INAMI WorkShop

Telemedicine and mHealth

Physicians vision, concept and implementation

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VISION : DIGITAL HEALTH

mHealth MODEL DESIGN

VALUE BASED CARE

IMPLEMENT : SHARE & PARTNER

TAKE HOME MESSAGE

WHAT BUSINESS ARE WE IN ?

- In the digital age, patients expect digital services ?

- The ultimate goal of digital health applications would be to improve outcomes and reduce costs for patients and providers ?

- Will physicians work the same way they did ?

- Would it help achieving integrated care ?

- What has really changed ?

- Why change anyway ?

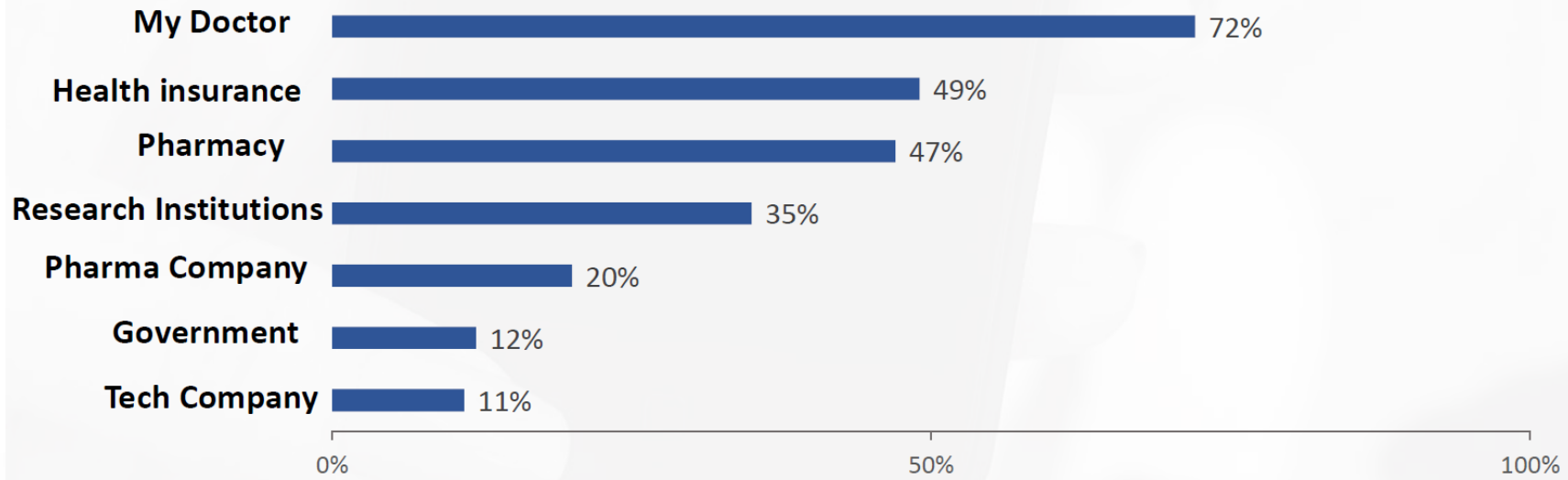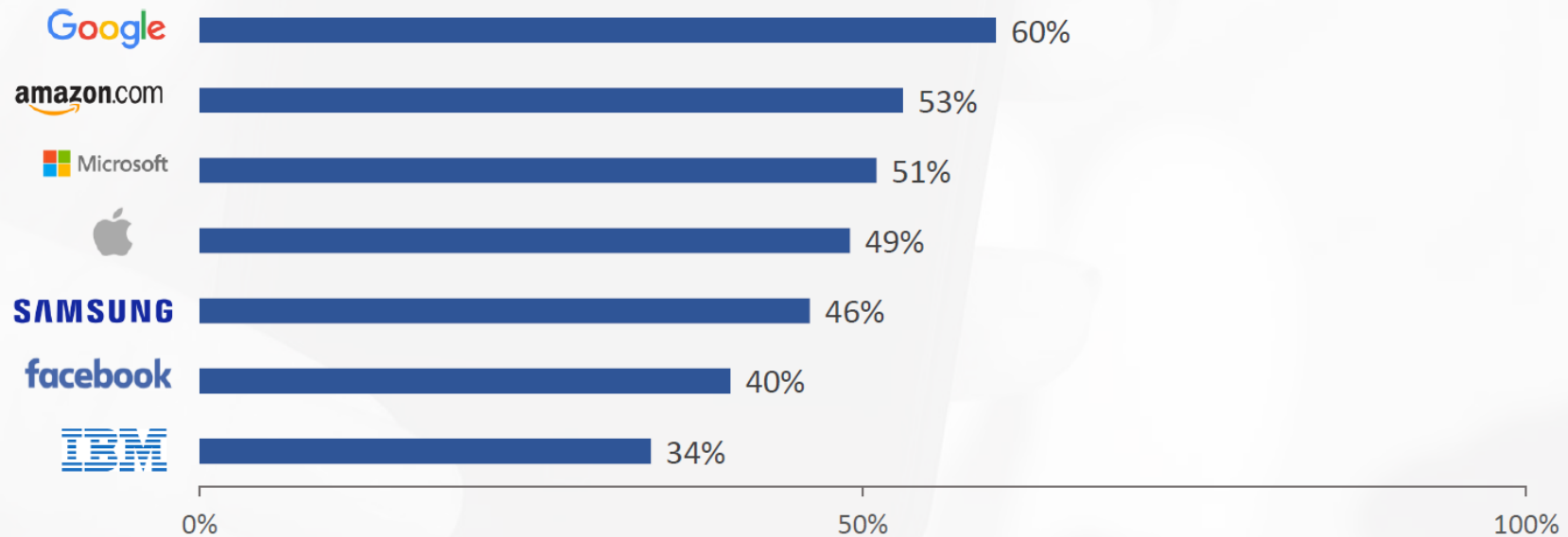- Why do we need mHealth ?

