



CURSO

GESTIÓN INVESTIGACIÓN BIOMÉDICA

PRESENTE Y FUTURO DE LA INVESTIGACIÓN BIOMÉDICA

PERSPECTIVA DESDE LA INDUSTRIA

20 de Octubre de 2017

Francisco de Paula RODRÍGUEZ PERER
Director de Estrategia de Medtronic Ibérica

PROMUEVE



ORGANIZA



Medtronic
Further, Together

GUION



PRESENTE: Lo que ya sabemos

FUTURO: Lo que sospechamos

¿PREPARADOS para el FUTURO?

REFLEXIONES para la DISCUSIÓN

GUION



PRESENTE: Lo que ya sabemos

FUTURO: Lo que sospechamos

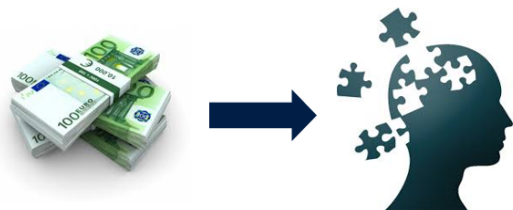
¿PREPARADOS para el FUTURO?

REFLEXIONES para la DISCUSIÓN

INVESTIGAR (I+D) es....



INVESTIGAR (I+D) es.....



INNOVAR (+i) es.....



Entorno ALTAMENTE COMPETITIVO

Es NEGOCIO

Es a LARGO PLAZO (proyectos + investigadores)

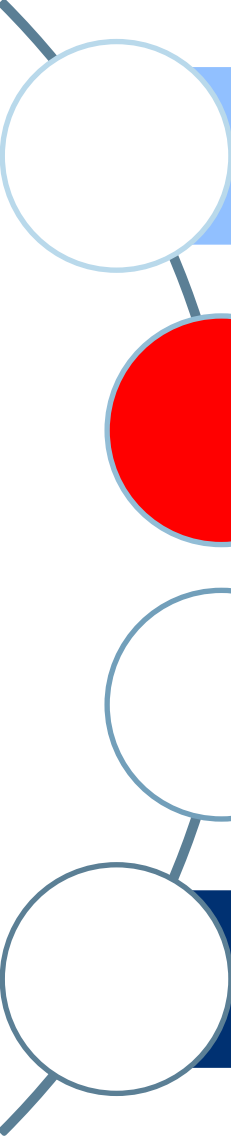
O es INTERNACIONAL o no es

ESPAÑA: TOP 10 Conocimiento (publicaciones)

ESPAÑA: GAP Conocimiento ---→ Mercado

ESPAÑA: Inversión PRO - CÍCLICA

GUION



PRESENTE: Lo que ya sabemos

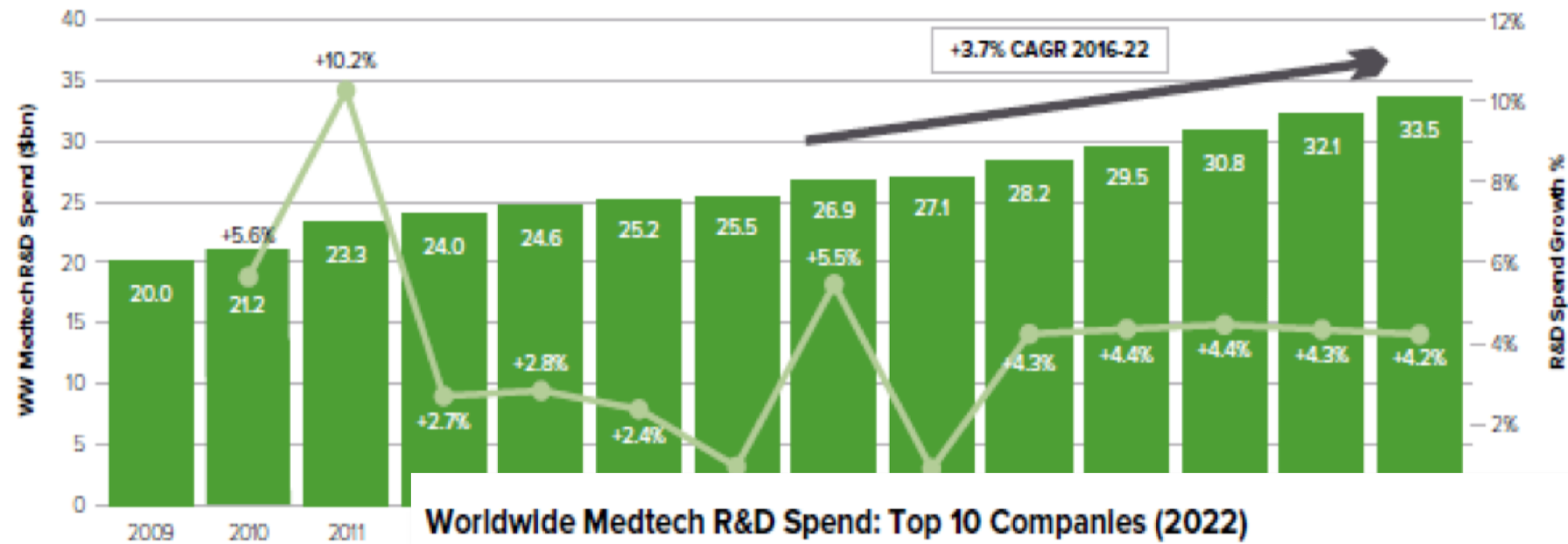
FUTURO: Lo que sospechamos

¿PREPARADOS para el FUTURO?

