



THE H IN HEALTHCARE OF 2025

THE FUTURE OF HEALTHCARE



The Times That Are Changing...



Economically Unsustainable

Current healthcare and human services industries



Treatment Decisions

Gap in accuracy



Evidence-Based Medicine

Less than 50% is actually evidence-based



Aging Populations

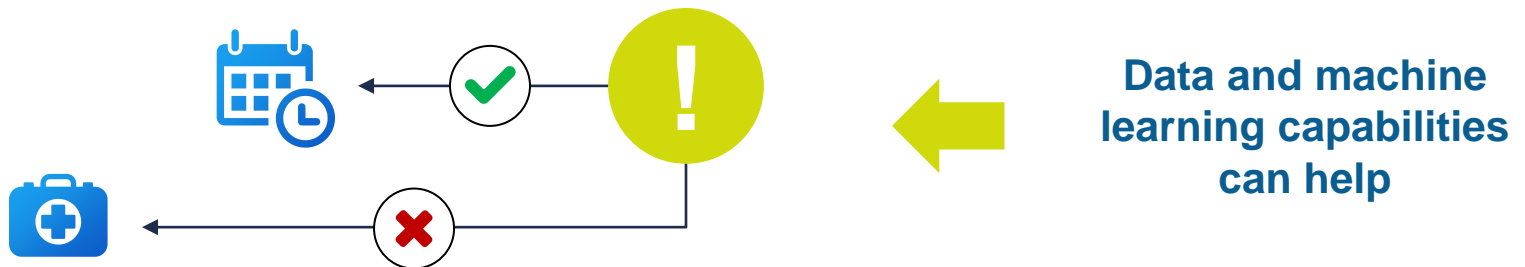
Requires more care



Health Spending

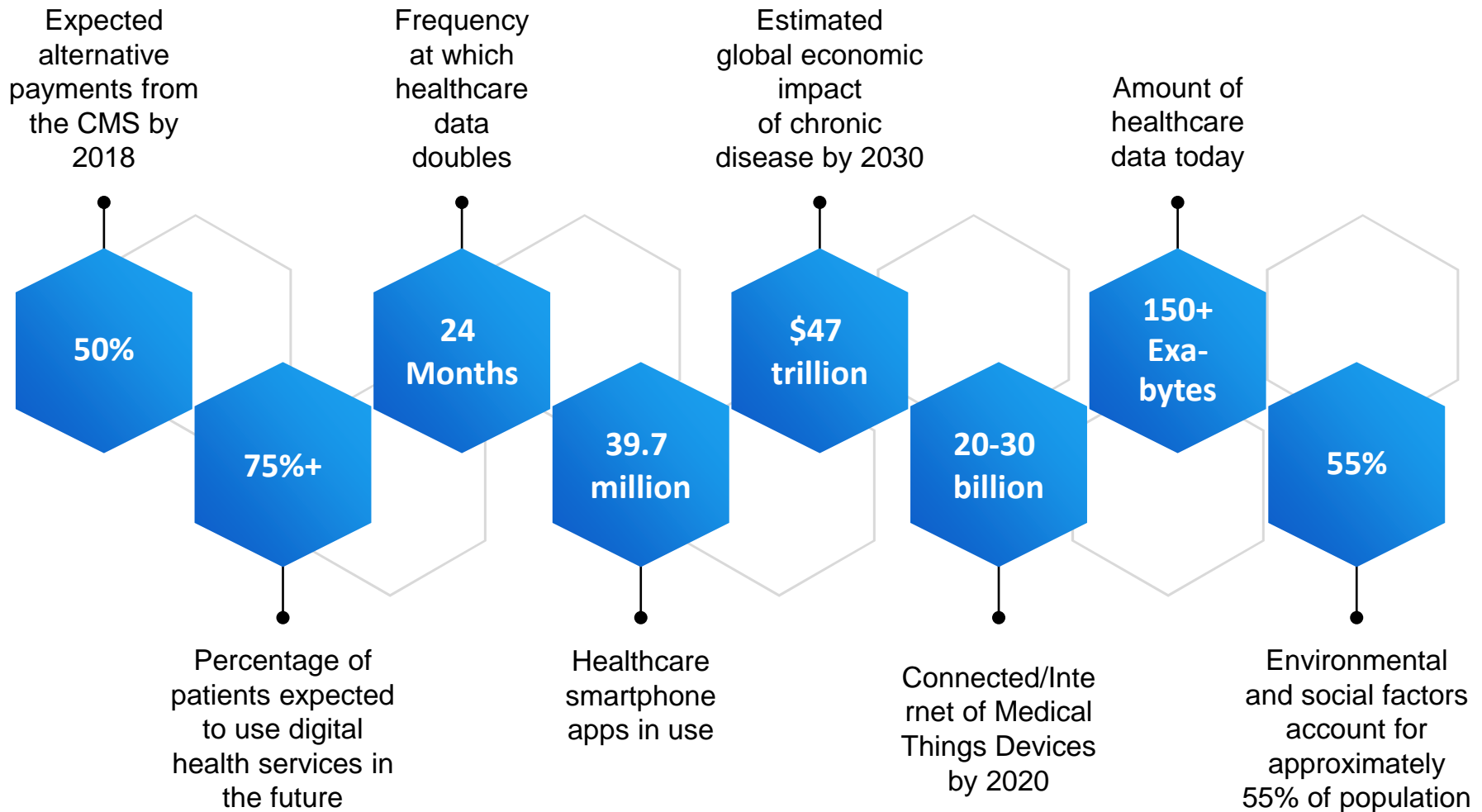
Disconnect with outcomes

The problem is one of productivity, not of diseases, gadgets or healthcare.



