

Medtronic

Integrated Health SolutionsSM

Cardiovascular Excellence: A powerful collaboration generating sustainable value

St. Antonius Hospital
Utrecht/Nieuwegein
The Netherlands



Challenge

Healthcare systems are grappling with numerous complexities. Demographics are changing. Patient populations are growing and aging. It is increasingly challenging to keep healthcare affordable.

Amid this, hospitals are constrained. They are tasked with finding innovative solutions within these limitations. They must boost efficiency and achieve more with the same or fewer resources while simultaneously improving the quality of care delivered.

These were among the challenges facing St. Antonius Hospital's Heart Center. A leader in cardiovascular care in the Netherlands and abroad for many years, the center sought **growth and improvement** across several areas:

1.

Efficient use of resources. The team encountered rising competition and cost pressures while contending with growing waiting lists. They needed to do more with the same budget to care for more patients.

2.

Higher quality and innovative care. This was imperative to be the leading facility of its kind in the country. The Heart Center aspired to provide care for more patients by implementing sophisticated interventions. One of many indicators was the center's role as the primary reference for transcatheter aortic valve implantations (TAVI procedures).

Since its early days, innovation has been part of St. Antonius' DNA. It has been a trailblazer in the healthcare space since its founding, performing many new procedures for the first time in the country. One such example is placing the first wireless pacemaker in 2014. It was important for the Heart Center to continue this spirit of innovation in the face of external demographic changes and capacity challenges to maintain high-quality, affordable care.

3.

Employee engagement. Healthcare talent is scarce. The Heart Center's planning processes were becoming more intricate, leading to unrest and insufficient coordination between different departments. In addition, it has become increasingly important for people to work for organizations aligned to their personal values. Employee experience was important to attract and retain the right personnel.

// Our renewed way of working allows us to help more patients, with the same resources and working hours, while maintaining high quality of care."

Vincent van Dijk,
Cardiologist and
Electrophysiologist

A new **robust strategy** incorporating patients' perspectives was required for St. Antonius Hospital's Heart Center to reinforce its position as one of the world leaders in cardiovascular care and an attractive provider for patients and healthcare insurers.

It wasn't clear how to go about improving in this challenging environment. The Heart Center recognized the need for an external guide capable of leveraging its network to share best practices.



St. Antonius Hospital has multiple locations in and around Utrecht and is one of the Netherlands' leading hospitals and heart centers. The St. Antonius Hospital's Heart Center has played a leading role in Dutch cardiovascular care for many years. Annually, the Center performs more than 6,500 Cath Lab interventions in six Cath Labs, more than 1,700 operating room procedures, 60,000 outpatient visits, and 15,000 echocardiograms.

Generating results across more than 40 projects

St. Antonius decided to address these and other challenges in partnership with Medtronic Integrated Health Solutions (IHS). The hospital had partnered with Medtronic for innovative technology for several years, and decided to collaborate with IHS given the team's expertise in partnering with hospital management and medical leaders to transform care pathways and clinical operations.

The shared goal was to improve efficiency and outcomes, increase patient and staff satisfaction, and optimize costs.

"We were always impressed by how Medtronic IHS was able to optimize resources, effort, and energy and create value for us as the customer," said Wouter van Maarseveen, Director of the Heart Center. "We aspired to incorporate this type of 'lean' approach as a hospital. We also knew that Medtronic had a wealth of knowledge from its work with hospitals around the world that could be leveraged to help us grow amid a challenging environment."

The teams quickly came together in 2014 to discuss how the partnership could support

the St. Antonius Heart Center's aspirations. The partners started with a Cath Lab optimization, prioritizing where and how to improve efficiency and thereby increase volume. It was a resounding success. Data-driven insights provided perspectives on where and how to improve. It resulted in 15% more patients being treated without increasing resources.







This initial project would be a springboard for a comprehensive partnership. The hospital would collaborate with Medtronic IHS on some 40 different projects over the next nine years (and counting). Throughout the partnership, Medtronic IHS has deployed best practices from its vast network. With each new project, there

was momentum to bring about impact in other areas.

At the same time, there was also an emphasis on ensuring the sustainable impact of previous projects.

"Because of the long-term partnership, we have been able to ensure that the momentum doesn't stop, and we don't revert back to old routines," said Marc van Manen, Cath Lab Manager. "Hospitals can start such initiatives, but without a partner like Medtronic IHS, it can be difficult to implement solutions and sustain the long-term impact."

Project overview

	Lean Development/ Process Optimization➔	Cath Labs • Lounge • Wards/ Clinic • Planning • Echo
	Operational Support➔	Discharge management • Cath Lab regulations • Redesign multidisciplinary consultation • Cath Lab renovation support
	Providing Insights➔	COVID support • Heart failure analysis • CVRM analysis (cardiovascular risk management) • Pulmonary hypertension analysis
	Referral Growth➔	Referral pathways • Referral communication • Referral dashboarding • Referral network
	Pathway Optimization➔	TAVI • Ablation • Acute care/ Emergency cardiology care
	Same Day Discharge➔	PCI • Devices • TAVI (same-day admission)
	Planning & Scheduling➔	Cath Lab • Outpatient • Physician
	Strategy & Innovation➔	Digital monitoring (Focus on) • Cath Lab growth plan • Pacemaker drive-through service (during COVID) • Heart Center strategy • Sustainability assessment

Across these and numerous other projects, Medtronic IHS brought a long-term approach. On-site presence played an important role in the partnership and the Heart Center was able to continually draw upon Medtronic IHS' best practices.

// IHS helped us improve aspects of our operational processes that we had been struggling with for quite a long period."

