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Improving Access to Oncology Genetic Counseling

While only 5 to 10 percent of cancer diagnoses are associated with a hereditary syndrome, many of these syndromes have an alarmingly high lifetime risk of cancer—approaching 80 to 100 percent, with development of disease at younger ages than in the general population.[1-3] Recent advancements in genetic testing have led to a rapid growth in the knowledge of hereditary cancer syndromes. Options for families facing these risks may include prophylactic surgery, such as mastectomy; earlier cancer screening; and chemoprevention.[1, 2, 4] The key to providing appropriate prevention and medical management is identification of at-risk individuals and access to genetics experts for a thorough assessment. In 2011-2012, St. Luke's Mountain States Tumor Institute (MSTI) implemented two quality improvement projects for its genetic counseling program: telehealth and chart review.

Our Program At-a-Glance

Idaho is the 14th largest state with a population of more than 1.5 million; approximately 40 percent live in rural settings. MSTI is Idaho's largest provider of cancer care services, serving more than 3,000 new patients yearly in Boise, Fruitland, Nampa, Meridian, and Twin Falls. The MSTI Hereditary Cancer Assessment Clinic opened its doors in 2004. Staffed by a genetic counselor two days per week, services were originally only available at the Boise location. Since that time MSTI's genetic counseling department has seen tremendous growth. Today genetic counseling services are provided at all five MSTI sites.

Why Telehealth?

With so much mileage to cover over mountainous terrain and a steady increase in the demand for services during an economic downturn, MSTI had to find a creative solution to address the issue of access to genetic counseling services. Telehealth had been proposed for several years with more and more literature supporting it as a successful option for oncology clinics in rural settings. However, the investment expense, as well as the sheer volume of healthcare providers who would potentially demand telehealth services, was daunting. To avoid the risks inherent in a large-scale rollout and to gain the buy-in of executives and stakeholders within St. Luke's, MSTI employed small-scale "proofs of concept" (POCs) that could be rapidly implemented. POCs were a low-risk option that would allow MSTI the opportunity to test and refine ideas, while developing competencies.

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Additionally, with providers now using video conference technology, the telehealth POC would realize some cost-savings related to travel expenses.

Telehealth POCs

Genetic counseling and nutrition counseling—both part of MSTI's supportive services—were selected for the first telehealth POCs.

Figure 1. Telehealth Patient Satisfaction Questionnaire

Circle one answer in the box below per question	EXCELLENT	VERY GOOD	GOOD	FAIR	POOR	N/A
Rate your satisfaction using the telehealth audio and visual cart.	5	4	3	2	1	0
Rate your overall satisfaction with the telehealth cart set up.	5	4	3	2	1	0
Rate the timeliness of getting connected to the outside clinician and/or service through the telehealth cart.	5	4	3	2	1	0
Rate the likelihood you would use the telehealth service for future patients.	5	4	3	2	1	0
Rate the likelihood you would recommend telehealth to your friends or family as an effective way of receiving care.	5	4	3	2	1	0

Tell us what worked well and what did not work well (audio, visual, clarity, distractions).

What could we do better to meet your care needs through this experience?

This decision was based on the fact that these service lines do not require the use of peripheral devices, such as stethoscopes and/or examination cameras, and would only need a quality audio visual connection between patient and provider for content sharing. MSTI chose Fruitland as the recipient telehealth site, as this location had the staffing resources and physical space to accommodate the POC project. The city of Fruitland is a small rural community of just over 4,500 residents in southwest Idaho, located 60 miles west of Boise near the Oregon border. Prior to telehealth, patients in Fruitland and the surrounding areas had access to a cancer genetic counselor twice a month on Fridays and the average wait time for an appointment was 23 days.

Based on budget constraints, MSTI chose Microsoft Lync as the video communications platform for the POC project. MSTI already owned the platform, and it was compatible with Microsoft Outlook, which had been recently deployed system-wide as the

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email platform. Equipment needs included a desktop computer, an HD web camera, a USB speaker and microphone, and dual monitors for the transportable cart in Fruitland. Initially, providers used a laptop computer equipped with a camera in the hope that telehealth visits could occur wirelessly. However, MSTI quickly found that the video and audio quality was suboptimal. To address that issue, MSTI built a provider unit that included a desktop computer, the HD web camera, the USB speaker and microphone, dual monitors, a document camera, and wired network ports in all rooms where the cart and provider workstation would be used. Equipment costs, including the telehealth cart, were $7,200.