Source: Frost & Sullivan

The Digital Revolution

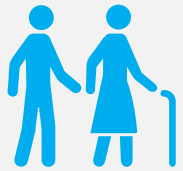


Source: Frost & Sullivan

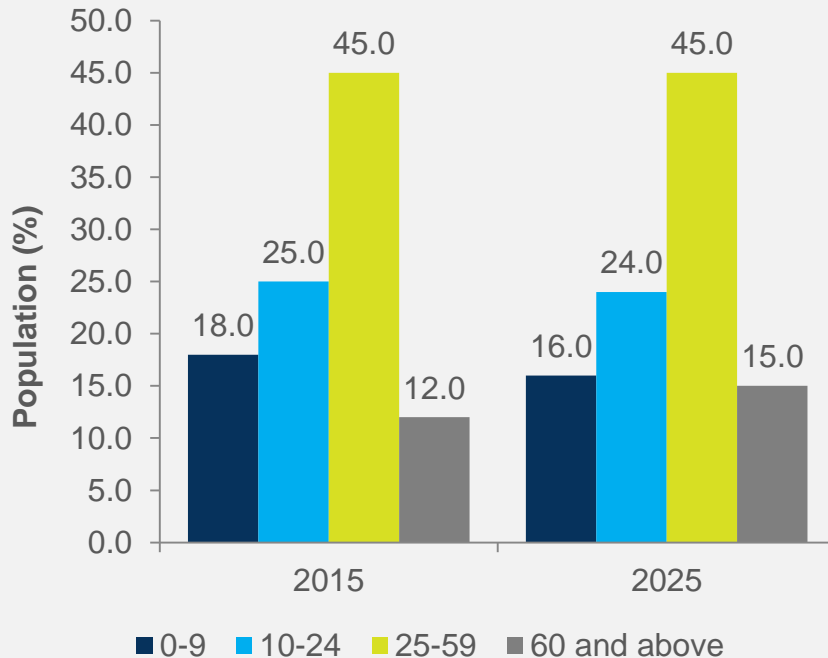
There's a Need for Efficient, High-Quality Healthcare



Population Distribution by Age Group, Global, 2015 & 2025



Senior Population Size Increasing



Number of Americans turning 65 everyday!

10,000



Number of centenarians in Japan!

67,824

(34.85/100,000)

[Expected to rise to 272,000 by 2050]



People aged 60 and over in 2025

1.2 billion

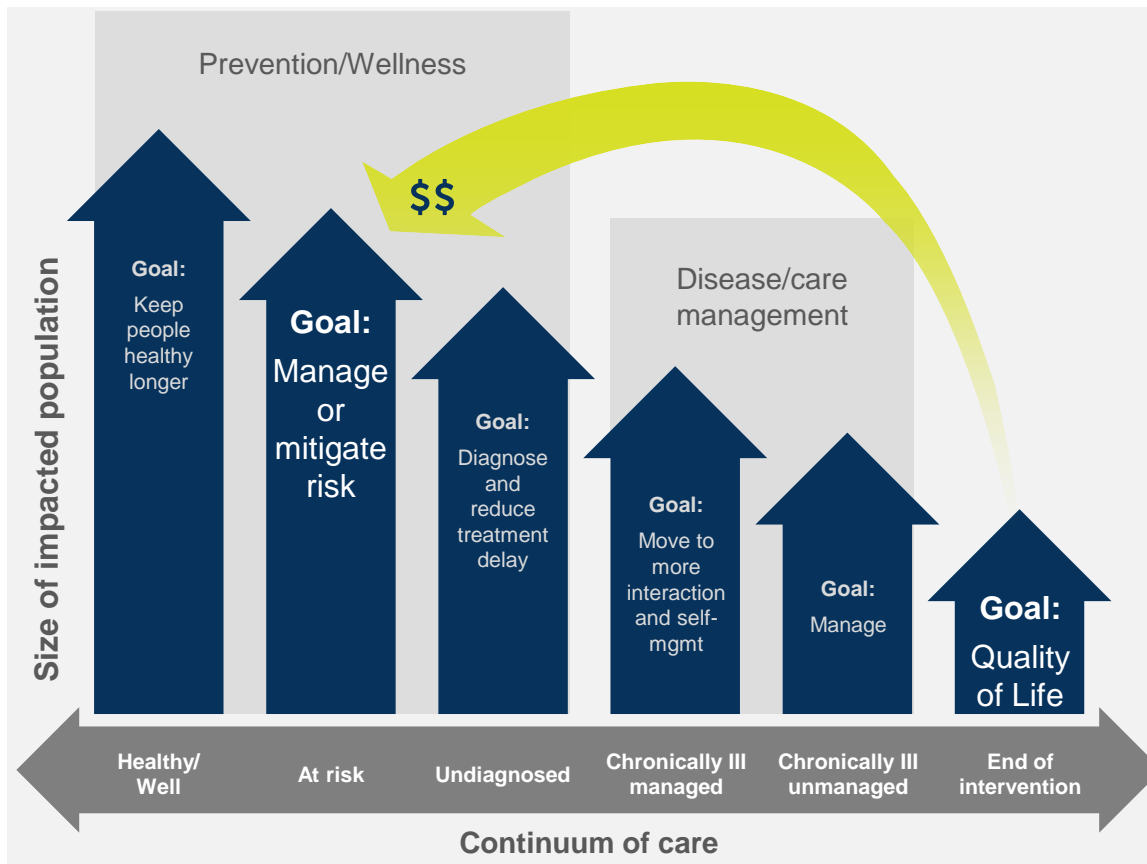
Current population size of India!



