

Hospital Construction & Replacement

How will hospitals need to change to accommodate care delivery system needs? | Summer 2015



55.7%

Of Healthcare Executives surveyed said; **COST**, **SPEED** of **DEPLOYMENT** and **LACK** of **IT RESOURCE NEEDS** were key driver for adopting **CLOUD SERVICES**



IT Capital Costs & Operation Costs Continue to Climb!

\$300B

Reductions to Medicare payments through 2019 as part of healthcare reform

Source: Moody's Investors Service

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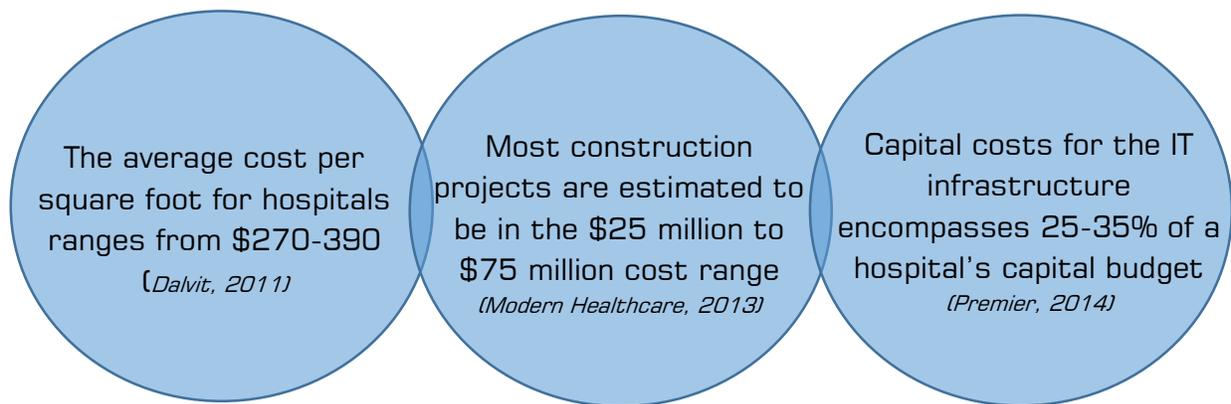
Introduction:

Healthcare is an industry in transition with new regulations and technology needs. The ripple effects of these changes are leading healthcare owners to rethink the process of constructing new or replacement hospitals and other healthcare facilities. For hospitals to thrive in today's environment and adapt for patients of the future, hospital senior leaders and architects must think outside of their four walls to navigate properly in a transitioning industry.



Hospital construction of new and replacement facilities is on a steady rise in recent years. A 2015 survey of 3,414 hospitals and health systems shows that two out of three hospitals and health systems (nearly 68%) say they are either repurposing health care facilities or currently assessing space for other needs (Vesely, 2015). A major influence is the transition to value-based payment models and responsibility to take the reins of population health management

Hospital construction projects are a large investment.



The rising IT portfolio and external pressures for hospital renovation requires a strong understanding of project management needs and insight into how market forces are impacting hospital needs.

This paper serves as a resource to guide senior leadership on how to plan for change to accommodate a new care delivery system. **Part I** discusses the project management needs of a construction project designed for the 21st century. **Part II** explains how the forces outside of a hospital's four walls will impact construction projects inside to foreshadow the essential elements hospitals need to thrive.



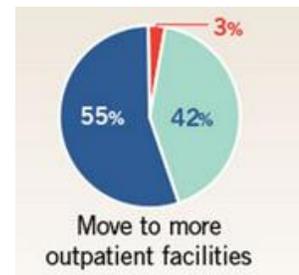
Part I: Construction/Renovation Project Management Needs

The strategy of a new (“greenfield”) or replacement (“brownfield”) hospital construction project requires these three elements: a strategic business case, an IT infrastructure plan based on that strategy, and a project management plan.

