

DexCare & Providence

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 Providence

Summary

This case study focuses on an analytics solution called DexCare. The tool has been designed by Providence, a non-profit healthcare provider and one of the largest health systems in the USA. The purpose of this tool is to provide a connected digital healthcare service for consumers. DexCare is a platform that allows Providence to optimize their capacity and service delivery by matching user demand and service availability from health care providers. This also enables them to collect data on how their users interact with their service to provide them with more frictionless and effective services. Originally focused on retail care, DexCare's success has led to its use in other service lines across the health system.



The key problem that required a solution

To better understand customer needs, Providence needed to be able to get information at every step of customers' interaction with its platforms. However, with the existing system, it was not able to track patients and identify which steps could be improved.

Providence had no means of recording the success or failure of their consumers' experience. In particular, it was failing to engage new commercially insured patients. Sara Vaezy, Chief Digital Strategy and Business Development Officer, summarized this issue as "a really broken, kind of inefficient process. We required patients to be established with us in order to book online, so you already had to have an account with Providence. Many, many breakage points."

Providence also faced issues when trying to provide same-day care for patients. According to Sara: "We were missing that opportunity with the existing ecosystem of technology that we had. For instance, it could take three to four weeks to get in to see a primary care provider, and you couldn't really book online."



Aims of the new system

The overall aim of Providence's new DexCare system is to retain and improve quality and minimize costs of its health care services, with the aim of attracting new customers, particularly those with commercial insurance, by making the organization easy to find (i.e. by having visible web presence) and providing easy access to services.

Marcee Chmait, Executive Director of Digital Business Development, summarized the aim as "a growth, operational efficiency and retention strategy."

The new system addresses this aim via the following three pathways:

- ▶ **Demand aggregation:** DexCare aggregates patient demand so that it can understand the current needs of the user and where they are looking for that demand to be met.
- ▶ **Intelligent optimization:** DexCare combines patients' demand data and the availability of service providers to optimally distribute patients to the nearest, most appropriate location with the least waiting time. This in turn gives providers a more efficient experience when treating their patients.
- ▶ **Navigation:** DexCare aims to provide the right care, at the right time, in the right way. Providence aims to identify the needs of the patient and assign them to the right modality of care. For example, it aims to determine if the best course of action is to have a remote consultation or an in-person appointment based on the patient's characteristics.

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Sara Vaezy

Chief Digital Strategy and Business Development Officer

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Innovation description

Context/background

Providence has actively pursued the provision of digitally enabled care since 2015. Its aim is to harness the potential of digital care to increase consumer access to health care while maintaining or improving quality and reducing costs. Initially, like many health and human service (HSS) organizations, Providence subcontracted providers of separate digital resources, such as scheduling, telemedicine and chat-based visits, and utilized these services to provide “add-on” digitally enabled care. However, this approach failed to engage consumers in the way that Providence had hoped. It involved disparate systems that did not work well together. Seeing a gap in the market for an innovative, connected and digitized service, Providence built its own system “from the ground up.” Providence’s Digital Innovation Group (DIG) oversaw DexCare’s development. This group is described by Providence members as “very experienced health tech investment professionals, and a team of digital marketing professionals with deep experience in health care and other big tech companies.” DexCare is now live and generating positive cost-efficiencies. A spin-off company for DexCare will soon be launched.

Innovation components/approach

DexCare is a data platform that endeavors to understand what the consumer needs, what services are available, and how to pair the two. It does this by bringing together its three main functionalities: demand aggregation, intelligent optimization and navigation.