REFLEXIONES para la DISCUSIÓN

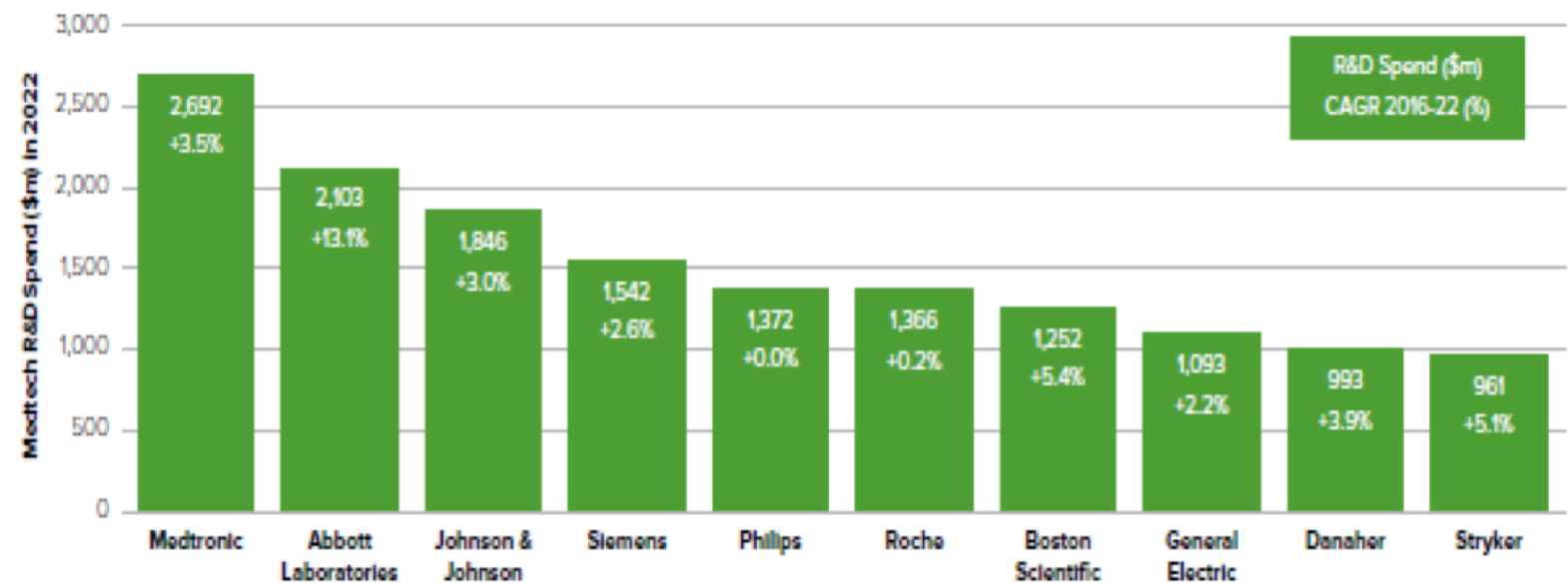
Worldwide Medtech R&D Spend (2009-2022)

Source: Evaluate, September 2017



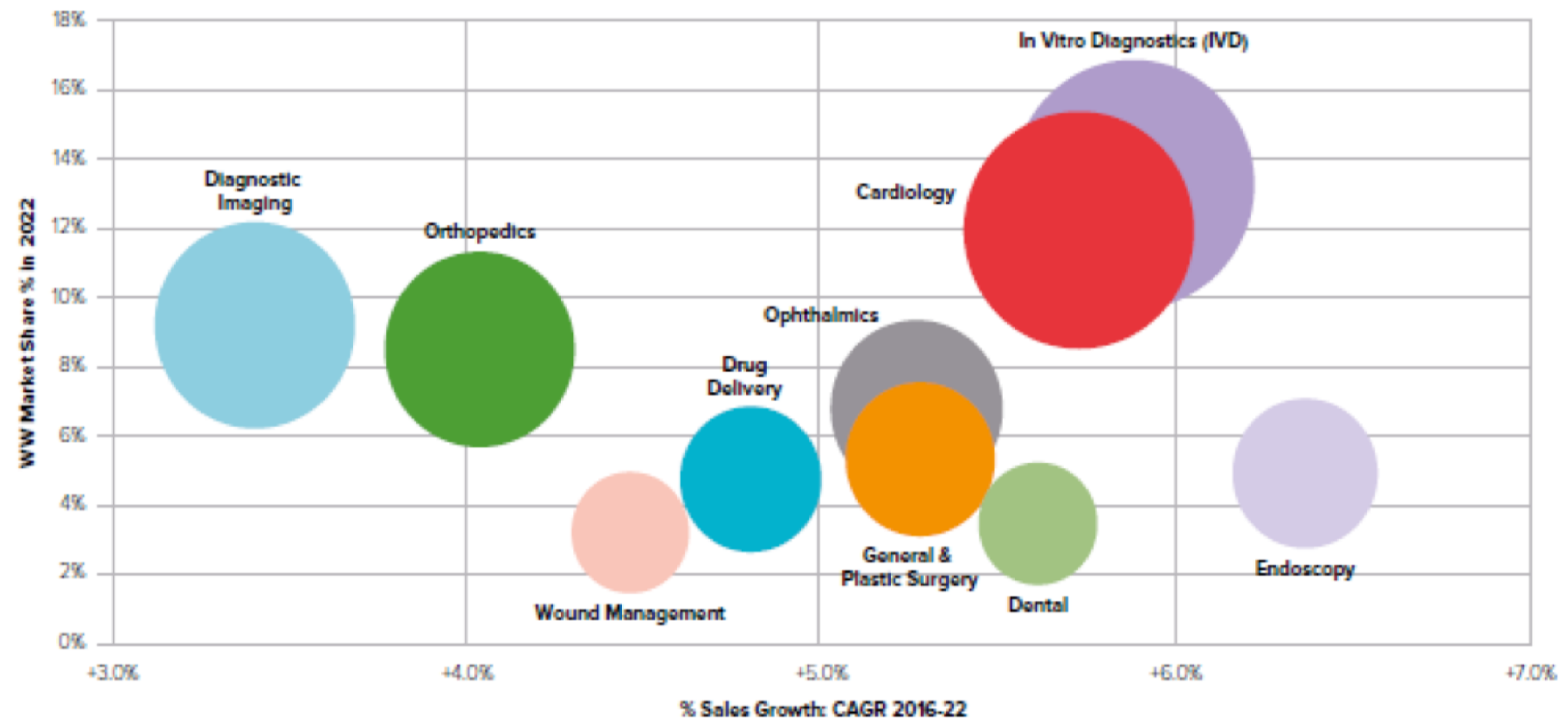
Worldwide Medtech R&D Spend: Top 10 Companies (2022)