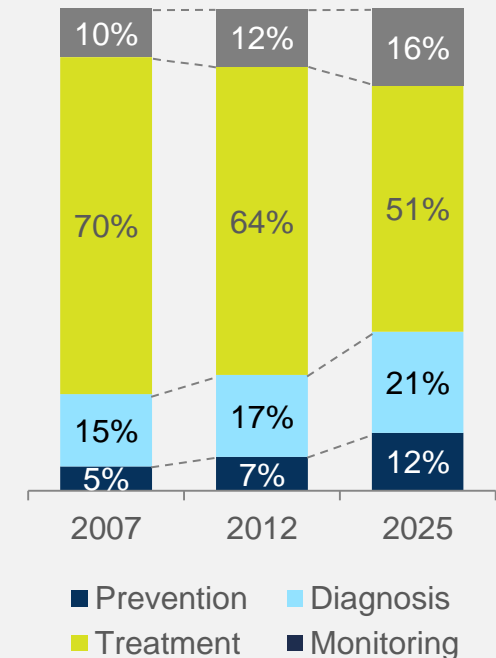
Source: Frost & Sullivan

Changing the Cost Curve: People want Health, not Healthcare

Shift our focus—and investments—from acute care to prevention



Healthcare Spending By Type Of Activity, Global, 2007–2025



Source: Frost & Sullivan

Top 5 Wellness Shifts to Ensure a Healthier Population



01

Imperceptible wellness integrated in daily life

02

Wellness no longer limited to body, but extends to mind and soul

03

Diets and exercise designed around individual genomes, environment, and life goals

04

Workplace wellness programs give way to total wellness work cultures

05

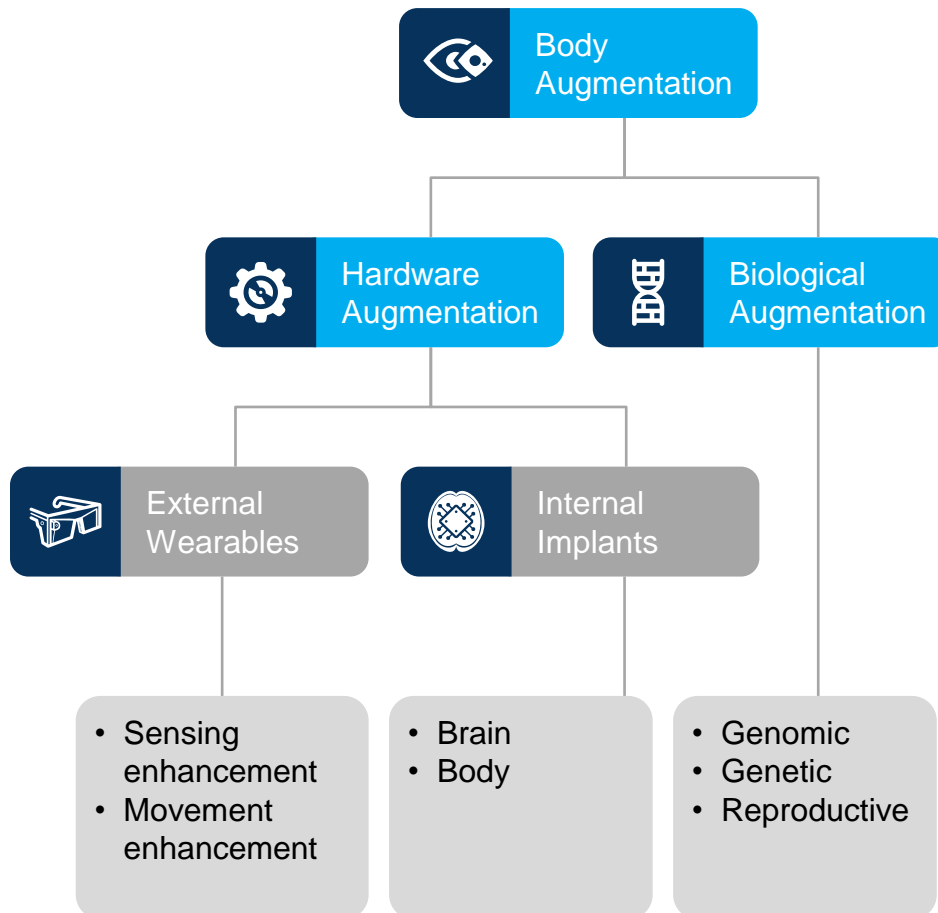
Growing medical wellness tourism to health resorts, cities, and regions

