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Who'll Run Your IT?

By Howard Larkin

The pressure to ramp up EHRs will only intensify the competition for an already inadequate supply of qualified tech workers. What can hospitals do?

Building a hospital information technology staff with the complex mix of clinical, computer and process engineering skills required to support advanced health care applications has always been tough. It's about to get tougher. Over the next five years, hospitals face a triple whammy of major IT changes that will produce acute shortages of skilled IT workers.

First up are tightened HIPAA data security requirements, some of which take effect this year. Second is the transition to ICD-10 coding and related transaction standards, currently set for October 2013.

And then there's the big one—stimulus incentives for meaningful use of electronic health records. Medicare and Medicaid bonuses will be paid starting in October, transitioning to penalties for failure to comply in 2015. Yet the Department of Health & Human Services Office of the National Coordinator for Health Information Technology estimates that 80 percent of physician offices and 89 percent of hospitals have not yet begun to use EHRs at even a basic level.

ONC estimates that an additional 51,000 health IT workers will be needed over the next five years to meet these challenges. Considering that there were about 108,000 HIT workers on the job in 2007, that means the workforce will have to grow by nearly 50 percent.

That's a problem, says Timothy R. Zoph, chief information officer at Northwestern Memorial Hospital in Chicago. "We're starting out with a shortage to support the current system. It's only going to get worse."

Many initiatives are under way to address the shortage, including federal grants to expand health IT training programs. Even so, coping with a shortage of this magnitude means hospitals will have to be creative in cultivating talent—and develop strategies for deploying limited talent and financial resources to generate the greatest return. "Chasing resources in the market isn't going to get us there," Zoph says. "We need to expand the workforce base."

Clinical Experience At a Premium

Health care is among the most complex of human undertakings, and that complexity is reflected in the IT workforce. The American Health Information Management Association broadly classifies health IT professionals in three categories revolving around their training and work roles: computer scientists, information managers, and informaticists with clinical backgrounds.

ONC has developed its own groupings around the implementation process to guide its workforce development plans. The mobile adoption support category includes implementation managers, clinician consultants and workflow redesign specialists who would move from place to place to help with implementations. Permanent staff includes software support, application trainers, clinician leaders and information exchange and privacy specialists to keep systems going. Informaticians include research scientists, software engineers and health IT subspecialists with deep knowledge of clinical, ethical and other content areas to develop new applications and analyze data to guide management, resource allocation and public health decisions.

In the real world, these job categories overlap considerably and are changing as health care IT develops, says William Hersh, M.D., a leading health IT researcher who heads medical informatics and clinical epidemiology at the Oregon Health & Science University, Portland. "There is no single career path in HIT. The inputs and outputs are so varied that you cannot talk about a single path," he says.

Numerically, implementation and application specialists are in the shortest supply, Hersh says. But while fewer clinician leaders, such as chief medical and nursing information officers, and application researchers will be required, they will be harder to find and take more time to train. In any case, all are essential to implement EHR and other health IT systems in a way that improves care and efficiency, he emphasizes.

One spot of good news is that health care is now attracting experienced IT professionals from other industries, in part because of layoffs, but also because health care systems are getting more sophisticated and configurable, says Jorge Cerda, vice president and general manager of international operations for GE Healthcare IT. "A lot of these people know how to do configuration work, and a lot of that is transferable to health care," Cerda says.

The not-such-good news is that many health IT positions require a clinical background. In essence, virtually every clinician in your organization will have to be retrained to use electronic records. "It is not enough to buy and implement the system; you also have to demonstrate effective use. Individuals who can translate the technology to clinical operations and can be leaders driving process change possess a critical skill set," Zoph says. "The more critical personnel are those with change management experience who understand not only the technology but how it can work with your models of care and operations. That is where change management occurs. It is often the inside actor rather than outside who needs to sponsor the change."

Getting rank-and-file personnel up to speed on IT—and upgrading their skills as modules are added or upgraded—is also costly. "We grossly underestimated the amount of time and training it takes to keep people competent," says Phil Stuart, CEO of



...we grossly underestimated the amount of time and training it takes to keep people competent," says Phil Stuart, CEO of Tomah (Wis.) Memorial Hospital, a critical access facility. Tomah's system is supported by the Rural Wisconsin Health Cooperative, which provides IT services to four hospitals through its network. "When you get upgrades, you have to retrain your staff and it is very costly," Stuart says. "When you put in new nursing documentation, you multiply that by all the nurses on all the shifts and it adds up to a lot of lost productivity." In addition to three on-site IT staff, Tomah has a part-time nurse "super-user" who helps with training.