Source: Evaluate, September 2017



Analysis on Top 10 Device Areas In 2022, Market Share & Sales Growth (2016-2022)

Source: Evaluate, September 2017



Note: Size of Bubble = WW Sales in 2022

TECHNOLOGIES TO ADDRESS MULTIPLE DISEASE STATES & CONDITIONS

Cardiac and Vascular Group

Aortic & Peripheral Vascular | Cardiac Rhythm & Heart Failure
Coronary & Structural Heart



Diabetes Group

Diabetes Services & Solutions | Intensive Insulin Management
Non-Intensive Diabetes Therapies



Minimally Invasive Therapies Group

Early Technologies | Patient Monitoring & Recovery
Surgical Innovations | Renal Care Solutions



Restorative Therapies Group

Brain | Spine | Pain | Specialty Therapies



TECHNOLOGY PLATFORMS FOR THE FUTURE



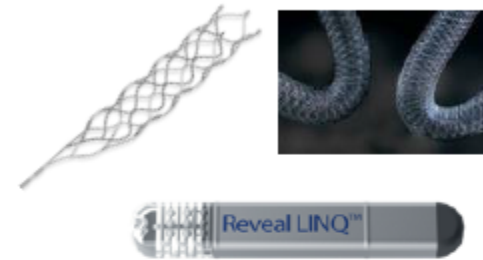
Leadless CRM



Transcatheter Mitral Valves



LVAD Systems



Stroke Therapies



Neurostimulation Advancements



Advanced Surgical Tools and Robotics



Capsule Endoscopy Solutions



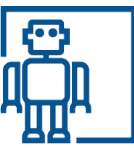
Closed Loop System for Diabetes Management



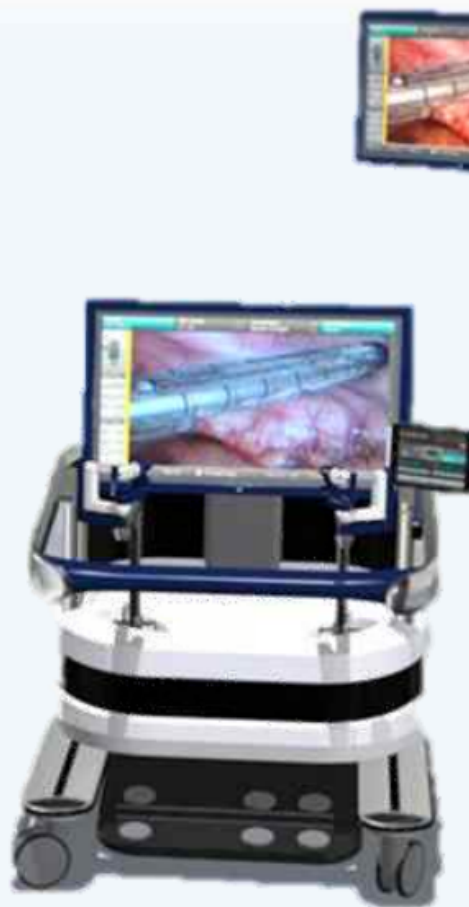
CGM in Standard Use

For patients to realize the full value of these exciting new therapies,
Economic Value as well as **Clinical Value** must be developed

OUR ROBOT



**Robot Arm &
Instrument
(1- 4 Arms)**



**Surgeon User Interface
(up to 2 Consoles)**



Tower

HEPATITIS C ›

Sanidad cifra en 727 millones el coste de los fármacos antihepatitis

Alonso anuncia que 52.000 personas serán tratadas en tres años con cargo a las regiones

