Turning a Physician Practice on its Head: Kaiser Leader Reveals the Challenges, Benefits of EHR

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by Gina Rollins

Kaiser Permanente, the largest nonprofit health maintenance organization (HMO) in the US, is on the forefront of developing and implementing an electronic health record (EHR). The effort involves both the Kaiser health plan and the Permanente Federation, which is the partnership among the Permanente Medical Groups that provide care for members in the health plan's six regions and California division. Within the Permanente Federation, the first-generation EHR was implemented in Colorado in 1998, under the stewardship of Andrew W. Wiesenthal, MD, then a Kaiser pediatrician in Denver. The EHR, known as the Clinical Information System (CIS), is a homegrown product developed by Kaiser in collaboration with IBM. It's an all-electronic application, and is integrated with systems in Kaiser health plans, hospitals, and ancillary services, including laboratories and pharmacies.

Plans to implement CIS nationwide began in 1999. Since then, both the Colorado and Hawaii regions have adopted the latest version. At press time, Kaiser announced that it would use an outside vendor to complete implementation of the EHR.

Now associate executive director for clinical information support at the Permanente Federation, Wiesenthal is overseeing the organization-wide CIS deployment. He recently talked with the *Journal of AHIMA* about the challenge of implementing the system and its effect on Kaiser and its members.

Q: How has CIS changed the practice of medicine for Kaiser physicians?

Wiesenthal: It turns your world on its head. Learning how to use it in my practice was the hardest thing I've done. There are 30 steps involved in doing an office visit and every single one of them is different when you're working with an electronic system. Learning how to use the features and functions of the system takes about four hours, but learning how to incorporate it into your practice takes weeks or months.

Q: How have other Kaiser clinicians reacted to using the system?

Wiesenthal: We're a self-governing medical group, so it was a decision everyone had a hand in. Does that mean everybody was wildly enthusiastic about implementing it? No, but not because they just didn't want to change. They had two types of concerns. The first was whether they would be able to use it and do their work as efficiently or better than they were already doing it. The second is that while going through the learning curve, no one wants to look foolish, and doctors and nurses especially want to look in control before their patients.

Q: How did you address these concerns?

Wiesenthal: We gave people plenty of training and time to adopt the system. As people started using the system, we cut their work schedule in half so they could learn how to incorporate it into their routines. Then, over a period of 12 weeks, we gradually increased their hours. We're finding it doesn't take that long anymore, but in 1996, when we first started the implementation in Colorado, a lot of people hadn't even used a computer before.

The other thing is that our doctors and nurses thought they'd look bad in front of patients as they were learning the system. As it turns out, our patients didn't see it that way. They saw it as very humanizing and have been very patient with us.

Q: How do you think patients view the system overall?

Wiesenthal: They think it's great. They like the idea of having their health information all in one place and that the right people have good access to the information needed to take care of them. I've even experienced this myself. I take a

medication, and in the past, every single time I visited the doctor, I was asked, "Are you on any medications?" Now, the nurse will say, "I see you're on X." I can't tell you how that made me feel. The notion that people know me is powerful.

Q: Do patients have an opportunity to interact with physicians through CIS?

Wiesenthal: We already have a large, multi-faceted portal, kponline.org, for our members, but we don't want patients to send e-mail because it's not secure. We plan to create a secure mail function inside our firewall. We're experimenting with it in Colorado. Once we understand how our members want to interact with us, we'll roll it out to other areas. We also have to solve some policy and implementation issues. That should happen within the next 18 months.

Q: What kind of benefits have you realized from CIS?

Wiesenthal: Without a paper record, you don't have to deal with searching for it. That applies to both doctors and nurses and other staff. In the old paper world, our nurses spent 10 to 20 percent of their day getting information—charts, test results, and the like—together to put in front of the doctor. Now, they have better uses of their time in taking care of patients and assisting each other. Also, we've shut down our records rooms [in Denver and Hawaii], except in a central location to store and process paper records received from elsewhere.