Hildelies van Oel, Cardiology Unit Manager



Impact

The collaboration generated concrete results and addressed the challenges facing the Heart Center. By enhancing efficiency and growth, the Heart Center delivered higher-quality care and treated more patients. Innovation was on display throughout the partnership, and employee satisfaction increased through improved processes and ways of working.

Efficiency gains

Over a three-year period, the Heart Center saw significant impact without adding resources or capacity.

Cath Lab

+15%

coronary
angioplasty
procedures

+60%

in TAVI
procedures
within 3 years

+7%

in ablation
procedures

+2%

In referrals YoY

Inpatient

+80%

Same day
discharge
for ablation
interventions

+60%

Same day
discharge
for device
interventions

+35%

Same day
discharge for
percutaneous
coronary
interventions

8-10

Clinical beds
freed up

-27%

Length of stay
(LoS)

Outpatient

+11%

consultations for
new patients

+10%

cardiological
echocardiograms

Higher quality care and innovation on display

Optimizing processes and the many efficiency gains directly benefit patients. There is a smoother admission process, less time spent anxiously awaiting procedures, and shorter hospital stays – with comparable clinical outcomes and complication rates. Decreased patient waiting times reduce the risk of complications and unnecessary deterioration.

Same Day Discharge implementation improved patient comfort, enabling them to return home earlier and thus increasing their satisfaction. As a result of the solution, the St. Antonius Heart Center was able to treat more patients and reinforce its position as a leading cardiac center of excellence. It also increased the number of patients going home within the same day, with comparable clinical outcomes and complication rates. This resulted in procedure increases. The solution freed up 8-10 clinical ward beds.

There were so many ways in which the partners collaborated to support St. Antonius' ambition to be one of the most innovative

heart centers in the world. One such example was a drive-through to provide pacemaker/ICD checkups for patients during the COVID-19 pandemic. Patients with a pacemaker or an internal cardiac device (ICD) typically need to visit the hospital between one to three times a year for checkups with a device technician. During COVID-19, these visits were postponed. This led to a backlog of patients waiting for checkups. Such delays can have serious health consequences.

In response, the Heart Center and Medtronic IHS worked together to implement an interim drive-through solution. Patients were notified by letter and instructed to drive to a specific location. Employees conducted the pacemaker readings through the car window. The data was then sent to the hospital technician for assessment. Results were generated within 10 minutes. Over a two-week period, nearly 300 patients were seen, thus eliminating the backlog.



“ Due to Medtronic IHS' expertise and structured and multidisciplinary approach, we were able to increase production levels and realize our growth ambitions.”

Wouter van Maarseveen,
Director of the Heart Center

Employee engagement and sustainability

Efficiency gains and an enhanced patient experience directly impacted employees. Care workers know that their efforts are creating better patient outcomes and less frustration.

As a result of the planning and scheduling work, almost all stakeholders (99%) involved in the Cath Lab planning acknowledge that they feel more in control and have the right tools to adjust as needed.

// The sustainability assessment we conducted in our departments was essential to the start of our reduction program and necessary to get a grip on our carbon footprint. This program not only positively impacts our planet, but also enhances patient care and staff well-being."

Marc van Manen, Cath Lab Manager

Regarding environmental concerns, employees had the opportunity to voice concerns and make a difference around sustainability matters with the support of Medtronic. A team collaborated to create a baseline footprint assessment and develop a sustainability roadmap. It brought the team together in different ways (forming a dedicated sustainability team and related meetings).

Within just three months, the project yielded tangible results, including a 5.8-ton CO₂ reduction, which accounted for 0.5% of the hospital's total footprint. These achievements

were made possible through various measures, such as eliminating unused Cath Lab procedure packages and conducting more outpatient consultations digitally to reduce travel movements. The 8.5% potential CO₂ reduction identified for the first year is equivalent to the emissions produced by approximately 180 round trips from Amsterdam to Barcelona in a fuel-powered car.

As a result, there was a significant increase in employee engagement and employer attractiveness.



// Through our sustainability measures, we discovered significant opportunities for improvement. This drives me to constantly seek innovative ways to enhance a more sustainable and environmentally conscious healthcare system."

Anoek Kriekaard, recovery nurse in the Cardiac Department

Looking to the future with a robust growth strategy

Due to the partnership, St. Antonius has realized an average of 6% growth per year in their high-complex intervention care. The hospital has outperformed the market, resulting in remaining in the top 3 of the largest cardiac intervention centers in the Netherlands, with a market share ranging from 5% to 13%.

The partnership has now entered its second decade. As the healthcare system changed in the past few years, putting even more pressure on resources, the Heart Center decided to proactively reassess its five-year strategy. Medtronic IHS is providing support, building on the success of these 40+ projects.

What will be the challenges for hospitals in the years ahead? How will artificial intelligence disrupt health care? How can hospitals adapt to evolving epidemiological patterns? What are unforeseen global crises that will impact the sector?

Answers to these and other questions aren't clear. However, St. Antonius Hospital's Heart Center will be able to leverage its deep and trusted partnership with Medtronic IHS in the years ahead to respond to future challenges and deliver on its ambition to be a world-class center for cardiovascular care.

// We look forward to continue collaborating with Medtronic Integrated Health Solutions and taking the partnership to the next level. Continuously leveraging Medtronic's best practices contributes to St. Antonius' ambition to be the most innovative heart center in the Netherlands, and in our focus areas, rank among the global leaders."

Luc Demoulin,
CEO of St. Antonius Hospital



About Medtronic IHS

Integrated Health Solutions 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.

Would you like to know more about what IHS can do for your hospital? Learn more by visiting our [website](#), reaching out to your Medtronic contact or emailing us at: integratedhealthsolutions@medtronic.com

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