

VALUE-BASED HEALTHCARE

PARTNERING TO IMPROVE PATIENT OUTCOMES AND LOWER COSTS

Jackie Fielding
VP, UK & Ireland

MEDICAL TECHNOLOGY IS WHAT WE DO. IT'S WHAT WE'VE ALWAYS DONE.

And although you may know us as
the pacemaker company,
the diabetes pump maker, or
deep-brain stimulation experts —
we do so much more.



Medtronic
Further, Together

Medtronic

WE CREATE INNOVATIONS AT THE THERAPEUTIC, PROCEDURAL, AND SYSTEM LEVEL

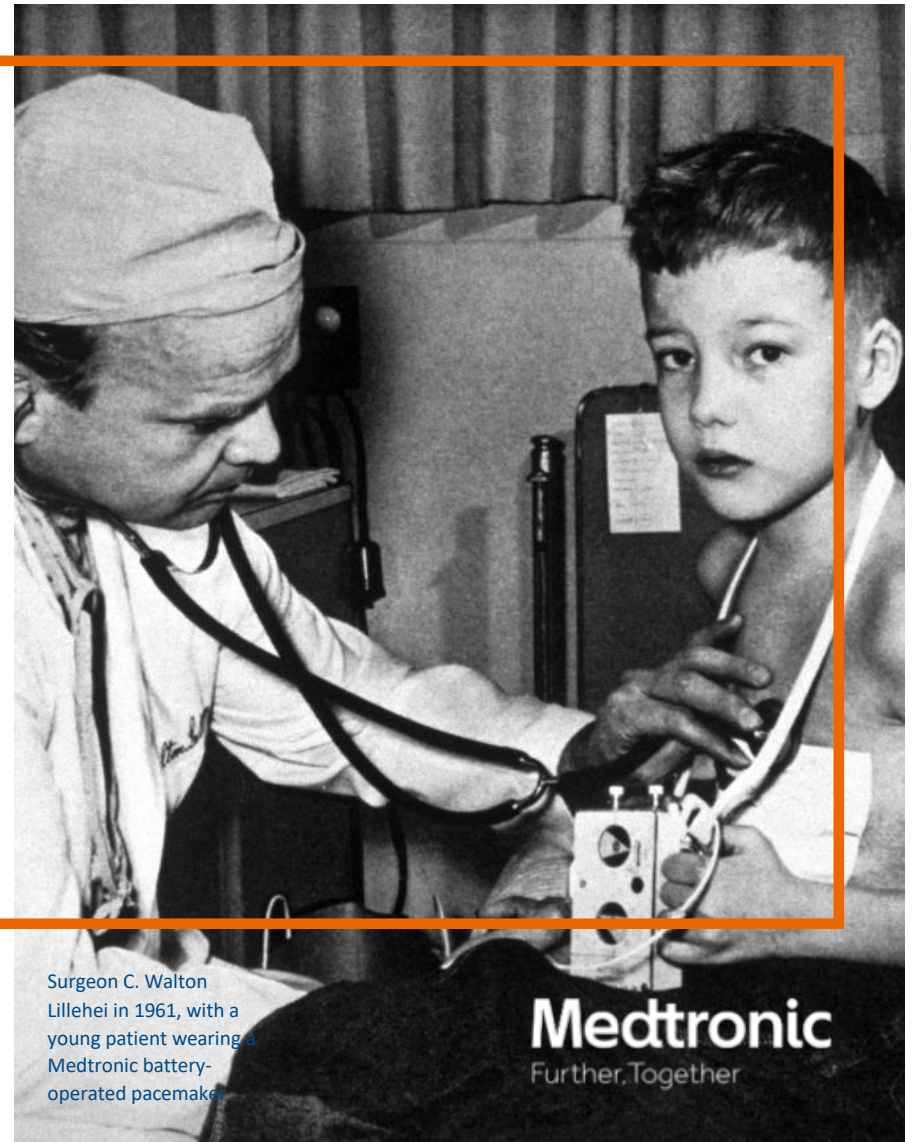
THERAPIES
TO TREAT
MORE THAN
70 CONDITIONS
IN THE
HUMAN BODY

MORE THAN
**50 SERVICES
AND SOLUTIONS**
FOR OUR
CUSTOMERS
AND PARTNERS

MORE THAN
45,000 PATENTS
IN OUR
TOTAL
PORTFOLIO

FOUNDED ON INNOVATION AND COLLABORATION

Innovation and collaboration are central to who we are. Since the late 1940s, we have been working with others to alleviate pain, restore health, and extend life. Today, we are a medical technology leader offering therapies and solutions that enable greater efficiency, access, and value — for healthcare systems, providers, and the people they serve.



Surgeon C. Walton
Lillehei in 1961, with a
young patient wearing a
Medtronic battery-
operated pacemaker.

IT STARTS WITH OUR MISSION

1. To contribute to human welfare by application of biomedical engineering in the research, design, manufacture, and sale of instruments or appliances that **alleviate pain, restore health, and extend life.**