DIGITAL HEALTH

4P ?

- "a convergence of factors are pushing toward a new paradigm: healthcare that's predictive, personalized, preventive and participatory : 4P"

- "In the past 100 or so years, there have been two fundamental paradigm changes in medicine. One occurred in 1910, with the Flexner Report, which argued that medicine and healthcare should be science-driven, as should medical education, the second occurred with the entree of systems thinking into medicine, and that's led to the concepts of systems medicine, which is a global holistic approach to disease"

- Lots has happened to enable this P4 moment, from connected mobile devices to the power of big data. But there's one development over the past decade that he sees as potentially transformative: "*The power of social networks* both to educate and to recruit patients as advocates for change"

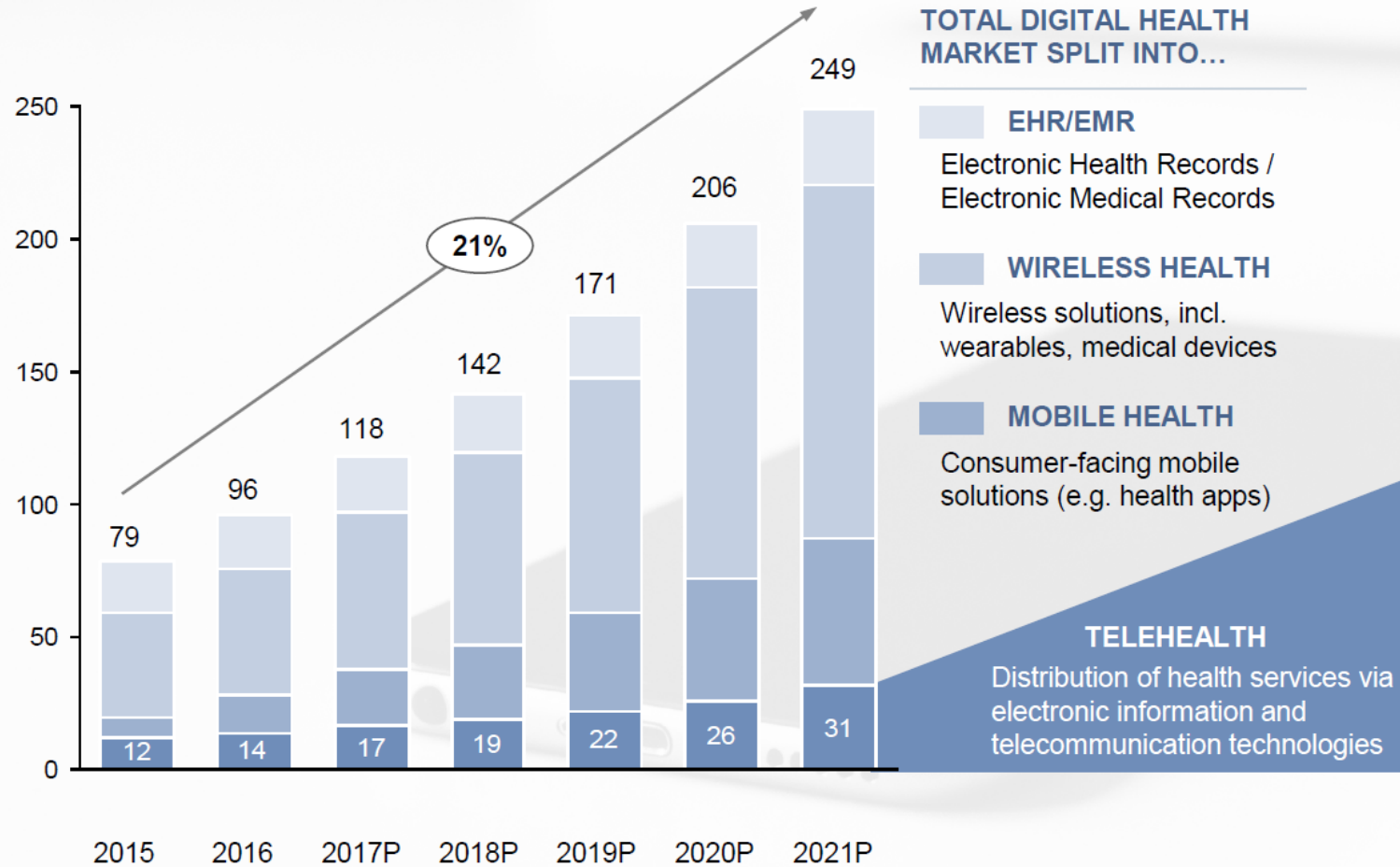(Leroy Hood M.D.)

With Whom would you share your health data?

My Doctor	72%
Health insurance	49%
Pharmacy	47%
Research Institutions	35%