Source: Frost & Sullivan

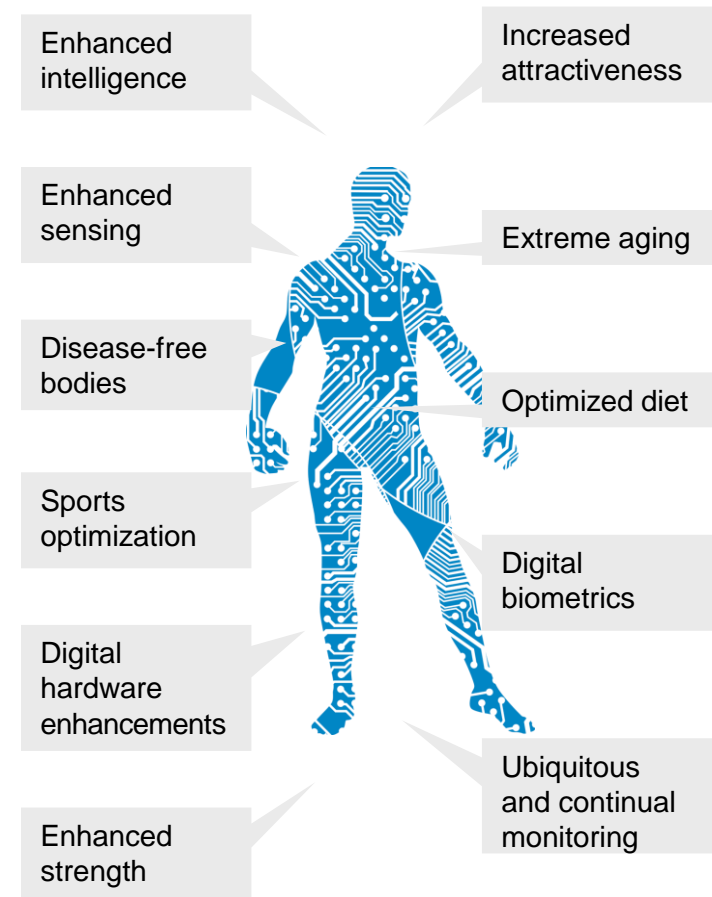
The Evolving Human Body



**Evolving Human Body: Framework,
Global, 2017–2030**



**Evolving Human Body: Capabilities of
the Future, Global, 2017–2030**



Source: Frost & Sullivan

The Big Debate: Who Owns Patient Medical Data?



National-level Biometrics Identification Programs Leveraged



EHR linked to Biometric ID



Accessible to any qualified professional after patient consent by providing biometric validation, and in case of emergencies to paramedics or volunteers

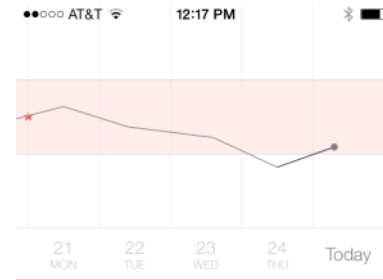


Visualization possible via the following:

- Computers, tablets and smartphones
- Mixed-reality devices, holographic projection devices

Source: Frost & Sullivan

Empowered Patients Can Perform At-Home Tests With Instant Diagnoses At Low Costs

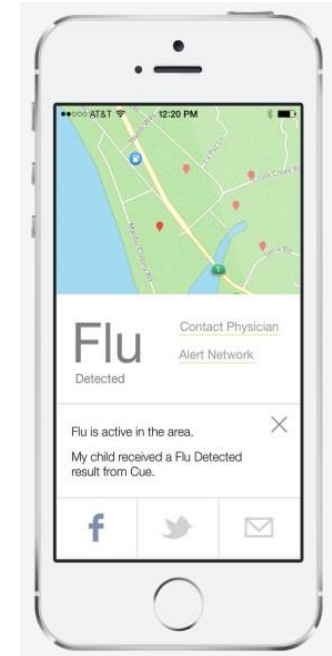


Alert

Inflammation is elevated
Recover with a green smoothie

[MAKE NOW](#) [REMIND LATER](#)

Inflammation	Sleep	Food
Rising Up 10% Since yesterday,...	Peaceful 8 hours deep sleep via iPhone 5S	Piz Tome Mozz
Today, 10:26am	Today, 7:32am	Thu 24



