Healthcare Digitalization : How is it Transforming Healthcare in India

Medtronic
Further Together

Medtronic Business Strategy

Therapy Innovation
Introducing and delivering **meaningful offerings** at the therapeutic, procedural, and system level

Globalization
Addressing the inequities in healthcare access globally

Economic Value
Helping lead the creation of value-based healthcare solutions

Positive Impact on Non-Communicable Diseases

MORE THAN 70 CONDITIONS IN THE HUMAN BODY treated with our therapies

MORE THAN 2 PEOPLE EVERY SECOND have their lives improved

More than Products: Integrated Health Solutions

Delivering tailored solutions to improve clinical, operational, and financial outcomes through long-term partnerships with hospitals, health systems, physicians, and payers

Transforming Healthcare: Value-based Healthcare (VBHC)

- Improving clinical and economic outcomes to expand access and optimize cost and efficiencies
- Under VBHC business models, shared accountability for costs and outcomes are linked to the product, services, or integrated solutions

Public Private Partnerships

These partnerships are an important part of our approach in emerging markets. They create mutual benefits by leveraging skills and assets of both parties while enabling both to maximize their efforts through jointly defined objectives, including increasing therapy innovation, market access and economic value.

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MEDTRONIC IS THE WORLD'S LARGEST MEDICAL TECHNOLOGY AND SOLUTIONS COMPANY

Our portfolio includes more than 131,000 medical devices which diagnose, prevent, mitigate, treat, or cure disease, or other conditions.

