

CASE STUDY

IMPROVING PRE- AND POST-OP JOINT REPLACEMENT EDUCATION AND ENGAGEMENT

How Northern Westchester Hospital is using a mobile app to advance its ERAS model and improve quality to support Joint Commission accreditation



As part of Northwell Health, Northern Westchester is a 245-bed hospital in a small community north of New York City. The hospital consistently receives high U.S. News and World Report rankings, is Magnet-designated and is Planetree certified for excellence in patient-centered care.

The hospital secured [Joint Commission Gold Seal of Approval for Advanced Certification for Total Hip and Total Knee Replacement](#). This demonstrates continuous compliance with performance standards and reflects a commitment to providing safe and quality patient care.

THE CHALLENGES

Northern Westchester launched its pre-op joint replacement class in the early 2000s and during the pandemic added an online option.

The hospital uses Enhanced Recovery After Surgery (ERAS) models for some surgeries including joint replacement. Covering all areas of major surgical journeys, ERAS pathways are designed to achieve early recovery.

In 2021, a team was tasked with preparing for total hip and knee certification review by The Joint Commission. To be certified, hospitals must show that patients receive pre-surgical education. Additionally, hospitals using ERAS are required to make ERAS protocol information available to patients. Metrics are tracked and reported for both.

The hospital provides ERAS information during joint replacement class including a pointer to [its ERAS video](#). Leadership noted that, while many attended in-person and online sessions, those not in attendance received no educational content. In the early 2000s, the hospital developed a team to address this challenge.



"The total joint class had a statistically significant effect on total hip patients in reducing periprosthetic joint infection as well as postoperative LOS [length of stay]. Class attendance also had a statistically significant relationship among total knee patients and reducing postoperative LOS."

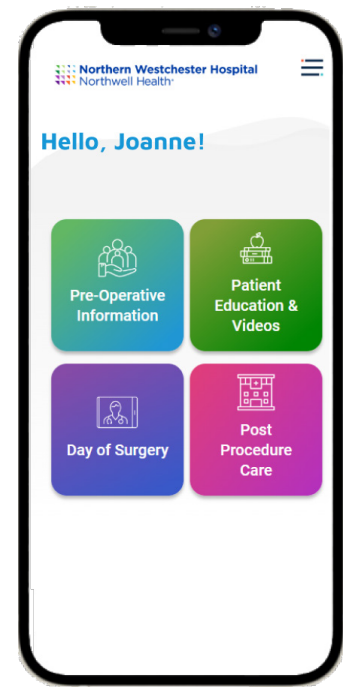
Journal of Orthopedics, March 26, 2022

Mobile app reaches patients where they are

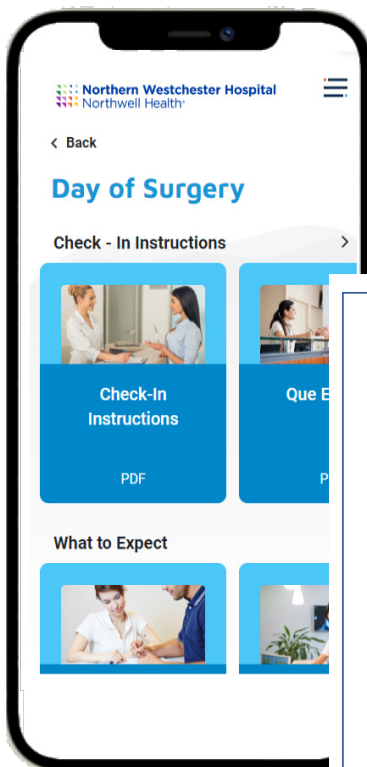
- The team evaluated various options to make ERAS video and joint replacement educational materials available, including a mobile app.
- The team learned that Equiva Health had recently introduced a new Mobile Connect offering. Equiva's solutions have been used for more than a decade to engage with inpatients, outpatients and individuals in home settings --including use by several Northwell Health facilities.

"A mobile app would allow us to expand upon our existing workflows with a new engagement channel. In doing so, we could advance quality metrics by reaching more patients in a more timely fashion."