2. To **direct our growth** in the areas of biomedical engineering where we display maximum strength and ability; to gather people and facilities that tend to augment these areas; to continuously build on these areas through education and knowledge assimilation; to avoid participation in areas where we cannot make unique and worthy contributions.
3. To **strive without reserve** for the greatest possible reliability and quality in our products; to be the unsurpassed standard of comparison and to be recognized as a company of dedication, honesty, integrity, and service.
4. To **make a fair profit** on current operations to meet our obligations, sustain our growth, and reach our goals.
5. To recognize the **personal worth of employees** by providing an employment framework that allows personal satisfaction in work accomplished, security, advancement opportunity, and means to share in the company's success.
6. To maintain **good citizenship** as a company.



ADDRESS UNIVERSAL HEALTHCARE CHALLENGES

POPULATIONS
ARE
AGEING

We make it easier for patients to keep in contact with their healthcare teams to make sure they are getting the care they need.

**CHRONIC
DISEASES**
ARE RISING

We develop new, life-saving technology to treat and manage chronic diseases and conditions.

MANY
PAYMENT AND
DELIVERY
SYSTEMS
**REWARD
VOLUME
OVER VALUE**

We collaborate with hospitals and healthcare systems to find and create value in their organizations.

GOVERNMENT
POLICIES AND
REGULATORY
SYSTEMS ARE
**IMPACTING
INNOVATIONS &
INCREASING TIME
TO MARKET**

We partner with governments around the world to improve access to care.

