

Q&A: Between the lines of NEJM EHR report - 'Trust trumps technology' for EHR success, authors say

By Tom Sullivan, Editor
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Distinguishing itself from previous efforts to prove the viability of EHRs and meaningful use, [a study published Wednesday in the *New England Journal of Medicine*](#) shed light on just what can be accomplished by using electronic medical records rather than paper records.

The finding: A survey of 27,000 adult diabetics spanning 500 primary care physicians across 46 practices in the Cleveland area found that those practices employing EHRs earned "annual improvements in healthcare that were 10 percent greater than their paper-based counterparts," and their patients were "significantly more likely to have healthcare and outcomes that align with accepted standards than those where doctors rely on paper records."

Government Health IT Editor Tom Sullivan interviewed two of the study's authors – Randall Cebul, director of the Center for Healthcare Research and Policy at MetroHealth Medical Center and a professor of medicine, epidemiology and biostatistics at Case Western Reserve University; and Anil Jain, senior executive IT director at the Cleveland Clinic while the study was being conducted, and now CMIO at Cleveland Clinic spin-off Explorys – about the gap in care quality between patients attending practices using EHRs and those still in the paper- and filing-cabinet era, the competitive nature of providers sharing patient data, and bridging the chasm between EHRs and PHRs.

Q: One of the study's data points is that about half the patients in practices using EHRs received care that met all the endorsed standards, while the same can be said of only 7 percent of patients at paper-based practices. What accounts for that gap?

Cebul: All care standards were better and accelerated faster among patients cared for in EHR practices – there was no one standard that drove our results, if that is your question. Sharing of best practices – "share ideas, compete on execution" is one of our mottos – often centered around EHR functions, teamwork and related approaches for which the EHR practices were relatively advantaged. The pneumococcal vaccine improvement (below) is the best example.

Q: The reality of data sharing is the providers are often guarded about sharing patient data. Is that inhibiting EHR adoption?

Jain: Certainly, providers want to do the right thing for their patients but EHR adoption remains challenging and community-wide sharing of patient data for regional quality improvement will require addressing privacy and security concerns that although not insurmountable are not necessarily well-understood. The inhibitors of wider EHR adoption and use are fairly well understood and are targeted by the CMS Electronic Health Record Incentive Program. Our hope is that as models for reimbursement begin to evolve into shared-savings/risk opportunities, such as episode-based bundled payments, providers and organizations will likely see that sharing of medical records is a necessity.

Q: How critical is the ability to share patient data, which EHRs enable more easily than paper records, to the improvement in health outcomes?

Jain: It's not absolutely critical but sharing of electronic data is to the patient's advantage and with increasing adoption of EHRs may be less burdensome to the provider as well. Sharing of just paper-based records may not automatically support the quality and safety checks (automatic alerts and other decision support) that sharing of electronic data could drive within EHRs.

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Moreover, abstraction of those paper-based records to identify critical information is labor-intensive and prone to data-entry errors. Finally, electronic data from all the disparate care settings of the patient can be combined to form a single longitudinal view for the clinician possibly identifying key issues that a manual review of paper records in a fragmented care setting may not adequately uncover.

Q: For diabetics, as with countless other patient types, many factors that contribute to improved outcomes are done by patients, be that diet, exercise, whatever – rather than in a physician's office. How in this case did EHRs influence patient behavior and, in turn, care outcomes?

Cebul: The inference of your point is well taken. Achievements and improvements were lower for our intermediate outcomes than for our care standards. A significant component of this difference has to do with physicians' limited ability to effectively address problems that extend beyond the examination room – in the patient's home and her neighborhood, where she spends virtually all of her life. Access to healthy resources – fresh food, safe places to walk/exercise – and related behaviors are admittedly difficult to address by EHRs or even EHR-prompted advice alone.

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Partly as a result, we have barely budged our metrics related to BMI and smoking, although we continue to keep these standards front and center. The EHRs have helped us to recognize when standards are not being met for which patient-physician partnerships are necessary; prompts/provider feedback/registries have helped us, as examples, to reinforce adherence with prescribed regimens or intensify treatment for blood pressure, lipids, and hyperglycemia.

As we move forward, we will be better able to engage patients using our tethered PHRs and knowledge of medication adherence using e-prescribing functionalities.

Q: That said, what do you see as the potential for bridging PHRs and EHRs?

Jain: Personal health records can deliver important health information and help the provider engage the patient into the care path process by identifying gaps in care, help with medication adherence but collect information from the patient away from the clinical setting. For example, PHRs have a potential of bringing in key information that is currently elusive to most EHRs, home blood pressure readings, blood sugars, weights, etc., can be brought in for patients with chronic conditions. In addition, the PHR could serve as a vehicle to deliver health risk assessments and collect performance status, quality-of-life data, patient experience data and patient reported outcomes as we begin to tie clinical quality measures with the patient experience.

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Significantly more studies need to be conducted to solidify the role of the PHR, not only the facilitators and barriers to patient adoption but also to understand the right model for the PHR. I suspect that the role of the EHR-tethered [PHR has a brighter future than the stand alone patient-directed PHR](#) given the current state of technology and the lessons learned from the shutdown of the Google Health PHR.

Q: What are the lessons learned that are not told by the study results?

Cebul: Trust trumps technology. Data sharing across organizations is challenging, especially when: a) the organizations are competitors at service levels; b) the data sharing relates to performance; and c) the results are publicly reported. We have been blessed to have a group of leaders in primary care who remained committed to the mission.

Q: The claim that federal incentives boost care quality is something that patients can appreciate ... for taxpayers, what's the good news here?

Cebul: Virtually all of the investments to date in EHRs, with a few notable exceptions, have been made by providers and provider systems. With ACA and HITECH, the federal government has begun to invest as well, especially in small to medium-sized practices where a substantial proportion of Americans receive their care. Our study showed that patients of all insurance types benefit from our past investments, importantly including the uninsured. All taxpayers should care. On a personal level, one of the most dramatic improvements in care that we observed relates to the proportion of our patients who have had pneumonia vaccines. The same tools that have helped our patients with diabetes are being used for all of our patients who warrant vaccination (regardless of condition), including those who pay taxes and those who do not.