IMPROVING PATIENT SATISFACTION & PROVIDER ENGAGEMENT THROUGH DIGITAL SOLUTIONS

Healthcare Case Study: Seattle Children's Hospital

Digital departments, sometimes referred to as innovation centers, have become fairly common among larger healthcare centers, such as the Cleveland Clinic and Mayo Clinic, but the majority of providers are just beginning to organize around the concept.

Anecdotal and quantitative data is making the case that digital advancement may actually improve medical outcomes, particularly in terms of at-home post-surgical care, where most complications are more likely to occur. Readmission is bad news for the patient and hospital: it decreases the chance of full recovery and could result in costly government fines as part of the Affordable Care Act's readmission reduction program. A study published in the Archives of Surgery in 2012 found that 40 percent of patients who have complications from surgery experience them at home, with half of those complications occurring within nine days of discharge.[1]

Despite the compelling evidence to introduce more technology into the patient experience, securing the funding and organizational structures needed to create innovation centers remains a hurdle for many healthcare organizations. Many innovation centers were launched in 2010 – the same year the Affordable Care Act was passed – and quite a few have launched since, with the average age of most digital health departments being just three years.

THE CHALLENGE

Understanding the great potential in this new digital era, Seattle Children's Hospital (SCH) embarked on its innovation journey in 2013. A few months into its journey, SCH's Digital Health department discovered a major opportunity for innovation: develop a new post-transplant medication education method for pediatric liver transplant patients and their families.

---

1. Source: Archives of Surgery Report, 2012

The post-operative education process was complicated in that it involved multiple stakeholders– physicians, pharmacists, nurses and patient families to name a few – and in its time-sensitive and highly technical nature. It was also time-intensive for the pharmacists, requiring up to 16 hours of bedside lecture to complete full education. But getting it right was critical for successfully paving a road to patient recovery and achieving the highest standard of medical care.

Scheduling complications threatened to increase the chance of delayed discharges (patients couldn't be discharged until the bedside medication instruction was readily understood). Like all healthcare providers, the schedules of SCH pharmacists were jam-packed, and negotiating to find that critical sweet spot between pharmacist schedules, patient family availability and discharge timing was difficult.

Because research indicates that the shorter the patient stays in the hospital, the higher the chance that the patient's body will accept the new organ, SCH knew it had to innovate to find ways to deliver the post-transplant medication education.

THE SOLUTION

SCH's Digital Health department discovered a new application for a cloud-based tool originally designed for patient intake surveys called "Tonic for Health," and recognized the potential for using the visually-appealing app to transform the post-transplant medication education process. They partnered with North Highland to customize the existing Tonic app to create an innovative and engaging way to deliver important education, via iPad, making it easier for patients and families to learn and consume the information.

The strategy incorporated five key elements and jobs that the SCH and North Highland team would need to get right to ensure success: 1.) an internal digital champion; 2.) an expedited development and launch option; 3.) a human-centered design; 4.) a Minimum Viable Product approach; and 5.) a digitally savvy project manager.

PEDIATRIC SURGERIES CAN BE A SCARY AND CHALLENGING TIME FOR THE CHILD AND FAMILY. USER-FRIENDLY DIGITAL TOOLS CAN HELP EASE POST-OP FEAR AND BETTER COMMUNICATE COMPLICATED MEDICATION INSTRUCTION.

A five-point strategic approach to digitizing post-transplant education

- Internal Digital Champion
- Expedited Development & Launch Option
- Human-Centered Design
- Minimum Viable Product Approach
- Digitally Savy Product Manager
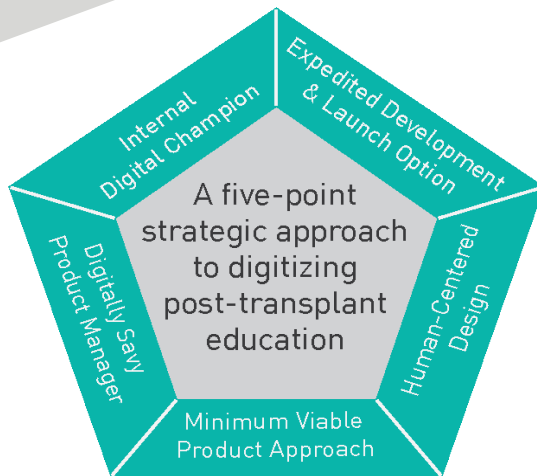
First, the program needed an **internal digital champion at the leadership level**. Many in the healthcare industry see digital innovation as a double-edged sword: it has the potential to improve patient outcomes, but can drive up hospital costs. Additionally, sometimes opposing goals between the administrative and clinical sides of a healthcare organization can hinder rapid and innovative change.

To mitigate these risk factors, Dr. Wendy Sue Swanson, Executive Director of SCH's Digital Health department, served as the internal champion. In order to ensure she was a well-informed advocate, Dr. Swanson met with leading digital innovation teams from retail and service industries to learn more about best practices that might translate to the healthcare setting and encourage collaboration.