OUR STRATEGY

COMMITTED TO TRANSFORMING HEALTHCARE

THERAPY INNOVATION



Introducing and delivering
meaningful therapies
and procedures

GLOBALIZATION



Addressing the inequities
in healthcare access globally

ECONOMIC VALUE

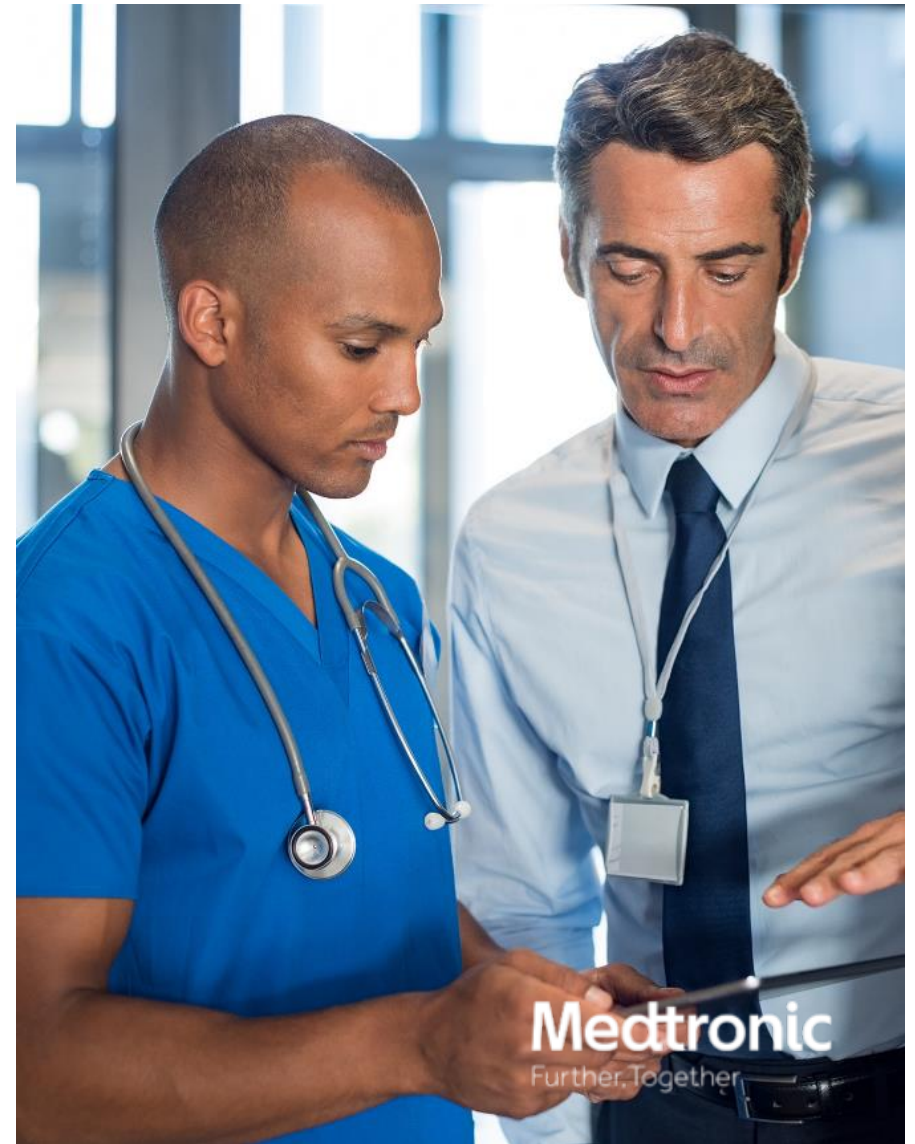


Helping lead the creation
of value-based
healthcare solutions

HELPING SHAPE HEALTHCARE FOR TOMORROW

Through progress and partnership we are reaching further than ever before to transform healthcare.

This means helping our partners and providers improve quality and efficiency of care through medical technology and deep clinical expertise.



