

IT TAKES A TEAM TO BEAT THE ODDS



INSIDE: We're working to expand clinic-based solutions that improve outcomes, both for people living with type 1 diabetes and those struggling with obesity.

USING PATIENT-CENTRIC CARE
TO BETTER MANAGE
CHRONIC DISEASE

Medtronic

Managing a chronic disease like type 1 diabetes or morbid obesity takes constant work.

With the support of dedicated healthcare professionals and specialists, Medtronic now offers chronic care management solutions that not only help individuals and their families achieve better outcomes, but can also save healthcare systems money.

60%
OF DEATHS
WORLDWIDE
ARE FROM CHRONIC DISEASES
LIKE DIABETES & OBESITY¹



Chronic disease accounts for 60 percent of deaths worldwide.¹ Conditions like diabetes and obesity are leading contributors to the growing healthcare crisis, where systems struggle to treat more patients while keeping costs down.¹ Improving clinical outcomes, expanding access to care, optimizing cost, and improving efficiency become even more challenging due to an aging global population and increasing chronic disease diagnoses.

Putting the patient at the center of care — with the aim of delivering the best possible results at the lowest possible cost — is the beginning of the solution. This approach requires fundamentally re-thinking how and where patients receive treatment.

Today's healthcare system is predominantly based on a fee-for-service model, where payment to hospitals and providers is based on individual office visits, procedures and tests a patient receives. Alternatively, in a value-based healthcare (VBHC) model, new rules and standards help focus payment and reimbursement on overall patient outcomes. Key components of such a model include preventive screenings, wellness plans, and clinic-based care, which are particularly well-suited for addressing chronic conditions.⁴

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As a leader in diabetes care technology and minimally invasive bariatric surgery, Medtronic is helping to spearhead the development of VBHC solutions specifically for these high-risk patient populations.

RECOMMENDED LEVELS
OF GLYCOSYLATED
HEMOGLOBIN
HbA1c LEVELS

<58 mmol/mol

CAN DELAY ONSET
AND REDUCE SEVERITY OF
COMPLICATIONS FOR
CHILDREN & ADOLESCENTS
WITH TYPE 1 DIABETES⁸

ASSESSING RISK AND ECONOMIC IMPACT OF PEDIATRIC TYPE 1 DIABETES

With a high risk for causing severe complications such as kidney disease, myocardial infarction, and stroke, type 1 diabetes can have a major impact on patients' well-being and the healthcare system. However, such risk can be significantly reduced through more effective disease management.^{5,6,7}

Global guidelines recommend a target glycosylated hemoglobin (HbA1c) level that is lower than 58 mmol/mol (7.5%) for children and adolescents with type 1 diabetes. Maintaining levels under this number can delay the onset — and reduce the severity — of many complications. It can also help preserve cognitive function and positively impact mood.⁸

With the introduction of glucose monitors and easy-to-use insulin injections in the early 1980s, patients became better able to assess and manage their disease.⁹ However, a recent study using data from national and regional registries of various European countries found that, despite these advances, the majority of children and adolescents with type 1 diabetes still had higher than recommended HbA1c levels.⁸



OFFERING BETTER OUTCOMES AT LOWER COST THROUGH CLINIC-BASED CARE

Enter **Diabeter**, a Dutch-certified clinic network that has pioneered a new value-based diabetes care model for pediatric type 1 diabetes patients in the Netherlands. Medtronic purchased Diabeter in 2015, and the clinic-based approach now serves as the center of Medtronic Chronic Care Management solutions for people with type 1 diabetes.

Each clinic in the network is organized as an Integrated Practice Unit (IPU), where a multidisciplinary team of diabetes care specialists is responsible for the full cycle of care for an individual patient. Medical doctors, nurses, dietitians, psychologists, and administrative staff work together to measure and maximize a patient's care. A care manager is assigned to each patient and coordinates treatment throughout the entire care cycle, serving as the contact person for the patient and their family. Between visits to the clinic, patients are monitored via Skype™, e-mail and phone calls from their care team.¹⁰

Using an IT platform Diabeter has coined as the "VCare system," real-time patient data is made available to the care team and patient via e-dashboards, personalized emails and physician alerts. The coordinated data sharing allows for timely adjustments to therapy that — in turn — optimize results.¹⁰

Diabeter enables patients and their families to actively participate in the care cycle by providing targeted education that teaches self-management skills and informs them as to how they can contribute to successful outcomes. Additionally, as the clinics expand to follow a larger population of patients, care pathways specific to age and lifestyle preferences are being developed.¹⁰

“ The coordinated data sharing allows for timely adjustments to therapy that — in turn — optimize results.¹⁰ ”

The Diabeter network has grown to include 2,000 patients across five locations, and is a top performer when compared to other clinics of at least 100 patients. Diabeter's success in helping patients reach their target HbA1c number has led to a lower hospitalization rate than other Dutch pediatric diabetes clinics and less direct annual costs for individuals.¹⁰

Looking ahead, Medtronic hopes to further advance similar integrated care models in the Netherlands and across other regions.¹⁰

DIABETER: A POSITIVE PATIENT EXPERIENCE

Patient-centric care offers the unique experience of a one-stop shop in an environment away from the hospital.³

Diabeter clinics offer:¹⁰

- Multidisciplinary teams including medical doctors, nurses, dietitians, psychologists, and administrative staff focusing solely on diabetes care.
- A care manager assigned to each patient who coordinates treatment over the whole care cycle and serves as the contact person for the individual and family.
- Targeted education in advanced self-management skills to enable patients and their families to actively participate in their care.
- Daily care for the first few weeks after diagnosis, followed by quarterly clinic visits.
- Immediate access to a medical doctor 24 hours a day, 7 days a week as well as support by e-mail, Skype™, and telephone to continuously adjust and maximize treatment.