Pharma Company	20%
Government	12%
Tech Company	11%

0%   50%   100%

With which tech company would you share your health data?

Google	60%
amazon.com	53%
Microsoft	51%
Apple	49%
SAMSUNG	46%
facebook	40%
IBM	34%

0%   50%   100%

VENTURE INVESTMENT IN DIGITAL HEALTH STARTUPS

SIZE matters …

Venture investment chart (2011–2018):
- 2011: $1,9B (298)
- 2012: $2,4B (498)
- 2013: $2,9B (670)
- 2014: $7,1B (590)
- 2015: $5,9B (527)
- 2016: $8,1B (599)
- 2017: $11,7B (833)
- 2018: $14,6B (765)

Deal Volume

~5x increase since 2013

Global digital health market (USD bn)

21%

- 2015: 79 (12)
- 2016: 96 (14)
- 2017P: 118 (17)
- 2018P: 142 (19)
- 2019P: 171 (22)
- 2020P: 206 (26)
- 2021P: 249 (31)

TOTAL DIGITAL HEALTH MARKET SPLIT INTO…

EHR/EMR
Electronic Health Records / Electronic Medical Records

WIRELESS HEALTH
Wireless solutions, incl. wearables, medical devices

MOBILE HEALTH
Consumer-facing mobile solutions (e.g. health apps)

TELEHEALTH
Distribution of health services via electronic information and telecommunication technologies