PARTNERING TO TRANSFORM HEALTHCARE IN IRELAND

MEDTRONIC SUBMISSION TO FUTURE OF HEALTHCARE COMMITTEE

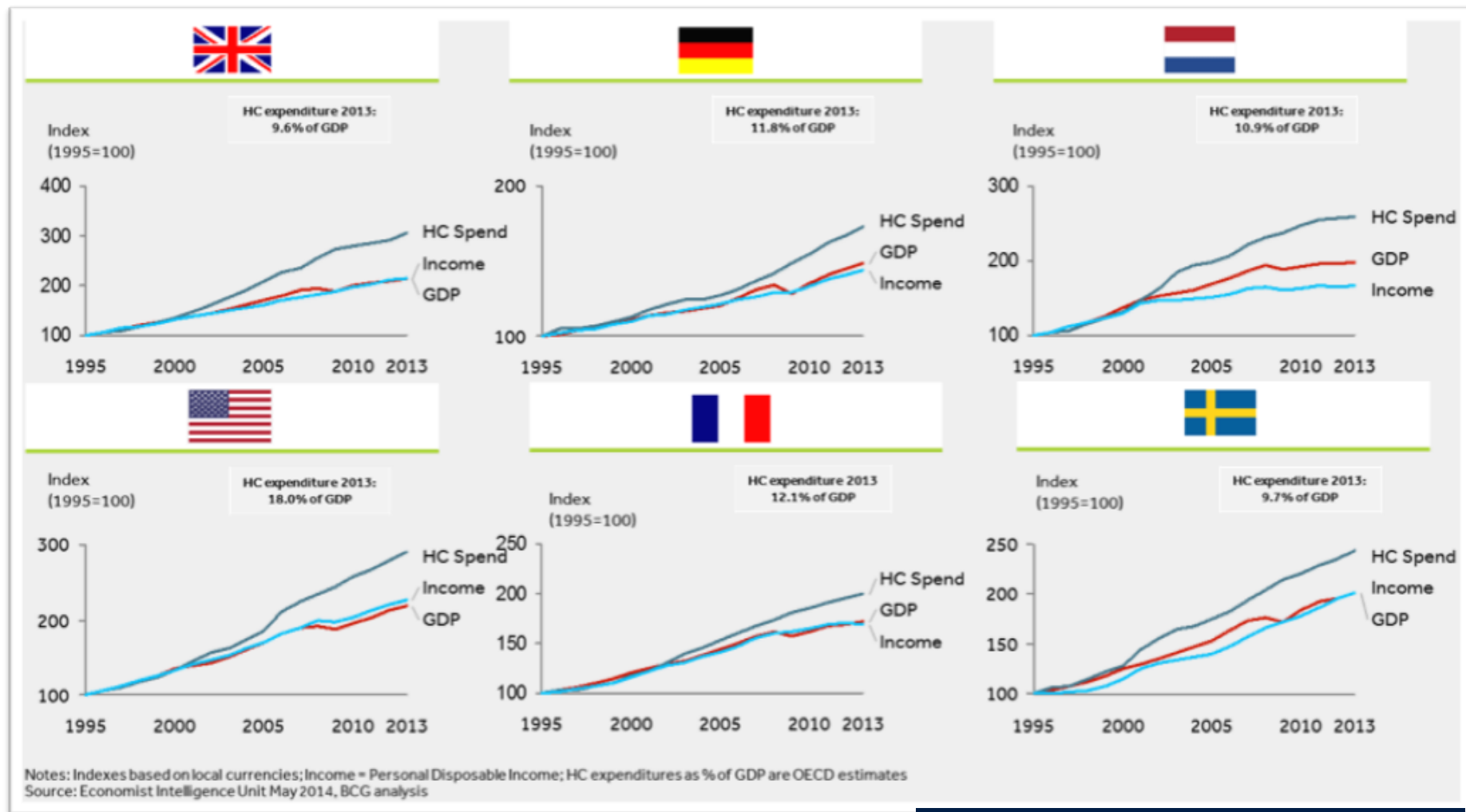
1. Focus on outcomes and measurements
2. Cost of care, in its totality, must be known and agreed by all
3. Procurement must be based on value
4. Payment to all stakeholders must be contingent on improved outcomes
5. Encourage benchmarking and cross-learning
6. Reduce the organisational barriers and bureaucracy delaying new partnerships and needed changes



Slainte Care Report published in 2017

WHAT IS VALUE-BASED HEALTHCARE?

