

Meeting the Challenge of Next Generation Nursing: What Health IT Vendors Need to Know

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In the midst of our ongoing national debate about how to reform our health care system, few disagree about the need to continue to push forward with the greater use of information technology across the care continuum. Whatever the eventual fate of the Patient Protection and Affordable Care Act (PPACA), the forces are aligned for transformational change to take shape around how, when, and where we provide health care - as well as who provides that care. In addition to the significant social and economic conditions driving reform are advances in the application of a variety of information technology (IT) tools that will revolutionize the way we provide, document, and communicate the process of care. Electronic health records (EHRs) are center stage today as doctors' offices and hospitals rush into converting paper records and/or legacy, first generation IT systems to newer systems designed to provide a more robust or "meaningful" way to improve health care safety, quality, and efficiency.

When we think about who's driving the EHR implementation process we mostly think of IT professionals and physicians. Technology vendors often focus predominately or even exclusively on the physician as the key end-user whose needs must be paramount in the design and functionality of EHRs. This is certainly understandable; while many physicians bemoan their diminishing clout as reform takes shape, they still control most of the decision-making around patient care. But the role of the physician is changing as health care reform brings a greater focus on collaborative care teams where nurses in particular are set to take on greater responsibilities.

Nurses are the largest segment of the U.S. health care workforce today and, in all likelihood, will collectively take on even greater responsibilities in the health care

system of the future. Most efforts to address the growing demand for nursing care have been targeted at increasing the supply of nurses; making nurses more efficient and effective in the provision of care through the use of health IT as been a peripheral issue in many of the discussions. Yet the impact of health IT and health informatics on the future of nursing is significant. Vendors across the health IT landscape would be well advised to understand how the nursing profession is gearing up to meet the challenges of reform in a new era of collaborative care and interoperable EHRs.

Several of these key challenges are addressed below -

Challenge One - Workforce Shortages

One of the key provisions of PPAC (popular in its goal yet unpopular in its method) has to do with expanding access to the uninsured. The mandate for everyone to purchase health insurance could bring an estimated 32 million new patients into the system by 2014. This provision is expected to be a key driver for an increased demand for health services as will be the 78 million baby boomers who start to reach retirement in 2011. This influx of new patients has major ramifications for a system already struggling with health care workforce shortages in some key areas; add on the impact of health reform and the situation looks pretty dire. First, a look at the physician workforce. According to the Bureau of Labor Statistics, there were 661,400 physicians employed in the U.S. in 2008. The BLS predicts that there will be 212,000 physician openings by 2014 (more than 25 percent of the current physician work force) due to the growth in demand as well as the need to replace retiring physicians which are estimated to be one-third of physicians over the next decade. The physician shortage will impact physicians in all medical and surgical specialties.

The pending physician shortage is just one piece of the problem. The situation with nurse shortages is equally sobering. There are currently more than three million registered nurses in the U.S. A registered nurse can be a graduate of two-year associate's program (about 55 percent of the current nursing population), a

four-year baccalaureate program (38 percent), and/or an advanced master's or doctorate program (around 6 percent). Today, the average age for registered nurses is 48; thus, a significant percent of the current nursing workforce will also soon be eligible for retirement. In 2002, the Robert Wood Johnson Foundation, long at the forefront of research on a variety of nursing issues, predicted that the U.S. healthcare system will face a shortage of 500,000 nurses by 2020. The newly formed Council on Physician and Nurse Supply says that number may go as high as 800,000.

Rural communities and under-served areas in poor urban centers could be particularly hard hit by health care workforce shortages. Furthermore, policy makers are especially concerned about a growing shortage of primary care providers, both physicians and nurses. Primary care has long been positioned as a cornerstone of quality and efficiency improvements as witnessed by the growing emphasis on new models of care like the Patient Centered Medical Home and Accountable Care Organizations both of which focus on care coordination and chronic disease management.

In response to the projected shortage of physicians, nearly two dozen medical schools have recently opened or might open across the U.S., the most at any time since the 1960s and 1970s. While this is certainly a positive development that can help to improve the pipeline for future physicians, it will still be extremely difficult if not impossible to completely plug the caregiver gap without increasing the use of non-physician clinicians, particularly for the provision of primary care services. Nurse practitioners (NPs) will likely play a key role in ramping up the health care workforce. Nurse practitioners are registered nurses with a graduate degree, usually a masters. According to the American Academy of Nurse Practitioners (AANP), NPs rank as one of the fastest growing health care professions, with about 140,000 qualified to practice in the U.S., up from 125,000 in 2008. NPs work in private physician offices, clinics, hospitals (39 percent have privileges), emergency rooms, urgent-care sites, nursing homes, schools, colleges, public-health departments and, increasingly, in retail drugstore medical

clinics. Although there are many NP specialties (such as acute care, gerontology, family health, neonatology, pediatrics and mental health), about 80% of NPs work in primary care. Regulations vary from state to state as to how much autonomy NPs may have, but most practice under a doctor's supervision. All 50 states and the District of Columbia allow NPs some degree of prescribing privileges with 12 states allowing them to prescribe medication independent of physician oversight.

