California Healthcare News®
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Articles, Interviews and Statistics for the Healthcare Executive

Dialysis Provider EMR System Delivers Efficiencies, Improves Quality of Care

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Patients with Chronic Kidney Disease (CKD) and End Stage Renal Disease (ESRD) typically have complex medical histories, experiencing frequent health care encounters with multiple providers. Thus the benefits of a robust electronic medical record (EMR) system in the dialysis setting are profound and immediate. At Satellite Healthcare dialysis centers, where patient information is managed through a proprietary EMR system, improvements in quality of care, safety and efficiency are having a positive impact on both patient health outcomes and the economics of the organization. As supported by results from a recent "Satisfaction with EMR Survey," user-friendly functionality and excellent adherence to our workflow have proved key to successful implementation of the system.

Reliable access to complete, legible patient records is essential for safe, efficient and effective care. EMRs (also known as *electronic health records*, or EHRs) make health information accessible instantly and securely to authorized users. As with all health information technology (IT) systems, Satellite's provides a platform for information to be created, aggregated, analyzed and communicated digitally. We share information seamlessly among our interdisciplinary care team members — nurses, social workers, dietitians and nephrologists — and other staff, and, via related electronic and traditional formats, with labs, pharmacies, payors, oversight agencies such as the Centers for Medicare & Medicaid Services (CMS), hospitals and other providers. For dialysis-dependent patients with multiple chronic conditions and high medication burdens, efficient sharing of consistent information and better coordination of care can mean avoidance of inappropriate medications and unnecessary tests, and fewer hospital admissions and readmissions.

This is among many factors contributing to improved quality of care and positive health outcomes in Satellite patient populations. For example, our health IT suite includes easy-to-use tools that track staff-specific delivery of care and enhance patient safety through the scanning of dialyzer and medication bar codes; another application allows the scanning and filing of outside provider records into patient charts. Satellite's data warehouse stores, correlates and retrieves data for a variety of uses, from establishing best practices to complying with oversight requirements. Satellite physicians, medical directors and case managers can connect to patient information from anywhere online and from mobile devices, contributing to timely coordination of care. Since the system is highly automated and customized to our workflow, our medical staff has more time to interact with patients, resulting in better disease management and patient education, as compared to when records were

paper-based. Satellite clinicians appreciate spending less time "pushing the pencil" and knowing that built-in safeguards will back up their delivery of care.

We also see increased practice management efficiencies that positively affect the business bottom line. Time savings are achieved primarily through automation of tasks that had been labor-intensive and prone to error, such as manual data transcription, or had been difficult to coordinate on paper, such as ordering and reviewing tests. Satellite's EMR system centralizes chart management for efficiencies across the organization. Further cost savings come from the virtual elimination of paper, with reductions in purchasing, storage and secure disposal.

Benefits multiply as we share information with other service providers. Our physician partners find administrative tasks such as signing orders simplified and convenient, enabling them to see more patients while focusing on quality of care. Providers outside the system may expect that patients referred to Satellite centers will experience a very low rate of avoidable adverse events due to their dialysis care, an important factor in reducing hospital readmissions. Readily available patient-level detail also allows better communication with our payor and pharmacy partners. While major challenges to open sharing of data between EMR systems remain — health information exchanges, still mostly in their infancy and relatively few in number, would allow for globalized systems of safe information exchange — having consistent information among related providers makes data shared outside the system by traditional methods more accurate and timely than ever before.

Increasing numbers of providers are adopting EMR systems since the passage of the Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009 (with improved health outcomes industry-wide as a result[1]), although current studies show there are distinctly mixed levels of satisfaction.[2,3] One such study, the 2013 "Satisfaction with EMR Survey" of dialysis health care professionals, conducted by Nephrology Clinical Solutions (NCS) Research, showed only 24% of respondents are "very satisfied" with their current EMR system, while 52% are "somewhat satisfied," and 25% are "somewhat or very dissatisfied."[3] Satellite Healthcare is gratified to have our EMR suite place in the top three of 30 systems surveyed for user satisfaction.

While it's essential for the industry to address challenges facing EMR implementations — for reasons not the least of which are increasing government regulation and financial incentives available to providers that meet CMS criteria for "meaningful use" — it's also important to identify why certain EMR systems get high marks for satisfaction. Yet while more than 1,000 studies on EMR have been published in peer-reviewed literature since 1995, a study by RAND researchers 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."[4] Usefully for dialysis providers, the NCS survey provides insight into EMR features that most impact quality of our work. Respondents' picks for top attributes of representative EHR/EMR systems are reported in three categories: [5]

- **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 health care 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%).

By and large these results reflect our experience, even as we work to further our understanding of how the EMR affects the quality of care we provide and enhances our operability with outside providers. We remain committed to continuing to lead the industry in EMR system satisfaction, be an efficient partner to fellow providers, and improve health outcomes for our patients.

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[4]Jones et al.

[5]Satisfaction with electronic medical record systems in nephrology.