

# Surgical Remote Monitoring to Reduce ED Visits and Readmissions During COVID-19

## Key Results:

- ↓ 41% ED visits
- ↓ 4% Readmissions
- ✓ 94% of patients would recommend SeamlessMD
- ✓ 39% of patients said SeamlessMD helped to avoid 1+ calls to the hospital after the surgery
- ✓ On-going rollout across Hip, Knee, Spine, Shoulder, Bariatric, Colorectal, Urology, and Breast Cancer surgery

"We have now had several patients that had their first joint replacement surgery completed at the beginning of the pandemic, and their second joint replacement in the past months with the SeamlessMD app. The feedback we have received is very compelling with patients saying their experience was 100x better with the app and the support of our NP."



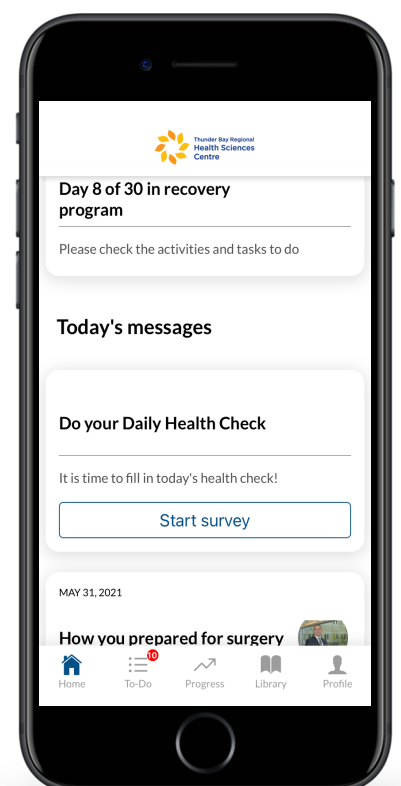
**Caroline Fanti,**  
*Director of Regional  
Surgical Services,  
TBRHSC*

Thunder Bay Regional Health Sciences Centre (TBRHSC) is a 375-bed acute care hospital that is responsible for delivering care across Thunder Bay and Northwestern Ontario. The hospital serves approximately 230,000 residents in this region, spread out across a very large geographical area the size of France. Patients in these communities have fewer options for care and typically travelled considerable distances to receive in-person pre- and post-surgical care. This aversion towards seeking in-person care was further exacerbated by the COVID-19 pandemic. As such, TBRHSC was looking for a Surgical Remote Monitoring solution to keep patients safe and connected to their care team while at home.

## A Technology-Driven Solution Led by Clinical Teams to Improve Patient Care

TBRHSC partnered with SeamlessMD, a leading Digital Patient Engagement platform, to engage and monitor patients more effectively before and after surgery.

At the Regional Joint Assessment Centre (RAC), TBRHSC provides care for a large volume of hip, knee, spine and shoulder surgery patients. To achieve impact quickly, the hospital started with hip and knee replacement patients, with the goals of reducing post-discharge ED visits and readmissions, as well as shifting more procedures to same-day surgeries to minimize in-person visits throughout the pandemic.




## Daily Health Reminders

SeamlessMD collaborated with the entire interdisciplinary team to customize protocols and content on the platform, which enabled the care team to:

- Engage patients with a mobile and web-enabled, virtual companion – guiding them from pre-op preparation through post-op recovery;
- Deliver evidence-based surgery-specific pathways in the form of multimedia education, reminders and tasks;
- Monitor patient compliance, symptoms and recovery progress (e.g. knee range-of-motion, pain levels, incision photos, etc.);
- Automate patient self-care guidance vis smart algorithms and workflows (e.g. education for how to manage low-risk issues or when to escalate to provider); and
- Receive alerts and monitor dashboards to identify when a patient’s health status changes, enabling the care team to intervene sooner

**“Our patients are very happy with this technology and the connectivity it provides. Being able to use the dashboards to monitor what patients are reporting is enabling us to follow-up more quickly. Patients can return home sooner with immediate, constant access to the information and support they need throughout their journey.”**



**Skylar Christian,**  
*Lead Nurse Practitioner for Remote Patient Monitoring, TBRHSC*

A Remote Platform to Catch Complications Sooner


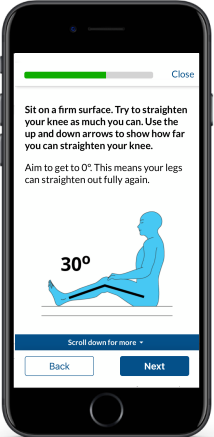
**“I appreciate and love that question, ‘chest pain?’ Skylar (NP) recommended I go to emerg and I found out I had blood clots in my lungs. I’m sure this saved my life as I would kept making excuses that it was a pulled muscle from the surgery or how I moved during the recovery. ❤️ the close connection.”**