Challenge Two - The Need to Improve Nursing Education

The increasing demand for nursing services and the importance of nursing in driving health system change has sparked a national discussion about how the basic model for the nursing profession needs to change. A recently published report from the Institute of Medicine (IOM) looks at the issue in depth. *The Future of Nursing: Leading Change, Advancing Health*, the result of a two year initiative between IOM and the Robert Wood Johnson Foundation, makes several recommendations with regard to the education and training of nurses, their scope of practice, and Medicare reimbursement for their services. Specifically, the report calls upon nurses to assume central roles in redesigned, team-based care systems, and recommends that local, state, and federal regulatory and institutional obstacles, including limits on nurses' scope of practice, be removed so that advanced practice nurses like NPs are able to practice to "the full extent of their education and training". To improve the status of nursing education, the report advises implementing incentive programs to ensure that 80% of nurses have a bachelor's degree within 10 years, and that 10% of those nurses enter advanced degree programs. The report also recommends that Congress expand the Medicare program to include coverage of advanced practice nursing services "that are within the scope of practice under applicable state law, just as physician services are now covered."

Perhaps as to be expected, the IOM report drew criticism from some medical societies representing physician interests, e.g., American Academy of Family Physicians (AAFP) and the American Medical Association (AMA). The AAFP was concerned that the IOM report did not fully address the training and certification

nurses will need to assume greater responsibilities in the health care system. AAFP President Roland Goertz noted that the report did not provide “recommendations about standard training or standard certifications of competencies, which are embedded throughout physician training”. Goertz says the AAFP has always maintained that nurse practitioners should not function as independent health care professionals and that they should “only function in an integrated practice arrangement under the direction and responsible supervision of a practicing, licensed physician”. Similarly, the AMA reiterated its often-stated belief in a “physician-led team approach to care” and, like the AAFP, took aim at the educational gap between physicians and the majority of nurses as a key concern with regard to ensuring quality. “Nurses are critical to the health care team...” according to the AMA statement, which also said that while they (the AMA) are “committed to expanding the health care workforce so patients have access to the care they need when they need it” they also feel that “increasing the responsibility of nurses is not the answer to the physician shortage.”

Doctors have a point; their concerns are not irrelevant and most patients would likely agree. Higher standards for education and training are essential if nurses are going to take on greater responsibilities for patient care. Health IT done right can be a great facilitator for improving the workflow of all clinicians. It can also help mitigate some of the potential conflicts between physicians and nurses as team-based care results in improved quality and safety while helping all clinicians work more efficiently.

Challenge Three - Empowering Nurses with Health IT

Nurses are integral to the process of clinical documentation; the bulk of data that comprises the patient record is generated in nurse-oriented charting activities. Even though the data that nurses document is an important part of the EHR, nurses feel that they haven’t been able to contribute fully to the conversation on Meaningful Use. Nursing leaders have expressed concern that much of the discourse about health IT appears to focus exclusively on physician workflow and

that health IT stakeholders, in both the provider and vendor community, have not fully reached out for their input.

Nursing leaders are increasingly vocal about the importance of their profession's inclusion in the transition to EHRs, including system testing and design. There are several initiatives and nursing organizations at work to drive the nursing health IT agenda. For example, the Alliance for Nursing Informatics (ANI), co sponsored by Healthcare Information and Management Systems Society (HIMSS) and American Medical Informatics Association (AMIA), contributed to the recent IOM report and was also instrumental in advocating for nurse representation on the ONC's Health IT Policy Committee and the Health IT Standards Committee. ANI's TIGER (Technology Informatics Guiding Educational Reform) Initiative is designed to help nurses fully engage in health IT and works to identify best practices and effective technology capabilities for nurses. The TIGER Initiative's members include over 1500 nurses, vendors and other health IT stakeholders who work together to leverage their expertise to help make nurses part of the conversation as health care goes digital. As a result of TIGER's strategic plan, the National Health IT Agenda Collaborative was formed which works to identify the most relevant health IT issues for nurses. Their report, *Collaborating to Integrate Evidence and Informatics into Nursing Practice and Education*, provides a summary of the recommendations from TIGER Collaborative Teams.

