



**Medtronic**

Integrated Health Solutions<sup>SM</sup>

# Fast-track diagnostic solution:

A novel, fast-track approach to outpatient diagnostic cardiac care, to reduce patients wait times and lowering diagnostic cost.

## The current state of cardiac diagnostics:

### Long waiting lists and fragmented care

Patients with suspected heart disease often struggle to access cardiac diagnostic care in a timely manner. In many cases, it has taken between 9 weeks to 5 months to receive a first diagnostic appointment after general practitioner referral in the Netherlands<sup>1</sup> and more than 13 weeks to access simple diagnostics in the UK<sup>2</sup>. This is often due to the high volumes of patients in need of cardiac diagnosis that healthcare systems are struggling to serve, which typically numbers between 3,000-4,000 per 100,000 inhabitants annually<sup>3</sup>.

Moreover, even after patients enter the care pathway, they face a fragmented and lengthy diagnostic process. It's not unusual for patients to have five to seven individual appointments, and wait up to eight weeks before receiving a diagnosis.

This fragmented process results in scheduling challenges, no shows, and redundant medical interviews and tests. More importantly, it causes unnecessary psychological stress for patients and their families as they wait for a diagnosis.

Meanwhile, hospitals are facing challenges in running their cardiac services in a patient-centric and efficient way. They are struggling to simultaneously provide high-volume, low-complexity outpatient services as well as intensive and more complex treatment to patients in their cath labs. This duality often takes the focus off the outpatient clinic, resulting in inefficiencies that frustrate patients and care providers alike, and congest and impair the flow of patients to the cath lab.



Many wait 9 weeks and more to receive a first diagnostic appointment



Five to seven individual appointments before receiving a diagnosis

## Fast-track cardiac diagnostics:

### Eliminating the wait list

These challenges are the reason cardiologists Drs. Igor Tulevski and Aernout Somsen in 2006 developed a systemized approach to outpatient diagnostics in the Netherlands called Cardiology Centers of the Netherlands (CCN). The approach, which involves

establishing a fast-track outpatient diagnostic clinic outside the hospital, has significantly improved patient wait times, shortened time to diagnosis, and improved the flow of patients to the hospitals cath labs.



The CCN approach, which involves establishing a fast-track outpatient diagnostic clinic outside the hospital, has significantly improved patient wait times...



### Making the CCN approach available across EMEA

Medtronic Integrated Health Solutions (IHS) and CCN recently joined forces to make this approach available to more patients across EMEA. The partnership combines IHS' operational expertise and broad geographical footprint with CCN's clinical expertise to offer hospitals and healthcare providers a managed solution to fast-track outpatient cardiac diagnostics.

### A turnkey solution

IHS fully manages the implementation of the new cardiology diagnostic unit from design and construction to go-live. This solution enables hospitals to deliver an accessible one-stop diagnostic shop for their patients, while at the same time easing the burden of outpatient services for their clinical staff. The solution which can be up and running in three to six months-includes:



**This solution enables hospitals to deliver an accessible one-stop diagnostic shop for their patients**

### Proven pathways and clinical protocols

Are enriched with expertise from the largest cardiovascular diagnostic provider in the Netherlands. These standardized processes will ensure safety, quality, and efficiency and will be continuously monitored.

### Optimally designed and constructed physical space

Supports patient and care team flow. Borrowing from CNN's proven layout, IHS creates a patientcentric and efficient one-stop shop concept, including a series of exam rooms, a standardized equipment list for diagnostic testing, a point-of-care lab, and consultation rooms. Experience has shown that a condensed unit that is located close to the hospital, but not within its walls, is essential for focusing on fast and efficient delivery and cultivating a patient-friendly culture.

## Software that supports the pathways and clinical protocols

By automating the primary and secondary healthcare processes (planning, documentation, reporting to referring physician, patient access to medical record, and invoicing). This CardioPortal™ system was designed by doctors for doctors to minimize administrative tasks, typing, and clicks, while ensuring reliable flow through the pathway in compliance with the guidelines. It also ensures fast and automated uploading of all diagnostic data and test results before the start of the cardiologist consultation. This allows health care professionals to focus on the patient and the clinical process during the consultation.