ELENA G. SEVILLANO



Madrid - 26 FEB 2015 - 20:56 CET

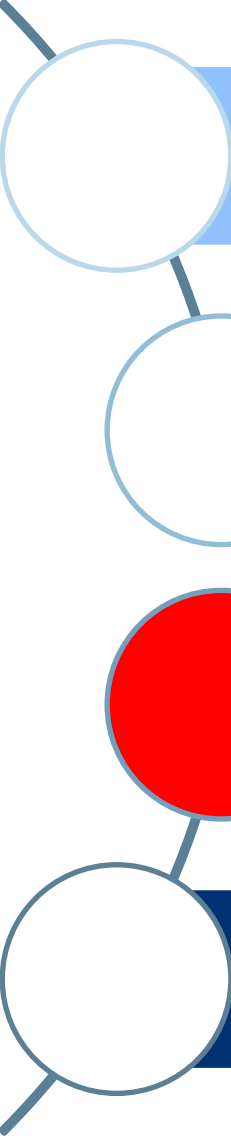


El ministro Alfonso Alonso y el médico Joan Rodes. FERNANDO ALVARADO (EFE)

¿Cuántas “Hepatitis Cs” faltan por venir?

¿Con qué frecuencia vendrán?

GUION



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¿QUE DEBE CAMBIAR?



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graph TD; A[¿QUE DEBE CAMBIAR?] --> B[En la ADMINISTRACIÓN]; B --> C[En los PROFESIONALES]; C --> D[En la INDUSTRIA];
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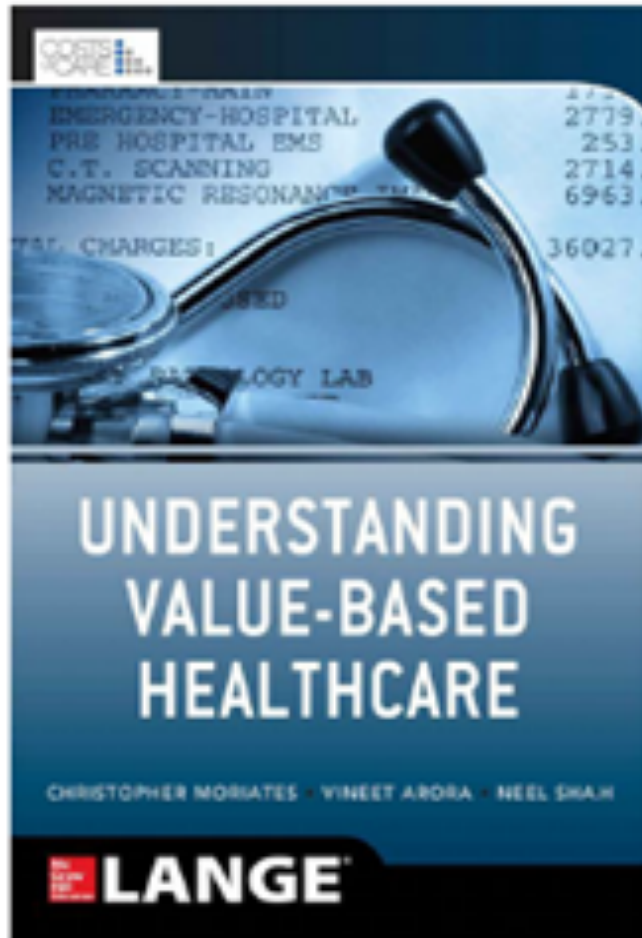
En la
ADMINISTRACIÓN

En los
PROFESIONALES

En la **INDUSTRIA**

VALUE BASED HEALTH CARE

En la ADMINISTRACIÓN



The screenshot shows the Harvard Business School (HBS) website. At the top is the HBS logo and the text 'HARVARD | BUSINESS | SCHOOL'. Below this is the 'INSTITUTE FOR STRATEGY & COMPETITIVENESS' header. A navigation bar includes links for 'ABOUT THE INSTITUTE', 'RESEARCH AREAS', and 'RESOURCES'. A secondary navigation bar lists 'HEALTH CARE', 'COMPETITIVENESS & ECONOMIC DEVELOPMENT', 'CREATING SHARED VALUE', 'STRATEGY', and 'ABOUT MICHAEL PORTER'. The 'HEALTH CARE' link is active. Below the navigation, a breadcrumb trail reads 'HBS → ISC → Health Care → Value-Based Health Care ...'. To the right of the breadcrumb are links for 'Email' and 'Share'. The main content area has a blue background with a photo of Professor Michael Porter speaking into a microphone. The title 'Value-Based Health Care Delivery' is prominently displayed in white. Below the title, a paragraph states: 'Based on the research of Professor Michael Porter, Value-Based Health Care Delivery is a framework for restructuring health care systems around the globe with the overarching goal of value for patients—not access, cost containment, convenience, or customer service.'