In a Fall 2008 article for the Journal of Healthcare Information Management (*Smart Technology, Enduring Solutions: Technology Solutions Can Make Nursing Care Safer and More Efficient*), Linda Burnes Bolton, VP and CNO at Cedars-Sinai Medical Center in Los Angeles, and others presented the results of a study on nursing and health IT from the American Academy of Nursing Workforce Commission. The paper describes the results of a process called Technology Drill Down whereby workflow inefficiencies that could be addressed through the deployment of technology were examined in more than 200 medical and surgical patient care units. The findings support nurses' need for "smart,

portable, point-of-care solutions that are interoperable across devices and systems” and that enable nurses to provide safe, reliable, quality patient care.

The IOM is continuing research into issues around health IT and nursing. American Academy of Nursing (AAN) Fellow Pamela F. Cipriano has been selected as the 2010-2011 IOM Nurse Scholar in Residence. Cipriano’s research will focus on the impact of health IT on nursing workflow and its implications for patient safety, other nurse-sensitive outcomes and efficiency. She will also establish nursing-specific recommendations for EHRs and identify categories of technologies that improve care. The title of Cipriano’s research project is *Optimized Health Information Technologies for Improving Nursing and Patient Outcomes*.

The knowledge base is building around nursing and health IT. While it seems fairly intuitive that the nursing workflow can be enhanced by the smart application of information technology, there can be some unintended consequences to be aware of. A recent study by researchers at Arizona State University indicated that EHRs can, in some cases, impose higher costs to hospitals and lower quality of care. Assistant Professor Michael Furukawa, one of the study’s authors, cited the impact of EHRs on nursing as a particular concern with regard to cost inflation. In their study, published online in the journal *HSR: Health Services Research*, EHR implementation was associated with a 6 to 10 percent higher cost per discharge in a hospital’s medical-surgical acute units, and it increased registered nurse hours per patient day by 15 to 26 percent. “The results imply that EMR may increase the demand for skilled nurses, which could have implications for nurse labor markets,” according to the study’s authors.

Challenge Four - Engaging Health IT Vendors and Nurses

In a recent interview with the American Journal of Nursing, ONC head Dr. David Blumenthal speculated that health IT vendors may have been more focused on physicians’ needs because they (physicians) are more prominent in purchasing

decisions. Blumenthal emphasized how important the nursing perspective is in health IT, saying that "nurses are critical to the health care system, so any office-based or hospital-based information systems have to be usable by nurses, and NPs have to be able to use them the way physicians do."

It should be no surprise to health IT vendors that nurses crave innovative, work-saving solutions just like physicians. The payoff is not only better patient care but improved job satisfaction, another critical concern for providers that need to engage and retain qualified clinicians. High job satisfaction for nurses helps hospitals save money and gain a competitive advantage in the marketplace. Empowering nurses with robust IT tools also helps to improve communication among clinical team members as well as with patients and their families, another critical factor to improved quality. IT tools that support care across a variety of settings are essential. The delivery of care today is dispersed throughout the community and into the patient's home. Nurses must have a central role in the way that health IT is being developed to support community, home, and remote care.

Successful health IT tools must include the input of the nursing profession and systems must be designed to consider the nursing workflow in addition to the workflows of clinicians like physicians and pharmacists. Knowledge of the nursing profession - both how things work today and where things are heading - must be built into health IT systems at every step of the way for successful adoption.

Conclusion

As a society, we need to rethink how we allocate our resources - economic, environmental, and human. While we continue to disagree on how exactly to change our health care system, the majority of Americans recognize that change can no longer be put off. Our pressing need to quickly ramp up the health care workforce to meet growing demand at a time of extraordinary economic

constraints requires all participants - physicians, nurses, legislators, and technology vendors - to come to the table and collectively design a rational and practical way to add capacity to care for patients while simultaneously improving quality and safety and controlling costs. There is no escaping the fact that, in most cases, it is quicker and easier to expand the pipeline for nurses than for doctors. It is inevitable that non-physician clinicians, especially nurses, will take on greater responsibility in the health care system of the not-too-distant future, particularly in the area of primary care. Nursing education and training must be strengthened and expanded to meet new challenges in patient care and IT tools must be at the center of the reengineering process.

The idealists among us may believe that the historical polarization between the role of physician and nurse will ease as the professions come together around new collaborative care models that promise to exert a transformative impact on the way clinicians engage with other care team members as well as patients and their families. In reality, long-standing turf wars both among physicians and between physicians and nurses will not disappear overnight. As witnessed in some of the responses to the IOM report, many physicians are concerned about the prospect of nurses gaining a greater say in patient care and the education gap between the professions is a big part of that. As called for in the IOM report and other studies and initiatives, nursing leaders must reinvigorate and strengthen their role with education reform which includes embracing clinical excellence supported by advanced capabilities with health IT.

The IOM report starts the conversation about how the nursing profession needs to change. Technology vendors can help move the agenda forward by actively partnering with nurses at all levels during this era of transformation.

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