A certified assistant personnel (CAP, the equivalent of a certified medical assistant) was trained to operate the transportable cart at the Fruitland site, including connecting with the transmitting provider and troubleshooting any problems that arose, including issues with the equipment. This staff member also performed blood draw (or sample collection), obtained signed consent forms, and administered a patient satisfaction questionnaire. Patients were asked to complete the new Telehealth Patient Experience Questionnaire (Figure 1, left) immediately following the genetic counseling telehealth visit.

At the Boise site, the genetic counselor used PowerPoint slides during the telehealth visit to demonstrate key concepts. These slides mimicked the same visual aids used during in-person counseling. A document camera allowed the patient to see the pedigree and actively participate in the pedigree assessment. The genetic counselor was able to switch between these cameras to show all aspects of the genetic counseling session as necessary.

Engaging patients through video is quite different from an in-person meeting. Providers had to learn and incorporate "Telehealth Etiquette" (small talk, longer pauses, camera placement, more verbal descriptions of thought processes, etc.) to enhance communication and comfort for both providers and the patients. MSTI created several tools to assist staff, including:

- A telehealth point-of-care script and telehealth process flowchart for introducing a patient to the telemedicine cart (Figure 2, page 32)
- A telehealth genetic counseling process flowchart (Figure 3, page 33)
- A telehealth visit etiquette checklist.

Outcomes of the Telehealth POC

MSTI selected the following metrics to measure the success of the POC:

- Provider travel time and costs (cost savings)
- Elapsed time from referral to first scheduled appointment (improved access)
- Comparison of patient volumes (increased use of services).

During the three-month telehealth POC, 23 genetic counseling appointments were conducted. These appointments resulted in a savings of $1,050 in mileage and travel wages and 13.5 travel hours. MSTI estimated return on investment for 12 months to be 28 percent for genetic counseling and nutrition telehealth usage (see Figure 4, page 35).

Wait times for genetic counseling appointments dropped from 23 days to 16 days; appointment volumes increased from 6 appointments per month to 8 appointments per month. Patients had a greater variety of appointment scheduling options, with 16 hours per month to choose from on variable days as opposed to 8 hours per month on only Fridays. (Same day appointments were available for urgent needs.)

Most patients had not experienced a telehealth visit before, and yet they were satisfied with the service. Patient scores (N=12) demonstrated "Excellent" ratings (5/5) in the following:

- 83 percent satisfaction using the telehealth cart
- 83 percent likelihood to use telehealth again
- 92 percent would recommend telehealth to a friend.

For two appointments, MSTI had to use interpretation services—both received high patient satisfaction scores. Figure 5, page 36, shows all patient satisfaction scores.

The Chart Review Process

Often the first barrier to patient access to genetic counseling is awareness that genetic services are an option and/or are recommended. Guidelines for patient referral for a cancer genetics evaluation are well established.[1-6] National Comprehensive Cancer Network (NCCN) *Clinical Practice Guidelines in Oncology* provides criteria for genetics referrals that are continuously amended and updated.[7] Unfortunately, low rates for genetic risk assessment continue, suggesting that perhaps more than half of patients who qualify for genetic counseling are not referred to these services.[8-15] Baseline data from 2010 indicated that of total eligible patients at MSTI, 58 percent (n=152) were offered genetic counseling—data that is similar to national numbers.

Genetic counselors are uniquely qualified to identify appropriate patients, as well as provide improved understanding of significant features in a family history.[1,3,15,16] Given the time constraints that oncologists are under during an initial consultation, genetic counselors can help identify patients who are appropriate for a genetics evaluation. In an effort to improve referral rates to genetic counseling services, MSTI implemented a project

(continued on page 34)

Figure 2. Telemedicine Point-of-Care Script & Process Flow
Certified Assistant Personnel (CAP) Communication with Patient

INTRODUCTION

Hello _____ I am _____. I understand your clinician recommended a video-conference consultation with our genetic counselor who is located at another site. The video-conference allows immediate connection to our providers when they're not in the clinic, so you don't have to wait for an appointment—reducing the delay in your care.