Many hospitals are creating chief medical and chief nursing information officer positions to meet this need, says Mike Supple, senior vice president of business development for management recruiters B.E. Smith, Lenexa, Kan. "You need leadership to set the criteria and establish the optimal solution for your institution, and you need people to deploy the system and train staff. CPOE isn't just about ordering; it changes the way that doctors and nurses and pharmacists work together, and it is a huge training endeavor." Clinical training typically runs 15 to 20 percent of total system costs, he notes.

But there aren't enough professionals in many clinical categories, including nursing and pharmacy, to do clinical work, let alone lead an IT revolution, says recruiter Neill Marshall of Marshall Koll & Associates, Coppell, Texas. He believes that is the biggest obstacle to rapid HIT adoption. "Clinicians don't believe IT people, they only believe other clinicians. There just aren't enough clinicians to go around," he says.

Growing Your Own IT Specialists

Partners Healthcare in Boston addresses the shortage by cultivating clinicians internally, says Mary Finlay, deputy CIO. Nurses and physicians on IT project teams often move into technology. Some older workers prefer it because it gives them greater scheduling freedom, sometimes even allowing them to work from home.

"We focus on being an employer of choice. We have programs for career growth and development, and we keep track of salaries to stay competitive," she says. "Our mission is also important; people like to know that what they are doing makes a difference." Partners works hard to develop and hold onto talent, Finlay says, adding, "We anticipate there will be more competition from vendors, consulting firms and other health care providers, but we are not overly concerned about turnover."

Northwestern follows a similar strategy. An organizationwide talent review is conducted annually to identify both organizational needs and potential candidates. "Training is key, retention is key," Zoph says. Candidates come not only from existing IT staff, but also from physicians, nurses and technicians who are on project implementation working groups. "Our team leaders are always looking for aptitude. This is a good time to identify people who are looking for career change or development," he says.

But not all organizations have established IT talent development programs. They may benefit from the training initiatives the ONC will be sponsoring with community colleges and universities across the country.

While these programs will not give participants the real-world experience needed to manage a major IT implementation, they will help establish a common base of knowledge and disseminate best practices for using electronic records, Hersh says. This is especially important because fulfilling the potential of EHRs to improve clinical outcomes relies heavily on proper implementation. Failure to apply known best practices has been implicated in at least one case in which implementation of an EHR resulted in increased mortality rates, he points out.

Outsourcing Options

One way to deal with HIT personnel shortages is to carefully stage your implementation and bring in temporary help to do the heavy lifting, Supple says. He recommends analyzing IT opportunities and needs to determine where the biggest return on investment will be. For many systems, this turns out to be critical access hospitals because they have higher reimbursement, and physician practices.

Once the optimal scope of an IT project is determined, there are several options for carrying it out. Chief medical information officers and chief nursing information officers can smooth an implementation, Supple says. Large hospitals or systems may want to keep these leaders on permanently. Smaller organizations may benefit from a temporary assignment during which consultants train permanent internal staff.

The short time frame before incentive payments kick in plus the need to integrate record systems with physicians and other providers are creating huge incentives to adopt standardized EHR platforms, Supple adds. "There is a big focus on handing off the platform to a partner."

About 90 percent of GE's small and rural hospital customers are now asking for IT services delivered on a remote hosted model, Cerda says. "They are not buying the system, they are leasing it. That is a huge change from three or four years ago." GE concentrates on five- to seven-year agreements in which the firm installs hardware, hosts the application and data. Most important, experienced systems analysts work with hospital staff to configure the system to meet needs, re-engineer workflows to increase efficiency and train staff. "The educational services are the most important," Cerda says.

Siemens Healthcare also is seeing a big upswing in outsourcing, says Michael Long, senior vice president of global services. The firm's massive data center processes 200 million financial and clinical transactions a day for more than 1,000 customers ranging from community hospitals to integrated delivery networks and academic medical centers.

"They may have a large IT staff on-site, but they are letting us do the hosting so they can focus on quality improvement and safety programs," Long says.

Siemens also offers a complete range of consulting and training services from strategic planning through implementation and support. Long emphasizes the value of the firm's compliance teams, which analyze regulations and incentives and translate them into executable plans and systems for customers.

Still, for hospitals starting now from scratch, the HIT personnel shortage is likely to bite hard, Marshall says. "There is a limited pool of expertise. The people who have already signed multimillion-dollar contracts are going to get the resources first," he says. "If you haven't already lined up help, you may not get it in time to earn incentives for 2011. The best you may be able to do is avoid penalties further down the line."

This article 1st appeared in the February 2010 issue of HHN Magazine.

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