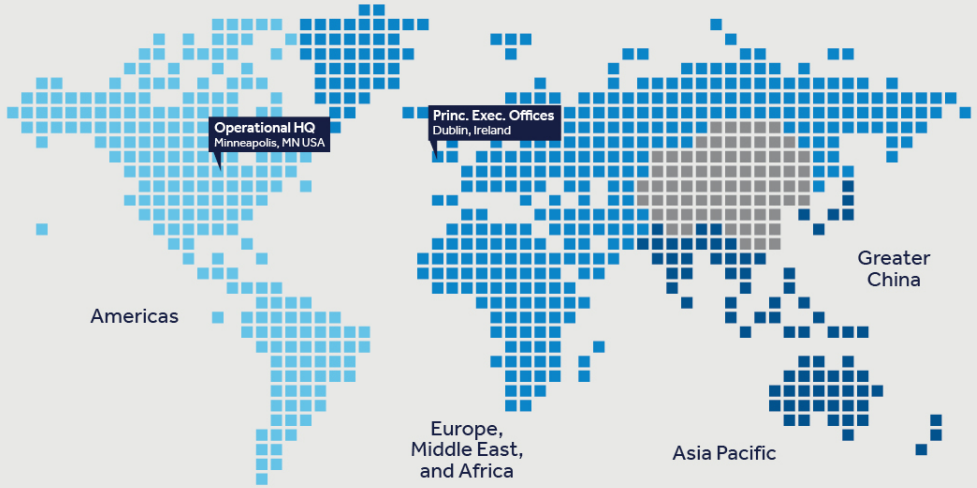
Geographic reach

350+ LOCATIONS

150+ COUNTRIES

76 MANUFACTURING SITES

21 LAB AND RESEARCH & DEVELOPMENT SITES



86,000+ EMPLOYEES

9,600+ ENGINEERS AND SCIENTISTS

46,000+ PATENTS IN OUR PORTFOLIO

350+ CLINICAL TRIALS

$2.3B INVESTMENTS

*Last updated May 2018

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ADDRESS HEALTHCARE CHALLENGES THROUGH DIGITISATION

Affordability

Rise of NCDs

Infrastructural Bottleneck

Access

The Care Continuum

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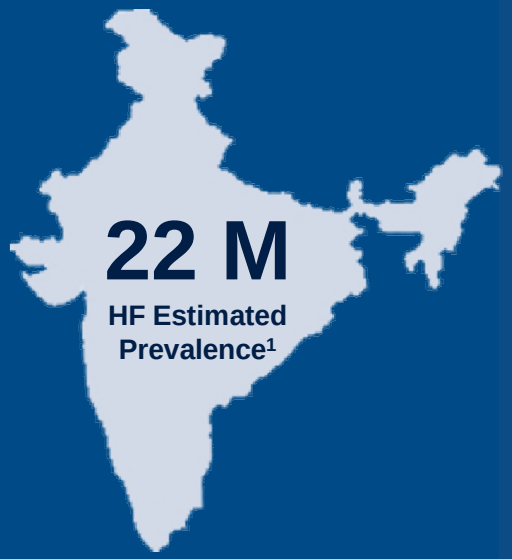
Smiling Hearts
HEART FAILURE CLINIC

Heart Failure Clinic

Partnership to create
Heart Failure Centre of Excellence

HF Patients Challenges



INEFFICIENT REFERRAL SYSTEM

HF Patients

Referring Physicians
- Physicians
- Clinical Cardiologists
- Nephrologists

35%-50% drop out

Specialists
- Cardiologists
- Cardio Surgeons / ICs
- Pulmonologists

Disease onset a decade earlier than Western patients ...
45 % of HF Patients are **<60 years old**

CHALLENGES IN THE HF CARE PATHWAY

- Diagnosis
- Referral Pathway
- Affordability
- Patient Awareness, Anxiety

UNDER-OPTIMIZED THERAPY

- 57% are on beta blockers compared to 78% in the US
- Under-penetration of HF Therapies.

1. PANARrhythMia and Heart Failure Registry (PANARM HF) Heart Failure Population, Clinical Study 2008-2010 | 2. Medtronic India's internal estimation 2013

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SMILING HEART FAILURE CINIC
PROCESS FLOW

ACTIVITIES AT CLINIC
ON-TRACK PROGRAM

Patients

Hospital

OPD Consultation with treating consultant

- Consultations
- Investigations
- Medications
- Follow ups

Patient eligible to enrol

Refer

Smiling Hearts
HEART FAILURE CLINIC

HF Clinic Doctor/Nurse

- Registration
- Assessment
- Review/Vitals
- Explain HF
- Med Mgmt
- Co-Morbidities
- Treatment Plan
- e-Platform

Follow-up

At Home

On call

Counsellor
On-Track – Evaluate
Teach lessons

Smiling Hearts
HEART FAILURE CLINIC

Call Frequency as per NYHA Classification

- Ask Symptom
- Progress
- Diet Chart
- Exercise/Lifestyle
- Fluid Intake
- Appointment
- e-Platform

Patient goes back to Home

Counsellor

- Explain HF
- Diet Chart
- Exercise/Lifestyle
- Fluid Intake
- Restrictions

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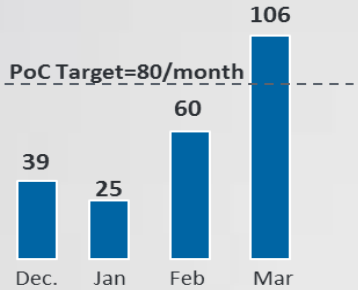
HF Patients Enrollment

