

Improving patient experience and overall performance by creating a more seamless patient journey

The knee and hip replacement story at Sultan Bin Abdulaziz Humanitarian City Hospital, Riyadh, Saudi Arabia

What was the challenge?



Growing demand for knee and hip replacement surgery in Saudi Arabia as more cases were referred from government hospitals



Long process time from when the patient first undertakes the initial assessment to when they are transferred to the operating room (OR)



Long length of stay (LOS) for surgical patients with prolonged rehabilitation

About the Sultan Bin Abdulaziz Humanitarian City (SBAHC) Hospital



A 510 bed rehabilitation hospital and medical center, located in Saudi Arabia.



What were our objectives?

- 1) All patients to follow a predefined process when visiting the Out-Patient Department (OPD), aiming for a maximum stay of 2 hours
- 2) All patients to follow a 'one stop shop' pre-operative assessment after financial clearance
- 3) Within 6 months after implementation, start meeting the demand for knee and hip replacement surgery

What did we do?

- 1) Worked closely with the hospital and their multidisciplinary team to carry out a comprehensive review (known as 'Diagnostic Health Check')
- 2) Using results from the 'Diagnostic Health Check', mapped out the current patient pathway through the process of 'value stream mapping', to identify the biggest hurdles and design an ideal pathway
- 3) Using Lean management principles, redesigned the patient journey to deliver value and results
- 4) Trained all involved stakeholders on the Process Improvement (known as 'Kaizen', a long-term approach to continuous improvement), co-creating measures to remove any non-value adding activities and organize care around the patient

Flip to the next page to read more on our road to Lean thinking.

What did we achieve?



Reduced time taken for initial patient assessment (including X-ray) from **3 hours to 1**



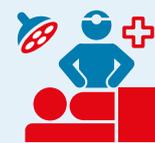
Streamlined various pre-operative assessments to reduce the

number of hospital visits patients needed to make, from an average of **4 visits to 2** (including the pre-operative anaesthesia screening)



Optimized the OR

by shortening change-over times between surgeries, e.g. while one patient is in theater, the next is already receiving local anesthesia (saving 45mins/patient)



Reduced waste and improved OR productivity

by implementing the 5S clean-up system (sort, set in order, shine, standardize, sustain)

What is Lean management?

One of the most proven and scientifically-based management solutions used to deliver value from the patient's perspective, eliminate waste, and improve continued overall performance.

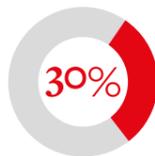
Achieving true value for patients must become the overarching goal of healthcare delivery, with value defined as the health outcomes achieved per Dollar spent. The challenge is that, while focusing on the patient outcome, we cannot forget the non-value adding activities which consume a large portion of available budget. Together with the hospital project group, five main issues were identified:

Step 1: Correctly specify Value for the patient



Over-booking in the clinic:

Often 2 or 3 patients were booked for the same time slot



No shows: 30% of patients were not showing up for appointments



Multiple assessments:

Patients needed to visit the hospital 4 times on average ahead of surgery



Varied procedure lengths:

Not all surgeons perform the same procedure in the same amount of time; this, coupled with varied change-over times, makes scheduling difficult



Inefficient supply chain:

Valuable time was lost as a result

Step 2: Identify the Value stream and remove waste

We followed the patient along the journey, from hospital admission to discharge, to identify the 'ideal' pathway:



In the OPD

To shorten the overall process time and improve patient experience, a workcell cycle is required – a maximum number of patients per out-patient session needs to be established to prevent overbooking



Pre-operative assessment

All patients should follow a fixed 'one stop shop' work cycle, including pre-operative medical and patient education – this should take place within 2 weeks after financial clearance, or 2 weeks before surgery



In the OR

To prepare for the growing demand of surgeries, the OR should increase its daily capacity based on the calculated Takt Time (rhythm of patient 'flow')

Step 3: Make the care flow

To go from the 'current way of working' to a new pathway design, it's crucial to involve all stakeholders and to make improvements to the process at every stage:



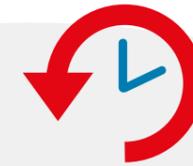
In the OPD

- Nurses adopted a patient-orientated, rather than task-orientated approach – a dedicated nurse was assigned to each patient, in combination with the OPD workcell room
- Care was organized around the patient, with care providers visiting the patient in the OPD workcell room
- Dedicated X-ray slots were arranged for surgical patients to reduce waiting time between OPD visit and X-ray



Pre-operative assessment

- Pre-operative assessments were run in parallel with the OPD, with all processes connected together, e.g. lab, EKG, X-ray, and visits to consultants and case managers



In the OR

- Shortened change-over times to reduce downtime
- Implemented the 5S clean-up system
- 3 ORs were dedicated to elective hip and knee surgery



Patients scheduled based on demand

- Predefined the time and number of patients scheduled per each step of the process based on the capacity of the doctor/OR, in order to meet the demand of the OPD
- Introduced dedicated timeslots for new pre- and post-OR patients

Step 4: Tailored measurement for impactful results

In order to achieve continuous improvement and effective results, the focus group decided to set measurable targets with quarterly evaluations; the first evaluation showed positive results:



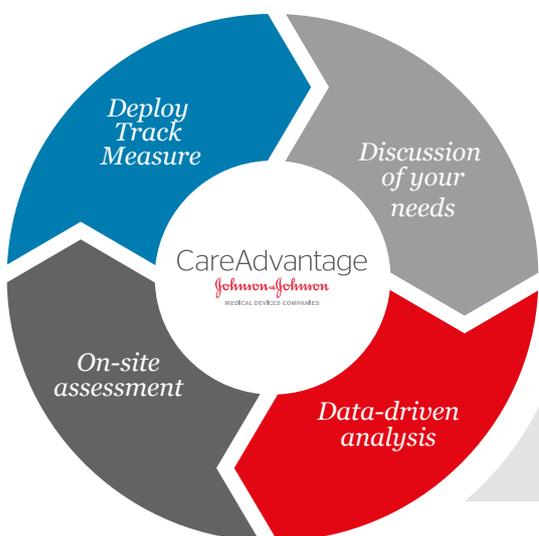
	Baseline prior to implementation	Agreed long-term goal	First evaluation – one month after implementation
Total length of pre-operative OPD process (excluding financial clearance)	43 days	50% time reduction	62% time reduction
Average number of pre-operative hospital visits	4 visits	2 visits	2 visits
Total waiting time in the OPD	5 hours	2 hours max.	1 hour 59 mins
Increase of knee and hip replacements	791 procedures in 2017 (726 knee & 65 hip)	Double the amount of procedures	17% total increase (15% knee/47% hip)

“The changes implemented made our patients’ lives much easier, as we improved their treatment plans and made their care pathway more seamless. For hospital staff like myself, it really helps us deliver better care to our patients and maintain their safety – especially when we are now able to organize work flows and prioritize tasks more efficiently. It’s a win-win for all parties – the patients, the hospital staff, and the organization.”

Khalil Al Zayoud,
Nursing, Surgical Service Manager,
SBAHC Hospital

“It was a new way of assessing the patient pathway from all aspects. It definitely improved patient experiences and their clinical outcomes. More importantly, it helps my hospital teams work more efficiently and in harmony.”

Abdulaziz Al Subail,
Business Development Manager,
SBAHC Hospital



To find out more about how Johnson & Johnson Medical Devices can help you improve your patient pathway, contact emeacareadvantage@its.jnj.com