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Hitch Health: Transport Solution or Platform?

[John McVea](https://iveypubs.my.salesforce.com/003A0000023rP1u) and [Dan Mclaughlin](https://iveypubs.my.salesforce.com/003A0000021g4j7) wrote this case solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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In April 2017, Susan Jepson, the co-founder and vice-president of Hitch Health in Minneapolis, Minnesota was faced with an intriguing but challenging strategy decision. Hitch Health was created as part of the Upstream Health Innovations (UHI) centre at Hennepin County Medical Center (HCMC) to improve transportation services for its many vulnerable patients. By using human-centred design (HCD), Hitch Health had succeeded in developing a system of ride sharing and sophisticated information technology that met its initial goal of reducing missed appointments. However, the development of Hitch Health had also presented a new opportunity to engage patients in many aspects of their own care. Jepson realized she had to make a key strategy decision. Was Hitch Health just a practical solution to HCMC’s transportation problem? Could it solve transportation problems at similar hospitals across the country? Could it be an idea big enough to serve as a platform with the potential to disrupt health care delivery?

The U.S. health care delivery system

The health care system in the United States was a mix of public and private payers. Without a universal health insurance coverage system, a complex set of overlapping providers had arisen in the United States over many years to fill the gap. For primary care, 9,800 community clinics had become the most significant providers of care to those with no insurance or limited coverage. For in-patient and specialty outpatient care, so-called safety-net hospitals had taken on a similar role. The trade association that represented this group of hospitals was America’s Essential Hospitals, which had 275 members nationally. However, as of 2017, despite the critical role they played, these organizations remained only a small subset of the over 5,000 hospitals in the United States. In Minneapolis, HCMC fulfilled this role of safety-net care. By 2017, HCMC’s network of care encompassed a 472-bed hospital, eight neighbourhood clinics, home health, public health nursing, and hospice services, which collectively carried out more than 800,000 patient encounters per year.

The History of Hennepin County Medical Center

HCMC was a safety-net teaching hospital in Minnesota, operated by Hennepin Healthcare System, Inc. (HHS), a public subsidiary, non-profit corporation. The original hospital was established in 1887 as Minneapolis City Hospital and was commonly referred to as General Hospital or the City Hospital. It was originally located one city block away from the modern building’s location, which in 2017 covered five city blocks opposite the newly opened U.S. Bank Stadium in downtown Minneapolis.

Ownership of the hospital was transferred to the county in 1964, when it was renamed Hennepin County General Hospital; it was modified to Hennepin County Medical Center in 1974. However, by the late 1960s, the hospital had evolved into a disorganized patchwork of buildings, leading to the decision to clear and rebuild the entire facility. The current hospital facility was completed in 1976, following a US$25-million[[1]](#footnote-1) bond passed by voters in 1969. The hospital was further expanded in 1991 with the closure of the adjacent Metropolitan-Mount Sinai Medical Center. As a result, in 1989, HCMC gained [Level-I trauma centr](https://en.wikipedia.org/wiki/Level_I_trauma_center)e status, the first such site in the state.

In 2007, HCMC underwent a significant governance change to ensure the long-term viability of the institution. This restructuring created HHS, which offered greater autonomy from the county government. However, despite greater independence, the public mission of the hospital did not change. In 2012, the hospital collaborated with North Point Health and Wellness Center, Metropolitan Health Plan, and Hennepin County’s Human Services and Public Health Department to form an [accountable care organization](https://en.wikipedia.org/wiki/Accountable_care_organization) called Hennepin Health. By February 2013, Hennepin Health had enrolled 6,000 clients in this new health system.

Throughout all the structural changes to the organization, HCMC maintained its commitment to the care of low-income and vulnerable populations. One of every four patients who received care at HCMC was born outside the United States. The racial breakdown of all HCMC patients was 20 per cent African American, 20 per cent first- or second-generation Latino immigrants, 10 per cent Southeast Asian, 5 per cent Native American, and 45% white. The source of HCMC’s payments was 75 per cent from public programs. Of that amount, 30 per cent came from Medicare and 55 per cent came from Medicaid. Together with its fellow Essential Hospitals, HCMC helped deliver 18.3 per cent of all uncompensated care nationally (roughly $7.8 billion per year) and treated a community of which half of the patients were uninsured or on Medicaid. However, in 2017, the hospital operated as much more than a simple safety net. The hospital ran a very large medical residency program, operated emergency medical services for Hennepin County, carried out significant clinical research, and played an important role in training more medical and dental residents than most regular U.S. teaching hospitals.

