Health Information Technology: Can it really save money and improve quality? The need for strategy

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A Prescription for Accountable Healthcare

The return on investment (ROI) for adoption of increased health information technology (HIT) is largely seen as significant in terms of both quality and cost. Since the late 1990's both private and government organizations have laid claim to the purported benefit of HIT, unfortunately based on little hard outcomes data. These include the Leapfrog Group, Institute of Medicine (IOM) and the Agency for Healthcare Research and Quality (AHRC).

Building a safe, functionally integrated system while meeting the differing requirements of the various health professionals (e.g. physicians, pharmacists and nurses) is expensive, difficult and requires both clinical and technical knowledge as well as an often overlooked strategic plan.

The IOM, in their March 2001 report, "Crossing The Quality Chasm: A New Health System For the 21st Century", identified that "Information technology…holds the enormous potential for transforming the health care delivery system…", however, cautioned "The challenges of applying information technology should not be underestimated".[1] This challenge includes both technical and behavioral barriers. A recent national study using data from the Healthcare Information and Management Systems Society (HIMSS) surveys, Medicare Cost Reports and the Dartmouth Atlas quality and cost database found that more computerized hospitals had marginally better quality scores but did not reduce overall costs.[2] Clearly, ROI often promised is not guaranteed.

Nevertheless the passage of the American Recovery and Reinvestment Act of 2009 (ARRA) including the Health Information Technology for Economic and Clinical Health (HITECH Act) has allocated $19 billion for promoting and adopting HIT. The Patient Protection and Affordable Care Act of 2010 (PPACA) mandate increased HIT use in healthcare as a means to improve healthcare delivery. Each of these laws is indicative of a considerable perceived benefit. In fact, there are significant financial reimbursement disincentives (reduced fees for failure to adopt certain HIT) built into these laws for physicians and hospitals to promote increased use. The impact on healthcare organizations is tremendous as many have spent substantially for suboptimal clinical informatics systems that have not delivered the efficiency, quality or cost savings they were led to believe. Even small hospitals can spend $5-10 million on implementation, not including additional ongoing maintenance and upgrade costs.

As the IOM pointed out, implementing information technology is a major challenge. Building a safe, functionally integrated system while meeting the differing requirements of the various health professionals (e.g. physicians, pharmacists and nurses) is expensive, difficult and requires both clinical and technical knowledge as well as an often overlooked strategic plan. The initial challenge is not only choosing a vendor but designing and building a system that meets your institution's needs today and tomorrow and understanding the sources of ROI improvements with technological advancement. This requires a great deal of planning and vision. One other clear fact is acknowledging that not many HIT advances have proven to actually reduce manpower.[3] This requires a discussion with the health care practitioners prior to implementation so undue expectations are not created and the justification of the expenditure is clear. Despite the potential for HIT to improve care, practitioners are required to integrate their practice to assure success. The notion

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that evidence based medicine imbedded in health care technology can deliver improved outcomes alone is not backed up by the facts. This evidence must be used in context of the individual patient, which can only be done by competent practitioners understanding the benefit of technology and the requirements of effective care.

Strategically it starts with assessing your current systems for ordering, delivering and monitoring services and supplies needed for patient care. Next, a full understanding of the different departments' missions, legal requirements and workflow must be explored. For instance, the Emergency Department's electronic health record requirements vary greatly from an inpatient system and these must be acknowledged and integrated properly with other systems. This includes both inpatient and outpatient services and especially the transition between the two. The recent effort to improve medication reconciliation demonstrates the need to understand the transition in implementing systems throughout the continuum of care.

The required expertise and manpower requirements of the institution are often overlooked or minimized by system vendors anxious to make the sale. The results of a failure to adequately plan are all too often cost overruns, implementation delays, non-functional systems and troublesome " work-arounds" to avoid using cumbersome technology that adds no clear benefit.

Finally, it is critical to understand what new systems deliver that will advance an organization's mission. This requires a complete vetting of the ROI and the benefit to patient care as well as anticipating future HIT needs and the ability to integrate these into your health system.

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