The Business Case (‘The Why’). The Hospital’s Board of Directors and Senior Leadership need to have a defined reason to construct a new or replacement facility. Here are a few considerations:

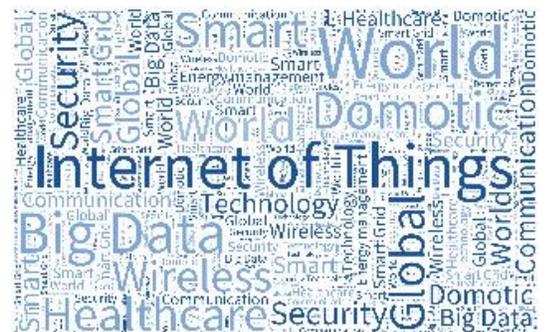
1. **Population Age:** An aging population increases demand for medical services and Medicare reimbursement. An aging population will also need more skilled nursing and geri-psych facilities (Ellison, 2015).
2. **Location:** Rural and urban hospitals need to customize their spaces to treat their population needs. Rural areas are also more likely to face broadband access shortages and will need to overcome these barriers. Urban settings should consider expanding emergency departments to provide emergency care for residents who chose not to travel into the city (UnitedHealth, 2011).

3. **Outpatient Services:** With diagnostic and treatment advances, outpatient care is a reliable way to treat without incurring high medical expenses. Respondents from the HFM/ASHE 2015 Construction Survey list outpatient facilities as the top current repurposing projects.



4. **Patient needs outside of a hospital:** The movement towards value-based payment models is exposing hospitals to the risk of penalties if their patients are readmitted. Hospitals need to have a plan to deliver higher quality care inside and outside of the hospital’s four walls. Telemedicine, remote monitoring, and patient portals need to be incorporated into the hospital’s strategic plan.

Source: HFM/ASHE 2015 Construction Survey



Patient-Centered IT Infrastructure:

The industry-wide refocus on patient needs requires a large role for technology. A recent survey of hospital executives report that nearly half of respondents plan to make their largest capital investments over the next few years in health IT, which includes electronic health records (EHRs), advanced data analytics, and telecommunications (Premier, 2014).

Planning for new construction projects or a replacement of an existing facility requires a well-equipped and experienced resource team to complete the project on time and on budget. Mistakes in this sector can cost the organization 30-50% in budget and time overruns.

To prepare for healthcare in the 21st century, hospitals need to build and integrate a patient-centered IT infrastructure into care settings that will enable hospitals to achieve regulatory needs, population health, and data exchange.

The project management plan:

As with any highly complex project, a detailed project charter, communication plan, and work breakdown structure is required. The hospital project management team must work closely with the architects, general contractors, business owners and their multiple project plans. The mass amount of IT planning and building requires a highly skilled project management team as well as a dedicated staff of information technology subject matter experts to ensure the project is on time and on budget.



Part 2: Thinking Outside of Your Four Walls

Changing regulations and technology adoption are creating high amounts of stress on hospitals; however, these developments provide great opportunities for hospitals to improve on what they do best: provide high quality care to patients. This section outlines the new priorities for hospitals of the 21st century.

Adapting to the changing regulatory landscape. Construction project leaders must understand recent and upcoming regulations in healthcare.

1. **Outside Factors:** Below are three prominent examples of current regulations that will impact hospital payments:

Alternative Payment Models (APMs) are expanding. The Centers for Medicare & Medicaid Services (CMS) report that 90% of Medicare reimbursements will be tied to APMs in 2018. In August 2015, CMS announced the Comprehensive Care for Joint Replacement (CCJR), advancing bundled payments for services.

Accountable Care Organizations (ACOs) are increasing in numbers, reaching nearly 750 public and private ACOs in 2015. This care delivery model implement financial rewards and penalties tied to the patient outcomes.

The Hospital Readmissions Reduction Program (HRRP) penalizes hospitals with high 30-day readmission rates for Medicare beneficiaries. In its third year of enactment, more than half of all U.S. hospitals are facing penalties.