VALUE DEFINED BY LEADING EXPERTS

The Economist Advisory Board

The
Economist

Professor Michael Porter's
definition for "value"



International Consortium
for Health Outcomes Measurement



$$\text{VALUE} = \frac{\text{OUTCOMES that matter to patients}}{\text{COST per patient cohort to achieve that outcome}}$$

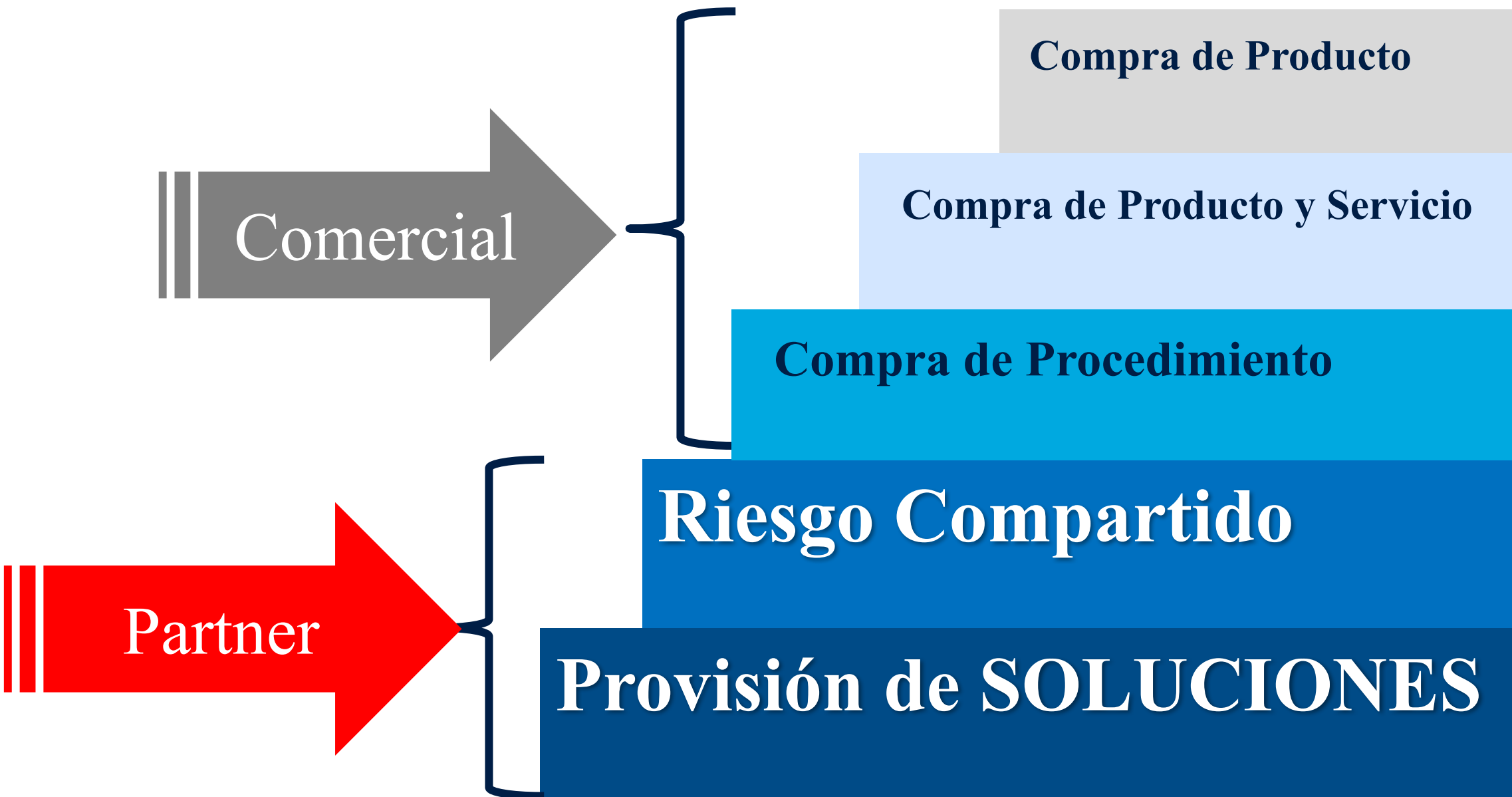
PORQUÉ VBHC?

**PORQUE ES NECESARIO UN CAMBIO DE
PARADIGMA**

VOLUMEN por VALOR

ASISTENCIA por RESULTADOS

LAS OPCIONES DE COMPRA PÚBLICA





BOLETÍN OFICIAL DE LAS CORTES GENERALES

CONGRESO DE LOS DIPUTADOS

XII LEGISLATURA

Serie A:
PROYECTOS DE LEY

2 de diciembre de 2016

Núm. 2-1

Pág. 1

PROYECTO DE LEY

121/000002 Proyecto de Ley de Contratos del Sector Público, por la que se transponen al ordenamiento jurídico español las Directivas del Parlamento Europeo y del Consejo, 2014/23/UE y 2014/24/UE, de 26 de febrero de 2014.

¿Médicos o robots?
La medicina que viene

INDUSTRIALIZING MEDICAL PRACTICE:

MASSIVE USE OF
TECHNOLOGY:

