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Connected Moments:
Design Thinking for Improved Patient Engagement in Healthcare

This paper explores a design thinking led approach to define and improve the patient experience that fully leverages digital technologies while putting the patient at the center of the mHealth experience through a series of "connected moments".

Patient engagement:
The rhetoric and the reality

Consumer engagement struggles with a variety of factors, including IT literacy, interoperability at the system level, and misaligned incentives

With the growth of healthcare consumerism, there is a transition underway from an episodic, in-person encounter based system of care delivery to a 24x7, "anytime, anywhere", mode of engagement between patients and providers. Millennials, in particular, are driving this dynamic[1]. A report[2] by the Commonwealth Fund indicates that two-thirds of Americans now own smartphones, and mHealth apps designed for smartphones can help high-cost, high-need patients to better self-manage their health. There is growing evidence that healthcare is more efficient when patients are actively engaged.

Despite all the rhetoric, the reality is that consumer engagement struggles with a variety of factors, including IT literacy, interoperability at the system level, and misaligned incentives [3]. There is also a misplaced notion among some that improving patient engagement is a matter of providing a mobile app for downloading. The IMS Institute of Health Informatics (IIHI) has published a report [4] that indicates that while there are over 165,000 mobile health apps out there, a tiny number can connect to provider systems, and these, in turn, have narrow functionality.

Providers are also discovering that patient engagement can be a very nuanced issue that goes beyond just technology [5]. In addition, providers are facing pressures to improve HCAHPS [6] scores which have financial and reputational implications. Having recognized this, many hospitals and health systems are creating the role of Chief Experience Officer or CXO to look at the patient experience in a holistic manner.

Identifying opportunities to create patient experiences: a Design Thinking approach

Design Thinking is a method for meeting people's needs and desires in a technologically feasible and strategically viable way. This is based on the principle of engaging a broad set of stakeholders in an open and collaborative way to develop solutions. It is a methodology in which a wide range of inputs and options are considered and then narrowed down to the critical and essential choices for consideration in the final design.

One way to look at this is to consider the patient experience as a series of connected moments that involve interactions with a broad range of stakeholders. To understand this, it is helpful to consider a scenario such as the one below, which describes various points in a typical patient journey at a hospital:

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Figure1: Patient Journey Map

The patient journey map charts extensive observations and interviews with a wide range of stakeholders that includes patients, doctors, medical assistants, front desk staff, discharge teams, management, marketing, IT, and patient representatives – all of whom contribute to the end-to-end patient experience.

A real life example of a health system that studied the patient journey highlighted the following experience gaps in various aspects of the patient journey. While individual hospitals may have variations of the patient journey described above, the findings below are not atypical and can be used as representative.

Registration

- The registration process is long and time-consuming.
- The registration process is impacting the initial experience of patients.

Communication

- Communication gaps exist between hospital staff at different stages: pre-visit, intra-visit, and post-visit.
- Patients are required to repeat a lot of information at each touch point.

Wayfinding

- Patients have great difficulty in finding their way within the hospital facilities, adding to the frustration.
- Often, hospital staff and patient navigators have to direct the patients to their destination.

Process

- Pre-assessment discussion and paperwork add to wait times for patients and doctors alike.
- Doctors are unable to attend to patients before the paperwork is done, which may have implications for the quality of care for critical cases.

Transparency

- Patients lack clarity on the total costs of the treatment and the amount they would be responsible for.
- Insurance coverage is often unclear, and it falls on patients to obtain clarity from the insurer, leading to delays and frustration.

At its core, Design Thinking methodology helps systematically create high impact patient experience solutions.

Developing solutions designed to optimize the patient experience

At its core, Design Thinking methodology helps systematically create high impact patient experience solutions.

It ensures that the solutions achieve a balance between user desirability, business viability, and technical feasibility.