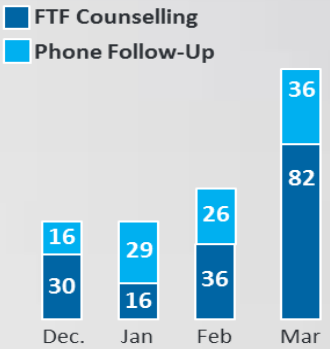


230 patients in 3.5 months

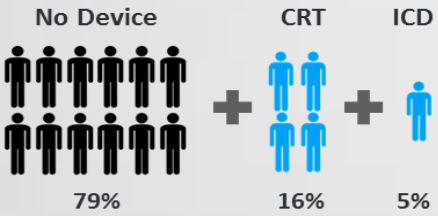
Patient Demographics

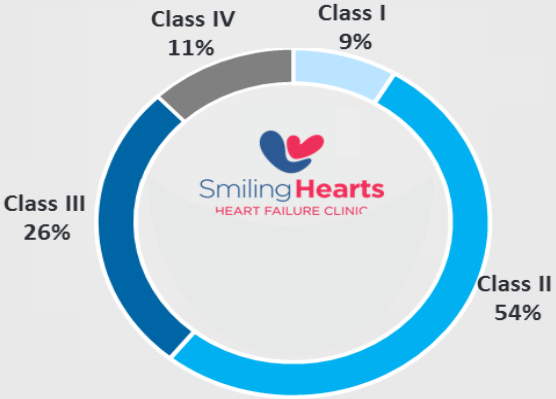
75% Male | 55 Yrs Old | 58% Outpatient

Patient Follow-ups

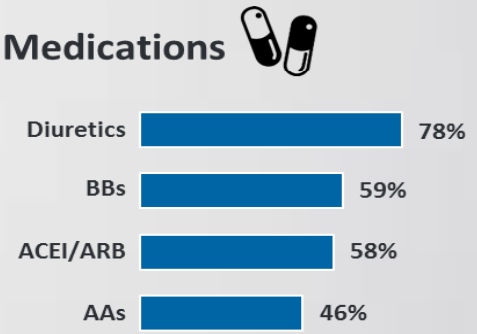


Device Implants





Medications

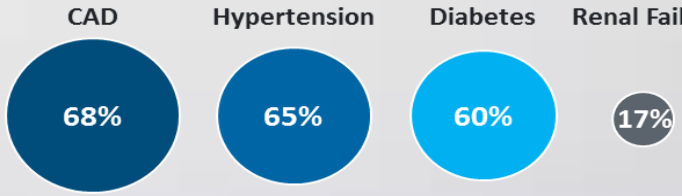


Eligible ICD Candidates

With EF≤ 35, NYHA II,III, IV, Past MI or/ and documented episode of VT/VF

46 Patients
Out of 230 patients

Comorbidities



>20%
Decreased severity of Heart Failure (NYHA Class, Symptoms)

30%
Decrease in number of Hospitalization

Average
ONE
Symptom reduced between 1st & 2nd visit

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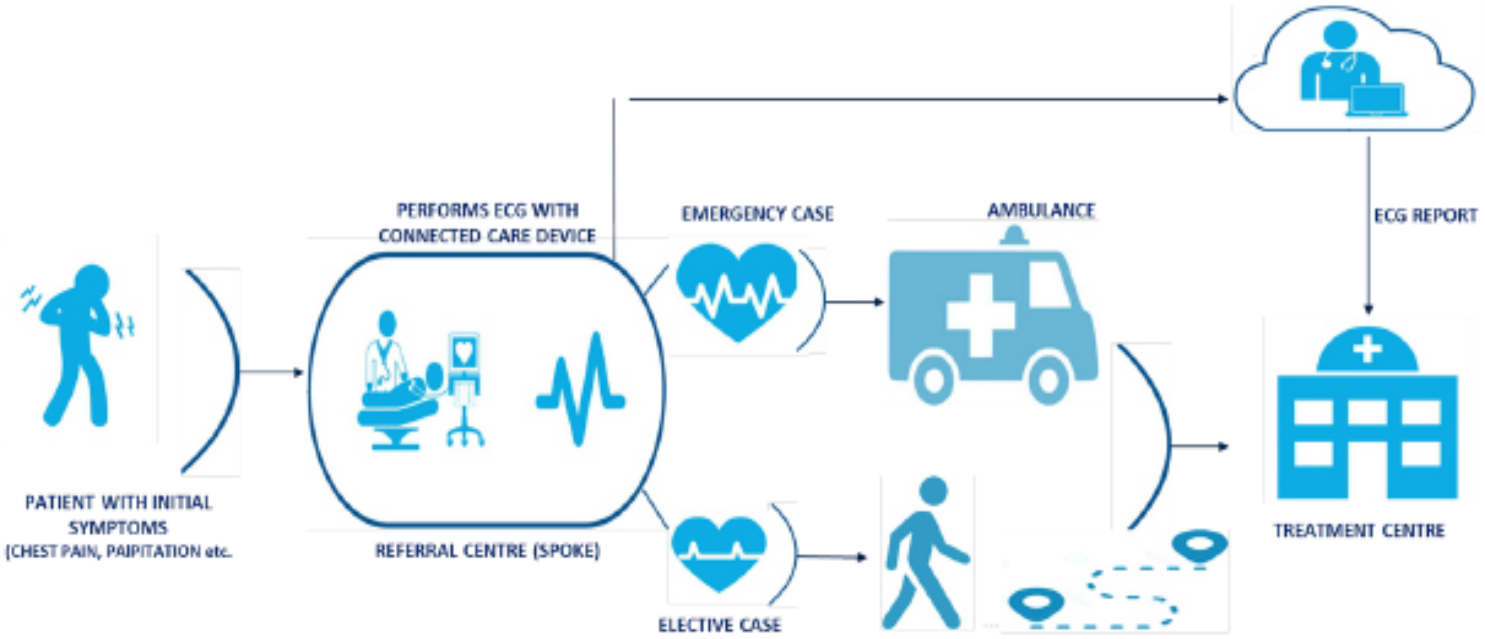
BUILDING ACCESS CONNECTED CARE ECG MODEL