Providence wanted to ensure that the data collected by DexCare would be reflected in their patients’ electronic medical record (EMR), and that physicians could use DexCare to add new information. “Providence made the choice early on to build DexCare in a very integrated way from the ground up. It cost Providence probably about US\$30-40m, and a lot of that went into making that infrastructure work. It’s expensive, and most start-ups can’t do this, but Providence did it. Now, DexCare is a data-in-one system. It communicates with an EMR, and those interoperability issues have been addressed because they put their time, energy and resources into doing that”, stated Derek Streat, CEO of DexCare. In addition to providing a unified system that works more fluidly, DexCare has enabled the generation of data that Providence can use to manage and increase its efficiency, quality, attraction and retention of consumers. Marcee Chmait described how DexCare had

changed their use of data and analytics: “it’s changed a lot. Prior to this platform being built we just had a very transactional relationship with the patient that came in, got their care, and left. Now we’re trying to use that data to inform how we acquire them, the cost of acquisition, how we transact with them, the cost of the transaction, and how we engage with them and the retention value that that brings. It’s a whole different set of data analytics and metrics used to really understand the value and end consumer experience”.

Seeing a gap in the market for an innovative, connected and digitized service, Providence built its own system “from the ground up.”

Target population

DexCare's main customers are healthcare systems, but the ultimate goal is to improve access, cost and quality of care for Providence's patients, particularly those that are commercially insured.

Key stakeholders

Providence made sure to involve all relevant stakeholders from across the system during the design and development phases. Key stakeholders included the following:

- ▶ **Digital Innovation Group:** The team lead by Aaron Martin, who was responsible for the development of DexCare.
- ▶ **Providence's IT department:** "IT is a huge stakeholder in this because we were building things on top of and around the EMR. They had to be very keen stakeholders in this whole process", stated Marcee Chmait.
- ▶ **Ambulatory care network:** This network started the groundwork that would later become DexCare by establishing Providence's retail medicine footprint. According to Sara Vaezy, "they were the ones that built the operation and the clinical service and the line of business that was ultimately providing the care and hiring the providers and running all of the clin-ops and business ops. They were the ones that had started our entire retail medicine footprint and opened the video visits contract, if you will, at the beginning". They are now one of the primary users of DexCare.

- ▶ **ExpressCare:** This is a group within Providence that is in charge of retail care and is one of the main customers of DexCare. "I feel privileged that I've had as much input as I've had. The people running our clinic day-to-day have had input into the system. I think this is very unique. We've developed a platform that's really centered around the way that a clinician and a front office person work. They've looked at it and said "ok, this is what would work for us", so they've really built something that I feel works well", stated Amanda Ashley, Director of Operations at ExpressCare.
- ▶ **Service line owners:** DexCare has become increasingly attractive to other service lines aside from retail care. Service line owners from other areas such as primary care or urgent care have been involved in shaping the solution to ensure that it can also be used in their areas.

