

Saolta University
Health Care Group
University Hospital
Galway – Ireland

A case study of
Rapid Improvement
in the radiology department

The Siemens Healthineers Healthcare Consulting & Transformation Services team conducted two Rapid Improvement Events (RIEs) in the radiology department at University Hospital Galway (UHG). An RIE is a short-term high-impact tool rooted in lean methodology. The five-day teamwork session enables the planning, testing and implementation of process and workflow improvements. At UHG, sustainable results were achieved after 30 days:

- **95% of Interventional Radiology (IR) procedures now ordered via the intranet – a 36% increase**
- **12% decrease in waiting time for Computed Tomography (CT) priority two and three inpatients¹**
- **90% increase in correctly prepared IR patients**
- **83% reduction in handovers** between the CT team and the wards
- Improved staff satisfaction and patient experience within one week

The challenge:

UHG radiology staff recognised a need for change to keep pace with the evolving healthcare environment. However, constraints within Ireland's hospital system, in addition to high management turnover in the department, meant it was not easy to change processes or workflows. Furthermore, the involvement of multiple stakeholders for each patient examination added to the inertia. This meant cancellations, unprepared patients, delays and growing waiting lists. Both staff and patients were increasingly dissatisfied.

The objective:

Top priorities were the scheduling and patient preparation processes for CT and IR. The aim was to improve communication between stakeholders, remove unnecessary process steps, and motivate staff to embrace a culture of change and continuous improvement.

Solution and outcomes:

Siemens Healthineers introduced UHG to the concept of lean, an approach that creates more value for patients while using fewer resources. The starting point is a 'value stream analysis' to identify non-value-adding activities within a process. Opportunities for improvement are then identified and desired state defined. Finally, the vision is turned into reality by means of an RIE².

The bottom line:

An RIE with Siemens Healthineers delivers fast results that make a real difference. At UHG, the success of the new processes was apparent after just one week. A 30 day review confirmed sustainable change. Staff are proud of what they have achieved and patient care is better than ever.

“The RIE approach of Siemens Healthineers triggered significant change and solved problems I had thought were here to stay.”

Dr. John Bruzzi, Clinical Lead of Radiology

¹There are three inpatient priority levels at UHG. Priority one patients are the most urgent and receive appointments earlier than priority two and three patients.

²RIE services are delivered with Simpler Consulting where applicable.

Rapid Improvement Event

Five-day lean transformation process

Day 1: Gap analysis

Clarifying the difference between current and desired states



Day 2: Solution scoping

Generating ideas for bridging the gaps



Day 3: Rapid experiments

Testing theoretical solutions in real-life daily routines



Day 4: Implementation

Embedding and fine-tuning solutions



Day 5: Adoption of solutions and standard procedures

Interventional Radiology

- Standard Operating Procedure (SOP)
- Standard procedure form
- New policy for transparent scheduling
- New workflow for procedure pooling
- Proactive hand-off for first case (12 hours before procedure time)
- Visual management hub /patient flow

Computed Tomography

- CT hub on individual wards including preparation checklist and contrast agent in standardised location (to be restocked by healthcare assistants)
- CT checklist to ensure clinical specialist radiographer receives patient information prior to scan
- Restructured schedule to accommodate staff availability and decrease waiting times

Key clinical and operational improvements

Interventional Radiology



36% more intranet orders

Intranet orders increased from 70% to 95%. This buy-in to one consistent approach has made administration easier and more efficient.



90% increase in correctly prepared patients

The new streamlined processes enable a more proactive approach to patient preparation. Before 50% of patients were correctly prepared, now this figure changed to 95%. Hand-off then goes smoothly, saving time for patients and staff.



100% of patients scheduled the day before and all parties informed

Scheduling of patients the day before rose from 60% to 100%. This reduces the need for unplanned administration on the day and facilitates smooth running of the department.



Pooled patient list established

A pooled patient list was established for general scanning. Two slots per day on each specialist list are kept free for these patients. This creates flexibility and allows administrators to optimise the booking system.

Computed Tomography



83% fewer handovers between departments

The average number of interactions per patient between radiology and ward staff decreased from 41 to 7. This has improved working relationships and freed up staff time to focus on other priorities.



61% increase in number of inpatient CT scans

The average number of inpatient CT scans increased from 33 to around 53 per day, reflecting the greater efficiency of the department and helping to cut waiting lists.



12% decrease in waiting time for inpatients

The waiting time from request to scan for priority two and three inpatients dropped from an average of 52 hours to around 46 hours. This supports the shift towards earlier diagnosis and delivers greater peace of mind for patients.



Telephone-induced stress reduced

Before the RIE, staff were often interrupted by a ringing telephone while trying to work. The new processes have greatly reduced these calls. Staff are more relaxed and better able to deliver their excellent patient care.

Disclaimer: The products/features and/or service offerings (here mentioned) are not commercially available in all countries and/or for all modalities. If the services are not marketed in countries due to regulatory or other reasons, the service offering cannot be guaranteed. Please contact your local Siemens Healthineers organization for further details.

The results by Siemens' Healthineers customers described herein are based on results that were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g. hospital size, case mix, level of IT adoption) there can be no guarantee that other customers will achieve the same results.

The Siemens Healthineers Healthcare Consulting & Transformation Services team uniquely combines healthcare-adapted lean methodology with the best-practice knowledge distilled from radiology services globally. We put patient value into the centre of every lean transformation project. Rapid Improvement Events serve as an excellent tool to deliver measurable results within a short period. Conducted repetitively, they enable radiology teams to live a culture of continuous improvement – turning performance into high patient value.

Lean Transformation is offered as a standalone service or embedded in a Radiology Performance Management Service.

.....
Siemens Healthineers Headquarters

Siemens Healthcare GmbH
Henkestr. 127
91052 Erlangen, Germany
Phone: +49 913184-0
[siemens.com/healthineers](https://www.siemens.com/healthineers)