**\$200
Analyzer**

**\$4-\$10
Cartridges**

**Test Results in
10 Minutes**

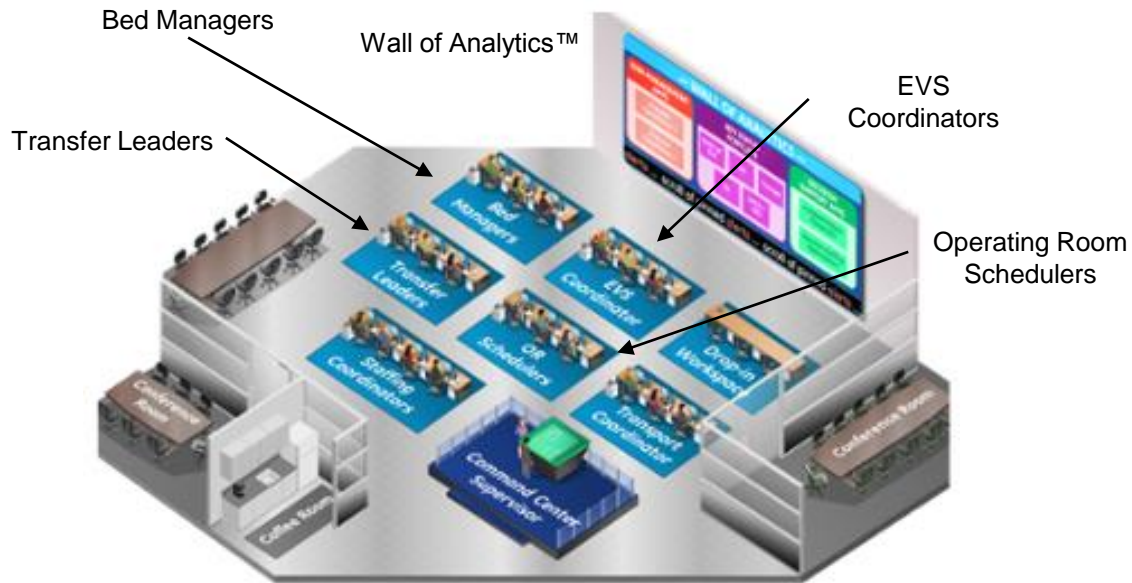
**Link to
Clinicians**

Source: Frost & Sullivan

Smart Hospitals Will Feature Air Traffic Control Like Command Centers



CAPACITY COMMAND CENTER LAYOUT AT JOHNS HOPKINS HOSPITAL



FEATURES

- 2,550 square feet
- Technology from aviation, aerospace, and power industries—predictive analytics and systems engineering principles
- 24 staff members
- 22 information screens—Wall of Analytics
- Data from 14 sources, approximately 500 messages/minute
- GE consultation services



GE Healthcare



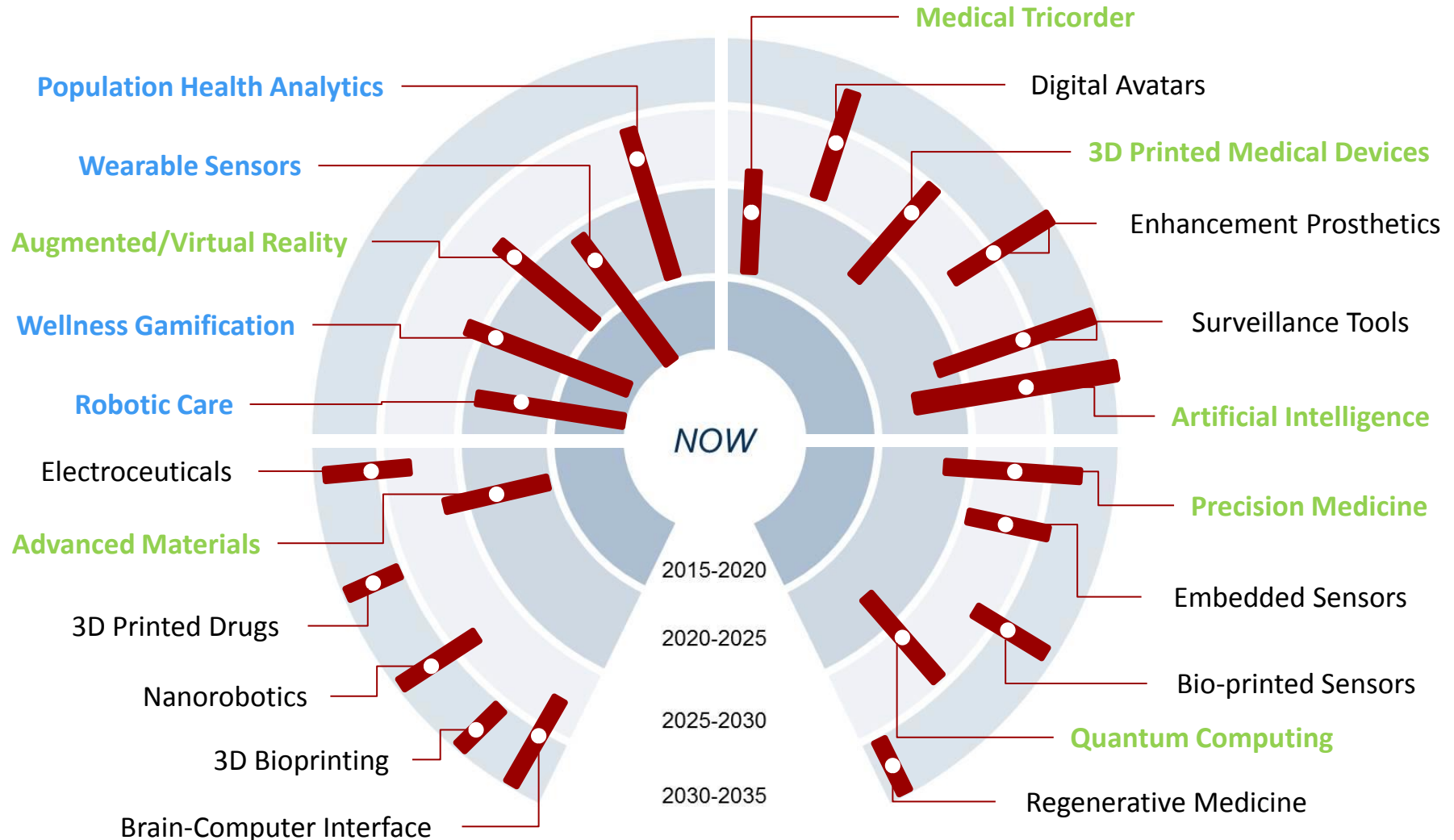
- 60% improvement in patient transfers from other hospitals (serious medical conditions)
- 63 minutes faster ambulance dispatch to patients.
- 30% faster in-bed assignment and 26% faster in-bed transfer processes at the ED
- 70% reduction in transfer delay from the operating room
- 21% increase in early discharge of patients