Felicia Gill, RN, FNP, MBA, Director of Ambulatory Surgery and Cardiology Services



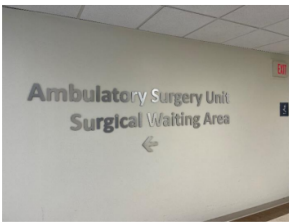

THE SOLUTION



Northern Westchester Hospital
Northwell Health®

Cuando llegue a nuestro hospital para su cirugía, entre por el Edificio Norte (North Building – Foto de la entrada, abajo).

El área de registro del Centro de Cirugía Ambulatoria está en el Segundo piso del Edificio Norte.



Se les pide a todos los pacientes que lleguen 2 ó 3 horas antes de su procedimiento, dependiendo del tipo de cirugía. El día antes de su cirugía, nuestro personal le proporcionará a cada paciente su hora de llegada.

Si tiene un Poder Notarial Médico favor de traer una copia con usted, si no, le ayudaremos a llenar uno. Un **Poder Notarial Médico**, es un documento que le permite designar a un representante para que tome decisiones a su nombre sobre la atención médica que recibirá. Tenemos un comedor, una cafetería y una tienda de regalos en el edificio principal, a disposición de los familiares que están esperando. Tenga en cuenta que no se permiten comida ni bebidas, en la sala de espera del Centro de Cirugía Ambulatoria.

The team reviewed and identified content and tools to provide via the app. Equiva offered suggestions for additional materials based on the company's experience with other hospitals.

"Once we finalized our materials, we met with Equiva to organize our content into an easy-to-navigate interface. This took very little time," said Elizabeth Galloway, RN, BSN, CAPA. "Equiva has lots of experience with other hospitals and gave us valuable suggestions. They always respond in a timely manner when we suggest new materials or changes to the navigation."

DEFINING THE APP'S OFFERINGS

The team mapped how it would make patients aware of the solution:

1. Upon notification of surgery being scheduled by OR staff, the joint replacement navigator calls patients, tells them about the joint class and schedules them to attend.
2. Three weeks before surgery, Preadmission Testing calls to schedule the pre-surgery visit and tests. The scheduler asks patients to watch for a follow-up email and mentions the mobile app.
3. The scheduler sends an email
 - confirming date, time and location of pre-op visits
 - an overview of what to bring (med list, names of physicians, etc.)
 - an introduction to the mobile app and download instructions via Google Play or App Store



What's on the mobile app?

- A welcome letter with steps to prepare for surgery; information about medications, anesthesia, skin prep, fluid restrictions, arrival time, parking, etc.)
- Information about pre-op medical clearance, what to expect, pre-procedure information with PDFs about MRSA, blood typing, smoking cessation, etc.
- A joint replacement FAQ and video with information presented at class (for those who don't attend and as refresher for attendees)
- The hospital's ERAS video and an ERAS checklist for tracking activity the week before surgery
- PDFs with day-of-surgery information (check-in, preop, discharge and tips for family/friends) and post procedure care (pain management, opioid education, etc.)
- Knee and hip surgery patient education materials

"During pre-op visits, we help patients download the app if they've not yet done so. It's great when patients say, 'yes, I've seen the video, I read the materials.' We can drill deeper, ask if they have questions and provide answers. And we can point them to materials on the app to review later. It's very reassuring to our clinical team."

Elizabeth Galloway, RN BSN, CAPA,
Pre-surgical testing

The hospital makes several PDFs available in English and Spanish. "While many of our bilingual patients talk with us in English, most are very pleased when we point out Spanish language teaching materials on the mobile app," Galloway said.

Highlighting the app during pre-surgical testing visits

During pre-op visits, all patient are asked if they've viewed the ERAS video and attended joint class. Patients who haven't are shown the video or directed to it on app. Nurses also ensure patients know where to find joint class teaching materials on the app.

"We use pre-op visit time to stress the importance of these materials in helping prepare for surgery," said Galloway. "On the paperwork we send home with patients from pre-op testing, we include a handwritten note reminding them that the app is always available as a resource prior to surgery."

During day-of-surgery check-in, patients are asked if they've viewed the ERAS video. For those who haven't, the nurse gives them a tablet, ensures the patient watches it and charts this in the EHR.

