Delivering a Digital Consumer Experience for Surgery While Reducing Length of Stay, Readmissions & ED Visits

Key Results:

↓ **49% Readmissions**

↓ **68% ED Visits**

↓ **59% Phone Calls**

↓ **52% Discharge to SNF**

"SeamlessMD has been a terrific Digital Patient Engagement partner to elevate our hospital's digital transformation strategy. It is a very user-friendly platform that has allowed us to more efficiently deliver Cardiac care and engage our patients beyond the four walls of the hospital."

Marc Pelletier, MD, MSc, FRCSC
Chief, Division of Cardiac Surgery
University Hospitals

"Phone call volumes can overwhelm staff and negatively impact operational efficiencies; by providing patients with the tools to effectively self-manage from home, patients are less likely to require multiple follow-up phone calls. The implementation of SeamlessMD has led to a reduction in phone calls, contributing to improved staff satisfaction and clinical operations."

Gregory D. Rushing, MD
Division of Cardiac Surgery
University Hospitals

University Hospitals (UH) is a premier 18-hospital system serving the residents of Northeast Ohio. It has a particularly rich history as a leader in cardiovascular care through the UH Harrington Heart & Vascular Institute, which is comprised of 11 Centers of Excellence focusing on cardiac and vascular surgery, electrophysiology, cardiovascular imaging, minimally invasive interventions, heart failure treatment and transplantation, and atrial fibrillation.

Dr. Marc Pelletier, Chief of the Division of Cardiac Surgery, was looking for an innovative way to deliver a standardized, higher quality consumer experience for patients having open heart surgery across the health system, while also improving outcome metrics such as length of stay and readmissions.

Dr. Pelletier and the UH team began to consider how a digital, consumer-friendly experience to guide and monitor patients across their healthcare journeys could be key to elevating patient care.

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

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

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, Cardiac Enhanced Recovery After Surgery (ERAS) protocols

- Collect Patient-Reported Outcome (PRO) surveys (e.g. PROMIS-10);

- Monitor patient compliance, symptoms and recovery progress (e.g. chlorhexidine wash, eating and drinking cessation, incision photos, etc.);

- Automate patient self-care guidance via smart algorithms and workflows; and

- Receive alerts and monitor dashboards to identify when a patient's health status changes, enabling the care team to intervene sooner.

# Alerts & Remote Monitoring Capabilities to Improve Patient Outcomes

After discharge, patients reported their pain scores, symptoms, and shared wound photos. Based on this data, patients received personalized, automated feedback on how to self-manage concerns. Clinicians also had access to alerts and dashboards to monitor patients remotely and address patient concerns earlier.

For instance, in the very first month, UH caught an infected incision through remote monitoring and started the patient on antibiotics quickly. By improving patient compliance and enabling patients to stay connected to the care team, SeamlessMD enabled UH providers to reduce length of stay, readmissions, ED visits, phone calls and discharge to skilled nursing facilities.

Reassurance due to being monitored & connected to the team

"Really enjoyed this program, it's so useful in so many ways, it's hard to pick just one thing I liked most! The daily health check helped me feel secure that if something was wrong I would get immediate follow up from the nurse/doctor. Also, ease of access to information all about my procedure & aftercare."

Open Heart Surgery Patient
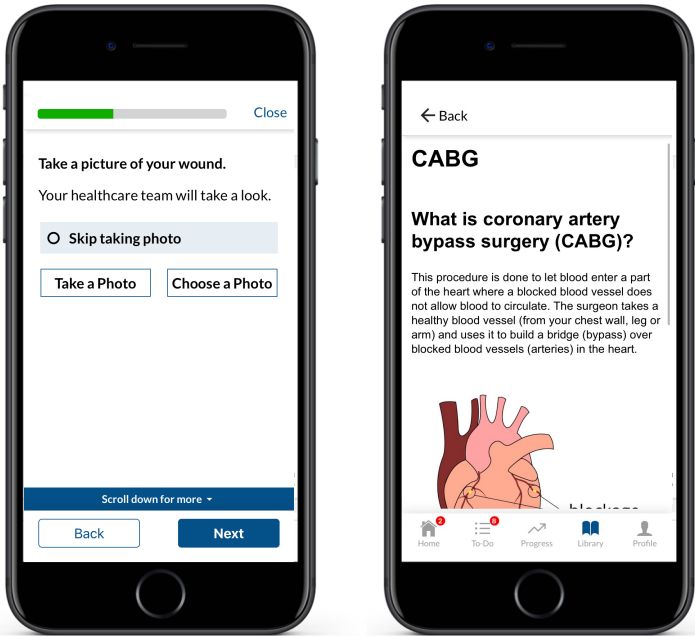
Education to facilitate patient self-management

Clinical Outcomes Improved with SeamlessMD

Patients that Underwent Open Heart Surgery

	Seamless MD	Control	Relative change	P-value
Sample Size	95	163	--	
Average Age	69.1	69.4	--	
Average LOS (days)	8.3	8.4	↓ 0.1 days	
Readmissions	13%	22%	↓ 49%	P = <0.001
ED Visits	16%	34%	↓ 68%	P = <0.001
Phone Calls	25%	46%	↓ 59%	P = <0.001
Discharge to SNF	17%	29%	↓ 52%	P = <0.001

Matched simultaneous cohort analysis

"I have a patient that documented his incision was draining fluid. I called him and was able to get a photo of the incision to show Dr. Abu-Omar. I then communicated with his home care team to assess the incision and teach the patient how to clean the area daily. The patient lived in southern Ohio and couldn't get a ride to Cleveland. Our quick action may have prevented the incision from getting infected."

Rhonda Bryant, MSN, RN-BCRN Patient Navigator Cardiac Surgery
Harrington Heart and Vascular Institute