a robust electronic health record (EHR) system.

Dialysis providers have a strong interest in making their EHR systems user-friendly and technically sound, from a purely business perspective to the most crucial reason: providing the best possible care for their patients.

An optimally functioning EHR system allows accurate and complete information about patients - medical history, diagnoses, medications, treatment plans, immunization dates, allergies, radiology images, laboratory and test results, etc. - to be created and managed in a digital format that can be shared securely across healthcare organizations.

When successfully implemented, EHR systems help providers, including nurses, to make efficient decisions about patient care.

By reducing "paperwork," the systems automate and streamline workflow, leaving providers more time with their patients. Increased interaction allows providers to impart a better understanding of self-care to patients, critical in the treatment of chronic conditions including CKD. These benefits add up to improved quality and convenience, therefore higher job satisfaction, for medical professionals. And ultimately, they result in improved quality of care, and in more favorable outcomes for patients.

EHR Challenges Persist

Increasing numbers of healthcare providers are adopting EHR systems since the passage of the Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009. HITECH provides financial incentives to providers and organizations that demonstrate "meaningful use" of certified EHR technology - use that positively affects patient care - according to criteria specified by CMS.

While more than 470,00 providers are actively registered in the Medicare and Medicaid EHR Incentive Programs, and more than 371,000 have received payment, some are struggling to meet the first stage of the CMS criteria regarding data capture and sharing.¹ This is reflected in mixed levels of satisfaction with EHR systems across the industry.^{2,3}

For example, results from the May 2013 "Satisfaction with EMR Survey" of dialysis healthcare professionals, conducted by Nephrology Clinical Solutions (NCS) Research, showed 24% of respondents as being "very satisfied" with their current EMR system; another 52% "somewhat satisfied," and a significant 25% "somewhat or very dissatisfied."³

EHR challenges can be wide ranging, from technical functionality issues, to the inability to complete some tasks electronically, to having a system that doesn't map exactly to the workflow. Anecdotal evidence also suggests a correlation between length of use of the EHR system and the ability to demonstrate improvements in care - i.e., a learning curve.

Additionally, different user populations may have different levels of tolerance for technology. As [reported previously](#) in ADVANCE for Nurses, a 2013 survey of registered nurses conducted by AMN Healthcare revealed generational differences of opinion about EHR influence on job satisfaction, efficiency and patient care, with younger nurses having a more positive point of view on EHR than older nurses.⁴

Even for smooth-running EHR systems, a hesitancy to share data between entities and lack of infrastructure present enormous challenges to full coordination of care. Health information exchanges can protect both sides from bogus or corrupt data, but funding and development efforts for statewide initiatives varies widely, and the nationwide eHealth Exchange is just beginning to see growth in participation. Until interoperability issues are resolved, truly seamless data exchange will continue to impact the effectiveness of EHR systems.

Yet among the mixed reports on EHR satisfaction, it's important to note that the majority of users have a positive opinion about their EHR systems. In other words, many organizations seem to be getting their EHRs right.

Recent Evidence of Positive Outcomes

Where health information technology is being successfully implemented, providers are seeing a predominantly positive effect on patient outcomes. A recent study by RAND researchers examining health IT literature for evidence on the effects of meaningful use functionalities on quality, safety and efficiency outcomes showed that 84% of studies from 2007-2013 reported mostly positive effects on outcomes, among other measures of success.⁵

In the dialysis setting, where a patient's care is apt to entail constant modification, EHRs have enabled us to recognize and respond quickly to opportunities to provide care that might have been missed under a paper-based system. The differences can be seen in examples as simple as a beep from a bar code scan, warning that the wrong medication is about to be administered (now rare), to more complex issues such as discovering a trend in hospital readmissions that provides a basis for change in treatment techniques.

EMR technology has allowed us to deliver both immediate and long-term advances in care that are having a positive effect on patients' health outcomes.

Generally, effective EHR systems share basic features regardless of practice setting:

- Safe containment of protected health information with HIPAA-compliant access grids
- Instant access to patient records from all in-system locations for coordinated, efficient care
- Enhanced decision support, clinical alerts and reminders
- Performance-improving tools and real-time quality reporting
- Legible, complete documentation that facilitates accurate coding and billing

- Procedures for safer, more reliable prescribing
- Seamless interface that is specific to the workflow and integrated with labs, pharmacies, payors and other entities.

Beyond ensuring these are user-friendly, the key to successful implementation lies in comprehensive training and ongoing support so that productivity is enhanced, not hindered by the system.

The NCS survey results list respondents' choices for top attributes of representative EHR/EMR systems, broken into three categories.³ While particular to the dialysis setting, the results provide useful insight into the EHR features that most impact a provider's quality of work.

Workflow support: ease and efficiency of documenting care provided (72%); ease and efficiency of finding information and completing tasks (68%); evaluation of patient trends (30%).

Access and communications: remote access for healthcare provider (55%); CROWNWeb connection and data transfers (a type of data specific to dialysis facilities) (47%); interface to outside organizations (44%).

Training and support: ease of learning (62%); problem resolution/upgrades (49%); flexible customization (44%).

Health IT Will Continue to Evolve

While more than 1,000 studies on EHR have been published in peer-reviewed literature since 1995 - and anecdotal, practice-specific reports of what works and what doesn't abound - the RAND study notes that "insufficient reporting of contextual and implementation factors makes it impossible to determine why most health IT implementations are successful but some are not."⁵

For now, limited reporting and anecdotal evidence must serve to drive collaboration between EHR systems suppliers and healthcare providers if the industry is to meet national goals of improved patient outcomes in the future. In the dialysis setting, where we have strongly embraced the value of health IT, the future is now: EHRs are having an immediate, positive impact on the job satisfaction of medical professionals and most importantly, in the quality of care we deliver to our patients.

Linda McCann is vice president of clinical applications, and **Jay Grussing**, is clinical nurse manager, both at Satellite Healthcare, a not-for-profit provider of kidney dialysis and related services, based in San Jose, Calif.