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Marcee Chmait

Executive Director of Digital Business Development



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Evidence of impact

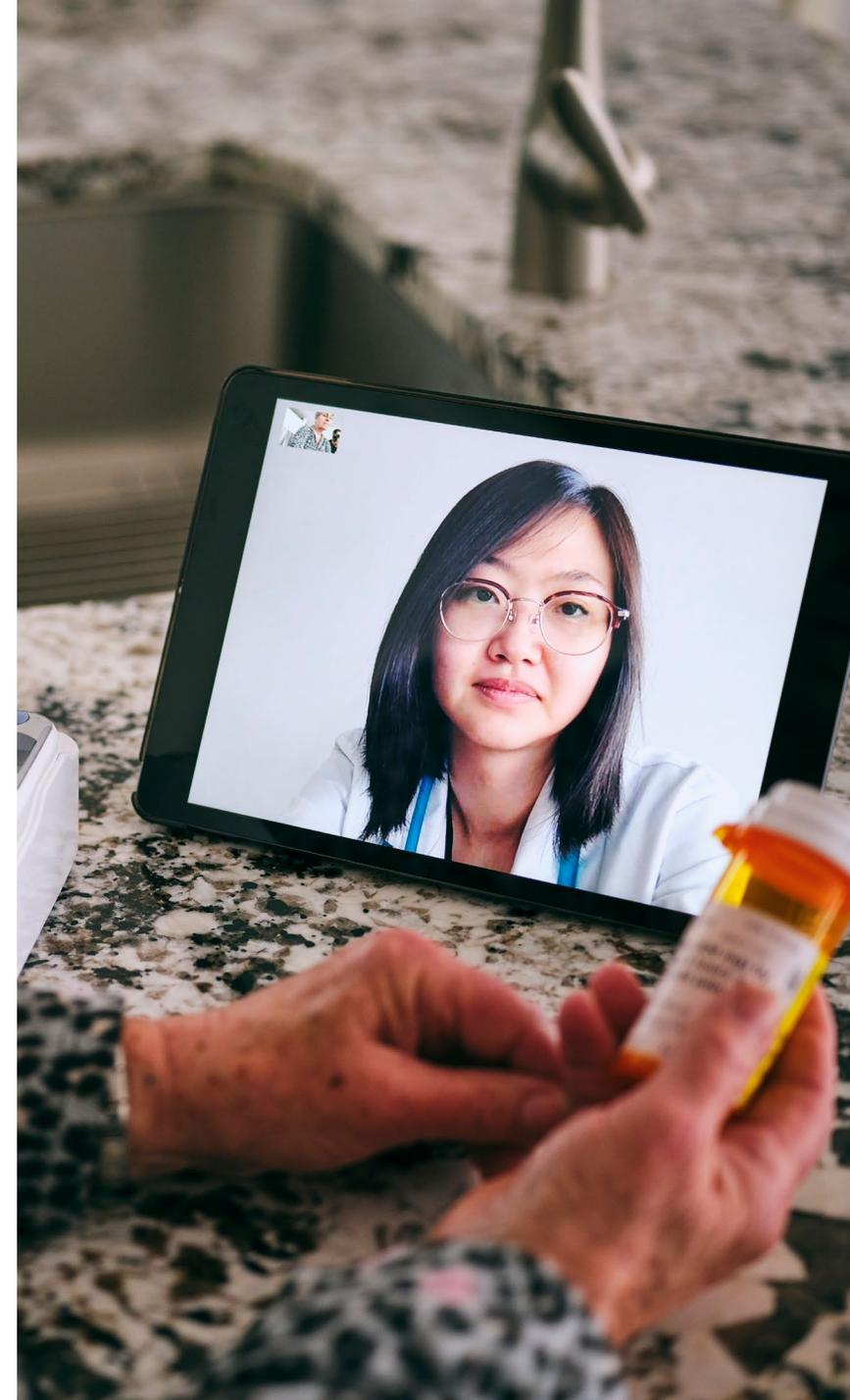
Evidence of DexCare's success can be found in the following areas:

- ▶ **Cost saving and improved benefits:** Providence has made its retail service line more profitable by being able to attract new customers, particularly those who are commercially insured. This is especially relevant as the price points for this service line are lower than others. By providing patients with better care experiences, it is able to retain them for longer. Derek Streat estimates that Providence has reduced about 22% of the cost for follow-up visits by using this platform.
- ▶ **Consumer satisfaction:** a net promoter score (NPS) of 94 suggests high consumer satisfaction with the platform, with other direct competitors scoring below 70.
- ▶ **Rapid growth in virtual visits:** during the COVID-19 pandemic, Providence has been able to rapidly scale up DexCare's capabilities, successfully managing up to 30 times the volume of patients compared with pre-pandemic levels. This is evidence of the platform's robustness and adaptability.

- ▶ **Expansion into other service lines:** following the positive metrics observed from DexCare in retail care, Providence has started expanding it to primary care and urgent care.
- ▶ **Intention to make DexCare an independent company:** given the great benefits that DexCare can provide, Providence has decided to spin it out as an independent company.

22%

of the cost was reduced by Providence for follow-up visits by using this platform



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Key challenges

The key challenges that Providence have faced in developing, launching and maintaining DexCare include information security, balancing speed of development and cost, interoperability, new players in the market and change management.