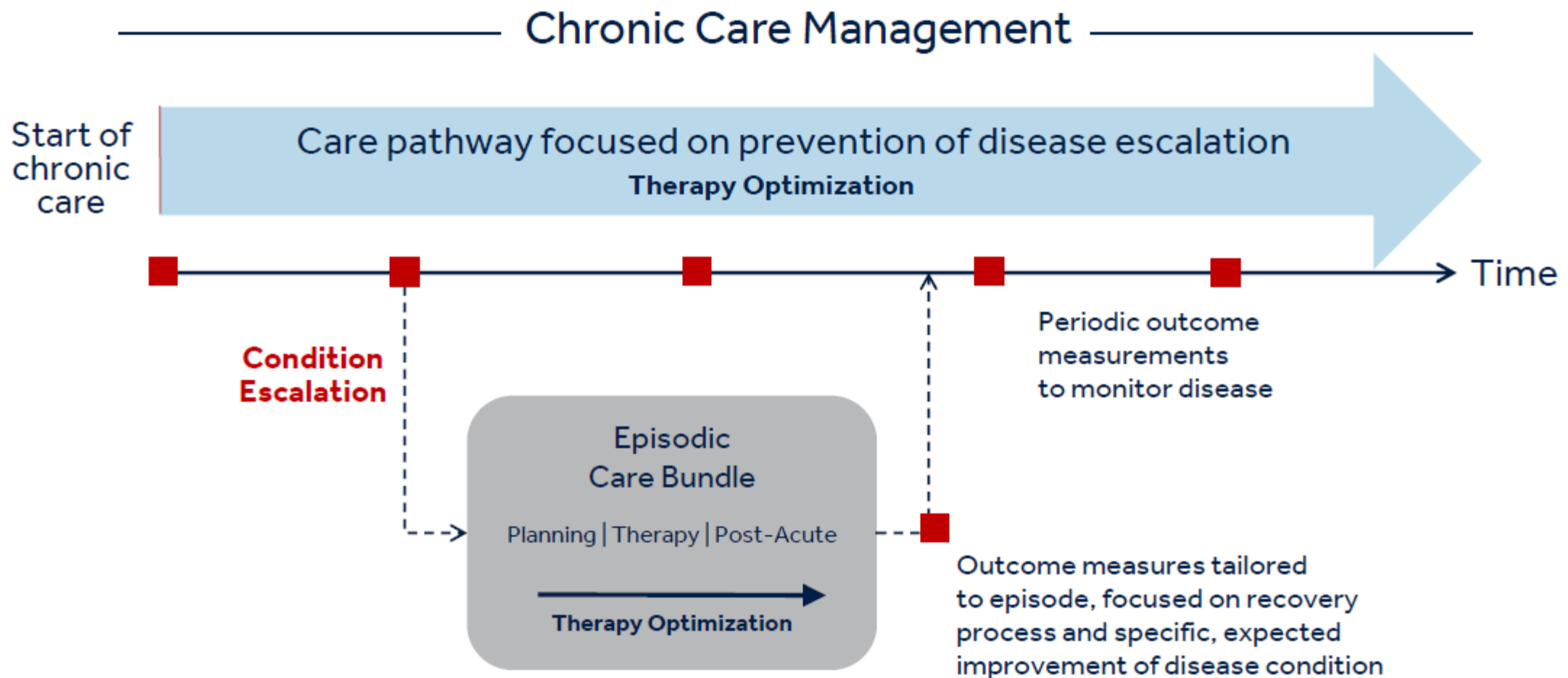
ICT &
MEDICAL
TECHNOLOGY

STANDARDIZING
AND MAPPING
PROCESSES,
PROCEDURES,
QUALITY,
OUTCOMES,
COSTS

CHANGING
PROFESSIONAL
ROLES

FOR ENHANCING ACCESSIBILITY, QUALITY,
EFFICIENCY

STRUCTURING HEALTHCARE



MEDTRONIC's TRANSFORMATION

FROM

HEALTHCARE SYSTEM

Fee for Service

MEDTRONIC

Revenue based on **technology**, with a **promise** to change **outcomes**, supported by credible clinical evidence

TECHNOLOGY



CLINICAL TRIALS

3,739
SURESCAN
PATIENTS
STUDIED

PROVIDERS



Cleveland Clinic

JOURNAL PUBLICATION



The NEW ENGLAND
JOURNAL of MEDICINE

JAMA
The Journal of the American Medical Association

TO

HEALTHCARE SYSTEM

Fee for Value

MEDTRONIC

Revenue based on **delivering** improved **outcomes**, as a result of technology innovation