Something that's not as obvious is what we save by having records available for uses we wouldn't have dreamt of when using a paper record. In Colorado, I thought the number of chart requests would go down after we implemented CIS. But usage actually went up. That says to me that doctors and nurses were doing things without information from the paper record before. The most stark example of that is in the emergency room. We don't have a Kaiser hospital in Colorado, but we have emergency physicians in the main Colorado hospitals. In the past, when they saw a Kaiser member, the only information they had was obtained at the time of treatment, and we tolerated not knowing anything about our sickest patients. Now, they can see the electronic record before seeing the patient.

Q: Have you been able to quantify any benefits?

Wiesenthal: In Colorado, our visit rate went down by 8 percent after implementing the system. We weren't trying to do that. It was a result of having information available when it was needed, so that we could address problems during a single office visit, or handle issues over the phone, by, for example, calling in a prescription. With those visit slots made available, subsequently we were able to see 8 percent more people with the same staff as before.

Also, our adherence to guidelines is better because we incorporated guidelines and alarms in the system. That's something good that couldn't have happened without an electronic medical record. Our care for all sorts of defined patients has improved. Coronary heart disease is a good example. It's no longer the number one cause of death for our members, but still is for the rest of the country. Part of that is due to the medical record because it has templates for care of those patients, like checking lipid levels.

Also, we're a Medicare+Choice provider, and our reimbursement is based on risk adjustment that's triggered by the disease burden measured by the diagnostic complexity of our Medicare patients. To do that, we collect management codes. The difference in having the machine do it [versus manually] is staggering. The system pays for itself right there.

Q: It's been estimated that only 5 to 15 percent of medical practices have EHRs. Why do you think the Permanente Federation is so far ahead in that regard?

Wiesenthal: We're a closed-loop system, in which we own and operate our ancillary services like pharmacy, radiology, and laboratory, and there is interface between 12 to 15 systems. But the [usual] practice of medicine is not like us. It's disaggregated and nonintegrated. Most practices have less than three physicians, and the cost of investment is very expensive. If they're not integrated with key ancillary functions so that their progress notes don't become orders in and they don't get results back from those systems, what's the point? What do they gain from it?

Q: How much have you spent on the system?

Wiesenthal: Let's just say a lot. But the major expense wasn't software development. It was the implementation: teaching and training people to use the system, bringing in additional people to cope with the productivity cutback, having workstations in

every exam room and all over the hospitals. That was about two-thirds of the cost.

Q: What effect has the system had on the HIM staff?

Wiesenthal: They don't do a great many things they used to do. The nature of their job has changed dramatically. They still have to bridge the gap between the paper and electronic worlds, in both directions. For example, if we receive a dictated consultative or operative note, it has to be scanned and incorporated in the electronic record. In the future that might be digitized, but right now it has to be incorporated in the virtual tabular arrangement of our EHR. They also have a role to play in the flow of information out of the EHR to the paper world. For example, requested records have to be printed and released.

Our HIM staff also has some new roles. They are experts in the features and functions of our system and in helping people use the EHR. For example, they might help someone who wanted to aggregate the lab results of several patients over a certain period of time. Another new role is in monitoring the security functions of our EHR. They're the people who may be identifying and investigating potential breaches.

There are some roles that have been eliminated. Those are the people who were more like couriers who picked up charts and delivered them between locations. We don't need that function when there aren't paper records. Those people were retrained, and they're doing other things at Kaiser.

Overall, our HIM staff will be smaller, but how each area is affected will be different because there's such a big difference in operations. The place where we have the most experience with the EHR is almost purely an ambulatory setting, but in California, where we have almost 30 hospitals, the HIM departments will be affected differently.

Q: What do you see as the key to the success you've had so far in implementing the system?

Wiesenthal: Unblinking senior leadership that said, "We're going to do this" and stuck with it. It won't work otherwise.

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