Source: BCG analysis, Statista

UNDER- & OVER- Estimating change
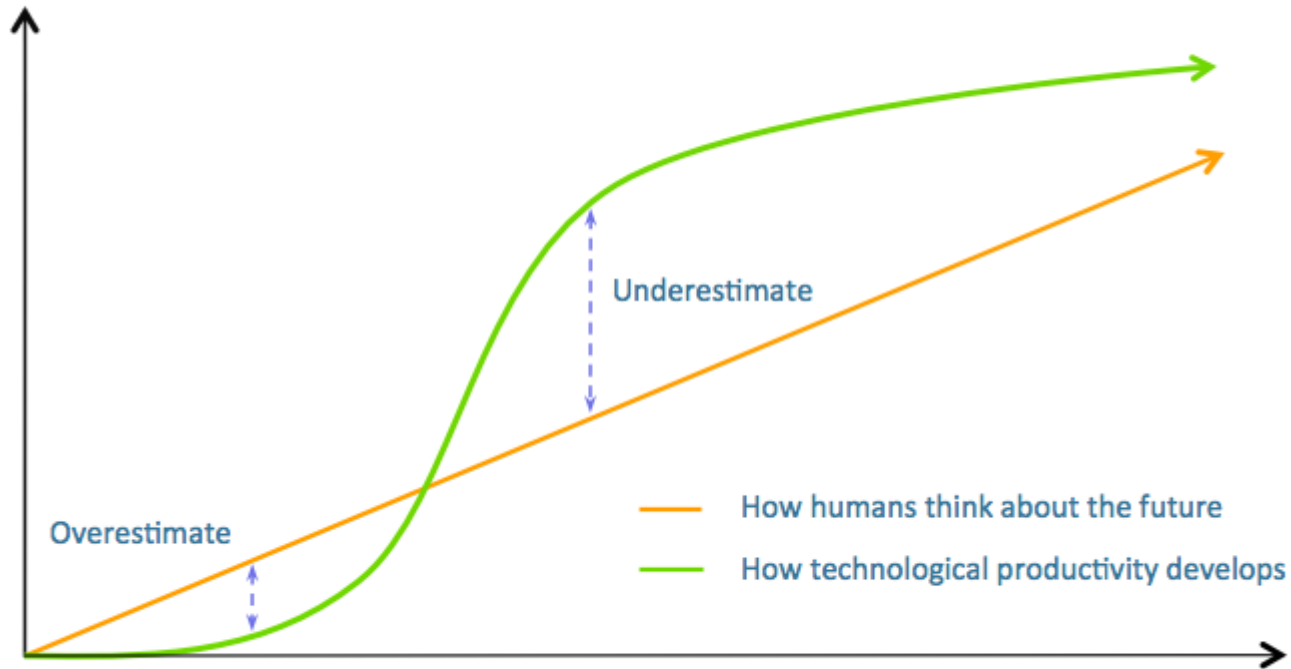
IT IS NOW !

1. Big Data & AI
2. Connected devices, and patients !
3. Technology (incl. Pharmaceutical)

WE WANT TO AVOID : UBERISATION …

NUMBERS

By the numbers

Every 73 days[1]

The rate medical data is expected to double by 2020

2 billion[2]