Source: Frost & Sullivan

HEALTHCARE ENABLING TECHNOLOGIES



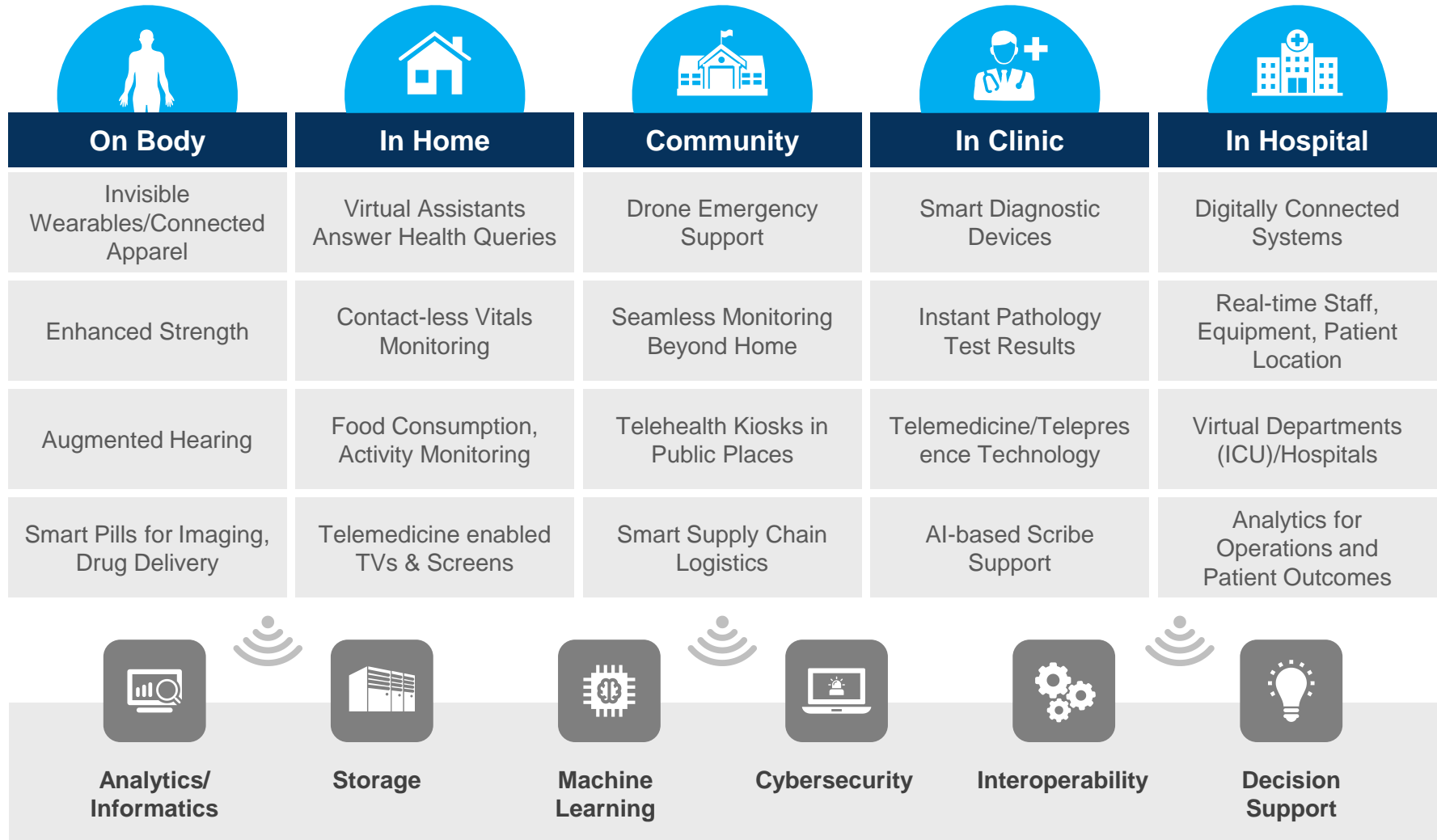
Technology Commercialization and Maturation Timeframe