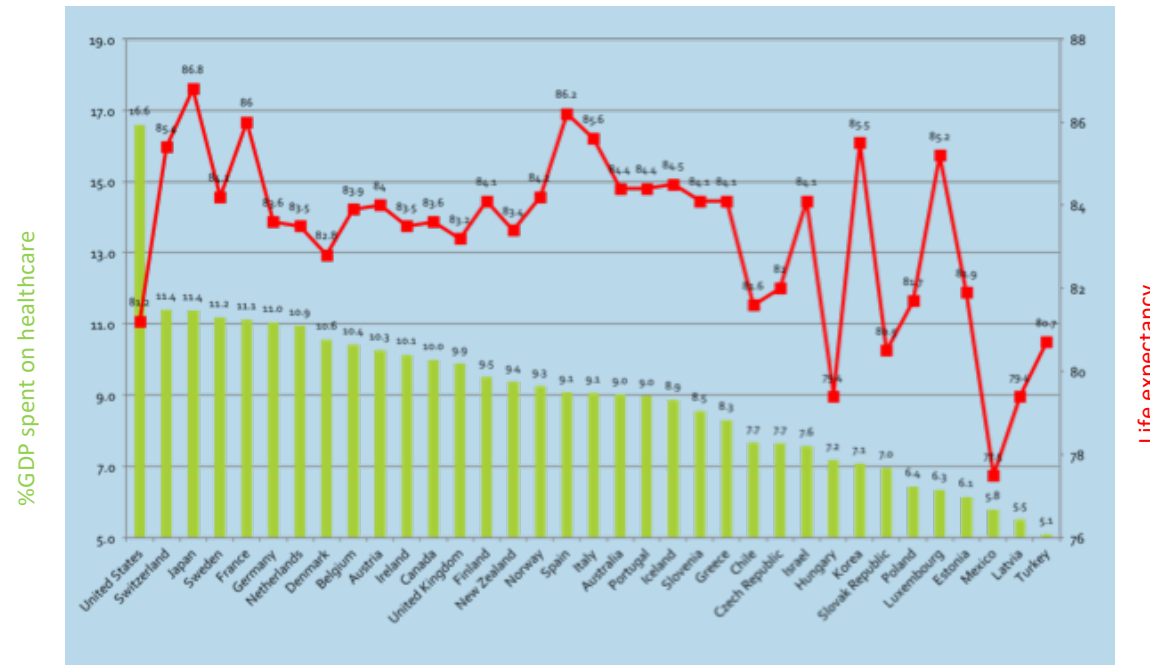
THIS INCREASE IN HEALTHCARE SPENDING IS UNSUSTAINABLE



Sources: Economist Intelligence Unit, ICHOM

OUTCOMES ARE NOT IMPROVING IN LINE WITH SPENDING

DISSOCIATION FROM COST AND ONGOING OUTCOMES VARIATION



Source: ICHOM

- **2x** variation in 30-day mortality rate from heart attack in U.S.
- **18x** variation in reoperation rates from radical prostatectomies in the Netherlands
- **20x** variation in mortality after colon cancer surgery in Sweden

VOLUME-BASED SYSTEM CHALLENGES

EPIODIC

HEALTHCARE PROVIDERS ARE PAID FOR THE **VOLUME** OF SERVICES, NOT **VALUE**

DISCONNECTED

PATIENT CARE IS NOT COORDINATED ACROSS THE CARE CONTINUUM

INCONSISTENT

CARE CAN VARY GREATLY

- From patient-to-patient
- From facility-to-facility (and even at the same facility)

LACKING DATA

DATA NOT SHARED ACROSS THE SYSTEM

PERCEPTION OF VALUE

A word cloud centered around the word "outcomes". The word "outcomes" is the largest and most prominent, rendered in a large, bold, blue sans-serif font. Surrounding it are several other words in different sizes and colors (black, blue, and grey). The words include: "balance" (large, black, top left), "efficiency" (medium, blue, top right), "price" (medium, black, top center), "affordability" (small, blue, top right), "optimization" (small, blue, top left), "sustainability" (medium, grey, bottom center), "adding" (medium, blue, bottom right), "appropriateness" (small, blue, bottom right), "cost-effectiveness" (medium, black, bottom center), "system-impact" (small, blue, bottom left), "stakeholders" (small, blue, bottom center), and "total-cost-of-ownership" (small, blue, bottom center).

balance optimization affordability **efficiency** **price**
outcomes
system-impact **sustainability** **adding** appropriateness
cost-effectiveness stakeholders total-cost-of-ownership

VALUE DEFINED BY LEADING EXPERTS

The Economist Advisory Board:

“A healthcare system that explicitly prioritizes health outcomes that matter to patients relative to their costs.”

Michael Porter’s definition for “value:”

“The health outcomes achieved that matter to patients relative to the cost of achieving these outcomes.”