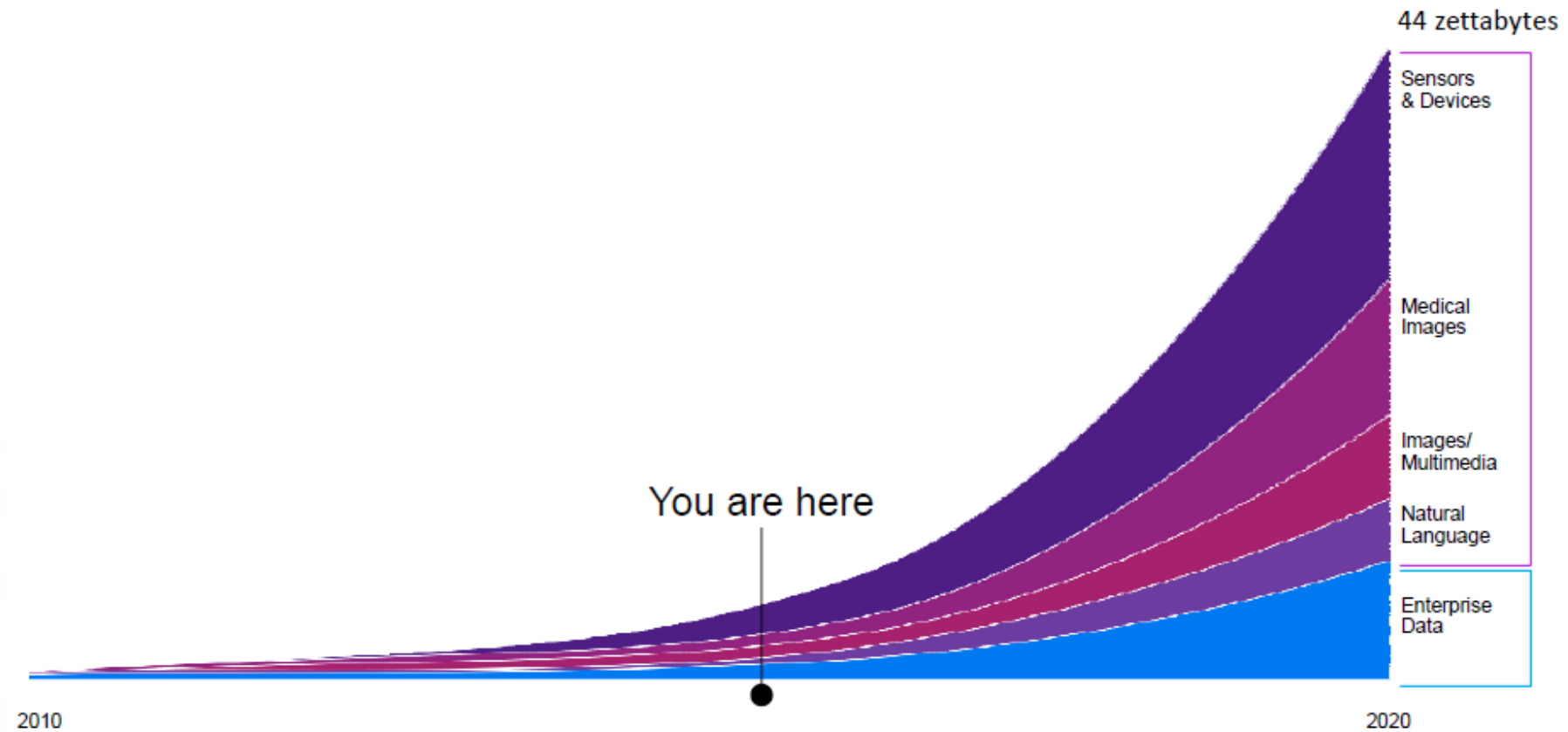The number of people over the age of 60 by 2050

$47 trillion[3]

Cumulative estimated global economic impact of chronic disease between 2011 and 2030

12.9 million[4]

Global shortage of health-care workers by 2035

1. https://www-03.ibm.com/press/us/en/photo/46388.wss
2. http://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2015_Report.pdf
3. http://www3.weforum.org/docs/WEF_Harvard_HE_GlobalEconomicBurdenNonCommunicableDiseases_2011.pdf
4. http://www.who.int/mediacentre/news/releases/2013/health-workforce-shortage/en/

HEALTHCARE DATA INCREASE

44 zettabytes

Sensors & Devices
Medical Images
Images/ Multimedia
Natural Language
Enterprise Data

You are here

2010

2020

Surfing … or Suffering !

The Bottleneck

- 1717 Fahrenheit
  - Hermann Boerhaave (Ger)
  - Jean Charles Grimaud (Fr)

