

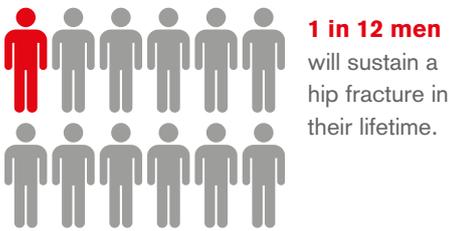
# Reducing the Length of Stay and Improving Quality of Care

The hip fracture story at OLVG Hospital, Amsterdam, The Netherlands

## What was the challenge?



and



**86%** of hip fractures occur in individuals in the 65+ age group, contributing to significant loss in years.



Number of people in the 65+ age group is predicted to be more than double by 2050, increasing the prevalence of hip fracture cases.



Current healthcare system is not sustainable due to high care costs and an aging population.

## About Onze Lieve Vrouwe Gasthuis (OLVG) Hospital



A large city hospital in the capital of Amsterdam, serving more than 500,000 patients a year.



## What were our objectives?

1) Create a multidisciplinary patient pathway to improve outcomes and patient experience for those with hip fractures

2) Reduce the length of stay (LOS) of hip fracture patients from 9 to 7 days (the national benchmark in the Netherlands) within one year

## 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) Introduced the **CareAdvantage Patient Pathway for Hip Fracture**, designed to accelerate the care of elderly patients through a multidisciplinary approach



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

## What did we achieve?



Discharge of patients to secondary care within an average of **7 days**



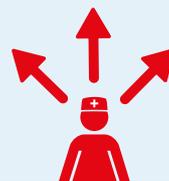
Noteworthy reduction in costs for the hospital of **€252,000/year**



Increase in multidisciplinary meetings to provide **optimal, seamless patient care**



**Geriatrician support** for elderly patients increased from **44% to 92%**



**Simplified triage process** due to reduction in transfers



Scheduled OR slots to **reduce pre-operative waiting time**

## 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.

# The road to Lean thinking

## Step 1: Correctly specify Value for OLVG

Achieving true value for patients must become the overarching goal of healthcare delivery, with value defined as the health outcomes achieved per Euro 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, four main issues were identified:



**Inflow through Acute and Emergency Care (A&E) department:** Not all patients were seen in A&E, resulting in complex follow-up before surgery



**Long LOS:** A previous survey has revealed the LOS at OLVG was 2 days longer on average (compared to benchmark in The Netherlands), resulting in higher cost to hospital



**Lack of ortho-geriatrician support:** Only 44% of elderly hip fracture patients received geriatrician support



**Discharge to secondary care:** General feedback was that patients are being discharged later than desired

## Step 2: Identify the patient value stream

We followed the patient from hospital admission to discharge and, along the journey, we found the following challenges. These must be addressed to improve patient experience:



Absence of flow in patient journey



No uniform pathway design



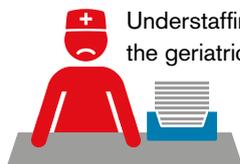
No pre-scheduled discharge date



Overcrowded A&E and long waiting hours due to over processing and shared resources



No scheduled OR time slot



Understaffing for the geriatricians



Late involvement of transfer nurses



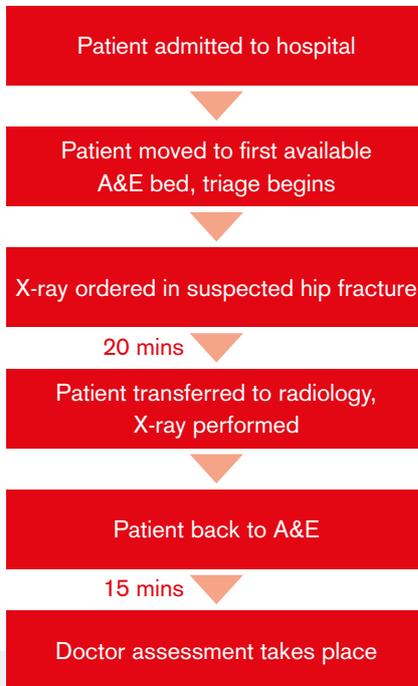
Insufficient multidisciplinary meetings (took place only once a week)

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:

