INTEGRATED HEALTH SOLUTIONS®

$2.5M COST SAVINGS.
OPTIMISED USE OF RESOURCES.
EMPOWERED STAFF.

A case study of
Maastricht University Medical Centre

Medtronic
Further. Together.
Maastricht University Medical Centre (MUMC+) is an academic hospital in the southern part of the Netherlands. With over 700 beds and a €600M annual budget, it is the main provider of health services for its region.

MUMC+ 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.

In addition, the government’s transition from a budget-based to a pay-per-procedure system increased competition and incentivised hospitals to work more efficiently in a patient-centric manner.

In that context, MUMC+ set goals to:

- **Improve** quality and care outcomes
- **Build** a truly patient-centric organisation
- **Increase** employee engagement and become an employer of choice
- **Optimise** processes and instil a culture of continuous improvement

“"To become a centre of excellence you not only need the cardiologist’s technical ability, you need the whole infrastructure to be optimised, meaning eliminating any kind of waste to optimally organise care.”

Prof Dr Michael Jacobs
Chairman and Professor of Surgery,
Executive Director Heart+Vascular Centre
"Sometimes you need a sharp, unbiased external eye to visualise the routine inefficient steps embedded in a big organisation."

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

THE SOLUTION

MUMC+ entered into a five-year partnership with Integrated Health Solutions® in 2014:

- to optimise operational processes and clinical pathways
- to fully manage the Catheterisation Laboratories (CathLabs)
- to engage staff for successful change management

HOW WE DID IT – HOSPITAL WIDE

Deployed our proprietary Lean Academy training which combines classroom, mentoring and on-the-job formats to embed proven, process-improvement principles into the daily life of the organisation and ensure lasting, transformational change

Involved front-line staff up to executive level-professionals

Established a Project Management Office to manage more than 120 Lean Six Sigma projects

Established 40+ improvement boards to reduce variability in processes

HOW WE DID IT – IN THE HEART+VASCULAR CENTRE

This cardiovascular outpatient clinic is of strategic importance to MUMC+. The hospital’s ambition is to have the centre ranked as one of the top 20 ‘Best in Class’ cardiovascular centres in Europe by 2020.

Operational excellence: one-stop-shop care centre

- Integrated six specialty silos into one organisation
- Re-designed workflows of the outpatient clinic, operating rooms and CathLabs
- Implemented daily morning preparation meetings
- Used improvement boards to tackle process bottlenecks

Optimisation of clinical pathways

1. Heart Failure and Cardiac Resynchronisation Therapy (CRT)

- Brought together leading clinicians from three major European hospitals to design the “ideal” pathway, according to existing medical guidelines

   Onsite management of CathLab operations

   The Integrated Health Solutions CathLab manager is fully responsible for the management of operations and staff (27 full time equivalents). The manager’s objective is to achieve a gold standard from a quality and safety standpoint and to optimise utilisation of resources and high-value equipment.

   1. Manage daily operations

      - Implement a time-out, sign out procedure
      - Implement safety protocols
      - Set up a CathLab preparation room
      - Introduce staff development and education programmes

   2. Optimise Planning and Scheduling

      - Map all planning and scheduling of patient flows
      - Stimulate best practice sharing
      - Change from ‘push’ to ‘pull’ planning

2. Bypass Surgery (CABG)

   Every year at MUMC+, over 1000 patients are identified for bypass surgery. Historically, over 10% of these cases were cancelled on the day of surgery and needed to be rescheduled, resulting in patient dissatisfaction and expensive unused OR-capacity.

   Using a Lean analysis approach we:

   - Radically changed planning schedule and improved on-time starts to optimise OR utilisation
   - Avoided intensive care for a specific group of patients to mitigate lack of capacity
   - Planned discharge on admission day to maximise bed availability in ward
   - Improved patient communication and preparation

Every second of every CathLab is worth $1 in revenue*

KEY FACTS ON MUMC+ HEART+VASCULAR CENTRE

- 40,000 outpatient clinic visits per annum
- 110,000 outpatient consultations a year
- 4 CathLabs
- 6 Specialties
- 11 Pathways

*Based on “NHS Payment by Results. Guidance for 2013-14”
THE IMPACT

In one year we delivered $2.5M in cost savings driven by optimised resource use, which led to productivity and capacity increases.