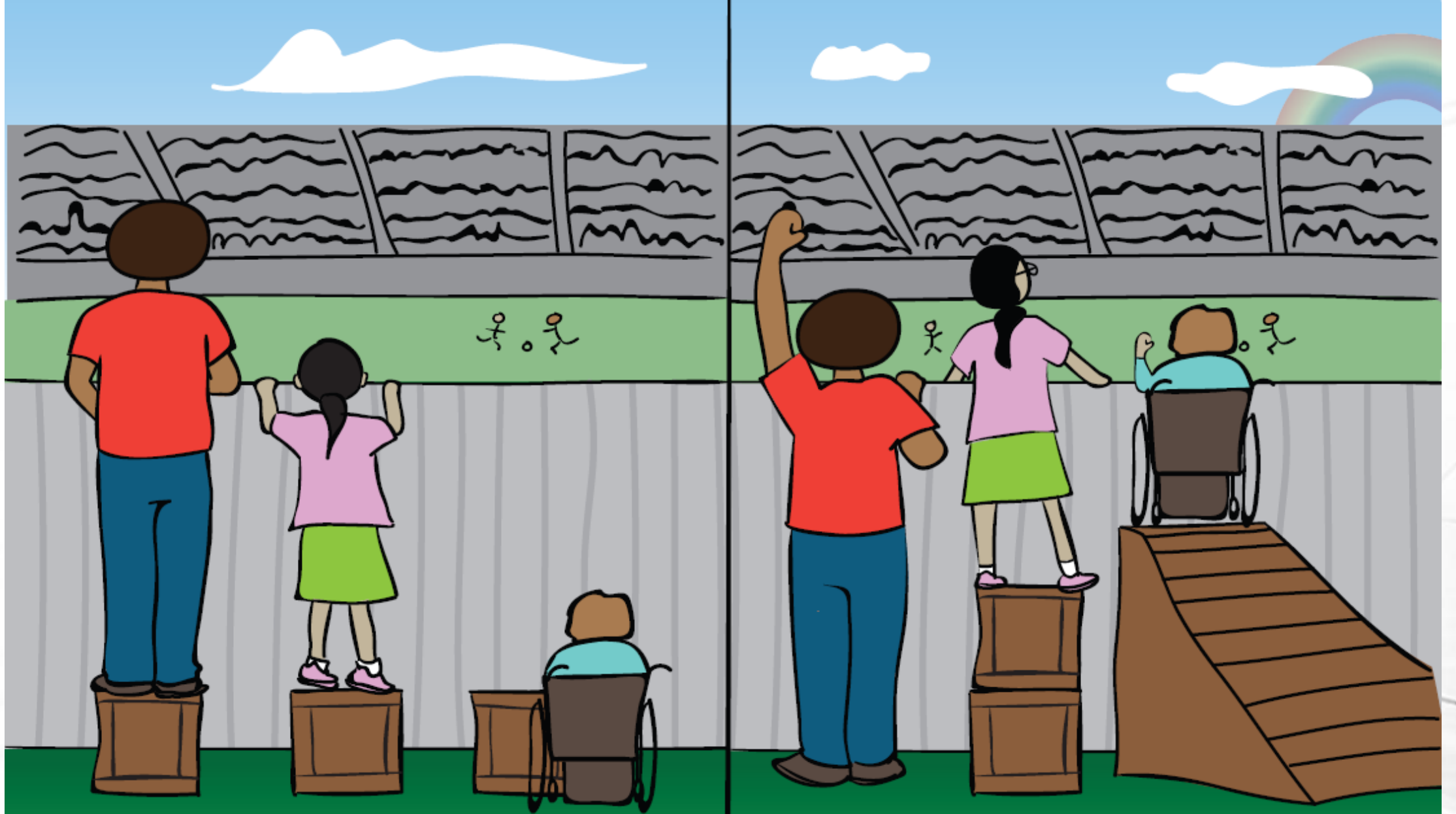- 1851 in Leipzig, Carl Wunderlich published : "on the temperature in diseases : a manual of medical thermometry"