Because of HCMC’s complex structure and multiple roles, its finances had always represented a challenge. In addition to the two prime revenue sources—Medicare and Medicaid—the Hennepin County Board provided some support generated through property taxes. However, even with the expansion of Medicaid, under the *Affordable Care Act*, HCMC remained the largest provider of uncompensated care in Minnesota. Because of this financial dependency on fee-for-service provided by Medicare and Medicaid, and because of the challenging financial and personal circumstances of many of its patients, missed appointments represented a significant and growing problem within the organization. The opportunity costs of the resultant low utilization represented potential new revenue sources to HCMC and similar safety-net hospitals throughout the nation. Furthermore, as health insurance had become more widespread with the full implementation of the *Affordable Care Act*, it was anticipated that many non-safety-net hospitals would also increasingly attract patients with similar characteristics to those of HCMC. Therefore, many more hospitals would likely encounter the challenge of missed appointments and falling utilization efficiency that HCMC was experiencing.

Hennepin County Medical Center and Upstream Health Innovations

HCMC’s mission was to “partner with our community, our patients and their families to ensure access to outstanding care for everyone, while improving health and wellness through teaching, patient and community education, and research.” The Hennepin Health Foundation was created to guide and encourage those in the community who wished to support this mission. In 2015, in one of its more ambitious strategic new initiatives, HCMC founded the UHI centre. UHI’s mission was to move health care upstream and transform the current health care model into one that was truly centred on people. By employing HCD, the UHI centre sought to empower patients to lead healthy lives, collaborate with the community to build capacity, and foster the health innovations that created equity, enhanced access, and improved outcomes. Upstream sought to reduce risk among Medicaid patients for whom reimbursements typically did not reflect the underlying cost structure. The outcomes of this upstream-focused health maintenance were expected to be fewer emergency room visits and, ultimately, fewer consequent hospital admissions. Because these visits and admissions were even more costly than ambulatory visits, the expense avoidance was expected to be significant. In many safety-net health care systems, the ambulatory visit involved predominantly fixed expenses. Moving care upstream contributed to filling ambulatory no-shows, load levelling, and more efficient leveraging of those fixed expenses. Furthermore, in the rapidly emerging value-based health care environment, the arguments were even more compelling: moving care upstream eliminated direct expenses for both the systems and the payers.

In 2015, Jepson joined HCMC to co-lead the UHI team, a recent beneficiary of a $2.5-million Healthy Communities grant by United Health Foundation. Among UHI’s first initiatives was to perform a comprehensive ethnographic study of HHS’s core patients to identify how they could best be served. This ethnographic study was carried out with the help of two independent HCD firms. Initially, UHI sought innovative solutions for HCMC’s most complex patients: those suffering from substance abuse or chemical dependency, mental illness, and chronic disease. Built into the approach was the desire to leverage HCD as a methodology to create original solutions based on empathy and creativity.

Susan Jepson

Jepson was born in Rochester, Minnesota, and graduated from the College of St. Benedict. She started her professional career as a paediatric intensive care unit nurse at the University of Minnesota’s hospital system. After earning a master’s degree in public health from the University of Minnesota, she left one-on-one clinical care to join the insurance industry, where she gained experience performing data analytics and new product development.

By combining an aptitude for data and the identification of patterns and products across other industries, Jepson began to focus on health care innovation. In 1998, she left her job to form the start-up HealthPerks in collaboration with Carlson Marketing group. HealthPerks leveraged the airline industry’s approach and offered a points-based program to encourage members of health plans to focus on preventive care. HealthPerks deployed a retention and acquisition strategy similar to the one used by airlines. However, Jepson soon learned that successful innovation required much more than good ideas, and because it could not find a receptive audience HealthPerks was shut down. Timing was critical to launching new ventures, and HealthPerks may have been too progressive for the health care industry at that time. Eventually, very similar programs to HealthPerks were launched successfully in the health care industry. However, despite the failure of HealthPerks, the attempt did not go unnoticed. Jepson was soon recruited by the United Health Group (UHG), where she focused on new product development and innovation. At that time, health saving accounts were still a relatively new concept. UHG identified an opportunity to enter the banking industry by more effectively leveraging the health saving account deposits of its members. She was chosen to join the team to launch Exante Bank (later renamed Optum Financial Services) and gained important knowledge about the financial services industry. After her experience with Exante Bank, Jepson joined U.S. Bank to work on new product development and innovation both in the health care industry and in financial services.