PATIENT MGMT



PAYER/PROVIDERS



OUTCOMES MEASURES

3,739
SURESCAN
PATIENTS
STUDIED

JAMA
The Journal of the American Medical Association



The NEW ENGLAND
JOURNAL of MEDICINE



Cleveland Clinic



CARE PATHWAYS



PAYERS

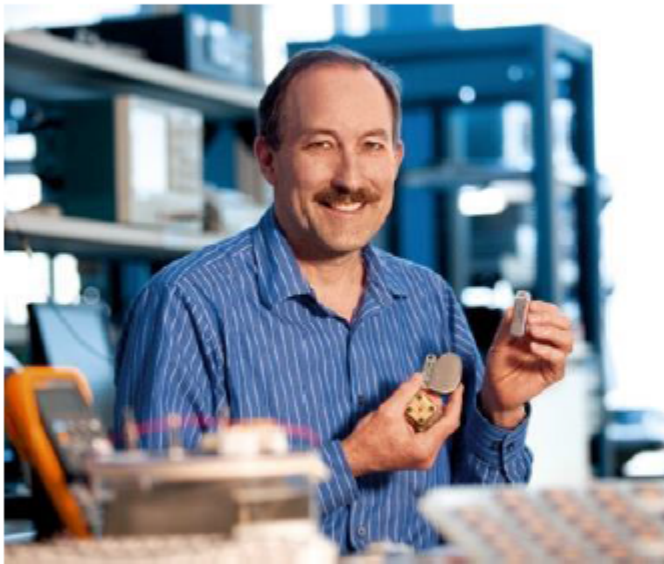
Humana

UnitedHealthcare

aetna

CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES

INNOVATION IN A VBHC WORLD



Understand **economic value** of innovation



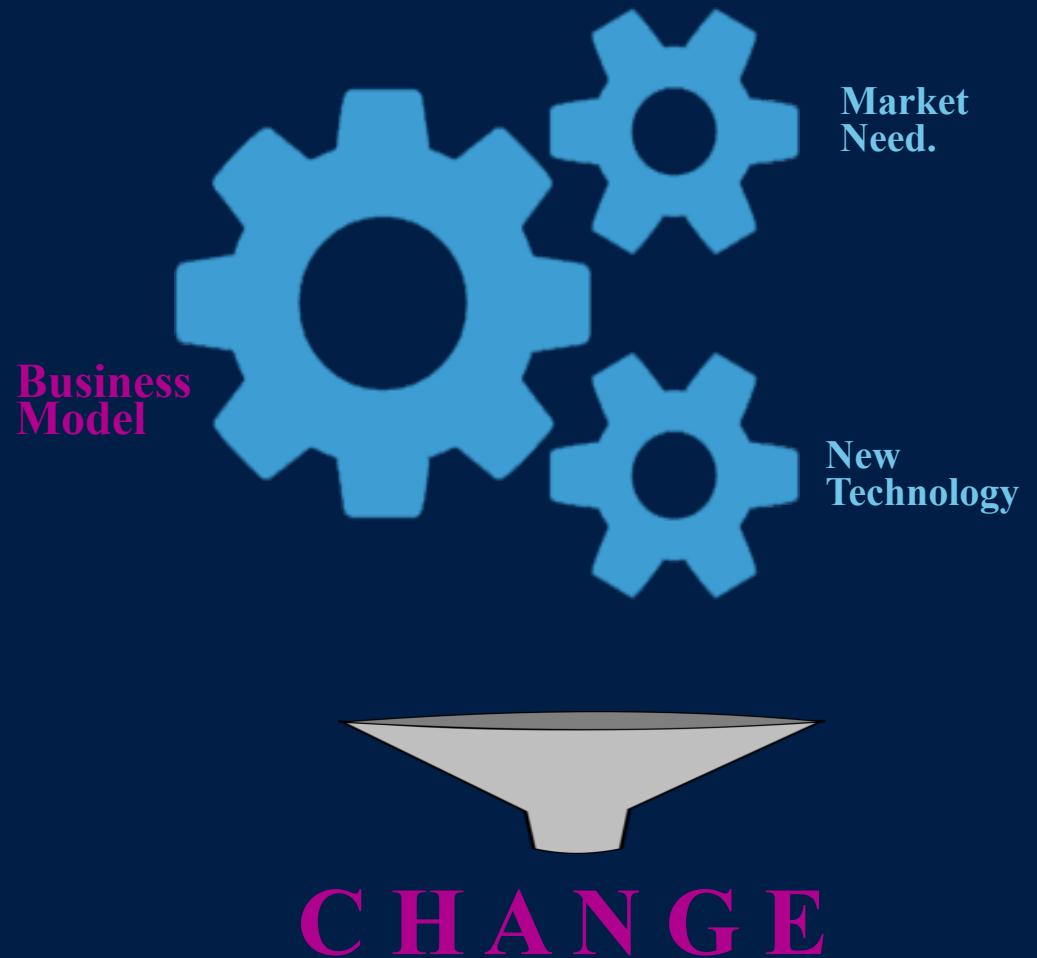
Broaden innovation horizon to ensure **value is realized**



Collaborate and generate new business models

*“We usually associate an sector’s transformation with a new technology. But although **new technologies** are often major factors, they have **never transformed a sector on their own.**”*

*“What does achieves such a transformation is a **business model** that can link a new technology to a market need.”*



Fuente: “The transformative Business Model” HBR. Octubre 2016.

GUION



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¿PREPARADOS para el FUTURO?

REFLEXIONES para la DISCUSIÓN

UNA ÚLTIMA REFLEXIÓN

¿CÓMO NOS IMAGINAMOS
QUE VAN A OCURRIR
LOS CAMBIOS NECESARIOS

TOP -----> DOWN?

- **Ministerio de Sanidad?**
- **Consejería de Sanidad?**
- **Gerentes de Centros?**

BOTTOM -----> UP?