## Engaged and well-trained clinical staff

Based on CCN's model of employing exceptional staff who are focused on offering patients the best experience using protocols that provide the highest-level of quality clinical care. This includes ensuring that the core values of patient focus, efficiency, and continuous improvement are part of each clinic's culture, supported by the following:

- Clinical staff training that includes process and IT system knowledge
- On-site clinic operational managers dedicated to managing operations and performance of the clinic (including planning and scheduling, material and supplier, equipment, IT, etc.)
- Performance dashboards, fed by the IT system, for benchmarking, feedback and continuous improvement



Fast-track outpatient care helps partner hospitals eliminate outpatient waiting lists, while increasing their secondary or tertiary care activities



## Advisory services

To support implementation, management and business development activities, which include business strategy, building a referral network, patient recruitment strategies, and pricing.

## Fast-track diagnostic screening for patients with cardiac symptoms in the Netherlands has:

- Reduced wait times from weeks/months to less than 48 hours
- Lowered costs between 20-40 percent
- Performed all diagnostic tests in a single, two-hour visit
- Provided diagnosis for 95 percent of patients within two hours (24 hours for physician-referred patients)
- Improved the patient experience, with more than 70 percent free of symptoms after three months
- Ensured a stable flow of patients to hospital cath labs



# Benefits of the fast-track outpatient diagnostic cardiac care approach

## The Netherlands case:



### Improved workflow

Fast-track outpatient care helps partner hospitals eliminate outpatient waiting lists, while increasing their secondary or tertiary care activities. In addition, the clinics:

- Refer 40 percent of screened patients back to GP after the screening visit<sup>4</sup>, avoiding congestion of the outpatient clinic and ensuring capacity for quick access for new patients
- Identifies the 16.5 percent of patients that need advanced diagnostics and/or intervention at the CathLab<sup>4</sup>



### Improved quality

The model improves compliance to guidelines, through a rigorous care process enabled and tracked by the CardioPortal™ system. It ensures optimal preparation of qualified referrals, who are ready for treatment with digitally available diagnostic test results.



### Greater efficiency

The model has achieved 20-40% lower cost for the diagnostic phase versus the traditional set-up. This is driven by:

- Reducing five to seven visits to one, in a set-up that allows the cardiologist to see up to four new patients per hour
- Using less expensive settings that allow hospitals to allocate their infrastructure for a greater number of high-complexity services and interventions

## About CCN

Founded in 2006 by cardiologists Igor Tulevski and Aernout Somsen, CCN is a rapidly growing, innovative care model with rapid-access fast-track cardiology services in the Netherlands. CCN currently operates at 12 locations in the Netherlands and has:

- Served more than >200,000 patients since 2006; served ~40,000 patients last year (26,500 of which were new patients)
- Collaborates with five major regional hospitals and three university medical centres, and has 5,600 referring GP's in the Netherlands
- Developed award-winning telemonitoring solutions, and fast-track chest pain units (emergency care)

## Interested in bringing turnkey fast-track outpatient diagnostic cardiac care to your hospital?

If you are struggling under a backlog of patients awaiting a diagnosis and CathLabs that aren't being fully utilized, we offer a proven, scalable concept developed by doctors that can be up and running in a few short months.

## References

1. [https://www.rkz.nl/cardiologie\\_wachttijden](https://www.rkz.nl/cardiologie_wachttijden)
2. <https://www.england.nhs.uk/statistics/statistical-work-areas/diagnostics-waiting-times-and-activity/>
3. <https://www.vektis.nl/>
4. CCN data on file

## About Medtronic IHS

Integrated Health Solutions<sup>SM</sup> 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.

To learn more about fast-track cardiac outpatient care, visit our [website](#), reach out to your Medtronic contact or email us at: [integratedhealthsolutions@medtronic.com](mailto:integratedhealthsolutions@medtronic.com)

## Medtronic

Medtronic International Trading Sarl  
Route du Molliau 31  
Case postale  
1131 Tolochenaz  
Switzerland  
Tel: +41 (0) 21 802 70 00  
Fax: +41 (0) 21 802 79 00

[medtronic.eu](https://www.medtronic.eu)

© 2023 Medtronic.  
All Rights Reserved.  
2023-ihs-fast-track-diagnostic-solution-whitepaper-en-we-8708593