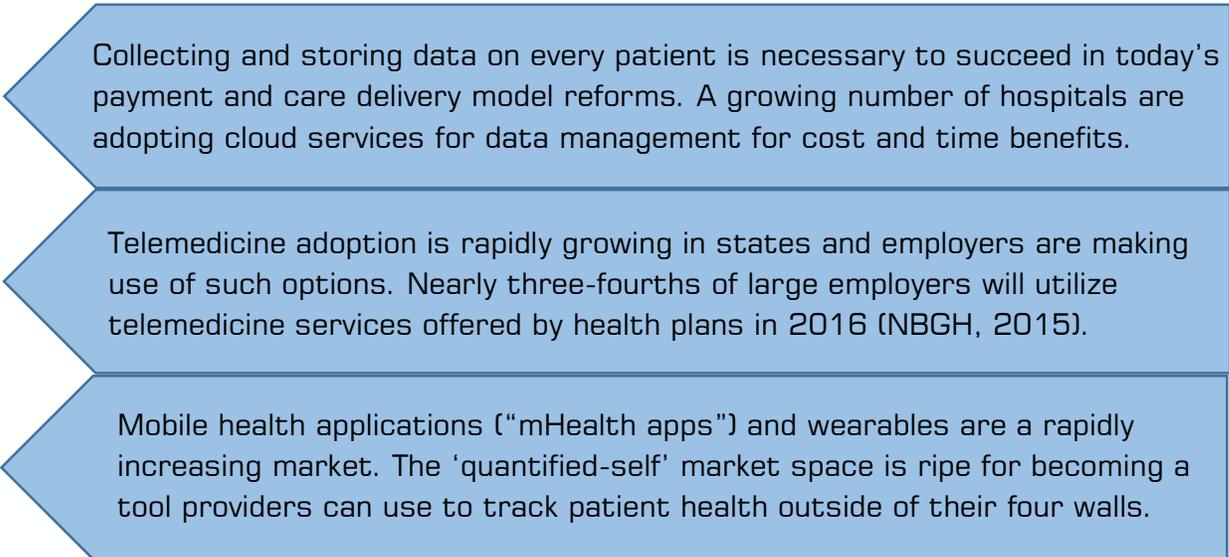
2. **Impacts Inside:** Delivering high quality care without high medical expenses will be the cornerstone of healthcare in the near future. Hospital construction needs to center around these ideals. Designing medical centers should focus on (a) minimizing overhead costs, (b) expanding low cost, high quality services such as outpatient care services, (c) implementing complex communication capabilities for multiple provider groups, and (d) providing patient education and engagement tools to prevent readmissions.

For greenfield and brownfield construction projects, managers need to think strategically about a patient-centered IT infrastructure designed to adapt to new care delivery models. EHRs are a core technology requirement for these models; however, the misaligned design of today's EHR systems remains a common issue. Solutions to launch dedicated redesign initiatives to accommodate new care delivery models and care coordination needs can alleviate interoperability challenges (Rossignol, 2014).



Data, Analytics, and Communications Technology. Population health management is another core tenet for hospitals in the near future. The growing use of technology needs advanced data and analytics tools to maximize the value of large IT investments.

1. **Outside Factors:**



Collecting and storing data on every patient is necessary to succeed in today's payment and care delivery model reforms. A growing number of hospitals are adopting cloud services for data management for cost and time benefits.

Telemedicine adoption is rapidly growing in states and employers are making use of such options. Nearly three-fourths of large employers will utilize telemedicine services offered by health plans in 2016 (NBGH, 2015).

Mobile health applications ("mHealth apps") and wearables are a rapidly increasing market. The 'quantified-self' market space is ripe for becoming a tool providers can use to track patient health outside of their four walls.

2. **Inside:** Demand for data management across multiple settings is a core element for care coordination in 21st century healthcare. Hospitals should consider (a) cloud-based data storage rather than local server storage areas, (b) repurposing square space for telehealth engagement rooms, and (c) integrating patient-generated health data (PGHD) from mHealth apps and wearables into current IT infrastructures.

To optimally utilize the massive amounts of data belonging to each patient, cloud-based platforms are presenting benefits that alleviate many of the issues of current, localized network storage devices. A 2014 HIMSS survey found 55.7% of healthcare executives agreed that cost was a key driver for adopting cloud services. The speed of deployment and lack of internal IT staff needs are other prominent drivers for adopting cloud. Cloud services and broadband access are in higher need for community health centers where technology resources are not as abundant. In addition, hospitals can repurpose the space allocated to servers and other technologies to support data storage, further cutting costs and reducing long term operating expense associated with the technologies.