Built-In real time analysis and feedback mechanism

Comprehensive reports and historical data management

Scalable & cost effective

INITIAL OUTCOMES & INSIGHTS

PATIENT

- Timely diagnosis
- Second opinion
- Optimized care pathway
- Cost optimization

GENERAL PHYSICIAN

- Practice development
- Improved clinical capability
- Real time reporting
- New revenue stream

HOSPITAL

- Integrated physician's channel
- Patient load segregation and filtering
- Positive clinical outcomes
- Community connect

17K LIVES TOUCHED SO FAR

Currently operational across 31 Hospitals and 130+ Clinics throughout India

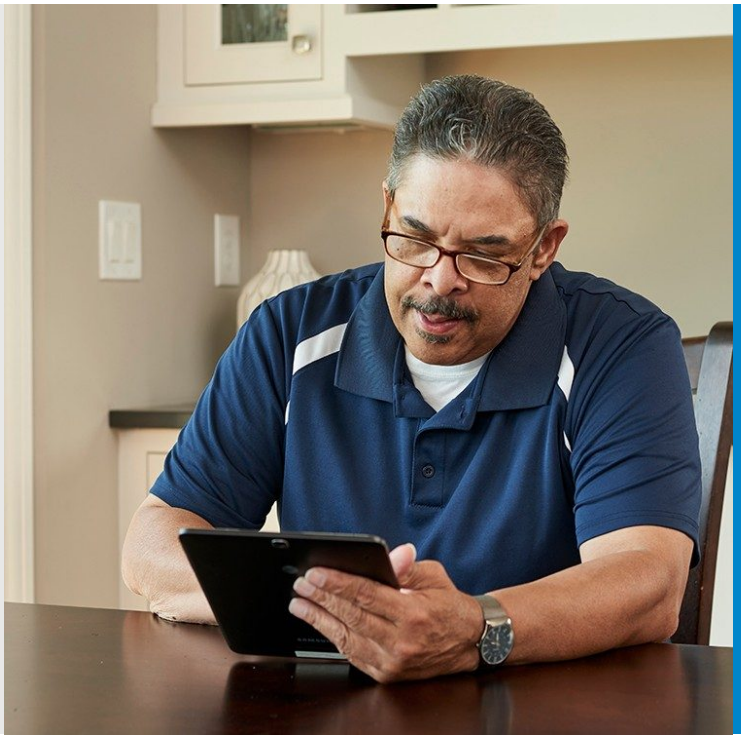
HELPING COMPLEX, CHRONIC, COMORBID PATIENTS HELP THEMSELVES
IMPROVING OUTCOMES BY ENGAGING PATIENTS IN THEIR AT-HOME CARE

SITUATION

Patients with **complex, chronic, co-morbid conditions** command the highest amount of healthcare resources and are most prone to hospitalizations. As the number of people with chronic conditions continues to rise, healthcare costs and utilization grow exponentially.[1]

PATIENTS WITH 2+ CHRONIC DISEASES REPRESENT 93% OF MEDICARE FFS SPEND[2]

For these complex patient populations, much of their care happens outside the hospital setting.