Throughout her career, Jepson had developed a deep passion for leading innovation teams. As a result, in 2015, she jumped at the chance to join HCMC, where she could continue to focus on innovation in health care. As well, she would have the opportunity to focus on innovation that was tailored to the needs of those who needed help the most.

Human-Centered Design

Over the previous 20 years, HCD had moved from a cultish design philosophy, heavily influenced by the Stanford University Engineering School, to a full-fledged mainstream business philosophy that involved dozens of publications, several institutes, and numerous consulting service businesses. At its core, HCD put the study of human beings, as opposed to technological capabilities or business constraints, at the centre of problem-solving challenges. The philosophy reminded innovators that the answers were not in the boardroom and that successful problem solvers had to regularly send their key employees out into the field to study underserved customers as they lived their daily lives. The California-based design firm IDEO, which had heavily influenced the development of HCD, led the charge in bringing this philosophy out of the design studio and successfully applied the techniques to a wide variety of for-profit and non-profit business challenges.

HCD was both a philosophy and a process that developed solutions for problems by involving the human perspective in all steps of the problem-solving process. Human involvement typically took place by observing the problem within its context, brainstorming, conceptualizing, developing, and implementing the solution. In the initial stages, innovators spent their time in the field using approaches amended from ethnography and anthropology—immersion, observing, and contextual framing—while the innovators immersed themselves within the problem and community. In the subsequent stages, as the innovation team “returned from the four corners of the world with all the golden keys,” to quote one of IDEO’s founders, they switched from empathic interviewing mode to theme-finding/hypothesis-generation mode. This included sifting and challenging, ordering, framing, and re-framing the raw data, which at that stage might have consisted of interviews, videos, photographs, and quotations. In the final stages, the participants then focused on brainstorming, modelling, and prototyping. Quick prototyping played a key role in the process. Team members were encouraged to develop “quick and dirty” prototypes, often made of cardboard and tape, to quickly get them into the hands of users and encourage criticism, constant redesign, and re-prototyping.

Advantages of Human-Centred Design

Using a human-centred approach to design and develop had substantial economic and social benefits for users, employers, and suppliers. Highly usable systems and products tended to be more successful both technically and commercially. In some areas, such as the consumer product industry, purchasers would pay a premium for well-designed products and systems. Support and help-desk costs were eventually reduced when users could understand and use products without additional assistance.

The HCD system grew out of the design–develop philosophy, which was originally used for the creation of consumer goods. However, it faced significant challenges and modifications as it was applied to the services where the user experience could be somewhat ephemeral.

Initial patient study

HCMC secured a large grant from UHG to fund its initial work in HCD. The patient population identified for the initial study was the core group of Hennepin county residents who suffered from chronic disease, mental illness, and substance abuse. To carry out the detailed work, Jepson contracted two experience-based design consultant groups—Fusion Hill and Greater Good Studio—to better understand the barriers to health for this complex patient population. The two consultant groups interviewed 12 subject matter experts (i.e., service providers) and shadowed five HCMC programs. The groups also interviewed and shadowed 38 patients and 14 community partners who provided services such as food shelves, community clinics, employment services, and housing. Jepson’s team spent hundreds of hours with the patients, observed their experiences, went into patients’ homes for two to three hours at a time, and even videotaped the patients to get a deep and empathetic understanding of their situations and the challenges they faced. As Jepson explained, “We would ride on the bus with them, if they had a medical appointment we would take a taxi, Metro Mobility, or other vehicles so we were really experiencing what they experience with the healthcare system: waiting in line, being late for their appointment.” The goal was to understand this complex population from“more of an observational ethnographic approach,” as she noted. In addition to the patient field study experiences, the team also identified 12 subject matter experts within HCMC, who were physician experts in addiction medicine, psychiatry, and chronic disease, for example. The groups also collaborated with 12 community partners, many of which shared the same client base, but who viewed the patients from a slightly different perspective.

