

**CASE STUDY**

for U.S. health care providers

# How Seattle Children's Hospital Limited the Impacts of Digital Inequity

---

Improving equity and access to virtual care

Published - September 2021 • 20-min read



# Table of contents

Overview ..... pg. 3

Approach ..... pg. 4

1: Layer data to identify patients likely affected  
by digital inequity ..... pg. 5

2: Partner with a community resource team to  
help patients access technology ..... pg. 6

3: Meet patients' diverse needs with multiple  
options to access care ..... pg. 7

4: Design a user-friendly experience to sustain  
long-term adoption ..... pg. 8

Results ..... pg. 9

Supporting artifacts ..... pg. 10

Related content ..... pg. 13

# Overview

## The challenge

With the rapid shift to telehealth at the height of the Covid-19 pandemic, the team at Seattle Children's Hospital knew that a portion of their patient population would be left behind. But they didn't have any existing metrics or measurement methods that could accurately identify those patients, making it difficult to help them.

## The organization

Seattle Children's Hospital is headquartered in Seattle, Washington. The 400-bed organization provides inpatient and outpatient services across the Pacific Northwest.

## The approach

Seattle Children's began addressing digital inequities by layering social vulnerability data on top of patients' locations and no-show rates to identify patients in need. A community resource team works with those patients to determine the best methods of support. Lastly, Seattle Children's Hospital works within the community to deploy loaner devices and set up community kiosks.

## The result

The concentrated efforts to address digital inequities helped Seattle Children's Hospital reduce the gap in telehealth use and the variance in MyChart activation rates among different demographic groups. The team also learned valuable lessons in how to increase technology adoption among all types of patients.

---

# Approach

## How Seattle Children's identified and supported patients in a proactive manner

Seattle Children's took an innovative approach to addressing digital inequities by proactively identifying patients in need. The team started by layering multiple data points to create a heat map of patients who might benefit from support. The team then partnered with patient resource groups to deploy customized and meaningful solutions to meet patients' individual needs.

## The four ways that helped Seattle Children's address digital inequity

---

### 01

Layer data to identify patients likely affected by digital inequity

---

### 02

Partner with a community resource team to help patients access technology

---

### 03

Meet patients' diverse needs with multiple options to access care

---

### 04

Design a user-friendly experience to sustain long-term adoption

---

# 01 Layer data to identify patients likely affected by digital inequity

Seattle Children's Hospital's data team used proxy metrics to narrow down which patients might be affected by digital inequities. They pulled data points from CDC census data on social vulnerabilities, such as lack of internet access and prevalence of multi-family households. These data points were layered alongside no-show rates and a map of patients' locations. The resulting heat map gave the Seattle Children's team a better idea of regions where patients weren't accessing care because they lacked the necessary digital means. (See figure 1 on page 10.)

## How Seattle Children's uses data to identify and support patients



Patients' locations

No-show and  
cancellation rates

Inadequate  
broadband access

Proactive identification of  
patients who may benefit  
from loaner devices and  
community kiosks

The different social vulnerabilities can be toggled on and off to get a better understanding of why those patients might benefit from support. For example, areas on the map with high no-show rates and a lack of internet connectivity might benefit from the placement of community kiosks instead of loaner devices.

The heat map has already been useful in addressing digital inequities. Directors use the map for other areas of strategic growth such as kiosk placement, broadband connectivity offerings, telehealth expansion opportunities, and additional services for vulnerable populations.

# 02

## Partner with a community resource team to help patients access technology

The community resource team at Seattle Children's plays a crucial role in building relationships with patients, ultimately earning their trust. Patients, especially those who haven't had a lot of interaction with the health system, often feel uncomfortable asking for help. That makes it difficult for health systems to identify effective methods of support when patients can't, or won't, describe the kinds of support they need.