- ▶ **Information security:** “When you are managing that amount of information, you’ve got to be very, very buttoned up on data and privacy, and make sure that all things are well protected there. As you can imagine, being inside of one of the nation’s largest nonprofit health systems, we’re incredibly well buttoned up there. DexCare has gotten lots of oversight and review and involvement from compliance, legal and privacy on these issues, and continues to do so as we get ready to spin the company out,” stated Derek Streat.
- ▶ **Speed of development and cost:** Providence sought to strike a balance between quickly developing DexCare so that it would be sufficiently viable and ready for the market while not spending unnecessary resources in development. Sara Vaezy commented: “Anytime you’re building a new capability and creating a new market and building new business models, that takes time. If there’s any way to accelerate that work so we don’t burn as much capital ... Speed to market is really critical, and we just have to figure out how to do this faster.”

- ▶ **Interoperability:** one of Providence’s main goals was to provide physicians with a single tool that they could use to interact with patients and their EMRs. For Sean O’Connor, Entrepreneur-in-Residence and CCO (Chief Commercialization Officer) of DexCare, the question was: “How do we have one cohesive platform that services into an EMR environment and leverages EMR data as source of truth, but can tie together multiple different modalities and venues of care to make the health system easier and the consumer experience easier?”

This meant that DexCare had to be able to read from, and write data to, the EMR system. “Everybody talks about FHIR [Fast Healthcare Interoperability Resources] API [application programming interface], but FHIR API is not necessarily available for all the data, so you have to use different mechanisms. Also, reading data might be easier, but writing information back to these EMR systems can be extremely difficult. There is a lot of work that the team has done around that,” explained Maryam Gholami, Group Vice President, Chief Products Officer at Digital Innovations, Providence. Some of the technical challenges are still tied to the EMR system: for example, if something “breaks” on the EMR side, Providence must try to capture this and manage the risk.

In response to this, it has built a dashboard that tells the customer if something is going on. This tells the organization, for example, if the EMR system is down.

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Derek Streat

Entrepreneur-in-Residence and CEO of DexCare

► **New players in the market:** for Derek Streat, there is a lack of understanding of the groundwork and benefits that a platform such as DexCare has over less-established systems. “We’re pretty different in the market. That doesn’t change the fact that there’s a lot of noise out there right now, and it can be very confusing for both consumers and health systems that say, ‘well, we want to do digital care,’ but don’t really put the work into actually figuring out how to make it work,” he explained.

There is also concern over competition from big tech firms that have developed digital health technologies without the health care background that Providence has. “We’ve got big, big nonhealth system competitors at our doorstep, whether it’s Amazon or Google or any of these folks that are really trying to own this space. That was one reason why we were highly motivated to make sure that the market heard the strategic imperative about becoming digital, and digital in a channel where consumers accept this - otherwise, they’ll go to our nonhealth system competitors,” said Sara Vaezy.

► **Change management:** HHS organizations have often been described as more resistant to change than others. David McAughan reported that there has been significant resistance from the clinician community. This was echoed by Sara Vazey: “We were consistently between the push and pull with ‘this is the way we’ve done things in the past’ and ‘this is the way that we’re looking to do things in the future.’

The changes around the business model, the changes around the operating model, around more flexibility in the workforce and how to respond to demand, those things are all change management-related things. In our case, I would highlight that the change management associated with adoption of digital, within the context of a health system which is very rigid, is not to be underestimated.”

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Sara Vazey

Chief Digital Strategy and Business Development Officer



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Key enablers

Providence has taken key steps to ensure the success of DexCare. These include securing funding, making the strategic decision to focus on digital health early on, using data and analytics as enablers, building an interdisciplinary team and co-developing the solution with customers.

- ▶ **Funding:** DexCare was funded through Providence's incubation function within the DIG. Providence recognizes that many health systems will not have access to this level of funding for the development of data and analytics projects. They encourage others to approach them and learn from their experience. As Marcee Chmait put it, "Don't think you have to reinvent the wheel."
- ▶ **Management leadership:** management leadership and vision have been key to positioning Providence at the forefront of innovation. "Having an organized vision that is well resourced and has autonomy within the system is pretty key. Lots of initiatives in health systems die because you don't have an organization that is pointing out at a mountain on the horizon saying, 'that's the mountain we're going to climb, and here's how we're going to resource it, and here are the resources, and here is how we're going to staff it,'" stated Derek Streat.