VISION : DIGITAL HEALTH

mHealth MODEL DESIGN
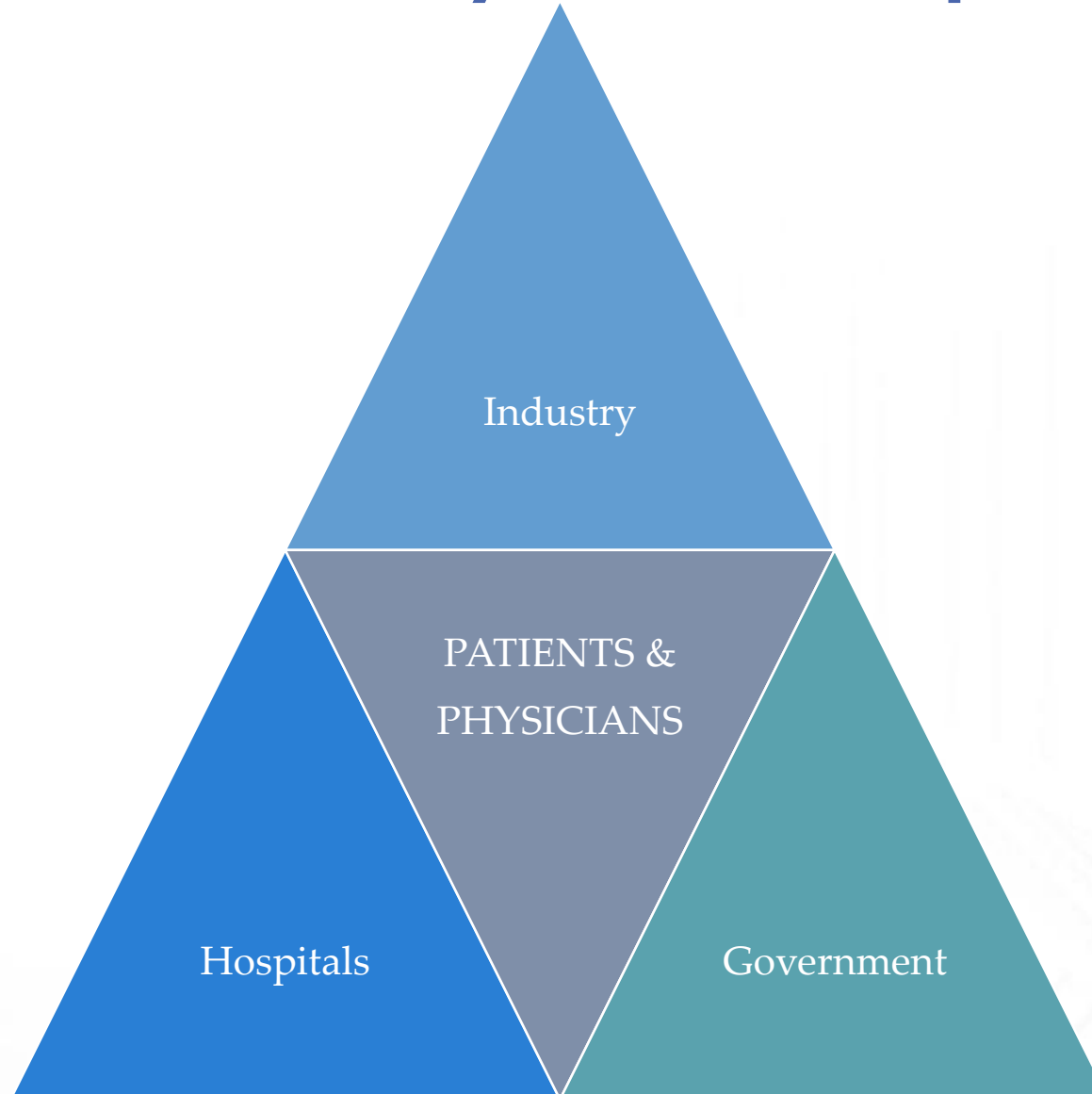
VALUE BASED CARE

IMPLEMENT : SHARE & PARTNER

TAKE HOME MESSAGE

EQUALITY

EQUITY

Patient and Physician Requirements

What WE WANT is ....

- **Physicians Empowerment**

  - Surfing the wave …
  - Better Tools : 3D printing , Robotics , Smart implants, AI and CDSS , Predictive analytics, Health Trackers, Chatbots, Telehealth Etc.
  - Stay Simple

- **Patients Empowerment**, without

  - UBERisation of Care
  - Commercialization of Care
  - Deshumanization of Care
  - Lowering access to Care

Getting Inside the ▶

DOCTOR'S MIND

Want your doctors to document better? Appeal to the things that drive them.