Seattle Children's community resource team (which existed before Covid-19) includes members who speak most languages used in the area, and all members are trained in cultural humility. ([See Our Take on cultural humility.](#))

Partnering with social workers, the community resource team serves as the intake for patients and families who live in areas identified on the heat maps. The team works with patients to better understand their individual needs and educates patients about potential solutions to determine which would work best. These interactions help the community resource team point patients toward loaner devices or community kiosks. The team also encourages adoption of the virtual care technology through education and digital literacy training.

# 03 Meet patients' diverse needs with multiple options to access care

Seattle Children's loaner device program and community kiosks, which were funded through grant money, provide options to patients with different needs. For example, loaner programs work well in rural areas where travel is a hurdle to accessing health care. Community kiosks work well in areas with high populations of people who lack access to Wi-Fi.

## **Loaner program**

The loaner program provides patients with tablets and options for internet connectivity so they can access the patient portal and conduct virtual visits. The team at Seattle Children's Hospital retain oversight on the devices by restricting new app downloads and limiting the available apps to Zoom, MyChart, their own Seattle Children's app, and an internet browser. The devices are shipped to the patients for free or can be picked up at a clinic, depending on the patient's preferences.

## **Community kiosks**

Kiosks have been placed throughout communities in public places such as homeless shelters, libraries, and schools. Social distancing requirements during Covid-19 interrupted the placement of community kiosks, but the team at Seattle Children's is exploring future opportunities.

To participate in the kiosk program, every resource location had to sign a memorandum of understanding (MOU) and agreed to wipe the device after every use to ensure privacy.

# 04 Design a user-friendly experience to sustain long-term adoption

Seattle Children's Hospital knows that successfully reducing digital inequities depends on long-term adoption of the technology. Here are some tactics that Seattle Children's uses to ensure a user-friendly experience:

## ► **Keep devices consistent between inpatient, outpatient, loaner programs, and kiosks**

Seattle Children's Hospital uses the same tablets across all health care settings to make it easier for patients to become comfortable using the technology.

## ► **Accommodate patients with inclusive user experience (UX) design**

The team employed a UX designer to create educational materials and design the technology to support all patients, including non-English-speaking patients and patients who are deaf or hard of hearing. Some of the features included:

- Instructions translated into multiple languages and tailored to specific reading levels
- Sign language, closed captioning, and other accessibility features
- Option for patients who are deaf or hard of hearing to connect with provider who is also deaf or hard of hearing

## ► **Allow patients to use devices for non-health care activities**

In addition to accessing health care, patients can use the devices for things like schoolwork, family Zoom calls, and browsing the internet. Letting patients use the devices for other activities helps increase digital literacy, which is critical for education and employment opportunities.

# Results

## How we know it's working

Seattle Children's efforts to address digital inequity helped close the gap in telehealth utilization between English-speaking and Spanish-speaking patients<sup>1</sup> from a 5% difference in September 2020 to a 1% difference in April 2021. (See figure 2 on page 11.)

The efforts to address digital inequity also helped reduce the disparity in the number of English-speaking versus non-English-speaking patients registered for the patient portal.

From February 2020 through March 2021, that difference fell from 30.9% to 6.7%. (See figure 3 on page 12.) Seattle Children's has plans to continue working with community partners to reduce that gap further.