The whole process amassed an enormous amount of data and evidence, both qualitative and quantitative. Jepson’s team took this mass of unstructured data and observations and carried out a lengthy analysis and synthesis. “We had two full days of synthesis sessions and out of this we identified over 200 interesting concepts,” noted Jepson. These concepts were analyzed, and the team ultimately focused on about 20 concepts in the areas of patient engagement, patient care, and social determinants of health (see Exhibit 1).

At this point in the process, Jepson decided to take these preliminary insights back to the source. She explained, “We then went back to our patients because they are really our guiding light, our true north. We began by asking them what they thought about these various concepts.” The idea, at this stage, was to develop a number of potential prototypes, which could be used for further testing and development. However, in this instance, the sort of prototype was very particular and very different to the type of complex engineered prototypes one might see at a major automobile show, for example. In the vocabulary of HCD, what the team was developing were several promising minimal viable prototypes (MVPs), which were more likely to consist of paperclip and paper models or iPhone videos, described by the team as “cheap and cheerful.” An MVP was normally a pared-down version of a product that was just good enough to be understood by a customer. Its most valuable characteristic was that it was specific enough to provide a feedback loop from the user to guide future development. Most importantly, it allowed users and designers to push and pull the idea and to “think with their hands,” they explained. Between December 2015 and the end of April 2016, the team worked with patients to create and test 11 MVPs.

Problem finding

Throughout the process, the group met with UHG every month to demonstrate progress and to get another viewpoint on the ideas beyond the confines of the innovation team. The feedback from UHG was to narrow the focus of the project, so the group selected five MVPs to take to the next stage. This was still a considerable commitment, considering the team’s limited available resources. As Jepson explained, “We’re a very small group, we have two designers and one project manager, so we really had to engage our frontline staff to do a lot of this work.” For example, one possible concept was that Hitch Health was in the social determinant category. The research had indicated that people had major issues with transportation and access to health systems. This was particularly true of patients on Medicaid, who made up approximately 53 per cent of HCMC’s patient population. In the HCD process, prototype hypotheses were often structured as “How might we . . .” questions. In this instance, the question was “How might we improve the patient transportation system so that patients are more likely to maintain their appointments and experience improved outcome?”

The team studied the current state of patient transportation and found it was abysmal. Many of the patients had very limited capacity to deal with systems or complex process that required great efforts just to get a ride. The team was also aware that missed appointments represented a significant risk to the successes of treatment plans, as well as a significant lost revenue opportunity for the hospital, as Jepson explained:

So we basically looked at this and said, “I think this might be something we can help with and a significant opportunity. Our patients don’t always have a credit card or a smartphone so we decided to leverage SMS [short message service] texting to communicate. Most have unlimited texting through the “Obama phone” program. Our patients may have limited minutes to talk, so we want to leverage texting with the ability to opt in to a program.

Prototyping initial solutions

The first step was to explore the use of a dispatch service—essentially, a taxi service that had a dispatch tool. The idea was for the health system to manage the rides, rather than the patient, and for the health system to subcontract this job to a taxi or transportation service. This first prototype was initially tested in the cancer centre of HCMC. The team collected and analyzed data on no-show rates in the centre. The data from the cancer centre suggested that the no-show rate was about 14 per cent. These patients were undergoing high-risk treatments, and could suffer potentially dire consequences if they failed to show up. An initial scan of the data also suggested that about 25 per cent of no-shows were related to transportation. A dispatch tool had the advantage of being able to schedule a ride online in real time, so the team could combine the scheduling of a ride with the hospital front-line staff calling to remind the patients of their appointments and then asking if they needed a ride.

However, even with the reminders and the phone service, the lack of a global positioning system meant that after a call for a taxi was made, the patient could wait two to three hours for the ride. Because of the nature of the treatments on the cancer ward, it was especially heart-wrenching to see patients that had just undergone chemotherapy treatment, for example, have to endure major transportation challenges. The team discovered that the situation was so dire that in some cases, front-line staff would illegally transport the patient home on their own to make up for taxi delays. The team ran the prototype for a two-week period across more than 70 patients. Even with experiencing some problems with the prototype, the team found that the number of missed appointments dropped from 14 per cent to 7 per cent. This MVP experience confirmed that the team was moving in the right direction.