SOLUTION

Medtronic Care Management Services

Helps post-acute care providers and payers **serve the unique needs of many at-risk patients through at-home, daily monitoring.**

Our remote patient monitoring solutions are designed to:

- Engage patients in their care through daily health checks and education
- Help escalate at-risk patients and help enable stronger clinical decision-making
- Help **reduce the cost of care**[1] and **improve outcomes**[3] for patients with complex, chronic, co-morbid conditions

[1] Stanhope, KM, et al. (2016). Telemonitoring reduced costs and inpatient visitation rates for patients with advanced cardiovascular disease: A matched Cohort Study.
[2] Chronic Conditions Among Medicare Beneficiaries, Chart Book 2012. Baltimore, MD: Centers for Medicare & Medicaid Services; 2012. Accessed November 18, 2014. *Data is based on third-party solutions and data, which is not necessarily identical to the MCMS solution or Medtronic data.*
[3] Darkins A, Kendall S, Edmonson E, Young M, Stressel P. Reduced cost and mortality using home telehealth to promote self-management of complex chronic conditions: a retrospective matched cohort study of 4,999 veteran patients. Telemed J E Health 2015 Jan; 21(1):70-6. *This study is based on MCMS solutions and Medtronic data combined with third-party solutions and data, which are not necessarily identical to the MCMS solution or Medtronic data.*

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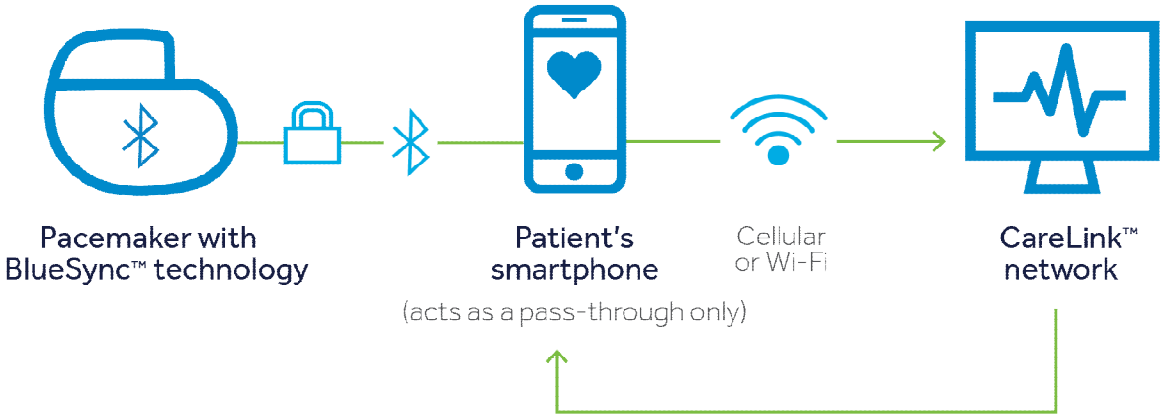
CONNECTED CARE

- Patients can now use their smartphone* to transfer heart device data via the app — anytime, anywhere
- Patients can now view select pacemaker data, including model name and battery longevity.



- Enhanced security with data encryption and pacemaker protection[1]
- Use of Bluetooth® Low Energy is designed to minimize battery drain of the pacemaker.[1]
- Automatic notifications inform patients of transmission status.
- Upgradeable throughout lifetime of device

[1] Medtronic Azure™ XT DR MRI SureScan™ Device Manual. M964338A001B. 2016-10-22.
*Please visit www.MCLHeart.com for a list of compatible smartphones and tablets.