## Lessons learned

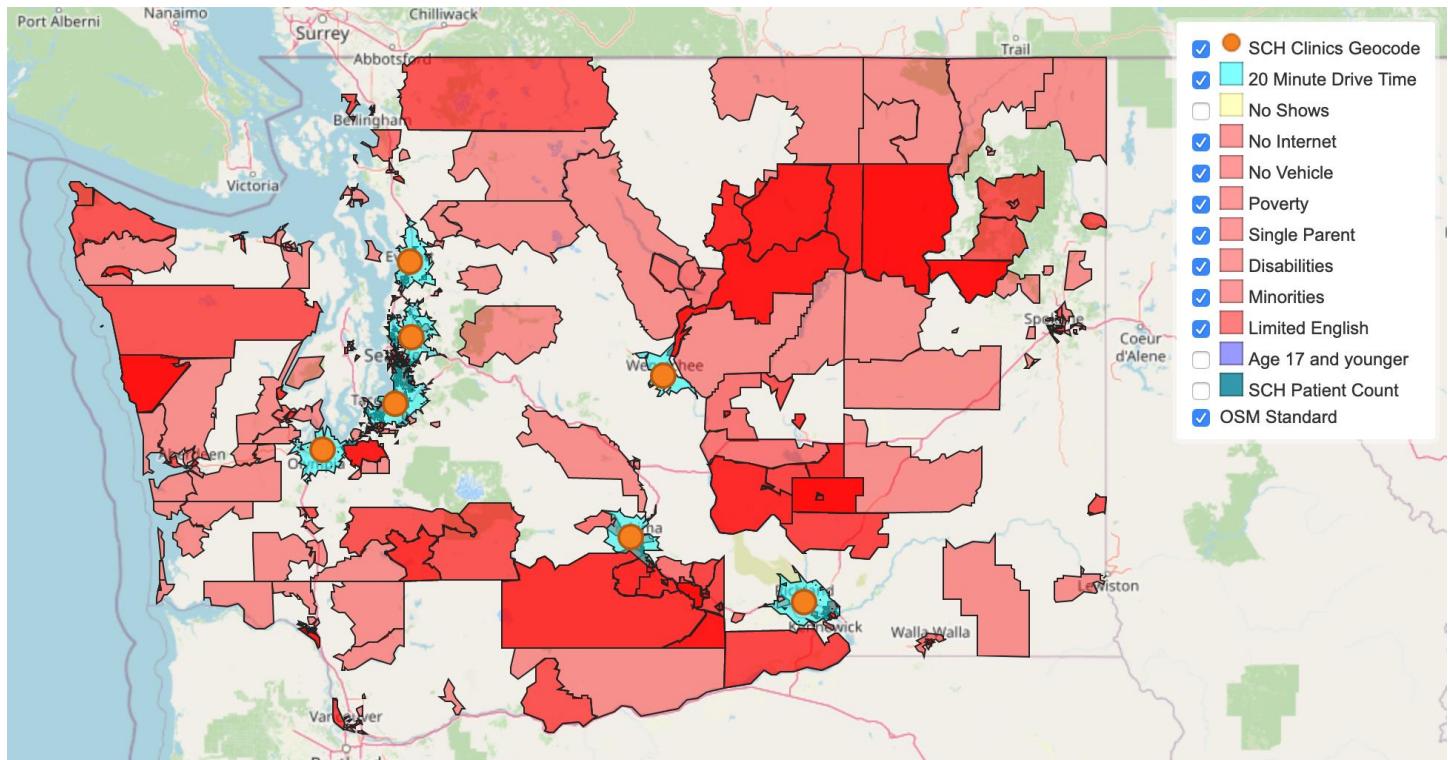
Seattle Children's is still iterating on solutions to reduce digital inequity. Here are some of the lessons the organization learned from their initial efforts:

1. Plan for legal agreements to be the hardest part of the whole process.
2. Build time into the planning process to find the right resources for the program.
3. Make sure the loaner devices can be controlled remotely in case they're lost or stolen.
4. Ensure there is a constant feedback loop with both patients and physicians participating in the program.
5. Be adaptable and flexible as you build out the program—things won't go according to plan. 

1. Some of Seattle Children's data was broken down into English-speaking and non-English speaking groups. Other data was specifically broken into English-speaking and Spanish-speaking groups.

