# Technologies in the Hospital & Healthcare Sector

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While healthcare expenditure control continues to be the main focus of healthcare systems globally. The emerging technology trends continue to offer opportunities to organizations were, operations, financial and the clinical areas can benefit and complement key initiatives

- Patient engagement and retention
- Performance measurements and key indicators
- Offering high quality care
- Practicing patient cantered care
- Data that can translate to better decision making
- marketing efforts focused on patients
- Offer Mobile health to reach to your customers
- Lean "Everything".

Taken together, they indicate a significant reshaping of healthcare's landscape in the coming years. New thinking about business models and the availability of powerful data analytics, mobile and cloud technologies are both driving and enabling these industry shifts toward differently wired, streamlined, vertically integrated entities that are able to deliver care anytime, anywhere, with higher quality, better outcomes and lower costs.

Supporting these innovative trends, key technologies should be considered by healthcare organizations:

**CollaborationSoftware solutions that enables interconnectivity as a core competency**
You can argue that one of many benefits recent regulatory requirements introduced (unintentionally) is encouraging organizations to adapt to an Electronic Medical Records (EMR) system is creating a shared platform for decision-making among patients and doctors – a possibility that is almost universally appealing to consumers. The overflow

effect continues to inspired software vendors developing solutions that promote collaboration in areas such as; referral management, health populations, "smart" portals, endless consumer tools and more.

**Cloud Technologies as mean to "stay in the game"**
The Healthcare sector is a data-intensive environment, with the expectation to rise to 25,000 petabytes by 2020. Combine this with a growing need to retrieve, analyze, and share data, healthcare organizations are increasingly migrating from their traditionally fragmented technology infrastructure to the cloud. With affordable storage, convenient access and scalability, cloud platforms can enable the high-speed, low-cost collaboration essential to delivering more patient-centered, data-driven care.

**Data Integration Platform - The Supply Chain from Data to Knowledge**
Like in any supply chain "moving" data is essential to making it visible, accessible, to those who need it when they need it. As such, the first step is to create a data services platform or federated data access layer, which provides a standard method of access to an organization's curated and trusted data in a time-relevant manner. Hospitals should be encouraged to adapt to a data model that offers a quick access to valuable data that analyses can be performed, insights can be gained, and actions can be taken in the sometimes very small window of opportunity available to clinicians and businesses. Depending on your current stage of maturity for your data model you may need to consider a multi-layer data approach to "priorities" the data.

**Data Discovery – as a means to making the right decision**
The process of technologies that allow data discovery to facilitate decision making that previously couldn't be accessed in a traditional Clinical and business intelligence because it was lacking the additional layers of information needed. Hospital should invest in this technology because data discovery offers unique capability to clinicians and administrators were they can discern questions in a visual, rapid iterative manner. Such ability allow to communicate with data in a more intuitive and supportive manner. The implications of enabling data discovery are positive and measurable organizations now have the opportunity to process new sources of data to support the manipulation of data that adds significant value. The future of this phase is to mask its complexity and truly embed this value through cognitive computing technologies.

**Connecting fragmented healthcare system- improving outcome for all**

As the traditional corporate network perimeter continues to dissolve and the enterprise becomes more of a borderless environment, smartphones, tablets, other endpoint devices, and web applications are irreversibly changing the way we care for patients. Consolidated, enterprise-wide information governance architecture can improve data quality and data security. That helps empower healthcare organizations to more effectively address patients' concerns over data privacy, help confirm compliance with regulatory and legislative requirements and, ultimately, maximize the clinical and administrative benefits—and increase clinician adoption—of integrated Health systems.

Security must be considered a process, not a product-based point solution. The first step an organization should take to establish a secure network infrastructure is to develop a formal security policy to define the roles, responsibilities, acceptable use, and security practices. After developing the policy, the organization should then monitor and assess, using established best practices as a benchmark. Providers should closely examine and test their network infrastructures to identify potential vulnerabilities, including physical security, to establish a vulnerability/risk matrix

**Cognitive Computers – Harnessing the power of data**

As the volume and variety of data grow, so too do the scale and complexity of the data making it Increasingly difficult to add to and get value from data as it is manipulated. What if, instead,

Machines could be taught to leverage data, learn from it and, with a little guidance, and figure out what to do with it? While the technology may be out of reach for many organizations but, organizations can focus on tackling well-defined problems on a smaller scale—where machine learning techniques can be leveraged to accomplish practical cognitive computing goals. This technology can advance patient care, to fundamentally change the ways in which many clinicians operate. It flips the problem of data volume and variety on its head and instead leverages it to enable the smart, interactive decision support tool.

So what are the prescriptions for building a strategy, navigating the developments and extracting

Value from the impending industry transformation? an overarching strategy is to begin to build flexibility into your organization. Traditional models of organization have difficulty rapidly incorporating new innovations, particularly technology. Since compliance with industry regulatory mandates and fostering a great consumer experience depend heavily on digital and information technologies, a key assessment is to determine the organization's technological readiness.

The current state of the health care industry is not sustainable. This article highlights one of many paths forward and suggests that a set of powerful technologies will combine to disrupt and transform the industry. The process of change will be difficult and protracted, but much will be learned in the healthcare industry with the opportunity to significantly advance the wellness of patients and breakthrough innovations.