Are You on the Health Information Technology Bandwagon?

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Use of health information technology (HIT) is thought to improve the quality of care while decreasing the costs of care; however, the use of information technology in the health care industry has lagged far behind the business world and nowhere is it more evident than in nursing homes (NHs). In a PubMed literature search for HIT in NHs only 102 citations came up and most of those were not in peer-reviewed journals, emphasizing the lack of research in this area. The issues that must be considered before implementing information technology in the NH are numerous including cost, functionality, portability, and technical support.

NHs have not previously been early adopters of HIT, generally because of the high cost of implementing such programs and the lack of standardization in the industry. Despite appearances that few NHs are considering information technology solutions for clinical applications, Alexander and Wakefield suggest there are some innovators who are using information technology with a relative degree of sophistication. Although this study is encouraging, there is still a tremendous amount of work to be done before NH residents benefit from the use of HIT. It is incumbent upon health professional leaders to become familiar with the technology available for nursing homes and work with nursing homes to implement HIT applications.

FUNCTIONALITY OF HEALTH INFORMATION TECHNOLOGY

The use of information technology in NHs can be categorized as either business office applications or clinical applications. Many NHs use business applications for things such as financial management and reporting of minimum data set (MDS) data, but the use of clinical applications in NHs is much more limited.

Knowledge about HIT program functionality may be limited in NHs. The Institute of Medicine (IOM) identified 8 basic functions for an electronic health record (EHR) including (1) health information and data, (2) results management, (3) order entry management, (4) decision support, (5) electronic communication and connectivity, (6) patient support, (7) administrative processes, and (8) reporting and population health management. Based on that report, a comprehensive literature review, and discussions with vendors and users, the Department of Health and Human Services published a 2007 report describing a standardized taxonomy of HIT functions in NHs and home health agencies that may prove useful for end users (NH providers) to review when considering purchasing a system. The report can be accessed at http://aspe.hhs.gov/daltcp/reports/2007/Taxonomy-SDO.pdf. The taxonomy describes 4 standard domains that organize HIT applications into (1) administrative functions such as census, eligibility verification, and billing; (2) operations management such as admission registration, interface with hospitals, acuity, staffing, dietary and pharmacy management, and MDS reporting; (3) electronic health record including patient records, MDS assessments, health care professional notes, lab/x-ray data, advance care planning, decision support; and (4) medications, which includes the medication administration record, bar coding, computerized physician order entry (CPOE), and ordering/dispensing. The taxonomy also maps to other standard works such as the Health Level 7 (HL7) Long-Term Care EHR–System Functional Profile group and criteria from the Certification Commission for Healthcare Information Technology (CCHIT). NH administrators, owners, and health care professionals who have an understanding of this taxonomy will be the most prepared to take advantage of the possibilities inherent in the adoption of HIT.

ELECTRONIC HEALTH RECORDS

The electronic health record may be particularly challenging in nursing homes, but owners and administrators must be willing to address this issue in order to improve patient safety in NHs. In a systematic review of the use of HIT in general, Chaudhry et al found that only 9 of 257 studies evaluated multifunctional commercial EHR systems. The lack of evaluation of commercial systems leaves the owners and administrators at risk for choosing a system that is suboptimal; however, by using the HIT taxonomy, purchasers will be in a better position to judge the functionality of the application. Gloth et al developed 20 questions that a practice should ask before purchasing an EHR package. Issues such as system capability and flexibility, use of templates, integration of
evaluation and management coding, integration with voice activation, ability to do online data searches, and secure communication are addressed. A framework for considering the cost/benefit of an EHR is also important and should consider all of the stakeholders that will use the EHR.7

The components of the EHR must also be carefully considered. CPOE and clinical decision support (CDS) are mandatory, as these are the systems that reduce medication errors. Scherger8 describes the “triple convergence” of IT applications:

- The EHR—the entire patient’s data in a digital form, secure, and retrievable from any location that can be transferred without duplication to and from other health care settings.
- Knowledge Management for Clinical Decision Support—the intelligence to guide best practice clinical care. Examples are clinical practice guidelines and tools like ePocrates. Web access will allow NH staff to access resources such as WebMD, GeroNurseOnline, and quality improvement tools that are valuable clinical resources. Online capability allows staff access for literature searches, online programs and webinars, and other tools for staff education.
- Secure online communication through a portal so that communications among caregivers (physicians and nurses) are captured in the record, along with communication among caregivers and the resident/family. Online communication can improve resident safety particularly during transitions and improve communications among residents, staff, physicians, and other health care professionals.

WHAT SHOULD HEALTH CARE PROFESSIONALS DO?

Knowledge is power, so all health care professionals should familiarize themselves with the HIT taxonomy and the 20 questions to ask before purchasing an EHR mentioned earlier. Armed with that knowledge, health care professionals and other leaders should approach NH administrators and owners to determine the level of interest in purchasing an HIT application system. Volunteer to be on the search committee for the right program and continue to work with the facility once a program is chosen to evaluate its effectiveness. If your NH already has a program, volunteer to work with other staff to ensure it is being implemented appropriately. Assess the system against the taxonomy and determine if it has shortfalls. If so, work with the administrator to see if the software vendor has add-on applications. As nursing home leaders, ensure that the program is being used to improve the quality of care and ensure resident safety in your facility and make sure to use it yourself. Be sure to engage professional colleagues about the benefits of HIT. Develop a quality improvement study to conduct using HIT in your NH and then write about your successes.

CONCLUSION

The timing is right to “jump on the HIT bandwagon”! President Obama earmarked $39 billion in the stimulus package for HIT implementation. There is momentum based on the president’s support and beliefs that HIT is the major method for reaching his goal for health care improvements. The nursing home industry needs and is looking for HIT leaders. There is National Institutes of Health funding for innovative studies using HIT in all settings. Nursing homes are lagging behind but do not need to be left out in the dust. The early innovators described in the Alexander and Wakefield6 article in this journal are leading the way, the rest of us need not be afraid to follow.

REFERENCES