# Supporting artifacts

**Figure 1:** Heat map with layered data points

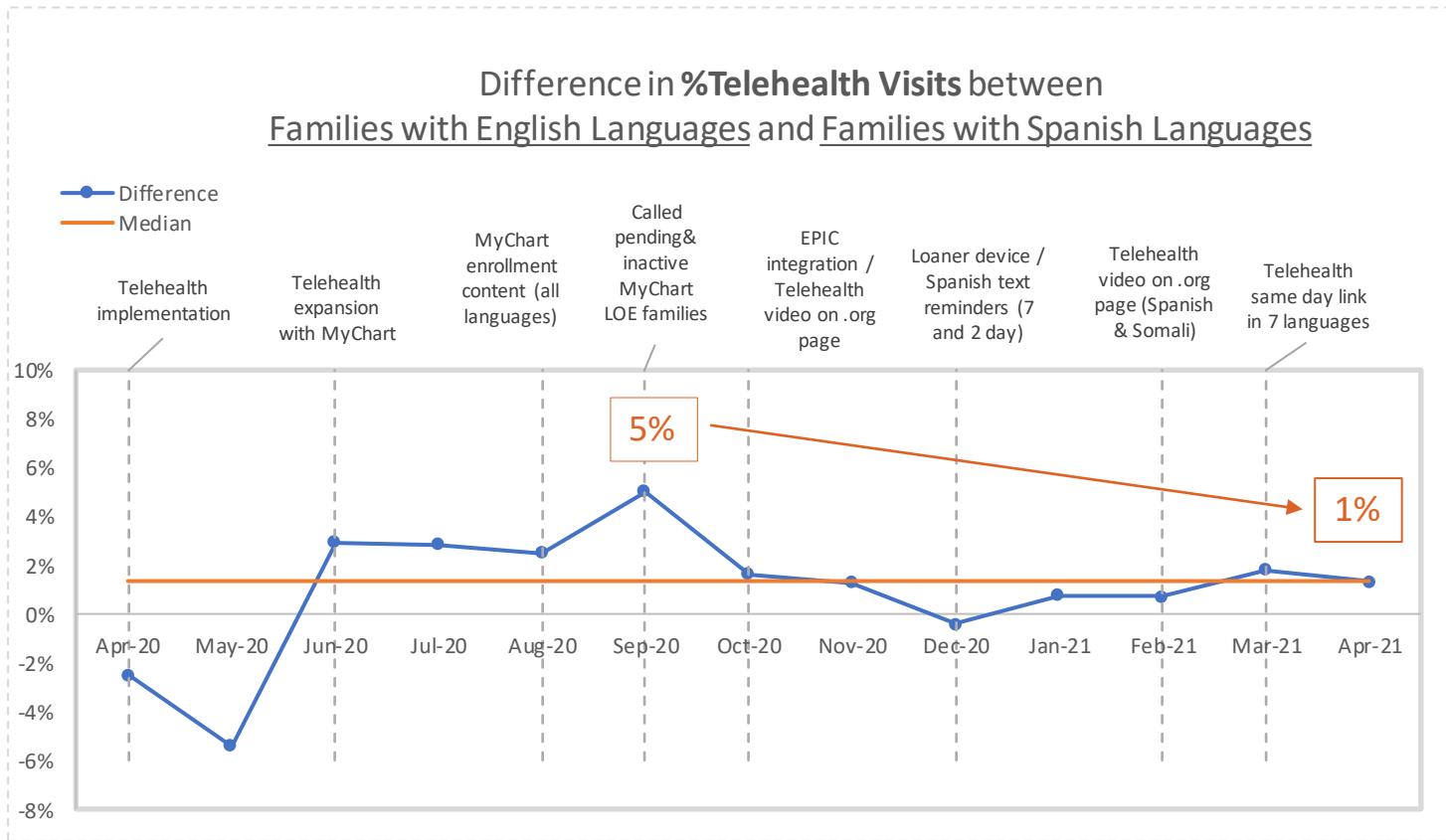


Source: Seattle Children's Hospital

## SUPPORTING ARTIFACTS

# Supporting artifacts (cont.)

**Figure 2: Results – Telehealth visits**

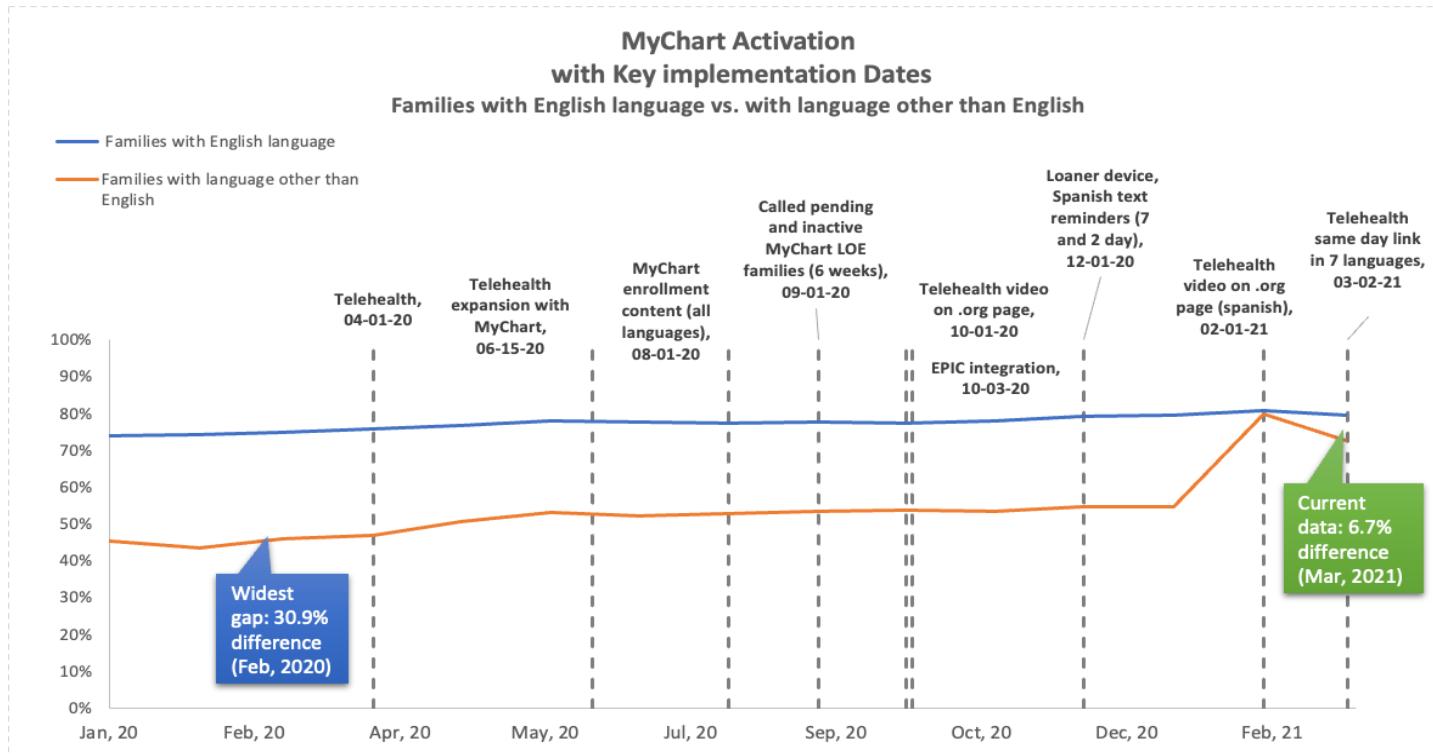


Source: Seattle Children's Hospital

## SUPPORTING ARTIFACTS

# Supporting artifacts (cont.)

Figure 3: Results – MyChart Activation Rates



Source: Seattle Children's Hospital

# Related content

## Advisory Board resources

### CHEAT SHEET

Digital inequity

[Read now](#)

### BLOG POST

The ‘digital divide’ is stopping your patients from accessing telehealth. Here’s how to bridge it.

