MSKCC – designing a better way to securely serve patients

A case study is an instructional method about a situation or event. At its best, it zeros in on a problem or issue so that students can observe, analyze, summarize, and/or offer recommendations. Case studies are usually based on real-world challenges by real organizations.

Co-Authors: **Duygu Yucesoy, Eleni Schetakis, Nav Dhillon, Mert Yucesoy, and Angèle Beausoleil**

Memorial Sloan Kettering Cancer Centre (MSKCC) has been providing cancer care since 1884, serving thousands of patients who have over 400 subtypes of cancer. MSKCC is one of the top cancer hospitals in the United States, and is on the cutting edge of diagnosing and treating the disease. But in 2010, it identified a need to apply the type of innovative thinking it used to develop new therapies, to improving ways to better serve patients. This case describes how the MSKCC's Design Strategy and Innovation team identified an underserved patient need: a connection to their caregivers and to their personal MSKCC care program that could be delivered securely, anytime and anywhere.

Key Facts

→ Memorial Sloan Kettering Cancer Centre (MSKCC)

→ Non-profit hospital located in New York City, NY, USA

→ Opened in 1864
    (as New York Cancer Hospital)

→ 498 Beds

→ www.mskcc.or

Disclaimer: This case was prepared for the Business Design Initiative at the Rotman School of Management, University of Toronto. The information was provided by MSCKK and is intended to serve as a basis of student discussion on design-led innovation practice.

MSKCC – designing a better way to securely serve patients

R
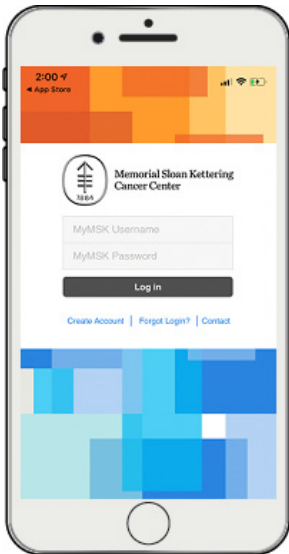
The challenge

Dealing with a cancer diagnosis is a scary and lonely proposition – something everyone at Memorial Sloan Kettering Cancer Centre (MSKCC) was aware of. From senior leaders and managers to frontline staff, the team was committed to improving patient outcomes and engaging patients. Aside from providing cutting-edge cancer care, how could the MSKCC team improve engagement with patients and provide superior patient care?

A cross-functional team investigated this question and consulted with patients, frontline staff and their technology team. One idea became a clear winner: develop a mobile app that made going through cancer treatment easier for patients. The MSKCC team had an existing patient portal that was a primary digital point of engagement for caregivers, and this already put digital records in the patients' pocket. But the team wanted it to do more.

The proposed app would help patients navigate a complex cancer care system and provide them with:

→ appointment reminders that also provided details on where to park and how to prepare,

→ lab results or other reports as they became available,

→ a way to email their care team,

→ the ability to track their symptoms, and

→ educational components so they could learn more.

Clinical staff would benefit too. Instead of having to repeatedly complete checklists or series of tests for a patient, they could call up all the files from one place. Patients could get their lab results in an app instead of calling in and using precious clinical time. Reminders were automated, and administrators could spend their time providing value and not leaving messages.

The considerations

MSKCC had been providing cancer care since 1884 and was one of the top cancer hospitals in America for over 30 years. Every year, the team treated over 400 subtypes of cancer with numerous multidisciplinary cancer care teams including surgeons, medical oncologists, radiation oncologists, pathologists, psychiatrists, and nurses. However, while MSKCC has been on the cutting edge of diagnosing and treating cancer, the design innovation team recognized that they had to change the way they served their patients. MSKCC had a strategic goal to deliver superior customer service, and innovation was key to getting there.

The executive team knew that patients were getting top-quality care but recognized patients needed more support navigating the process.

By speeding up the waiting process, both the patient and MSKCC would see better results.

An external design team arrived in 2009 to help facilitate the innovation design process. It turned to the people most familiar with the status quo: internal teams, patients and caregivers. The team hosted "Innovation Jams", focused brainstorming sessions to look for ways to improve patient-caregiver-MSKCC interactions. It was at these sessions that the idea of improving the patient experience with mobile technology began to solidify.

Ophelia Chiu, the director of design strategy and innovation, recalls the innovation team asking, "What if our patients could feel as supported every

day, just like they feel when they are in our clinic? How can we bring the patient experience to our process?"

There were some key considerations around the central question of "What did patients need most?" Was it…

→ a way to remember the many appointments and tests they had?

→ secure messaging with their care team?

→ access to lab or radiology results?

→ a list of medications?

→ symptom tracking?

The context

As the world's oldest and largest private cancer centre, MSKCC is well positioned to lead the way in helping patients navigate cancer care. With six hospitals based in the American states of New York and New Jersey, MSKCC has three main streams of business: patient care, research, and education and training

Working at MSKCC, surgeons and doctors focus on cancer treatment and the pioneering of surgical innovations. Among the team's innovations are minimally invasive and precise radiation therapies.

MSKCC has 120 research laboratories that focus on better understanding cancer. Between 1980 and 2019, the US Food and Drug Administration approved 10 drugs developed in the MSKCC labs. That's the most of any cancer centre. The Sloan Kettering Institute has investigators collaborate with Memorial Hospital physician-scientists to speed research findings from the lab to the patient. In addition to their work with patients and researchers, MSKCC is also committed to education, and collaborates with The Rockefeller University, Cornell University, and Weill Cornell Medical College. The question was: While on the cutting edge of cancer treatment, would the team be willing to innovate in ways to let patients engage more deeply in their cancer treatment?