The second prototype incorporated Lyft, one of the two commercial ride-share services that were revolutionizing the taxi business in most U.S. cities. Two components of this prototype were developed: one worked with the cardiology clinic; the other worked with the psychiatry clinic. Jepson’s team was interested in understanding how the patients experienced the difference between a taxi service and the sort of service supplied by Lyft. Through embedded experience, several surprises about both drivers and patients were discovered. In addition, the team wanted to compare using Lyft’s integrated ride-ordering system versus the challenge of Hitch Health developing its own centralized dispatch system, so the team designed a Department of Transportation note in an Excel spreadsheet that could be used to populate the team’s middleware computer system and connect to a dispatch tool. This mock-up allowed the team to assess the importance of ownership and control of the dispatch system itself.

However, during the trial run, the team discovered that not only was it 54 per cent cheaper to use Lyft’s own system, but the patients really appreciated the Lyft drivers. It turned out that taxi drivers were often extremely nervous or uncomfortable about driving psychology patients, and that some patients were very nervous about taxi drivers. However, with Lyft, the patients were treated with much more respect, and they appreciated being driven in the Lyft drivers’ clean, newer-model cars. The Lyft drivers were interviewed and asked about the different locations they picked up and dropped off patients to determine if there were any issues, but all drivers agreed that, during the day, most areas of Minneapolis were safe.

Solution development and testing

At that point, the team decided to move the design to the next stage. For their third prototype they engaged an interactive designer and a software engineer to join the design team and spent time observing the complete process, so the team was learning about the challenges directly. The second element of the next stage of the prototype was to attempt to develop a tool for front-line staff to monitor in advance the patients’ travels to their appointments.

Instead of continuing with a temporary makeshift system, the team became confident enough in the project’s potential to hire software engineers to develop and connect the system to the Hitch Health middleware. In June 2016, Jepson’s team held an exploratory meeting with Lyft, where the idea was raised to co-create middleware that would sit between an electronic medical record and a ride-share service, with the goal of automating ride offers when an appointment was made through SMS texting. However, Lyft was not at all interested in this approach, responding, “No, we are very focused on just rides. You just bring us the rides.” As a result, between July and December, the UHI team developed its own middleware interface, based on extensive patient and front-line staff feedback. Early findings demonstrated that this might be a product that could be commercialized and shared with other safety-net health systems. It was time to start considering how to structure the business model and take the idea to market.

The question of the Business Model

Jepson flipped through the pile of materials on her desk. She had developed a series of PowerPoint presentations over the previous year outlining the opportunities and challenges of developing Hitch Health. In the middle of the materials, she came across a business model canvas that she had begun to develop more recently. On one page, the business model canvas summarized all the key strategic questions that an innovator should consider in developing a business model that could successfully bring a product to market. Reading through the business model canvas helped clarify various critical issues, about which she knew she would have to make some difficult decisions very soon. First, she needed to explore the unique value proposition for Hitch Health: What were the key benefits and what were the distinctive differences versus alternative suppliers? What were the key factors that would stimulate customers to believe in the system and lead users to choose Hitch Health—and remain loyal?

A focus on specific customers groups was also a key to success. Of all the segments in health care delivery, which customer group would it make most sense to focus on initially? A key consideration was whether she should be trying to develop a unique solution for HCMC or whether she should focus on developing a solution that might be flexible enough to service other safety-net hospitals. Fee-for-service hospitals tended to see transportation as a cost to be minimized. However, if money was saved in transportation, would that saving actually benefit the hospital or would it benefit the insurance providers in the long run? Hospital customers could be attracted to the gain in treatment revenue if patients did not miss their appointments. On the other hand, health plans could also benefit because patients who kept their clinic appointments were less likely to incur higher costs for emergency or in-patient care.

Hitch Health needed to develop a revenue model. Toward that goal, three options were explored. Fee-for-service (i.e., charging a flat fee per ride) was easy to understand and potentially easier for hospital customers to adopt. On the other hand, capitated fees—where Hitch Health would offer transportation for groups of patients at a discounted percentage of the current transportation costs per patient per month—could be attractive to health plans. Alternatively, Hitch Health could just focus on developing the algorithms and essentially sell the transportation software to licensees, and thus get out of the delivery business. It was also important to identify the most significant competition. This included a strong response from traditional taxi businesses, or whether Lyft or Uber (or any number of competing start-ups around the country) would begin developing their own specialty services (see Exhibit 2).