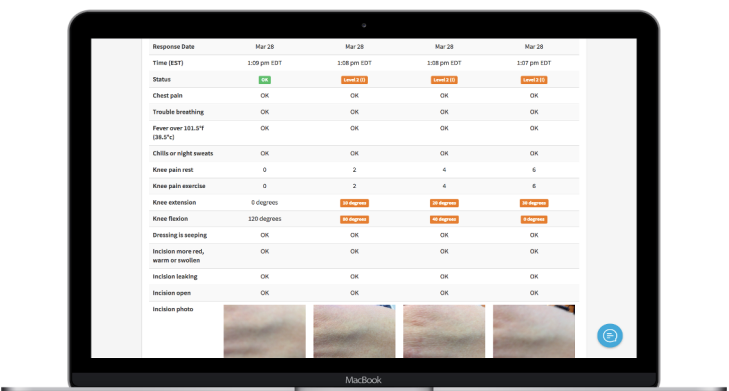
**Orthopedic Patient**  
TBRHSC

Through SeamlessMD dashboards, the care team received alerts and monitored patient symptoms to enable quick intervention, when necessary. For example, Skylar Christian, Lead NP for remote monitoring at TBRHSC, was alerted by SeamlessMD about a patient that had early signs of a blood clot. Skylar was able to rapidly intervene and get the patient to the ED, where they were able to detect several pulmonary embolisms quickly and save the patient’s life.

Furthermore, despite the elderly demographic and the population being quite dispersed within the region, the hospital still achieved a 95% patient activation rate – indicating high patient interest and engagement with the platform.



Collect Recovery Data



Alerts & Dashboards

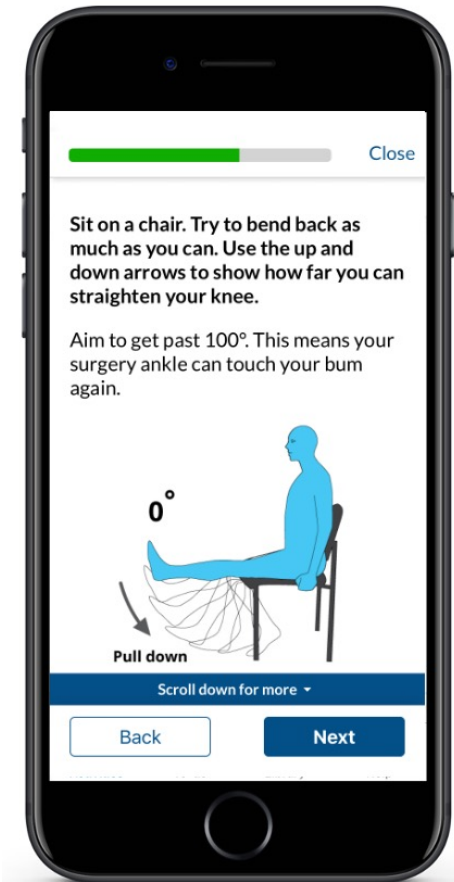
# Clinical Outcomes Improved with SeamlessMD

## 1. Readmission Rates and ED Visits

Metric	Pre-SeamlessMD (July – Nov 2020)	Post-SeamlessMD (Dec 2020 – Mar 15, 2021)	Impact
Sample size	572	298	
30-day Readmissions	4.90%	4.70%	↓ 4.03%
30-day ED visits	29.02%	17.11%	↓ 41.03%

## 2. Patient Activation & Engagement Satisfaction

Metric	Result
Patients enrolled on SeamlessMD	375
Patients who activated their accounts on SeamlessMD	95%
Patients who engaged with 1+ post-op digital check-ins (e.g. symptom & recovery tracking)	85%
% Patients who recommend SeamlessMD	94%
% Patients who said SeamlessMD helped them feel more confident pre-surgery	94%
% Patients who said SeamlessMD helped them feel more confident at home after surgery	90%
% Patients who said SeamlessMD helped them feel less worried at home after surgery	90%
% Patients who report that SeamlessMD prevented at least 1 phone call to the surgeon’s office	39%
% Patients who report that SeamlessMD prevented a least 1 visit to the surgeon’s office	16%



Example Knee Range-of-motion Survey Question

## Expansion to Other Surgical Service Lines

Given the success in using SeamlessMD for Hip and Knee surgery, TBRHSC has since implemented SeamlessMD for its Shoulder, Bariatric and Colorectal surgery programs, and is actively rolling out SeamlessMD to its Spine, Urology, and Breast Cancer surgery programs.