

Medtronic

Integrated Health SolutionsSM

Case study: \$2.5m value created.
Optimized use of resources.
Empowered staff.

Maastricht University Medical Centre



How we supported the Heart+Vascular centre team in their journey towards excellent patient outcomes against reasonable costs.

The challenge

Maastricht University Medical Centre (MUMC+) is a Dutch academic hospital performing

6,100 + **40,000+**
cardiovascular procedures per year. outpatient consultations per year.

It faced increases in both patient volume and complexity of cases, and is under continuous pressure to maintain a high quality of care for more patients without increasing costs.

The solution

MUMC+ entered into a five-year partnership with Integrated Health Solutions (IHS) in 2014 with three objectives:

1

Optimise processes and clinical pathways to reach outcomes excellence

2

Delegate management of CathLab operations to focus on clinical care

3

Engage staff to become a continuous learning organisation

We started in the Heart+Vascular centre with the ambition of having it ranked as one of the top 10 'Best in Class' cardiovascular centres in Europe by 2020.



Optimise processes and clinical pathways

Making the most of Medtronic in-depth knowledge of hospital cardiac services operations and expertise in Lean Six Sigma, we deployed our operational excellence programme and contributed to organise a 'one-stop-shop' care centre or 'integrated practice unit'. This is a common space where multidisciplinary clinician and nursing teams are fully organised around the patient's medical condition. This meant integrating six specialty silos into one patient-centered organisation by:

- Physically moving to a single common location
- Redesigning all workflows of the outpatient clinic, Operating Rooms (OR) and CathLabs
- Transferring continuous improvement know-how to the staff through daily preparation meetings and improvement boards to tackle process bottlenecks
- Professionalising daily operations, by introducing key performance indicators dashboards

We also optimised the heart failure and Cardiac Resynchronisation Therapy (CRT) clinical pathways. To achieve this we brought together leading clinicians from three major European hospitals to design the "ideal" pathway, aligned with latest guidelines. We mapped value stream and patient flow patterns and built consensus on standard of care.

Delegate management of CathLab operations

The onsite IHS CathLab manager is fully responsible for all non-clinical processes and staff (27 full time equivalents). Her primary objective is to achieve a gold standard from a quality and safety standpoint and to optimise resource use and high-value equipment. Her key tasks include implementation of a timeout, sign-out procedure, deployment of safety protocols, set up of a CathLab preparation room, optimisation of planning and scheduling and introduction of a staff development and education curriculum.

Become a continuous learning organisation

The centre motto says it all:
"Every day, better than yesterday".

We deployed our proprietary Lean Academy training hospital-wide, which combines classroom, mentoring and on-the-job sessions. We involved frontline staff up to executive level-professionals, established a Project Management Office to manage more than 120 Lean Six Sigma projects and set-up 40+ improvement boards to reduce variability in processes.

Overall 2500+ employees have been trained.



The impact

In one year the partnership created \$2.5m of economic value including significant cost savings driven by optimised resource use.

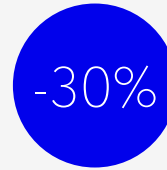
Reduction in time to diagnosis: from five visits over two months to one visit of two hours



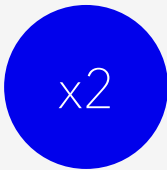
of cancelled open heart surgeries, resulting in better OR utilisation and incremental surgeries



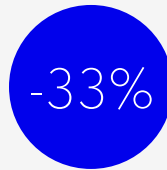
capacity through better patient triage



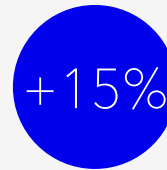
of ultrasound echocardiography tests, generating significant cost savings



patient capacity with less staff through planning optimisation, which led to reduced waiting list and increased patient satisfaction



length of stay for CRT patients



productivity in CathLabs, driven by a reduction in cancelled procedures and by optimised planning and scheduling

In summary, the Heart+Vascular centre could deliver patient-centric and cost-effective care, improving efficiency of operational efforts and increasing capacity. These results are achieved together with more engaged staff and higher patient satisfaction.

What the hospital staff are saying:



"To become a centre of excellence you not only need the cardiologist's technical ability, you need the whole infrastructure to be optimised to deliver better outcomes."

Prof Dr Michael Jacobs
Chairman and Professor of Surgery,
Executive Director Heart+Vascular Centre



"We can now help more patients with optimised resources to provide a better service."

Raymond van Oosterhout
Former Managing Director,
Heart+Vascular Centre



Who are we?

In 2013, Medtronic created Integrated Health Solutions, a new business focused on developing long term partnerships to deliver high quality care in a more cost-effective way.

We offer managed services for CathLab, Operating Rooms and ICUs. IHS also provides chronic disease management solutions e.g. for diabetes, bariatric and heart failure patients.

Our care setting solutions are built on 4 pillars:



Turnkey set-up

Fund, design and deliver state-of-the-art infrastructure and capital equipment



Manage

Manage non-clinical operations through on-site managers



Optimise

Deliver efficiency gains and optimise patient pathways, using our Lean Sigma expertise and catalogue of Best Practices



Develop

Accelerate patient access to care, and enhance reputation and patient experience

IHS has today over 90 long term contracts in place. When you work with us, you benefit from our scale and network to collaborate, benchmark and learn - so you can continually improve, together.



IHS was awarded the 2016 Frost & Sullivan Market Leadership award for its CathLab managed services offering.

About Medtronic IHS

Integrated Health SolutionsSM builds on Medtronic's unique combination of capital resources, process optimization expertise and therapy knowledge. In cooperation with medical institutions, IHS develops innovative services and solutions to improve efficiency, reduce costs, facilitate patients' access to different types of treatment, and improve outcomes.

Interested in optimising both outcomes and costs?

**Learn more about our solutions by visiting our [website](#),
reaching out to your Medtronic contact or emailing us at:
integratedhealthsolutions@medtronic.com**

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