As Jepson considered these issues, she glanced at an article on platforms versus products and wondered if she was missing the big picture (see Exhibit 3.) What business was she really in? Was she trying to solve a transportation problem for HCMC or was she trying to solve a transportation problem for all safety-net hospitals? Was she really in the business of developing a platform that uniquely provided health care services to vulnerable groups who were expensive to service, extremely difficult to communicate with, and represented a significant driver of overall health care costs? If she developed a truly unique platform to serve this group with transportation, what other high-delivery-cost social services would also be delivered through her platform? If she developed a high-trust, highly customized service delivery platform, would it eventually be used to deliver routine medical checks, dental services, mental health checks, emergency food provision, and health educational services to that vulnerable group? Was this really where the true value of her innovation would be found? As Jepson pieced her way through all the paperwork on her desk, she was reminded how far Hitch Health had come in the last two years, but she also knew it was going to be a long night.

This case was written and developed with the help of Research Assistant Kilee Pertl

Exhibit 1: Initial core insights for serving vulnerable populations

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| **Common Themes and Experiences in Participants’ Lives** |
| * Extreme instability across all aspects of their life * Constant, powerful burden of poverty * Experiences of violence and trauma * Unreliable access to food, transportation, and housing; experiencing periodic or chronic homelessness * Living with many health concerns and challenges (such as chronic conditions, chronic pain, anxiety or depression, sleep deprivation, mental illness often untreated or undertreated, and side effects of numerous medications) |

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| **Current Experiences and Engagement with Health Care System** |
| * When dealing with other crises and instability, health was not a number one priority. Therefore, patients often waited until acute pain or emergencies arose to seek care in the emergency department, even though they did not like the environment. Crises and instability also caused engagement with health care to fluctuate over time, resulting in scattered and fragmented care. * There was a lack of connection with service providers. The patients did not understand the providers’ health priorities, and the providers did not take time to listen to the patients’ health goals (which they did have) or definitions of health (which were often different than the providers’). * Some patients saw primary care doctors but did not use them as a go-to resource. Without prior experience with primary care doctors, they did not see the value, and appointments had to be booked months in advance. * Forming trusting, caring relationships with primary care doctors and making identifiable progress could be immensely motivating and impactful on health. However, relationships were fragile—miscommunications, medical errors, or interruptions in care when a doctor left the practice were devastating to the general trust in the health care system. |

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| **Current Barriers to Seeking and Receiving Care** |
| * There were many problems with the appointment model. It was difficult for patients to make it to appointments due to challenges in keeping track of the appointment; lack of transportation; anxiety and pain that made leaving the home difficult; and the resulting penalties for late or missed appointments. * Judgment, stereotyping, and trauma experienced by patients included being treated poorly or dismissed by doctors (seen as drug-seeking patients whose conditions were not real). * There was a lack of explanations and understanding—not only in terms of diagnoses and doctors’ explanations, but also in terms of patients not knowing what was going on in the appointment itself, why tests were ordered, why staff came in and out of rooms, and so on. The experience was often anxiety-inducing, and the patients were often too embarrassed and overwhelmed by the information to ask questions. * Patients felt that doctors rushed, made snap diagnoses, and pushed treatments without truly listening or asking questions. Patients were frustrated by never being given options or asked what they wanted out of their care. * Patients rarely saw meaningful results or were helped to identify progress in terms of what mattered to them, such as being able to be active with grandchildren or getting out of the house more often, for example. |

EXHIBIT 1 (CONTINUED)

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| **Additional Themes and Interesting Observations** |
| If HCMC wanted to support these patients’ goals of improved health, it had to first demonstrate and prove the value of seeking and using health care differently.  Examples of these new values included:   * Respect: Improve the patient experience by creating health care relationships that made them feel safe, heard, understood, and respected, or that truly benefited them in meaningful and measureable ways. * Visualization of Progress: Help identify goals, track progress, and recognize even small successes to affirm the value of courses of treatment and health care in general. * Tools and Skill Development: Aid in building skills that encourage care compliance (e.g., tools to organize medications, text appointment reminders, calendars to track appointments). * Flexibility: Increase the availability of walk-ins and home visits, creating one-stop-shops for care. * Understanding and Communication: Develop tools and ask questions to illuminate personal health goals, and relate treatment recommendations to those goals. * Relationship and Safety: Actively involve patients in decision making; address stereotyping and judgments. |

Note: HCMC = Hennepin County Medical Center

Source: Prepared by the authors with information from Hennepin Healthcare System: Upstream Health Innovations, Ethnography Executive Summary, July 15, 2015.