_____ (Name of the genetic counselor) will appear on the left hand screen and important education information will appear on the right hand screen. I will get you started and then leave the room for your privacy. I will check in after a couple of minutes to make sure everything is working okay. Do you have any questions?

Thank you.

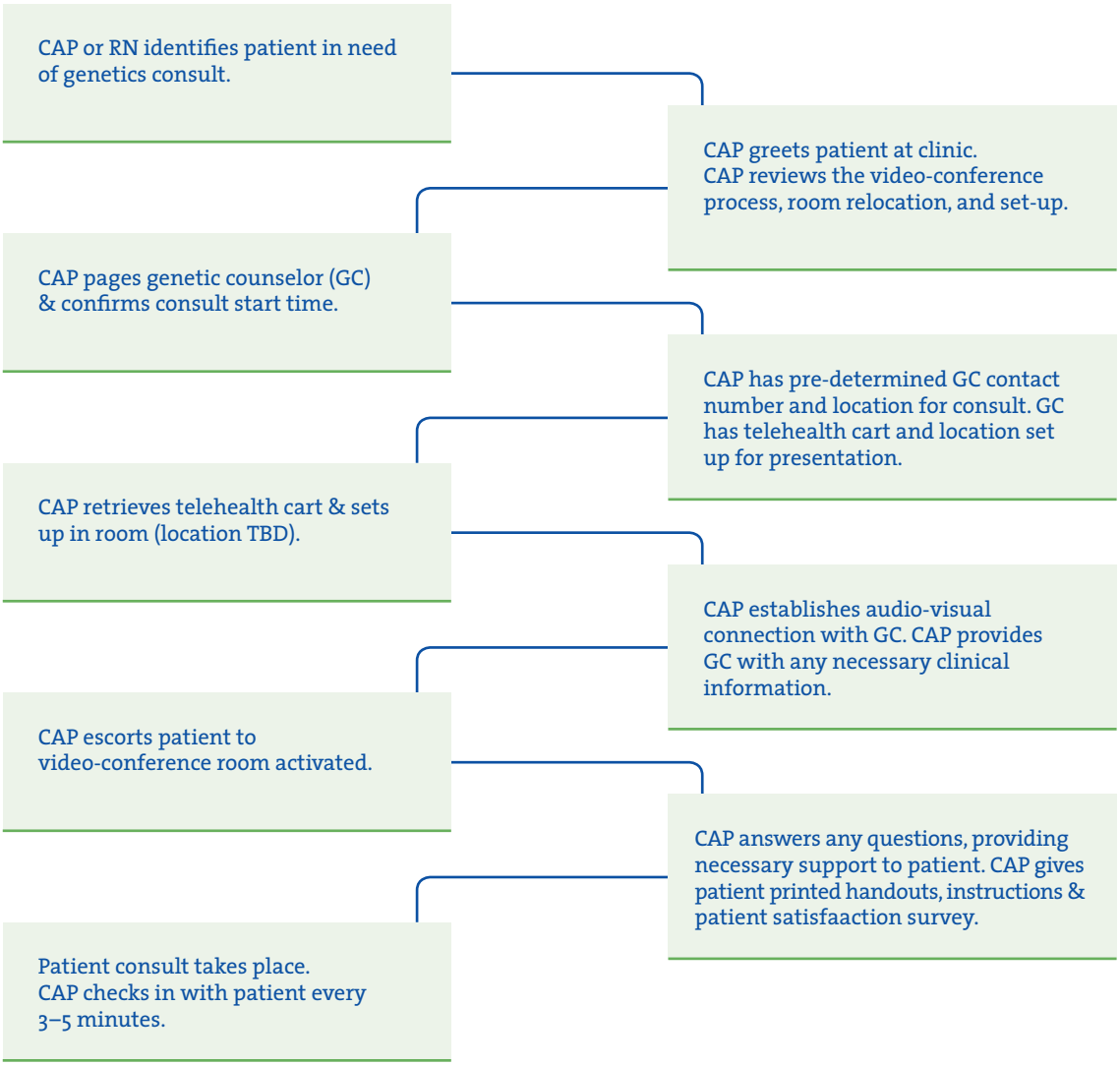
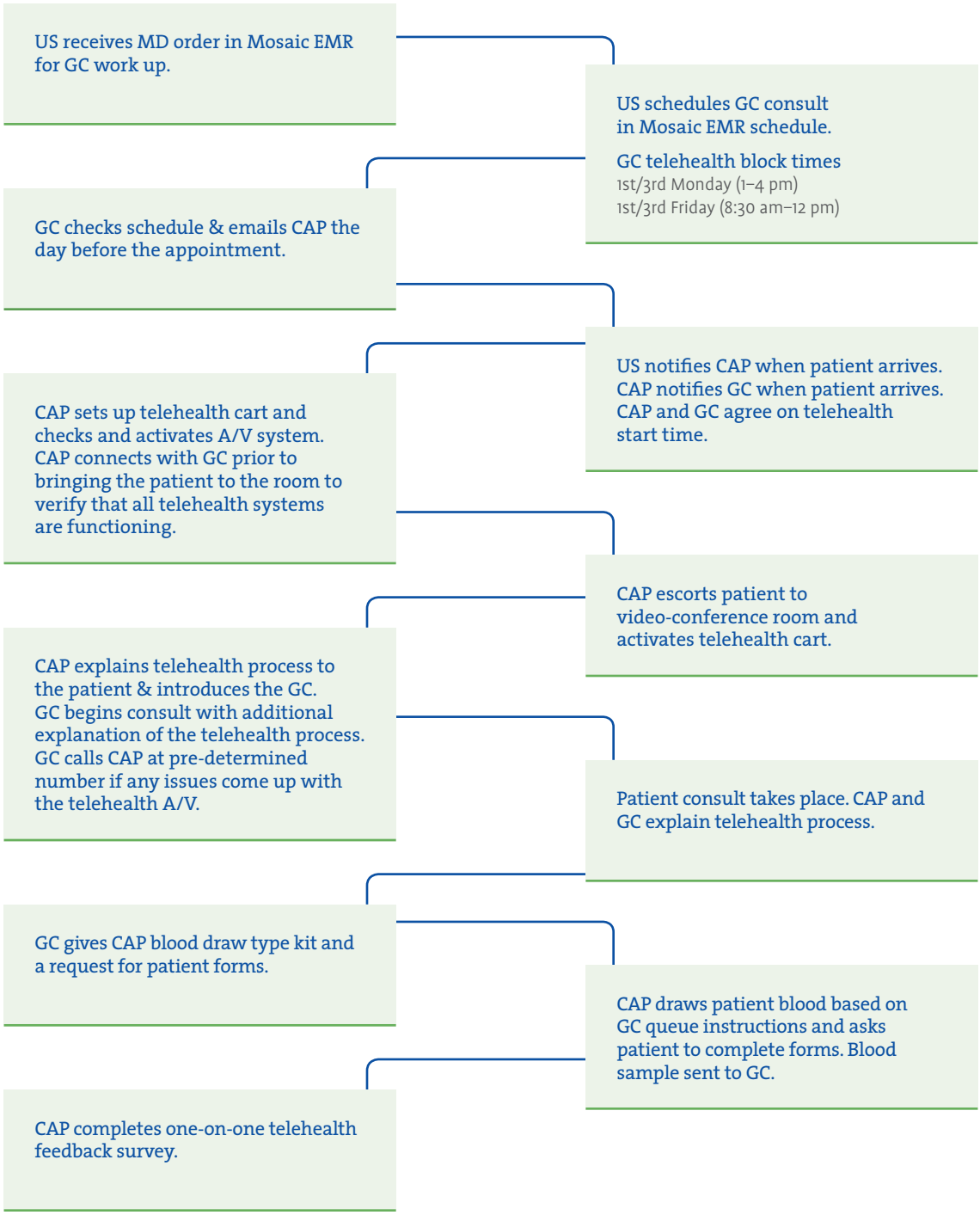


Figure 3. Telehealth Genetic Counseling Process Flow

GC = Genetic Counselor **TH** = Telehealth **US** = Unit Scheduler **CAP** = Certified Assistant Personnel (in clinic with the patient)



(continued from page 31)
where a genetic counselor would review the charts of all new oncology patients.[17]

To obtain support and input, MSTI's medical director, a medical oncologist, acted as physician champion. He brought the project to MSTI leadership meetings and took the genetic counselor to meet with the management council. Additionally, support staff met with each oncologist involved in the chart review prior to launch to determine which electronic communication method would be most effective and address any questions or concerns.[17]

> Increasing access to genetic counseling can lead to better preventive care for patients with hereditary cancer syndromes, cost savings, and improved outcomes.