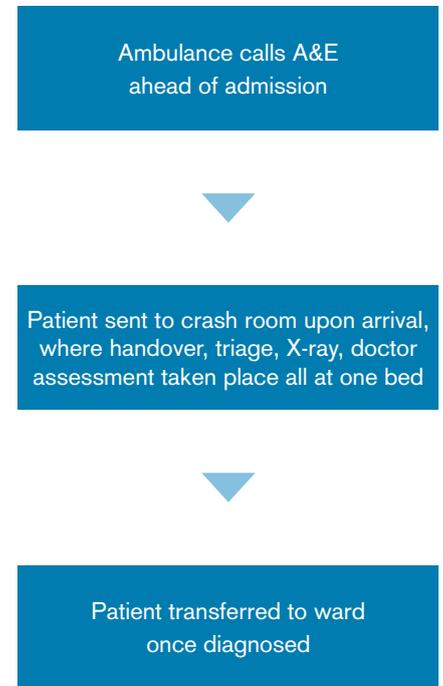


### Imaging and medical assessment in A&E:

#### ◀ Before (5 transfers):



#### ▶ After (2 transfers):



### A&E specialist review:

◀ **Before:** A&E doctor could wait over 60 minutes to confirm diagnosis with the treating surgeon, who might be in the OR or in consultations, before being able to admit the patient.

▶ **After:** As the radiologist has already confirmed the diagnosis, the patient can be moved straight to the ward, where a single update meeting between the whole care team can take place during a shift change.

### Scheduling for OR:

◀ **Before:** The scheduling of any surgery for A&E patients could only take place between normal operating hours (9am–5pm), meaning patients who arrived outside of this time frame often experienced lack of quality care, adversely affecting their condition.

▶ **After:** Scheduled timeslots were introduced so all patients could undergo surgery the day after admission (including weekends). All patients arriving after midnight can now be operated on/before 12pm the following day.

### Safe discharge:

◀ **Before:** Due to the late involvement of a transfer nurse, there was a long waiting list for revalidation beds and transfer to secondary care (average waiting time of 7.7 days for a nursing home and 2.3 days for home care).

▶ **After:** On the first day after surgery, a nurse will request a discharge assessment. On the same day, the transfer nurse will assess the patient's needs and start the process for a safe discharge destination.

### Ward process pre-operation and post-operation:

◀ **Before:**

- Lacked processes for both standard and special cases, unable to address patient needs

▶ **After:**

- The care for geriatric patients with hip fracture follows a predefined pathway with escalation process
- A safe, scheduled discharge process established based on the need of the patient
- All care stakeholders meet on a daily basis for the special cases that do not follow the 'normal' pathway

## 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 six-monthly evaluations; the first evaluation showed positive results:

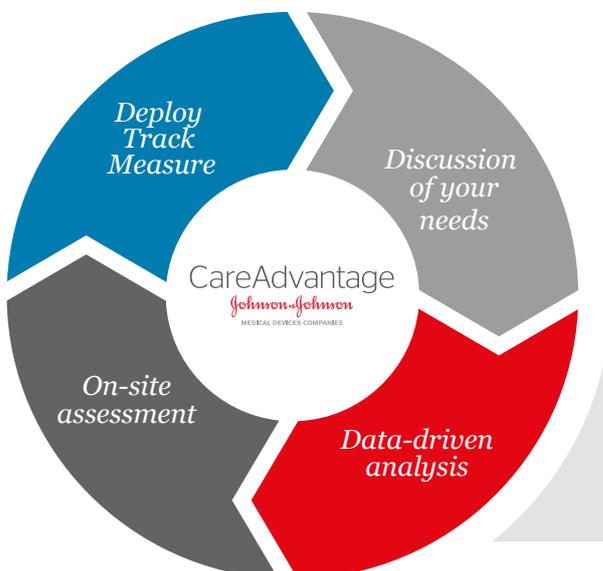
	Baseline prior to implementation	Agreed long-term goals	First evaluation after implementation
LOS on A&E	3.3 hours	2 hours	3 hours (*)
Total LOS	9 days	7 days	7 days (52% of patients were discharged on the fifth day following surgery)
Time between admission and surgery	22.7 hours	Surgeries take place in dedicated timeslots within 24 hours of admission, whenever physical condition allows	22.5 hours (70% surgery within target)
Inclusion of geriatrician in elderly patient care	44%	A geriatrician is involved in the care of 100% patients above the age of 70	92%
Cost saving to hospital	N/A	N/A	€252,000 (**)

(\*) Although the time spent in A&E was still above the time limit of two hours, the quality of care was significantly changed and improved, resulting in less painful transfers and more adequate pain management.

(\*\*) The improvements resulted in a cost saving of €252,000: Two 'bed days' multiplied with €350/day direct cost (national benchmark in The Netherlands) times 360 patients in average per year. Not included in this calculation is the capability to see more patients on the available free beds.

“The implementation of the Hip Fracture Program made the patient journey more visible and easier to understand. As a result, we were able to identify the bottlenecks and create countermeasures to improve our performance!”

Ruben van Veen, Trauma Surgeon, OLVG Hospital



To find out more about how Johnson & Johnson Medical Devices can help you reduce LOS by implementing our Patient Pathway Hip Fracture Program, contact [emeacareadvantage@its.jnj.com](mailto:emeacareadvantage@its.jnj.com)