One idea felt right: creating an app that revolved around the patient's needs. Patients and caregivers need to engage with the MSKCC team throughout the health care journey. But why was it up to hospital staff to provide every piece of information a patient needed? That could leave patients feeling left out of their care journey. Patients describe the cancer experience – from onboarding, to enrolling in the hospital, to receiving top-quality cancer care – as isolating and uncertain.

Could an app help engage the patient and remove some of the frustration and uncertainty?

In the process, the external design team refined its key question. At first, it was "How can mobile technology improve the experience of someone going through chronic health problems, specifically chemotherapy." It became "How can MSKCC use a mobile app to better engage with patients?"

MSKCC already had a patient portal available, but accessing it was complicated and it was not mobile friendly. The team considered building a responsive-design site, but realized that would not allow them to send reminders or notices. With an app, documents could be uploaded, and patients and doctors could access them right away. "Whatever tool we created," says Chiu, "we wanted it to be as flexible as possible."

The innovation design team first chose to verify whether an app was a viable option and would provide value. They did it by…

→ evaluating the current MSKCC patient portal,

→ discussing and evaluating costs and benefits with senior leaders,

→ evaluating the legal implications of mobile technology, and

→ mapping the patient journey, carefully evaluating each touchpoint with the MSKCC team.

The design team looked outside the MSKCC environment to investigate industry best practices around mobile health care offerings. They interviewed MSKCC patients to get a sense of the patient experience from the patient perspective. They wondered if patients would use a mobile app. When work on the app was launched in 2011, only 35 per cent of Americans had a smartphone. (Pew Research Center: Internet and Technology, 2019).

Patients told them, "If you have an app, I will get a smartphone." It was recognition that because dealing with cancer was complex, having a mechanism to be in closer contact with the care team and engaged with the team was valuable.

The design team was starting to think about how a tool like this would require an approach that worked with the entire organization – from nurses scheduling appointments, to specialists responding to messages, to accounting uploading invoices. After developing and testing various prototypes, the team secured executive approval. Now the MSKCC team needed to begin to develop the final product. Time, security, patient experience, legal obligations, and cost were all factors that went into determining the composition of the development team. Internally, they consulted patients, nurses, doctors, the patient portal information systems team, and the design and innovation team. A member of IT services with deep experience in the patient portal was a key member of the design team. To mitigate costs, an offshore EPAM developer worked on the app with specific and detailed coding provided by MSKCC, at a 30% cost savings to a local developer.

MSKCC – designing a better way to securely serve patients
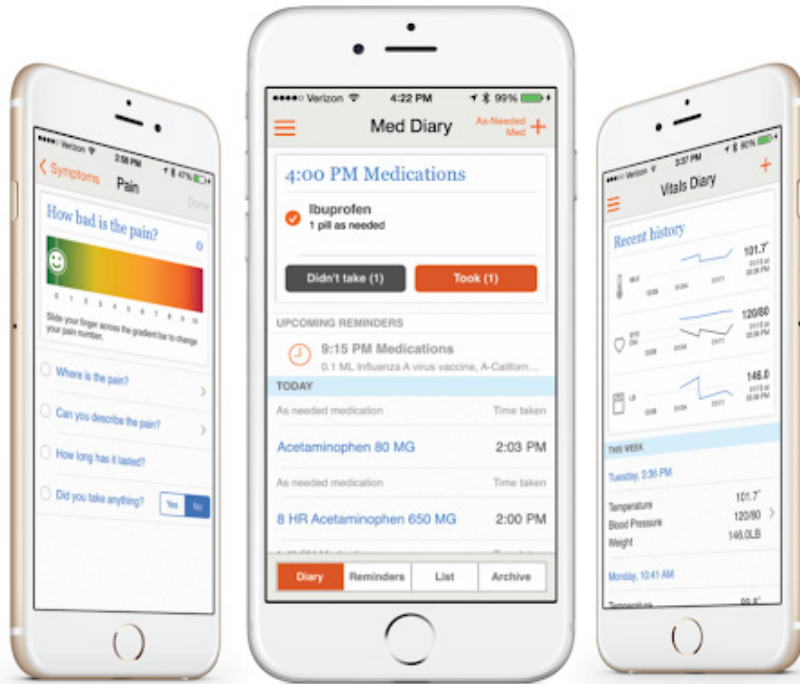
vimeo.com/121039102

apps.apple.com/ml/app/mymsk/id963860292

play.google.com/store/apps/details?id=org.mskcc.mymsk&hl=en_US

The solution

A patient's journey through cancer recovery is never easy. Between appointments, tests, and treatment, there is always the fear that something is going to be missed. **The MSKCC team wanted to put control for some of the cancer journey in the hands of its patients, and designed an app to manage all the variables and answer questions along the way.**

The solution had to be desirable to the patient, feasible for MSKCC to design and deliver, and viable to meet its business/operational goals.

In retrospect, an app is an obvious solution. But the way the MSKCC team integrated a patient-centred design process into the organization's existing service and IT infrastructure, and measured its impact, was key to its success.

MSKCC's challenge was to deliver a solution that would meet the goals of improving outcomes and patient satisfaction. Though the financial costs were carefully controlled, the team chose to measure impact and success with engagement metrics rather than financial metrics. The first metric was patient satisfaction: Did people use the app, feel happy looking at the app and get an emotional lift from it? The second was patient experience: Did patients understand why they should download the app and how it fits into their continuum of care? And did they offer positive comments about MSKCC?

A month after the "MyMSK" app launched, it had almost 8,000 users and conducted 200,000 sessions. As of August 2020, the MSKCC Mobile app rated 3.9/5 stars in the Apple App Store and 4.3/5 stars on Google Play.