International Consortium for Health Outcomes Measurement (ICHOM):

“Value is defined as the outcomes that patients experience relative to the cost of delivering those outcomes. Value-based Healthcare, or VBHC, is healthcare that delivers the best possible outcomes to patients for the lowest possible cost.”

$$\text{VALUE} = \frac{\text{OUTCOMES}}{\text{COST}}$$

PORTER'S 6 STRATEGIES

Organize into integrated practice units

Measure outcomes and costs for every patient

Move to bundled payments for care cycles

Integrate care delivery across separate facilities

Expand excellent services across geography

Build an enabling IT platform



Source: Harvard Business Review

MEDTRONIC AND VALUE-BASED HEALTHCARE

A CATH LAB REHAB

TO HELP THEM TREAT MORE PATIENTS, MORE EFFECTIVELY

SITUATION

Cardiac center

Catheterization labs struggle to keep up with the latest technology and treatments.

Inefficiencies in operations can reduce the number of patients a clinic can treat, increase patient wait times, and reduce cath lab utilization.



15% increase in cath lab Activity
\$2 MILLION Increase in hospital revenue

10-fold reduction in expired stock
75 min/day Decreased time wasted looking for items

SOLUTION

Medtronic Integrated Health Solutions

Manages and **modernizes cath labs and creates operational efficiency.**

Working with Imperial College Healthcare NHS Trust in the UK, IHS:

- Replaced aging cath lab equipment with the most innovative technology available through a unique financing arrangement
- Improved on-time cath lab starts from 58% to 93%

Integrated Health Solutions: Cost Savings. Capital Investment. Increased On-Time Starts. A case study of Imperial College Healthcare NHS Trust. Medtronic, 2015. Position Paper.
<http://newsroom.medtronic.com/phoenix.zhtml?c=251324&p=irol-newsArticle&ID=1851106>

Medtronic

MANAGING CARDIAC DEVICE INFECTION

THE TYRX RISK-SHARE PROGRAM



Problem

Infections occur in 1-4% of all CIED Implants

The Impact

50% Mortality at 3 Years
\$50,000 average cost to treat an infection

The Solution

- TYRX™ Absorbable Antibacterial Envelope Helps Prevent Infection
- 70-100% reduction of Infections in High-Risk Patients over 12 months.
- Device related infection risk over 12 months with TYRX envelope decreases to 0.44%.

INSTILLING GOOD HABITS EARLY

HELPS REDUCE DIABETES COMPLICATIONS THROUGH EARLY INTERVENTION

SITUATION

973,500

cases of diabetes were reported in

the Netherlands in 2015, costing just over \$7,307 USD per person (\$7 billion per year).¹

Complications from diabetes can include stroke, kidney disease, heart disease, and more.

Glucose control is key to avoiding complications; children and youth with diabetes typically do not have specialized support to help them do this.



SOLUTION

Diabeter provides **comprehensive type 1 diabetes care and support** for children and youth in the Netherlands. Diabeter:

- Manages >1,600 patients
- Teaches young patients how to regulate their diabetes and lower the risk of complications
- Created the Diabeter Dashboard to **electronically link patient and physician** to encourage self-management with diabetes care team support
- Achieved significant reductions in HbA1c levels, a key measure used to assess blood glucose control²

¹ International Diabetes Federation: <http://www.idf.org/membership/eur/the-netherlands>

² <https://diabeter.nl/en/about-diabeter/who-we-are/>

INTEGRATED MORBID OBESITY CARE MODEL APPROACH

THE NOK MODEL

SITUATION

Obesity

- Every **1 in 10** worldwide are obese
- **80%** of people with obesity suffer from one or more comorbidities
- **10 years** is the reduced life expectancy for BMI >40
- **6 Million** premature deaths per year in EMEA due to obesity
- **50%** higher costs than those of normal weight



SOLUTION

- **NOK** is the largest specialized Dutch clinic for comprehensive treatment of people with morbid obesity
- **Patients**
 - More durable weight loss
 - Incentive to stay engaged
- **Providers**
 - Surgeons focus on surgery
 - Cost efficient use of hospital infrastructure and staff
- **Payers**
 - Improved short and long term weight loss
 - Lower recurrence of co-morbidities

WE'RE REACHING
FURTHER
TO WORK WITH NEW
PARTNERS,
IN NEW WAYS
TO HELP TRULY
**TRANSFORM
HEALTHCARE**



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