PREVALENCE AND COSTS OF OBESITY

Like diabetes, obesity presents an increasing threat to individuals and the healthcare system. It is the number one cause of chronic conditions such as high blood pressure, congestive heart failure, and coronary artery disease. In 2014, nearly one-third of the global population — a total of 2.1 billion people — was overweight or obese.¹¹

This patient population — and the treatment of obesity — is of considerable interest in a VBHC era. With a \$2 trillion impact on the global economy, obesity imposes significant costs on healthcare systems in both developed and emerging markets. Up to 20 percent of total healthcare spending is attributable to obesity — through related diseases such as type 2 diabetes and heart disease — yet only between two and seven percent of healthcare spend goes towards prevention and treatment of obesity.¹² Additionally, health-related quality of life (HRQOL) is considered a main indicator of medical treatment success, worldwide, yet is significantly impaired in obese patients.¹³

As an intervention, bariatric surgery has been proven to be most effective in treating morbid obesity (defined as BMI >40 or >35 with multiple co-morbidities).^{14,15} Estimates suggest that third-party payers recover metabolic and bariatric surgery costs within two-to-four years following a patient's procedure. The cost savings are the result of fewer obesity-related conditions requiring treatment.¹⁶ Yet only one percent of the eligible patient population currently receives this intervention.¹⁵

“Bariatric surgery has been proven the most effective in treating morbid obesity, yet only one percent of eligible patients receive the intervention.”¹⁵

NOK HELPS MAXIMIZE RESULTS FOR BARIATRIC SURGERY PATIENTS

The program includes:¹⁸

- A physical fitness program
- Behavioral therapy
- Support group meetings up to five years post-surgery
- Ongoing follow-ups
- A psychological assessment
- Post-operative dietary counselling

PROVIDING INTEGRATED CARE FOR BARIATRIC SURGERY PATIENTS

In 2016, in an effort to increase access to bariatric surgery and improve outcomes (including HRQOL) of patients undergoing the procedure, Medtronic entered into a strategic alliance with the **Nederlandse Obesitas Kliniek (NOK)**. This is the largest specialized, independent Dutch clinic for comprehensive treatment of people with morbid obesity.

Founded in 1993, NOK employs a patient-centric approach which provides an integrated system of care to bariatric surgery patients. This care model consists of extensive screening, pre- and post-surgery counselling, and long-term follow up treatment focused on behavioral and lifestyle changes. A key success factor is an extensive seven year treatment protocol which includes pre- and post-surgical interventions, as well as five years of follow up.

Treatment begins when a patient — in consultation with their general practitioner — elects to undergo bariatric surgery. The patient is referred to the clinic for a preliminary screening by a multidisciplinary medical team (physician, psychologist, dietitian, and physiotherapist) resulting in an extensive medical and psychological profile based on IFSO criteria for bariatric surgery.¹⁷ If a patient qualifies for bariatric surgery following this screening, they begin the preoperative clinic counselling.

Through a series of preoperative group sessions, the multidisciplinary medical team coaches the patient on what to expect from bariatric surgery and how to deal with the necessary lifestyle changes that result. Following surgery, patients continue with their preoperative patient group for another 12 months of counseling to maintain continuity. Guided by the same multidisciplinary team, patients learn to cope and adapt to their new lifestyle. During this

time, the patient's eating behavior, fitness, medical, and psychological statuses are frequently measured and used to provide timely feedback and personalized advice.

The successful NOK approach has resulted in high compliance rates, greater than 50 percent excessive weight loss experienced, and sustained surgical outcomes over 24 months.¹⁸ Reports also showed HRQOL improved following surgery, and continued to improve as total weight loss percentage increased.¹⁸

**BARIATRIC
PATIENTS IN
THE PROGRAM
EXPERIENCED
50%
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AND SUSTAINED
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WORKING TO EXPAND PATIENT-CENTRIC MODELS TO OTHER REGIONS

Early results with the Medtronic diabetes clinics have shown improved patient outcomes, increased capacity for providers to treat high-risk patients, and system cost savings. Likewise, Medtronic has successfully developed a bariatric pre- and post-operative program to better suit the needs of patients undergoing bariatric surgery in an effort to produce the best possible outcomes.

Working with leading healthcare providers and government agencies, Medtronic is demonstrating the role of medical technology in outcomes-based healthcare models. The company is also expanding the diabetes and obesity clinic models to other regions and healthcare settings.

To learn more about how Medtronic is helping transform healthcare visit:
<http://www.medtronic.com/us-en/transforming-healthcare.html>

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