- **PROFESIONALES?**
- **GOBIERNO CLÍNICO?**
- **SOCIEDADES CIENTÍFICA**
- **PACIENTES?**



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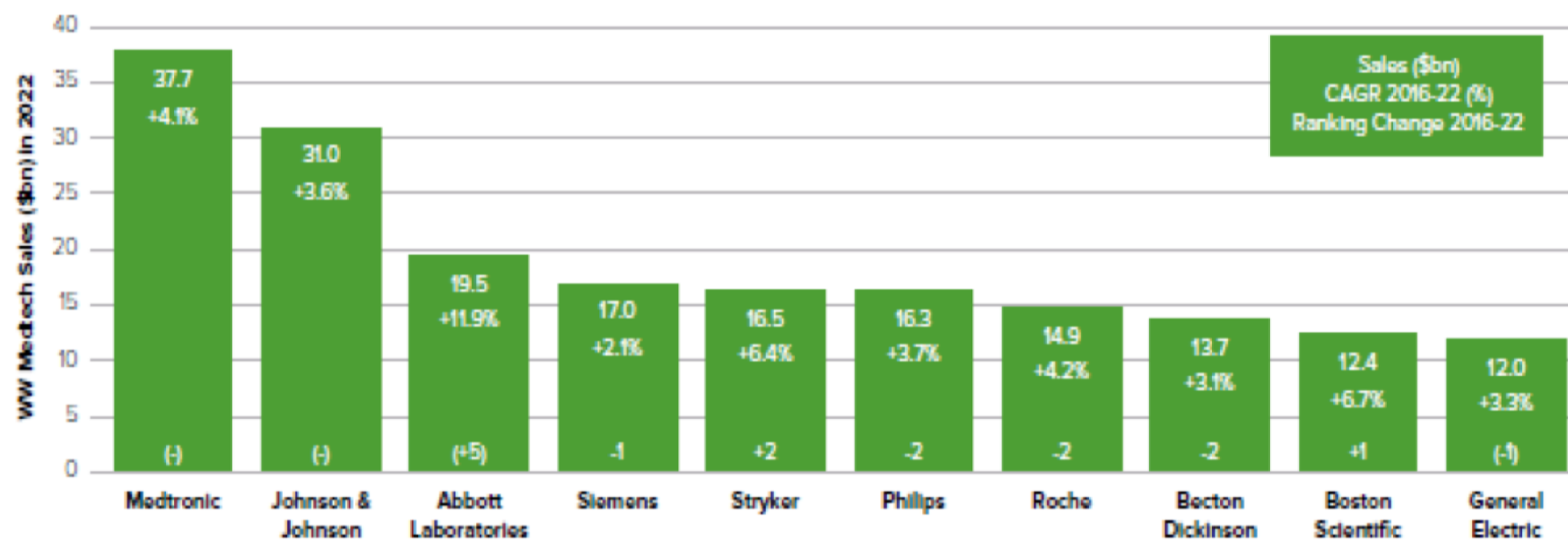
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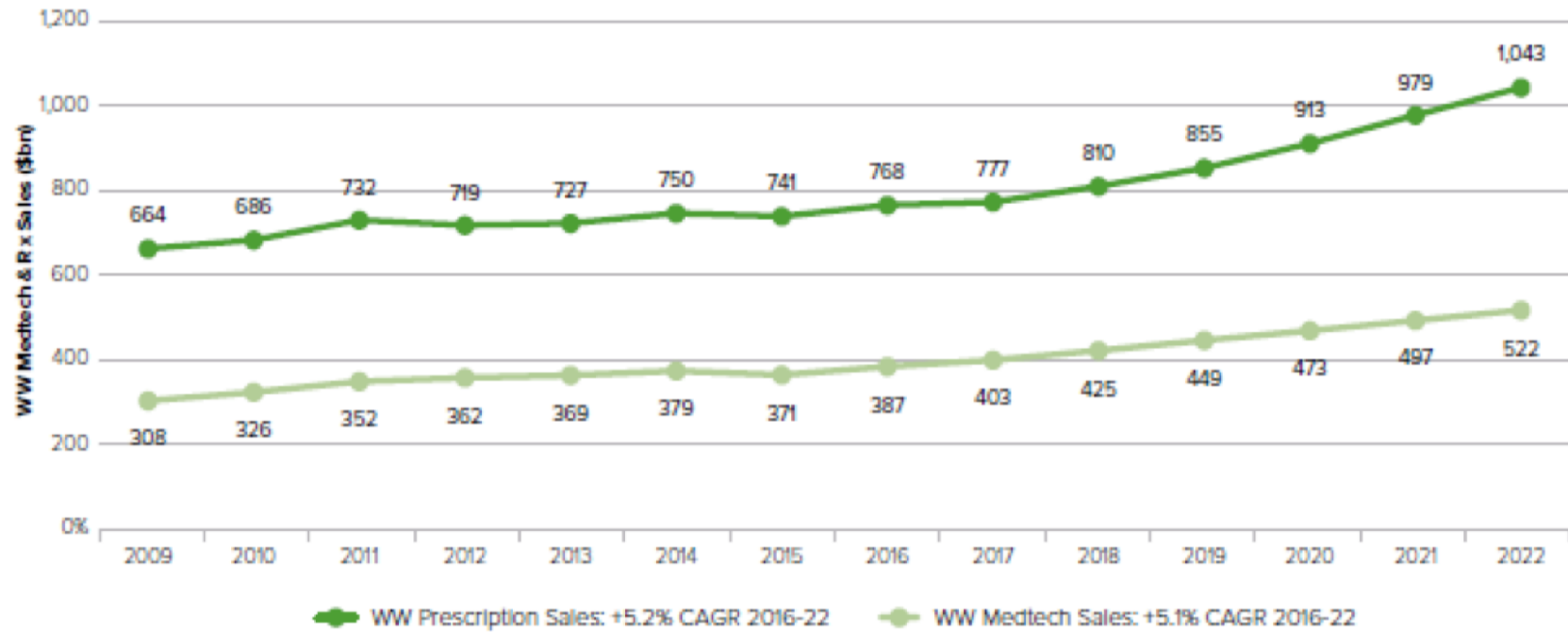
Worldwide Medtech Sales: Top 10 Companies (2022)

Source: Evaluate, September 2017



Worldwide Medtech vs. Prescription Drug Sales (2009-2022)

Source: Evaluate, September 2017



Worldwide Growth Rate: Medtech vs. Prescription Drug Sales (2010-2022)

Source: Evaluate, September 2017