- ▶ **Data and analytics as enablers:** "There's no data analysis for its own sake. It's in service to understanding the problem and then understanding how to tackle it, then measuring the performance of what you're doing in order to tackle it," said Sara Vaezy. Sean O'Connor expanded on the strategic use of analytics at Providence: "Data analytics drives just about everything that this group does. There are no hunch decisions. If we're going to do something, we have to wait to measure it, and we have to find a way to measure its effectiveness. The only way we can do that is through data and analytics. There's a data analytics engine that powers and measures and tracks just about every facet of every encounter within DexCare and all the other projects that the DIG is working on."
- ▶ **Interdisciplinary team:** the DIG was formed by people with extensive experience working in big tech companies, which has enabled Providence to solidify its leading position in the digital health space. "First and foremost, it comes back to people. I think they have a great team. They have a group of people that are a combination of industry experts from a technology perspective that we brought in from the outside who really understand how to build tools, how to build software. But, also, a number of people who have been longtime

Providence employees and have been in the technology field within Providence who deeply understand our organization. I think that blending of capabilities has really set them up to being great partners," said David McAughan.

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Sara Vaezy

Chief Strategy and Business Development Officer

► **Co-development with consumers:** during product design sessions, the development team looked for patterns in the needs and wants of consumers and tried to provide a solution that would appeal to multiple groups. Different service lines within Providence were able to provide feedback about DexCare and how it could be best suited to fit their needs. This led to a final product that was designed to fit seamlessly into their current workflow. Maryam Gholami described how the process works: “This product is really a co-development effort with others in critical business and operation lines. We partner with them closely throughout the entire product development cycle and iterations including planning, requirement gathering and analysis, design iterations and reviews and even engineering, testing and troubleshooting. Although these folks have their own full-time jobs, they have a great deal of interest and enthusiasm in helping us define the product and make the platform successful. Our teams collaborate through various mediums, including chat channels in Slack or Microsoft Teams, so we can exchange ideas and ask questions throughout the whole process at any time. Having really good collaboration with the business and operation lines and co-developing it is a major reason for success.” This sentiment was echoed by one of DexCare’s main customers, Amanda Ashley: “I feel privileged that I’ve had as much input as I’ve had. The people running our clinic day to day have had input into the system. I think this is very unique. We’ve developed a platform that’s really centered around the way that a clinician and a front-office person work.