*Bars represents the horizon for technology commercialization and maturation

Source: Frost & Sullivan

The New Connected Ecosystem

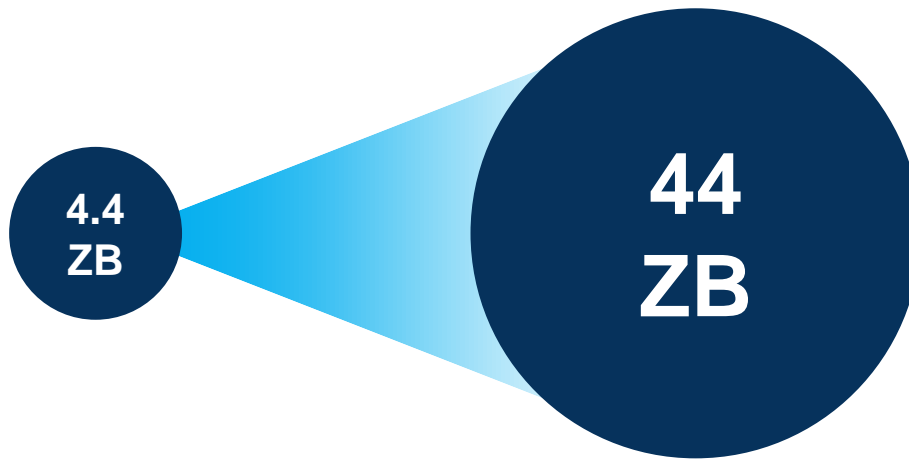


Source: Frost & Sullivan

AI Will Transform Healthcare As We Know It



AI Needed to Process and Manage Big Data



1 ZetaByte =
1 Trillion Gigabytes !!!

Data Created Annually

The Medicine of the Future

- EHR Analysis
- Population Health Management
- Clinical Decision Support
- Treatment Regime Designing
- Predictive Care Guidance
- Medical Image Processing
- Virtual Personal Assistants
- Cost Comparison
- Precision Medicine
- Hospital Error Reduction
- Predictive Modelling

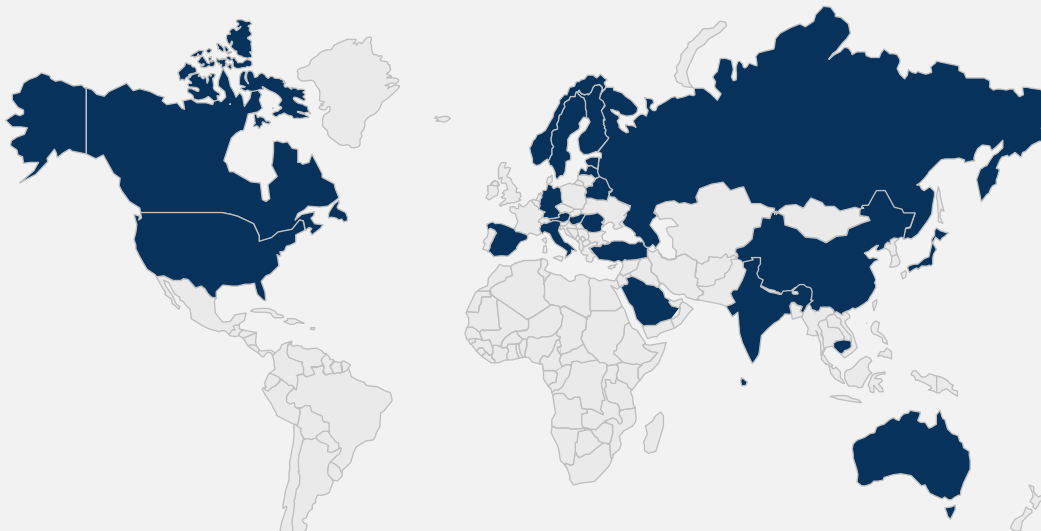
Source: Frost & Sullivan

5G Technology to Enable IoT and Continuous Monitoring In Healthcare



TODAY

5G trials are underway using various spectrum bands



Potential 5G bands

US

600 MHz
2.6 GHz (sprint)
3.55-3.7 GHz
20, 37, 39 GHz
57-71 GHz (<____>)

Potential 5G bands

EU

700 MHz
2.6 GHz (sprint)
3.4-3.8 GHz
26 GHz

Potential 5G bands

CJK

3.3-4.2 GHz
4.4-4.9 GHz
28-39 GHz

2035



**\$1.1
TRILLION**

5G Enabled Output
in Healthcare

Source: Global Mobile Suppliers Association; Qualcomm; Frost & Sullivan

Show Me the Money!



PHARMACEUTICALS & BIOTECHNOLOGY

\$30+ B

Targeted Therapeutics

\$30+ B

Immuno-Oncology
Checkpoint Therapeutics



MEDICAL TECHNOLOGIES

\$500 M–\$1 B

External
Neurostimulation Devices

\$250–\$500 M

Assistive Robotics



\$1+ B

MRI Adaptive Radiation
Therapy

\$1 B

AI Medical Image Analysis



\$250–\$500 M

AI Enabled Clinical
Decision Support

\$1 B

Clinical Predictive Analytics



MEDICAL IMAGING

HEALTHCARE IT

Source: Frost & Sullivan

Where are the Jobs in the Future?