Exhibit 2: Business Model Canvas for Hitch Health

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| **Key Partners** | **Key Activities** | **Value Propositions** | **Customer Relationships** | **Customer Segments** |
| * Internal partners: HCMC staff and MDs. * Key suppliers: Transport companies, software vendors. * Community partners: Those who also provide services to HCMC patients. | * Develop model for patient use and test. * Develop middleware to connect EHR. * Contract with transport vendor. * Develop clinic process. * Test and tune system in one clinic. * Develop financial model. * Expand to multiple clinics. | * Patients attending a clinic visit generates good clinical outcomes. * Patients attending a clinic has financial benefits to the health system. * Ride systems that are customer friendly will decrease missed appointments and improve patient engagement. * Middleware system will identify which patients are best suited to participate in this system and other related services for disadvantaged patients. | * Patients will enjoy convenient service and polite drivers. * Other safety-net health systems will enjoy financial and clinical gains. * Hitch Health will continue to make improvements in the middleware and other operational systems. These changes will be shared routinely with customers. | * Patients of HCMC who need rides. * Safety-net health systems similar to HCMC. * Health care systems that can use a middleware system to match their disadvantaged patients to needed non-clinical services. |
| **Key Resources** | **Channels** |
| * Clinic staff. * Patients requiring rides. * Software vendors for middleware. * Transport vendor. * Health plans and government payers. | * The product will be marketed directly to patients through the clinical systems of HCMC. * For broad sales to the industry, focused marketing channels will be used, including academic research publications, trade show events, and direct sales. |
| **Cost Structures** | | **Revenue Streams** | | |
| * Project staff costs. * Software development and operations. * Transportation firm costs. | | * Increased fee for service clinic revenue due to reductions in missed appointments. * Increased capitation margin due to patients with reduced chronic health care costs. | | |

Note: HCMC = Hennepin County Medical Center; MD = medical doctor; EHR = electronic health record

Source: Prepared by the authors based on “Business Model Canvas,” Strategyzer AG, accessed May 9, 2018, <https://strategyzer.com/canvas/business-model-canvas>.

Exhibit 3: Platforms

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| Data-based platforms had existed in businesses for many years. For example, newspapers linked subscribers to advertisers and malls provided a platform for customers to link to retailers. However, the advent of new and powerful information technologies provided the impetus for the creation of new platform structures, which had the potential to radically alter many traditional business practices.  These new information technology data-based platforms had four major components, as described by Van Alstyne, Parker, and Chaudary: “The owners of platforms control their intellectual property and governance. Providers serve as the platforms’ interface with users. Producers create their offerings, and consumers use those offerings.” This contrasted with the classic product centred value and supply chain, which transformed input to outputs through a series of linear steps.  A well-known example of a data-based platform was the iPhone, which provided enhanced customer value as a platform for applications produced by a wide variety of vendors.  A key component of any successful platform was the community of its users. For example, Athena Health had used this principle to develop a platform that supported medical claims submission with a rules engine continuously updated with billing rules from all payers and provider members. This engine contained over 40 million rules and allowed users to render appropriate claims much more effectively as part of the platform than they could by themselves. |

Source: Prepared by the authors with information from Marshal W Van Alstyne, Geoffrey Parker, and Paul Choudary, “Pipelines, Platforms and the New Rules of Strategy,” *Harvard Business Review*, 94, no 4 (2016): 54–62. Available from Ivey Publishing, product no. R1604C; and Jonathan Bush and John Fox, “Bringing the Power of Platforms to Health Care”, *Harvard Business Review*, (2016) accessed May 9, 2018, <https://hbr.org/2016/11/bringing-the-power-of-platforms-to-health-care>.

1. All currency amounts are in US dollars unless otherwise specified. [↑](#footnote-ref-1)