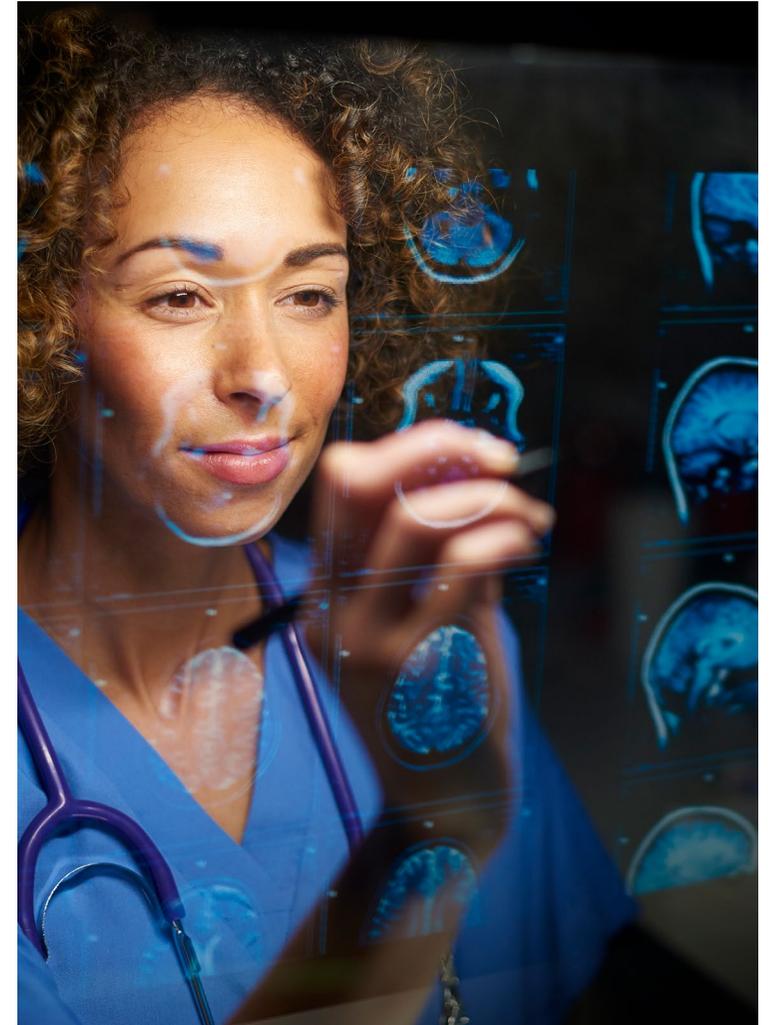
They’ve looked at it and said, ‘OK, this is what would work for us,’ so they’ve really built something that I feel works well.” Amanda Ashley is the Director of Operations of Express Care, Providence.

► **Clear feedback mechanism:** Providence’s DexCare team has ensured that user input is captured. Staff can provide continual feedback on the tool and are also looped in for future developments. “From time to time, they will consult with our clinical staff and our providers to get input on specific launches, ideas or pilots that we want to do,” stated Amanda Ashley. This has ensured that the tool remains valuable and relevant over time.

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We’ve developed a platform that’s really centered around the way that a clinician and a front-office person work.

Amanda Ashley
Director of Operations of Express Care



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Future plans

Providence plans to continue improving its data analytics strategy. “We don’t really have a good data strategy, in my opinion. It takes a lot of heavy lifting to have a cohesive database or data strategy, and it takes a lot of work to get it out. I know our team is working on it,” said Maryam Gholami.

Providence is also looking to further advance DexCare’s utility, including predictive analytics. In Marcee Chmait’s view, “We want to get enough data pumping through DexCare so we can start to predict which visit types don’t even need to have a clinician, and we can start to diagnose and treat without clinicians. Providence is moving to value-based care models, which means that we won’t be reimbursing more for service cases, we’ll get capitation from payers, which means that we have to really figure out how to manage the dollars within a patient population. The more digitally advanced we can get in pushing down the cost of delivering the care, the better that will be for us.”

Finally, Providence aims to remain competitive and relevant within the digital health space. According to Sean O’Connor, “The ultimate question for our technology is how do you ensure that health care systems remain relevant and competitive in a digital world. I think that’s been the guiding principle for this technology and not only for Providence, but as it spins out and becomes a solution that other health care systems can use, for the viability and sustainability of the health care system model, and for the growth in the health care system model.”



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- ▶ Sara Vaezy, Chief Digital Strategy and Business Development Officer, Providence, interviewed on 9 October 2020
- ▶ Maryam Gholami, Group Vice President, Chief Products Officer at Digital Innovations, Providence, interviewed on 8 October 2020
- ▶ Marcee Chmait, Executive Director of Digital Business Development, Providence, interviewed on 1 October 2020
- ▶ Derek Streat, Entrepreneur-in-Residence and CEO of DexCare, interviewed on 13 October 2020
- ▶ Sean O'Connor, Entrepreneur-in-Residence and CCO (Chief Commercialization Officer), interviewed on 2 October 2020
- ▶ David McAughan, Executive Director of Express Care and Line of Business Leader, interviewed on 13 October 2020
- ▶ Amanda Ashley, Director of Operations of Express Care, interviewed on 9 October 2020

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