BENEFITS

MyCareLink Heart™ mobile app is designed to offer the following benefits:

Patient Engagement Promotes Patient Satisfaction[1]

- Integrate remote monitoring into your patient's daily life using a patient-owned smartphone
- Provide patient peace of mind with the MyCareLink Heart app which allows patients to view select data, such as transmission status.

Patient Compliance Results in Increased Clinic Efficiencies[3]

- Patient monitoring — even outside the home — helps deliver quality of care
- Reduce clinic time spent on follow-up activities.
- Push notifications help patients stay connected, transmit on time

Upgradeability Sets the Foundation for Future Technologies

Similar to consumer apps, as technology advances, so will MyCareLink Heart — throughout the life of the pacemaker.

[1] Varma N. *Cont Cardiol Educ*. 2016;2:198-204.
[2] Fowles JB, et al. *Patient Educ Couns*. 2009;77:116-122.
[3] Cronin EM, et al. *Heart Rhythm*. 2012;9:1947-1951.

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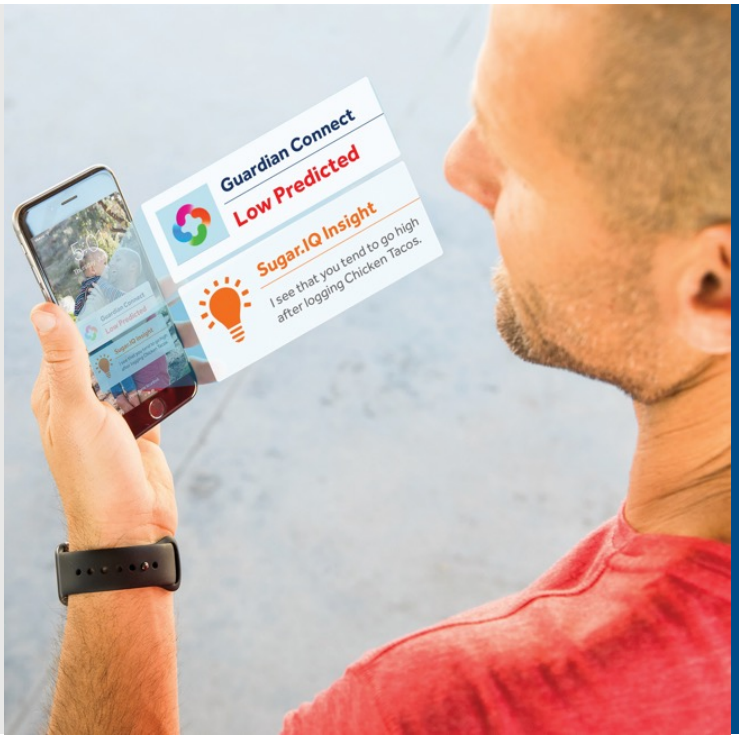
A SWEET APP
HELPING PATIENTS BETTER MANAGE THEIR DIABETES

SITUATION

More than 69 million people
suffer from diabetes in India,.[1]

- Managing diabetes is often up to the patient, who may not understand how their food and lifestyle choices affect their health.
- Glucose monitors gather patient health data, but finding hidden patterns requires a great deal of computer analytical power.



SOLUTION

Medtronic & IBM Watson

Combines IBM's cognitive computing power with glucose monitor data and Medtronic diabetes expertise to find hidden clues in patient data. This partnership has:

- Created the **Sugar.IQ** smart diabetes assistant app in partnership with Medtronic's Guardian Connect CGM system. The app identifies patterns in the data to help patients better understand their health status and how their choices can impact their health
- Developed the **IQcast** feature within the Sugar.IQ app. — it can help predict the likelihood of an individual experiencing a low event in the next one to four hour window.

[1] American Diabetes Association. *Diabetes Care*. 2013;36(4):1033-1046. http://dx.doi.org/10.2337/dc12-2625

LIVING
OUR MISSION
DAILY
TO TAKE
HEALTHCARE
FURTHER,
TOGETHER
Medtronic
Further, Together