THIS SOLUTION HAS ACHIEVED – IN THE HEART+VASCULAR CENTRE

Efficiency gains
- Before: 5 patient visits over 2 months
- After: 1 patient visit of 2 hours
- +20% capacity increase through better patient triage
- +30% ultrasound echocardiography tests requested, worth $156,000 in savings
- -33% length of stay as part of CRT pathway optimisation
  - Original $120,000 savings
  - Time to intervention cut by 50%
  - Decreased number of consultations and administrative burden
  - -50% cancellations as part of the CABG pathway optimisation
    - +30% in length of stay, worth $960,000 in savings
    - Increased number of procedures per year, worth $825,000

More patients and fewer visits as part of the cardiac rehabilitation pathway optimisation
- Reduced patient visits needed before treatment from 8 to 3
- Improved compliance to guidelines from 55% to 100%
- Doubled patient capacity with less staff through planning optimisation
  - Worth $120,000 in savings
  - Reduced waiting list and increased patient satisfaction
- +15% productivity in CathLab operations management
  - Optimised CathLab utilisation
  - -37% of canceled procedures through better Planning & Scheduling
  - -43% of expensive overtime
  - Overall increase in staff efficiency and engagement
  - Increased patient satisfaction

THIS SOLUTION HAS ACHIEVED – HOSPITAL WIDE

2,500+ employees have been trained through Lean Academy and are now running their own value-creating projects, resulting in:
- +36% productivity in the orthopedics outpatient clinic
- -50% time from referral to diagnosis in the urology outpatient clinic
- In the dermatology outpatient clinic:
  - -90% in admission time
  - +20% productivity
  - -99% lead time to initiate a new cost carrier in SAP for the Finance team
- In selected areas we are now able to help more patients with less resource, to ultimately provide a better service.

Raymond van Oosterhout,
Managing director,
Heart+Vascular Centre

"Through pathway optimisation, we improved some essential steps of our patient flow and reduced the length of stay in hospital, thereby reducing costs and creating capacity for other patients to come in.”

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

WHY PARTNER WITH US?

With more than 65 years of experience in the medical technology industry, combined with our global in-hospital presence and long-standing relationships with health providers and physicians, we have an in-depth understanding of your needs and challenges. Partnering with us brings you:

- **Benchmarks:** Our broad hospital footprint allows you to compare with other world-class institutions and gauge variability in patient outcomes, length of stay, workforce productivity and asset utilisation
- **Resources:** Our access to capital resources enables you to equip your cardiac departments with the latest technology
- **Unique mix of skills:** Our 200+ experts in consulting, hospital management, biomedical engineering, clinical experience, and building and managing cardiac departments can complement your own organisation’s competencies

**TAILORED SOLUTIONS BASED ON FOUR PILLARS**

1. **Turnkey set-up:** Provide affordable access to state-of-the-art technologies and infrastructure
2. **Manage:** Manage non-clinical operations so you can focus on patient care
3. **Optimise:** Deliver best-in-class cost efficiency and patient outcomes
4. **Develop:** Accelerate patient recruitment and referrals, and enhance your services and reputation

**SHARED RISK AND REWARD**

We aim to be the leading company to support hospitals, physicians, payers and health systems to deliver high quality care in a cost-effective way.

Our business model is therefore based on taking an active role with long-term partnerships that hinge on risk and value-sharing schemes as well as on predictable ‘fee-per-procedure’ models.

In short, we have a larger stake in your success than ever before.

**BEST POSSIBLE OUTCOMES**

Working together, we can help you move toward value-based healthcare by designing tailored solutions that optimise your outcomes – enabling you to:

- Improve quality of care
- Enhance operational performance
- Boost financial returns
INTERESTED IN BALANCING ACCESS AND COST OF TREATMENT WITH HIGH QUALITY OF CARE?

WE ARE HERE TO HELP

Contact us at integratedhealthsolutions@medtronic.com