As telemedicine adoption grows, hospital construction plans need to accommodate these changes in care. Senior Leadership can plan for repurposing current space for telemedicine engagement areas. Adopting additional technology tools for remote monitoring and usage of mobile health apps is increasing the need for a plan to integrate patient-generated health data (PGHD) into a patient's EHR.



Data Exchange & Trust. Data travels at the speed of trust. Senior Leaders responsible for construction projects need to create an action plan to protect data without discouraging sharing data to the correct receiver.

1. **Outside Factors:**

Privacy & Security protection is essential. Four-fifths of executives at healthcare providers and payers say their IT has been compromised by cyber-attacks (Bell, 2015). The biggest of these breaches revealed that security incidents stem from various causes, from hackers to business associates. Hospitals need the right technology and knowledge to protect their data.

Interoperability has been and continues to be a major barrier in realizing the major benefits of data exchange. Recent congressional efforts are pushing the industry to achieve interoperability within the next 10 years.

2. **Inside:** Data privacy and security is an issue with every industry. When planning construction projects, Senior Leaders should consider purchasing hardware, software, and staff for cybersecurity measures. For hospitals without resources to ensure proper cybersecurity platforms and staff, cloud services can provide these resources at a lower cost of ownership. In addition to cybersecurity platforms, Senior Leadership needs a firm understanding of privacy and security risks associated with the needs of a patient-centered IT infrastructure. Common leadership understanding on cybersecurity can lead to internal plans for educating staff on best practices to prevent threats and open communication channels to report suspicions.

The Office of the National Coordinator for Health Information Technology (ONC) released an interoperability roadmap laying out milestones for hospitals to achieve in the coming years (ONC, 2015). Additionally, the push to create a national patient matching system is gaining momentum and EHR vendors are developing common standards to enable seamless data exchange.

Senior leaders of new and replacement construction projects need to design a strategy among their IT portfolio to prepare for interoperability alignments today and in the near future. Building interoperability costs into the capital budget beforehand will save on costs and time to adapt to interoperability advancements in the future.

Conclusion:

Developments outside of a hospital's four walls are drastically impacting the services and supplies hospitals need inside their four walls. Modern, innovative, and flexible hospitals will lead the way through this industry transition. With the proper skills and guidance, a hospital construction project team can prepare the leadership for success with the right knowledge of how the healthcare market is evolving down to the business case for starting a project management plan.



References



2014 HIMSS Analytics Cloud Survey. Chicago: Healthcare Information and Management Systems Society (HIMSS). Retrieved from www.himssanalytics.org

Bell, G., & Ebert, M. (2015) *Health Care and Cyber Security: Increasing Threats Require Increased Capabilities*. Delaware: KPMG LLP.

Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap (August, 2015). The Office of the National Coordinator for Health Information Technology (ONC).

Dalvit, D. (February 2011) *Construction Cost per Square Foot for Hospitals*. EVstudio.

Ellison, A. (April 2015) *"The Aging Population's Affect on Hospital Finances: 5 Findings"* Becker's Hospital Review.

Health Care Benefits Cost Increases to Hold Steady in 2016 (August 2015). Washington, D.C.: National Business Group on Health (NBGH).

Kutscher, B. (July 2015) *Hospitals Return to Building Mode as New Construction Projects Proliferate*. Modern Healthcare.

Modernizing Rural Health Care: Coverage, Quality, and Innovation. (July 2011) UnitedHealth Center for Health Reform & Modernization. Working paper.

Rossignol, P. (2014) *IT for ACOs*. Oliver Wyman, Health & Life Sciences.

Robeznieks, A. (March 2013) *Downsizing: Construction & Design Survey Shows Continued Shift Away from Megaprojects, Growing Focus on Outpatient Facilities*. Modern Healthcare.

Spring 2014 Economic Outlook: Healthcare Trends from the C-suite. (2014) Preimer, Inc.

Vesely, R., & Hoppszallern, S. (February 2015) *HFM/ASHE 2015 Construction Survey*. Health Facilities Management Magazine.

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