

# Chapter 10

## M–Health and Care Coordination

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### ABSTRACT

*Care delivery services have been traditionally dependent on direct encounters between providers and patients. With the increase in the number of aging population and the added demand for most expensive and advanced care delivery services, healthcare organizations are investing in care services that are more effective and less costly. Use of technology in healthcare systems has been a significant driver for care improvement initiatives used for controlling cost and extending care delivery services that enhance healthcare accessibility. Implementing technology in healthcare demands proper alignment between newly developed tools and care delivery system needs. In this chapter, the authors discuss the role of technology in healthcare and the value of mHealth in diverse clinical settings.*

### BACKGROUND

Today, most people live busy lives and are constantly travelling. One device that accompanies them where ever they go is their smart phone or mobile device. We believe that this represents an opportunity to leverage this mobile device to support superior care-co-ordination. Given the current challenges facing healthcare delivery in the US and globally, including: rapid rise of chronic conditions, aging population and longer life expectancy and the cumulative impact these have on escalating costs of healthcare delivery, robust and superior care co-ordination becomes more imperative. Such co-ordination is not feasible without the support of suitable technology.

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## **HEALTH INFORMATION TECHNOLOGY**

The high cost of U.S. healthcare system has been the subject of many studies and controlling it is the objective of multiple initiatives in recent years. Care delivery system structure, payment models, fragmentation in the care services, increased life expectancy; and advances in medical diagnosis and treatments have been considered as potentially contributing factors towards the cost increase (Singh & Shi, 2019) (Goyen & Debatin, 2009). Many of the health system stakeholders have eagerly participated in the design and formation of frameworks that could potentially minimize or contain cost. By some estimates advances in technology have contributed to a substantial portion of health spending increase (Goyen & Debatin, 2009). These advances include innovations in medical diagnosis and treatment procedures in addition to transformative trends that are continuously impacting healthcare information systems. Broader adoption of information systems in healthcare processes has been linked to increased patient safety and improved clinical decision-making processes (Bardhan & Thouin, 2012). Health information technology has a significant role in reducing medication errors/interactions and improving clinical communication that will ultimately reduce cost and redundancy in care processes (Laflamme, Pietraszek, & Rajadhyax, 2010). Information systems improving patient care management are developed in EMR/EHR systems and play an important role in establishing robust communication channels to support care\_workflow coordination (Goyen & Debatin, 2009).

## **HEALTH INFORMATION TECHNOLOGY ADOPTION**

Many health information systems were adopted by healthcare organizations to resolve fragmentation in the care processes and enhance the efficacy of health data processing. These systems were implemented with objectives that focused on improving the efficiency of care delivery systems, enhancing clinical monitoring tools, minimizing drug adverse reaction, and controlling or potentially eliminating redundancy in the care process by coordinating care (Chaundhry, et al., 2006). Although adopting health information technology in many care settings have been proven to improve efficiency in care delivery systems, generalizing these results has not been consistent in all settings. Several studies have determined the “human element” to be an influential factor in the process of health information technology adoption (Bruntin, Burke, Hoaglin, & Blumenthal, 2011). Research has shown that when providers are not highly satisfied with the adopted information systems, negative findings are reported as a result of this process. Healthcare organizations also reiterate on the value of staff “buy in” during the adoption process (Bruntin, Burke, Hoaglin, & Blumenthal, 2011). In addition to staff’s endorsement, management’s engagement in the adoption process, and managing additional workload related to newly adopted systems, multiple factors are impactful in the process of information systems’ adoption. Training staff, adequate financial backing prior/during the implementation and maintenance process, and preparing healthcare organizations for possible unintended consequences of the adopted system are measures that must be taken into consideration during health system implementation process (Bruntin, Burke, Hoaglin, & Blumenthal, 2011).

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