[Read now](#)

### BLOG POST

Partnership, persistence, and patience: Key lessons from our panel on digital equity

[Read now](#)

### WEBINAR

Digital Inequity 101: Your guide to understanding digital disparities

[Watch now](#)

### STARTER LIST

How to bridge the ‘digital divide’

[Read now](#)

### RESOURCE

Topic page: Social determinants of health

[Read now](#)



## Project director

Ty Aderhold

[aderholm@advisory.com](mailto:aderholm@advisory.com)

## Research team

Sharareh Afshani

Jordan Angers

Eunice Jeong

## Program leadership

John League

Alicia Daugherty

## Contributors to our work

Christina Bell

Senior Director, System  
Access and Innovation

*Seattle Children's Hospital*

Mark Lo

Medical Director, Telehealth &  
Digital Health

*Seattle Children's Hospital*

Ryan Sousa

Chief Data Officer

*Seattle Children's Hospital*

### LEGAL CAVEAT

Advisory Board has made efforts to verify the accuracy of the information it provides to members. This report relies on data obtained from many sources, however, and Advisory Board cannot guarantee the accuracy of the information provided or any analysis based thereon. In addition, Advisory Board is not in the business of giving legal, medical, accounting, or other professional advice, and its reports should not be construed as professional advice. In particular, members should not rely on any legal commentary in this report as a basis for action, or assume that any tactics described herein would be permitted by applicable law or appropriate for a given member's situation. Members are advised to consult with appropriate professionals concerning legal, medical, tax, or accounting issues, before implementing any of these tactics. Neither Advisory Board nor its officers, directors, trustees, employees, and agents shall be liable for any claims, liabilities, or expenses relating to (a) any errors or omissions in this report, whether caused by Advisory Board or any of its employees, agents, or sources or other third parties, (b) any recommendation or graded ranking by Advisory Board, or (c) failure of member and its employees and agents to abide by the terms set forth herein.

Advisory Board and the "A" logo are registered trademarks of The Advisory Board Company in the United States and other countries. Members are not permitted to use these trademarks, or any other trademark, product name, service name, trade name, and logo of Advisory Board without prior written consent of Advisory Board. All other trademarks, product names, service names, trade names, and logos used within these pages are the property of their respective holders. Use of other company trademarks, product names, service names, trade names, and logos or images of the same does not necessarily constitute (a) an endorsement by such company of Advisory Board and its products and services, or (b) an endorsement of the company or its products or services by Advisory Board. Advisory Board is not affiliated with any such company.

### IMPORTANT: Please read the following.

Advisory Board has prepared this report for the exclusive use of its members. Each member acknowledges and agrees that this report and the information contained herein (collectively, the "Report") are confidential and proprietary to Advisory Board. By accepting delivery of this Report, each member agrees to abide by the terms as stated herein, including the following:

1. Advisory Board owns all right, title, and interest in and to this Report. Except as stated herein, no right, license, permission, or interest of any kind in this Report is intended to be given, transferred to, or acquired by a member. Each member is authorized to use this Report only to the extent expressly authorized herein.
2. Each member shall not sell, license, republish, or post online or otherwise this Report, in part or in whole. Each member shall not disseminate or permit the use of, and shall take reasonable precautions to prevent such dissemination or use of, this Report by (a) any of its employees and agents (except as stated below), or (b) any third party.
3. Each member may make this Report available solely to those of its employees and agents who (a) are registered for the workshop or membership program of which this Report is a part, (b) require access to this Report in order to learn from the information described herein, and (c) agree not to disclose this Report to other employees or agents or any third party. Each member shall use, and shall ensure that its employees and agents use, this Report for its internal use only. Each member may make a limited number of copies, solely as adequate for use by its employees and agents in accordance with the terms herein.
4. Each member shall not remove from this Report any confidential markings, copyright notices, and/or other similar indicia herein.
5. Each member is responsible for any breach of its obligations as stated herein by any of its employees or agents.
6. If a member is unwilling to abide by any of the foregoing obligations, then such member shall promptly return this Report and all copies thereof to Advisory Board.



---

655 New York Avenue NW, Washington DC 20001  
202-266-5600 | [advisory.com](http://advisory.com)