MSTI uses the MOSAIQ EMR system for charting, scheduling, and communications between staff and providers. Support staff generated weekly reports of all patients with a specific appointment type (New Patient, 1-hour). Each patient chart was reviewed focusing on pathology, age, and family history. Eligibility for a genetics referral was based on NCCN guidelines: patients diagnosed with ovarian cancer at any age and patients diagnosed with breast, colon, and uterine cancer under the age of 50. If an eligible patient was not referred for genetic counseling, or if the oncologist did not provide documentation of genetics discussion, the genetic counselor flagged the patient's chart and provided an explanation of why the patient had been identified. The assigned physician determined if referral to genetics was approved and sent orders to scheduling. Support staff then generated weekly reports of identified patients for tracking and follow-up purposes.[17]

Outcomes of the Chart Review

The chart review project took two months to launch. MSTI put chart review into operation in September 2011, and the project lasted 10 months. The genetic counselor identified a total of 129 patients as candidates for genetic counseling who had not been referred or whose chart did not document discussion with the oncologist. After the project was implemented 70 percent (n=167) of eligible patients were offered genetic counseling or documentation of a genetics discussion was provided in the chart. This is a significant increase over baseline data. Patient identification for ovarian cancer was also statistically significant; improvements in breast and colon cancers were noted but were not significant.[17]

On average the genetic counselor conducted 73 chart reviews a week (60 to 80 minutes of work). Over one year, this added approximately 52 hours, or a 2.5 percent increase to a 40-hour work week. After streamlining the chart review process, MSTI's genetic counselor was able to incorporate chart review into her daily job responsibilities without impacting other patient care and management duties. In the end, the addition of slightly more than one hour of work per week for the genetic counselor improved the referral of eligible patients and facilitated the identification of three families with a hereditary cancer syndrome who might otherwise have been missed.[17] As a greater variety of genetics referrals were noted during the study period, data suggests that genetic counselors can provide expert support to oncologists beyond traditional referral indications. The recurring interaction between the genetic counselor and the oncologists allowed for educational opportunities; as oncologists became more aware, there was an increase in referrals of more complex family histories. Project data also suggests that the reminder of genetics on a regular basis improved the oncologist's attention to family history, as well as documentation in the chart.[17]

Although a chart review may appear an overwhelming undertaking, the task was deemed worthwhile to include in the job responsibilities of MSTI's genetic counselors and was easily implemented at the busy genetic counseling clinic. In 2013 MSTI decided to expand chart review to all five MSTI sites. With the additional workload plus the increased patient volumes, administration used the chart review project as justification for adding a part-time genetic counselor on staff.[17]

Improved Care

Increasing access to genetic counseling can lead to better preventive care for patients with hereditary cancer syndromes, cost savings, and improved outcomes.

The main goal of the telehealth and chart review projects was to improve patient access to cancer genetic counseling services. While cost savings alone justified the expense required to get MSTI's telehealth program up and running, telehealth also improved care by decreasing wait times and increasing access to genetic counseling appointments. The Fruitland telehealth project received executive buy-in and expansion to additional outreach sites was subsequently approved. Because some of these rural locations are even farther from the Boise site, genetic counselors will be able to save even more on travel time and mileage expenses, while devoting valuable time to direct patient care.

