

Kingston Health Sciences Centre Reduces LOS, Readmissions, and ED Visits Using SeamlessMD

Key Results:

- ↓ **44.4%** Avg. Length of Stay
- ↓ **20.6%** 30-Day Readmissions
- ↓ **24.7%** 30-Day ED Visits
- ✓ **97%** of patients would recommend SeamlessMD

Kingston Health Sciences Centre (KHSC), southeastern Ontario's complex acute and specialty care hub, is a fully affiliated teaching hospital with Queen's University and serves over 650,000 patients annually across its Kingston General Hospital and Hotel Dieu sites.

With a focus on delivering high-quality, compassionate care, KHSC sought innovative ways to optimize surgical recovery, enhance patient experience, and leverage patient-reported outcomes for clinical research. In 2023, KHSC implemented SeamlessMD to support hip and knee replacement surgeries – aiming to reduce hospital length of stay, minimize 30-day readmissions, emergency department visits and improve collection of PROMs data.

Partnering with SeamlessMD for Digital Care Transformation

As an academic teaching hospital with a strong research mandate, KHSC required a solution that was not only evidence-based but could also support its goals around patient experience, data-driven quality improvement, and operational efficiency. SeamlessMD's digital care journeys aligned perfectly with these goals, enabling KHSC to:

- Improve patient outcomes through personalized digital education and remote monitoring
- Support early discharge and same-day surgeries
- Collect and analyze PROM data to support research and registry submissions
- Enhance the patient experience with self-management tools and 24/7 support

"SeamlessMD stood out to us because of its clinical credibility and customizability. Our surgeons were deeply involved from the start – reviewing content, validating workflows, and ensuring alignment with our protocols. The platform wasn't just adopted – it was embraced."



Dan Hogan,
Director, Patient Care at Kingston Health Sciences Centre

Empowering Patients with a Seamless Digital Care Journey

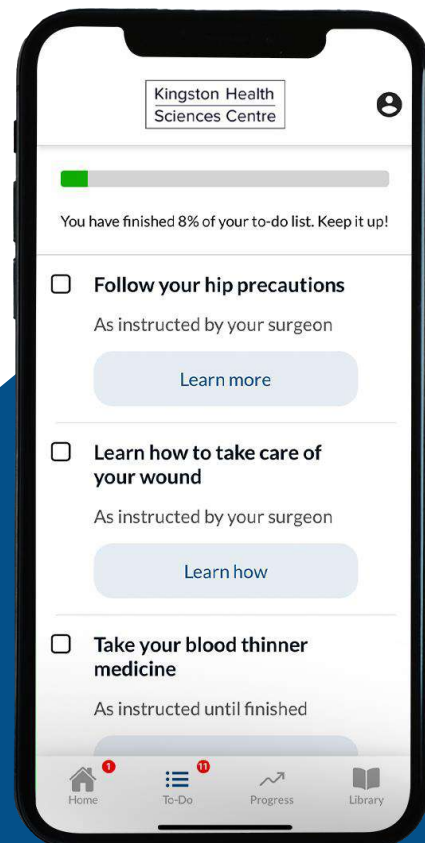
SeamlessMD worked closely with KHSC's interdisciplinary clinical and operations teams to develop and launch digital care journeys that enable the KHSC orthopedic team to:

- ✓ Engage patients with a mobile and web-enabled, virtual companion — guiding them from pre-admission preparation through post-discharge recovery
- ✓ Deliver customized, interactive evidence-based pathways in the form of multimedia education, reminders, to-do lists, and tasks
- ✓ Monitor patient compliance, symptoms, and recovery progress (e.g., knee range-of-motion, pain levels, incision photos, etc.)
- ✓ Remotely monitor patients through daily symptom and health status questionnaires during the 30-day postoperative period
- ✓ Digitally collect Patient-Reported Outcome Measures (PROMs)
- ✓ Automate patient self-care guidance via smart algorithms and workflows (e.g., education on how to manage low-risk issues or when to escalate to a provider); and
- ✓ Receive alerts and monitor dashboards to identify when a patient's health status changes, enabling the care team to intervene sooner.

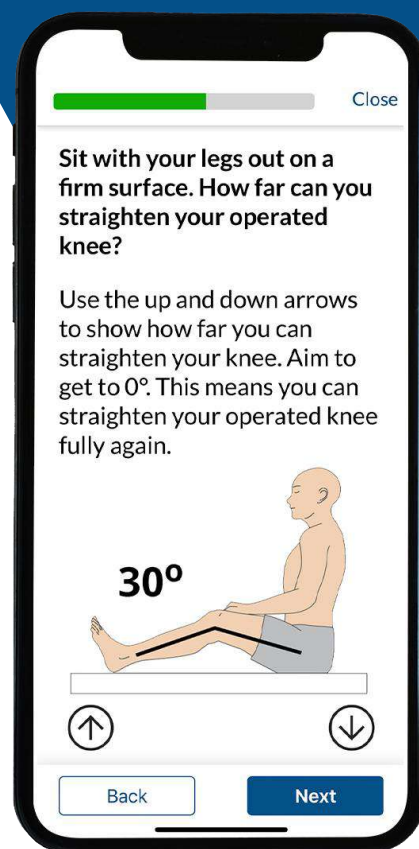
"Through our partnership with SeamlessMD and our remote monitoring team, we've created an environment where patients feel truly supported during their recovery at home. Together, we're not only improving outcomes but building a research-grade infrastructure that offers new insights into the patient journey."



Alexander MacKinnon,
Manager, Clinical Resources & Transitional Care,
Kingston Health Sciences Centre



Example Patient "To Do"



Example Patient Post-op Health Check

Outcomes: Measurable Impact Across Hip & Knee Replacement Surgeries

Hip & Knee replacement surgery

Timeframe: Comparing patients in April 2023 to February 2025

	Control (n=421)	SeamlessMD (n=979)	Change
Sample size	421	979	--
Average age	69.2	67.4	--
Avg. Length of stay (hours)	53.8 (2.2 days)	29.9 (1.2 days)	↓44.4%
30-day readmission rates (%)	4.51% (n=19)	3.58% (n=35)	↓20.6%
30-day readmission LOS (hours)	272.2 (11.3 days)	154.3 (6.4 days)	↓43.3%
30-day ED visits	20.90% (n=88)	15.73% (n=154)	↓24.7%
30-day ED visits LOS (hours)	5.58	4.36	↓21.9%

Patient Experience: Confidence, Empowerment, and Fewer Hospital Calls

Beyond clinical outcomes, KHSC patients report strong positive experiences with SeamlessMD:

Metric	Result
% Patients who recommend SeamlessMD to other patients	97%
% Patients who felt more confident before surgery	94%
% Patients who felt more confident after surgery	92%
% Patients who reported SeamlessMD prevented one or more calls to the hospital	87%
% Patients who reported SeamlessMD prevented at least one visit to the hospital	44%