Next, the team had to consider options that would allow them to **develop and launch quickly** in order to complete the project within an existing, limited budget and to quickly demonstrate value. When the SCH Digital Health department first presented the project concept, pharmacist and liver transplant teams were ecstatic about the potential. Even so, the team was only able to move forward after administrative approval, which took five months to achieve. While this may seem like a lengthy time for an internal green light, five months in a hospital setting is fast-paced. In this case, customizing an existing app rather than going through full-scale development creatively met the team's needs within existing funding parameters.

The third critical element hinged on the team's ability apply a **human-centered design** process that was informed by input from the end users: physicians, pharmacists and patient families. The team facilitated user groups to gain insights and listen to families throughout the digital development process. Their feedback was then channeled into UX and the development of the multidimensional educational content featured on the site. To overcome logistical challenges, the team conducted these sessions through a mix of phone calls, in-person meetings and video sessions.

AGILE THINKING, CO-DESIGN AND TECHNOLOGY OFFERED THE OPPORTUNITY TO TRANSFORM PATIENT EDUCATION.

Through a **Minimum Viable Product (MVP) approach** the app development process was iterative and strategically scoped through a series of prototypes, allowing physicians, pharmacists, and patient families to see and feel where the technology was going. These prototypes meant the feedback from the listening and user groups was especially informative and productive. The prototype app also was shown to stakeholders outside the project team to build positive buzz and inspire change across the organization.

Lastly, the strategy put a **digitally savvy project manager** at the helm. This project manager had to skillfully collaborate with the various stakeholder groups and within the hospital to coordinate schedules and development timelines, while also incorporating physical changes to the app user interface. North Highland served in the project manager role, working closely with the entire SCH team.

THE RESULTS

The post-transplant medication education app project serves as an excellent example of how rapid, low-cost technology implementation across a healthcare organization can positively impact patient care and provider engagement.

While the new post-transplant medication education app will ultimately decrease patient time in the hospital, help make healthcare education more accessible to families, and reduce risk of readmission, SCH experienced additional unexpected benefits:

REDUCED APPROVAL TIMES

At the onset, the decision to customize an existing app rather than going through full-scale development met the team's needs within existing funding parameters, which was key to winning approval in that timeframe. Because the team was able to accomplish the project within its own small budget, and only had to request corporate approval for the staff time needed to make the vision come to life, the approval time, which could have taken up to 18 months, was shrunk by 72 percent. Building onto an existing platform, as opposed to creating a new one, can save valuable time, money, and potentially, lives.

IMPROVED PATIENT SATISFACTION

Without the delay and stress of waiting for medication instruction, patient families and caregivers were able to read about post-operative instructions while the child was still in surgery or recovery and were better prepared to speak with the pharmacist during their consultation. Pharmacist instruction time was reduced by 88 percent. Confident in knowing medication answers were at their fingertips, patient caregivers felt better equipped to provide at-home care and administer critical medications.

POSITIVE DIALOGUE AND PARTNERSHIP BETWEEN ADMINISTRATION AND CLINICIANS

SCH also succeeded in facilitating positive relationships between the administrative and clinical sides of the organization in pursuit of an important objective. The Digital Health department was able to identify a need and solution, build the tool, pilot, and receive data back in nine months, which is lightning-speed in the healthcare industry. While clinicians were enthusiastic from the project outset, the corporate side also viewed the development of the app as a win because it successfully improved the patient-education process.

OPPORTUNITY FOR FUTURE APPLICATION

A key element of the app delivery involved working closely with pharmacists to train them in the app and iPad use, while also assuaging their valid concerns related to creating and keeping the content up-to-date. As the result of careful engagement and education, SCH pharmacists look forward to expanding their digital knowledge and discovering more ways to utilize the technology across the hospital.

The typical healthcare innovation center has six employees, an annual budget of $1.95 million, and tests 12 to 13 ideas at a time.[2] These are exciting times where tight budgets are only matched by tighter timelines and limited manpower. Healthcare providers willing to be agile and creative in their innovation ventures are poised to make massive gains in not only digital-engagement methods, but overall patient health.

53 PERCENT OF HEALTH INNOVATION CENTERS CONSIDER SECURING FUNDING AS A MAJOR BARRIER TO INNOVATION.[2]

2. The Commonwealth Fund, "Survey of Health Care Delivery Innovation Centers," September 2015

ABOUT NORTH HIGHLAND

North Highland is a global management consulting firm known for helping clients solve their most complex challenges related to customer experience, transformation, performance improvement, and technology and digital. We add value and support our clients across the full spectrum of consulting, from strategy through delivery. We bring the big ideas, then we make them real. North Highland is an employee-owned firm, headquartered in Atlanta, Ga., with more than 3,000 consultants worldwide and 60+ offices around the globe, and has been named as a "Best Firm to Work For" every year since 2007 by Consulting Magazine. The firm is a member of Cordence Worldwide (www.cordenceworldwide.com), a global management consulting alliance. For more information, visit northhighland.com and connect with us on LinkedIn, Twitter and Facebook.

For more information, please contact:

Janice Anderson
+1 206-438-5792
Janice.Anderson@northhighland.com

northhighland.
WORLDWIDE CONSULTING