MSTI's chart review project achieved similar results as more patients who qualified for genetic assessments were offered an evaluation. With specialized training to recognize significant family histories, genetic counselors were able to help oncologists

Figure 4. Return on Investment on MSTI Telehealth POC

INPUTS

Travel reimbursement rate ..... $ 0.55 per mile
Average travel distance..... 120 miles
Provider time (cost)..... $ 45.00 per hour
Percentage of travel time qualifying for overtime..... 75 percent
Average round-trip travel time..... 2.25 hours

Pre-Telehealth Implementation

	Travel Days Per Month	Travel Miles Per Month	Mileage Reimbursment	Travel Time Per Month	Travel Wages Per Month	Total Monthly Cost	Total Yearly Cost
Dietitian	4	480	$ 264.00	9	$ 556.88	$ 820.88	$ 9,850.50
Genetic Counselor	2	240	$ 132.00	4.5	$ 227.81	$ 359.81	$ 4,317.75
TOTALS	6	720	$ 396.00	13.5	$ 784.69	$ 1,180.69	$ 14,168.25

Post-Telehealth Implementation

	Travel Days Per Month	Travel Miles Per Month	Mileage Reimbursment	Travel Time Per Month	Travel Wages Per Month	Total Monthly Cost	Total Yearly Cost
Dietitian	2	240	$ 132.00	4.5	$ 278.44	$ 410.44	$ 4,925.25
Genetic Counselor	0	0	$ --	0	$ --	$ --	$ --
TOTALS	2	240	$ 132.00	4.5	$ 278.44	$ 410.44	$ 4,925.25

Travel-Related Savings One Year ..... $ 9,243.00
Telehealth Equipment Cost ..... $ 7,200.00
One Year ROI 28%

identify patients who may benefit from genetic assessments and improve the patient experience.[17]

Jennifer N. Eichmeyer, MS, CGC, established the first cancer genetic counseling clinic for the state of Idaho in 2004, and now serves as the lead genetic counselor for St. Luke's Mountain States Tumor Institute.

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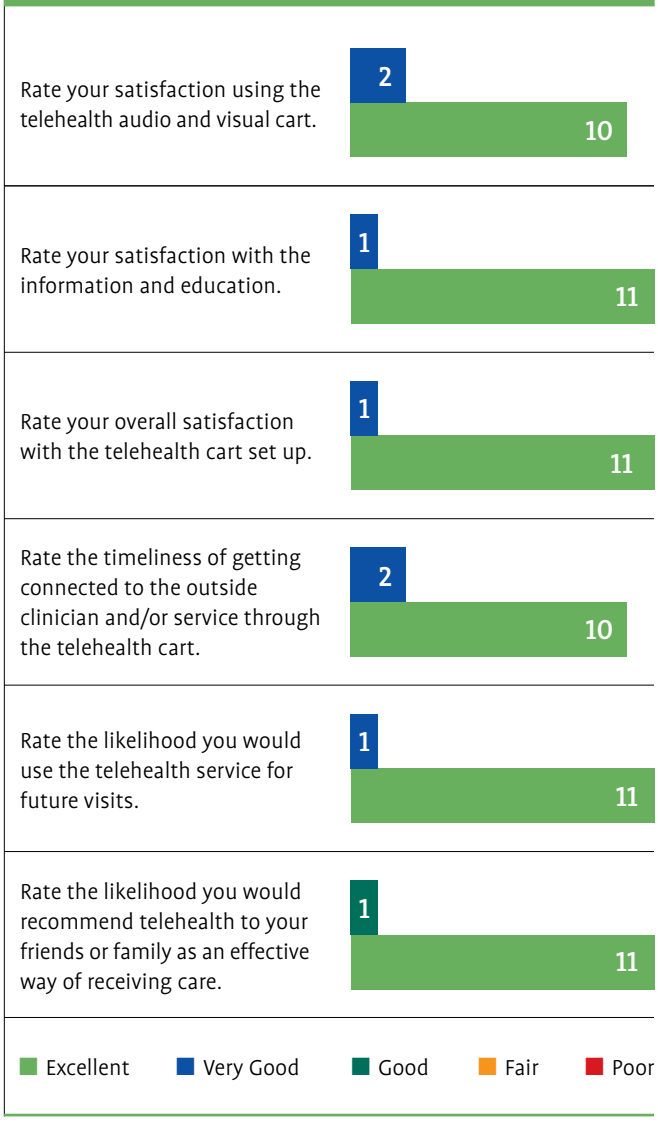
Figure 5. Telehealth Patient Satisfaction Scores



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