TECHNICIANS & INFORMATION TECHNOLOGY EXPERTS



Companion Robot Technician



Internet of Things Business Analyst



Brain Computer Interface Designer



Health Data Scientist



Deep Learning Expert



AI Chatbot Communications Designer



Gamification Designer



Virtual Reality Therapy Designer



Medical Drone Route Designer



Plastic/Reconstructive Surgery 3D Printing Specialist



Voice Assistant Healthcare Content Specialists



Robotic Clinical Documentation Specialists/Scribes



Virtual Hospital Manager

Source: Frost & Sullivan

Where are the Jobs in the Future? (continued)



MEDICAL SPECIALTIES



Telesurgery Specialist



Cyborg Therapist



Augmented/Virtual Reality Surgery Planner



End of Life Therapist



Nanomedical Engineer



Precision Medicine Compounding Pharmacist



(Synthetic) Organ Designer



Cryopreservation Specialist

Source: Frost & Sullivan

Where are the Jobs in the Future? (continued)



HEALTH ADVISORS



Lifestyle Strategist



Healthcare Navigator



Epigenetic Counselors



Health Finances Planner



Patient Assistant



WATCH OUT FOR



Health Data Hacker



Brain Neurostimulation Specialist



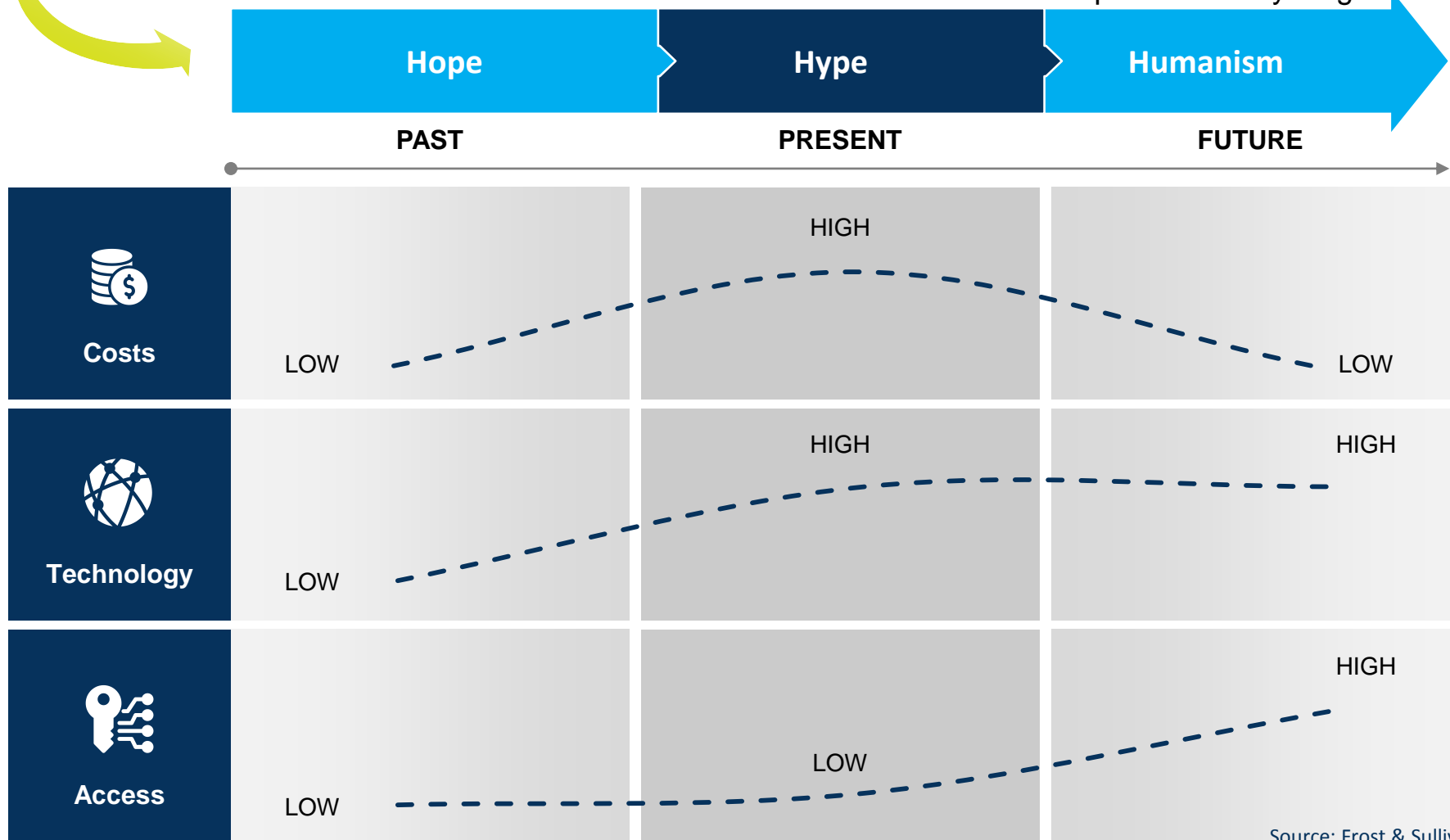
Biological/Genetic Terrorist

Source: Frost & Sullivan

What will the “H” in Healthcare Stand for?



Human interests and value predominate, and supersede everything else



Source: Frost & Sullivan

Contact Details



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