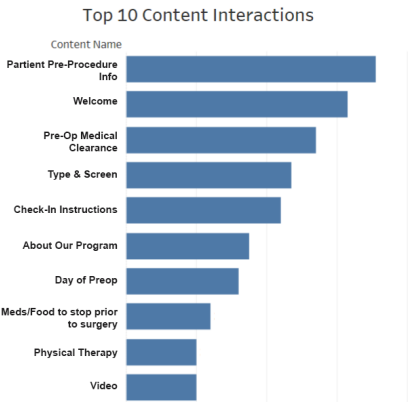
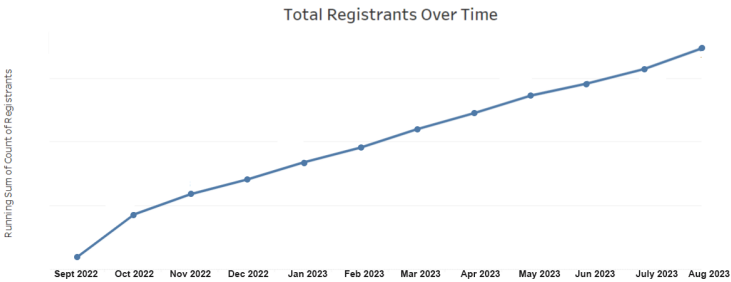
DRIVING IMPROVEMENT VIA ACTIONABLE DATA

Equiva shares reports that provide meaningful insights into how users are engaging with the app:

- total number of downloaders (at right)
- total number of interactions
- top 10 content interactions (at right)

At Northern Westchester, reports show a consistent uptick in downloaders since the app's launch in September 2022.

These reports show that users (patients and loved ones) are engaging with multiple types of content. In tracking specific content items, the team can set targets for and strategies to increase interaction with high-priority material.



"It's been rewarding to see increasing numbers of app users. We share Equiva usage reports with our team to reinforce the importance of keeping the app front and center with patients."

Felicia Gill, RN, FNP, MBA, Director of Ambulatory Surgery and Cardiology Services

Does technology-enabled patient engagement improve outcomes?



"Outcomes following total knee arthroplasty performed in enhanced recovery programs may be improved using technology to more effectively engage patients and streamline their surgical pathway. Integration of such solutions may significantly reduce length of stay and improve patient reported outcomes without negatively impacting clinical outcomes."

The Knee, November 2022

At the onset of the project the team mapped two priority objectives:

- improving the experience by providing patient education pre- and post-surgery
- increasing views of the hospital's ERAS video

Leadership believes the mobile app has helped them advance these objectives. Specifically, Gill said that her team receives positive feedback about:

- *Having phone-based access to learning materials anytime, anywhere*
- *Ability to start/stop review of materials at the patient's discretion and to review materials to find answers to questions that may arise during the care journey*
- *Having the app available to loved ones whether at home or engaging from afar*

Reaching more patients with valuable education



"I wasn't part of the planning team but can confidently say that the app is a valuable addition to our program," Gill said. "We know we're reaching patients with important teaching materials, some who may have previously fallen through the cracks because our joint class was not convenient for them."

Making it more convenient for patients to find and review information



"Many patients and loved ones comment on our thoroughness in providing joint replacement information," Galloway said. "They really appreciate being able to review materials before pre-surgery visits, going over materials during visits and having access to information via the app before and after surgery."

Improving patient satisfaction



"I think the mobile app has helped us achieve higher satisfaction," Galloway stated. "It almost seems to give patients a sense of security, knowing they can review materials with us – and also be able to review materials with loved ones in a quiet time and place or during downtime away from home."

Securing data for Joint Commission reporting via app-based surveys



"We recently added a survey to the ERAS video asking patients if they've viewed the video and asking them to choose true statements from a series of four (two are false, two are true,)" Gill said. "This helps us track and report on Joint Commission metrics. And we get insights into comprehension to help inform decisions about video updates."

Equiva solutions support thousands of individuals across 850+ deployments in dozens of health systems including Mount Sinai, Northwell, Cedars Sinai, HCA, Advocate Aurora and Hackensack Meridian as well as leading nursing home and community organizations such as the Cancer Support Community.