A Design Thinking Methodology is comprised of the following 3 stages:

1. Discovery Stage: engagement that focuses on assessing the current patient experience and identifying opportunities for enhancement
2. Design Stage: ideation and creating solutions for engaging experiences
3. Development Stage: implement the design solutions

Design Thinking approaches can identify the critical components of technology solutions that patients would care most about, allowing hospital IT departments and technology providers to define the technical specifications of the solution to be developed. Smartphone applications (mHealth app) with intuitive user interfaces address critical experience gaps:
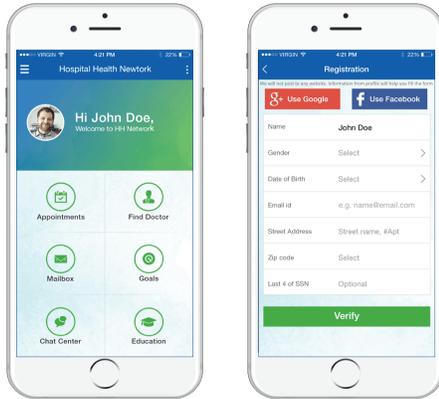

Figure2 : mHealth application user interfaces

Designing for superior user experiences requires cross-functional teams of UX designers, caregivers, and technology experts to create an experience that provides increased control and ownership to patients while enabling caregivers to improve the quality of care.

Technology enablement

Superior patient experience and increased patient engagement require a robust and scalable technology architecture that supports the user experience design. A typical technology architecture may look like this:
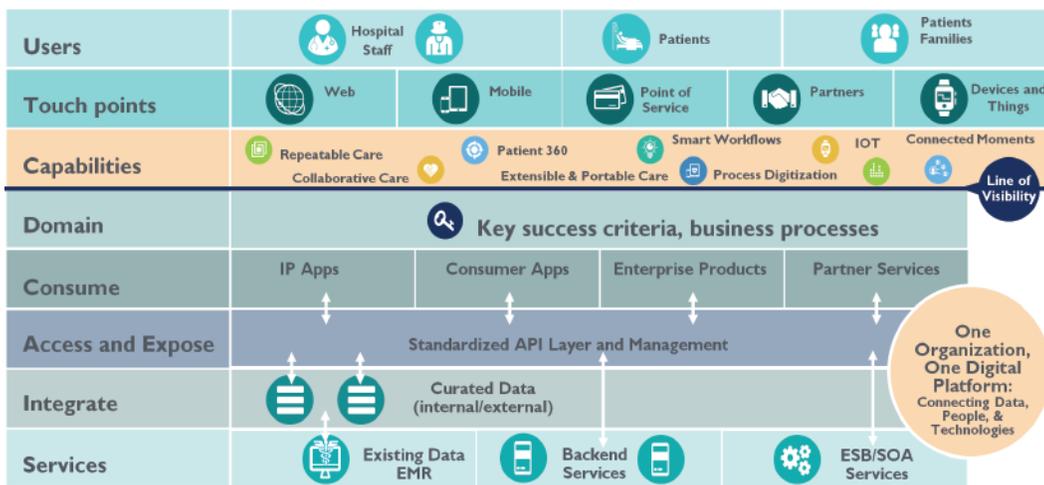

Figure3 : End to end mHealth application architecture

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It is important to recognize that the patient experience depends on the real-time availability of relevant patient medical information that sits in multiple systems within a hospital environment. Very often, due to interoperability issues, these systems do not communicate with one another and require an extensive set of connectors or API's to enable seamless and real-time transfer of data between systems.

With the growth of wearables and the Internet of Things (IoT), healthcare is witnessing an explosion of data sources, many of which are patient-generated. Others, such as smart medical devices are enabled to transmit data wirelessly to provide physicians additional information that allows remote monitoring of patients as well as diagnosis and treatment inputs. Such wearables and devices are also increasingly a part of corporate wellness programs [7].Employers are teaming up with insurers and advanced analytics firms to track and monitor a range of risk factors, from prescription drug usage to lifestyle and shopping habits to determine appropriate interventions and ensure a healthy workforce. Increased engagement of employees in these programs requires the design of mHealth applications that enable employees to take care of themselves.

"Experience" leadership and enterprise strategy

Design Thinking approaches allow the acceleration of innovation that can increase patient engagement rates, improve health outcomes, and reduce overall costs of care.

As healthcare transforms from volume to value, patient satisfaction is at the forefront of the minds of hospital executives. CXO's are gaining prominence, and experience improvement is a high priority[8]. At the same time, culture transformation also has an important role to play as hospitals realize that they need to break down silos to create an environment that can deliver superior patient experiences.

Design Thinking is a fundamentally different approach [9] that creates value by making patients and consumers the centerpiece of a comprehensive digital strategy for a healthcare enterprise's service/value proposition. This value creation process involves designing and developing experience solutions through robust Design Thinking methodologies and enabling these through connected health digital platforms. Above all, Design Thinking approaches allow the acceleration of innovation that can increase patient engagement rates, improve health outcomes, and reduce overall costs of care.

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