First, do no **harm**

Time constrained

Patient care experience

WHAT'S IN IT FOR ME?

Empathy

Specialty knowledge

INFLUENCE

Trusted advisor

Evidence **BASED**

Calling

Scientific

R-E-S-P-E-C-T

HEALER

DATA driven

Stress

RATIONAL DRIVERS

Doctors are scientists at their core. Support your points with data, preferably individual data, when discussing documentation performance. Make sure the person delivering the message has the clinical knowledge to answer specialty-specific questions.

EMOTIONAL DRIVERS

Like any human, doctors want autonomy and respect. They want to do their best to heal their patients. Documentation training should focus on the positive impact to care quality and the doctors' own practices—not the impact to the hospital.
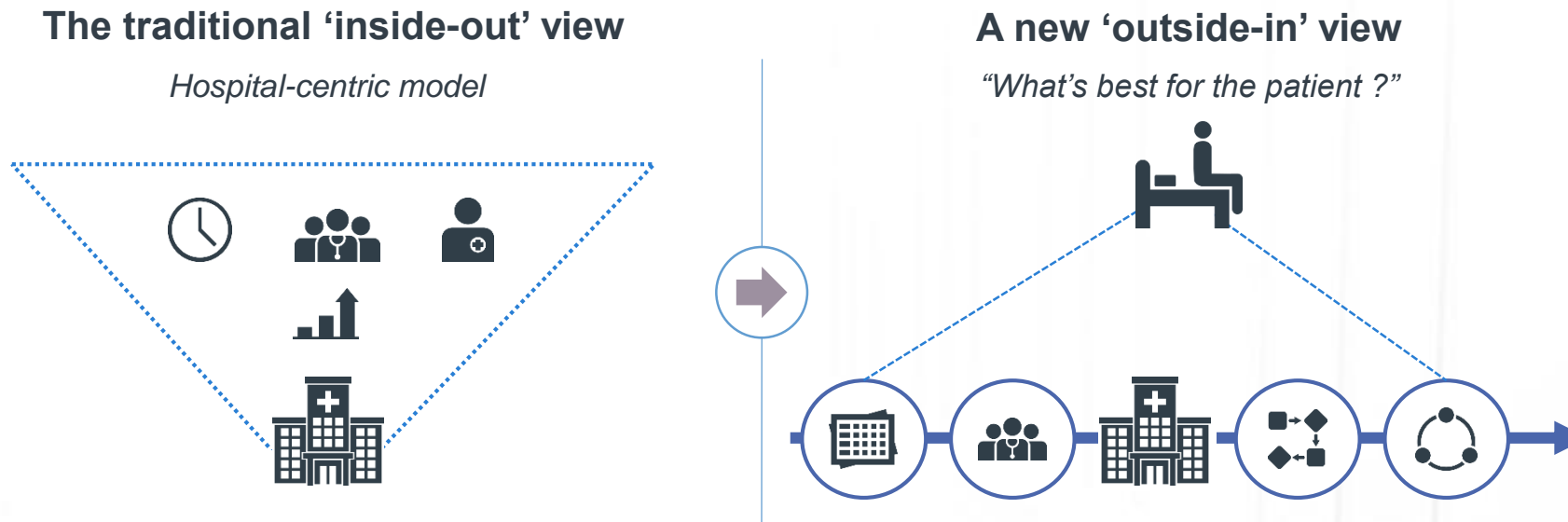
How to talk so your doctors listen

1. **Focus on What Matters to Them**
   a. Demonstrate how documentation affects quality scores
   b. Show the impact to doctor practices—not the hospital
   c. Give specialty-specific information

2. **Keep It Simple**
   a. Educate on documentation concepts, not codes
   b. Provide supporting templates and tools

3. **Do It Live**

How to talk so your doctors listen

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3. **Do It Live**
   a. Schedule personal, one-on-one sessions
   b. Make sure the message comes from a fellow clinician
   c. Share recent examples from doctors' own charts

Systemness requires a new mindset

A Big Change for the Belgian System?

The traditional 'inside-out' view

Hospital-centric model

A new 'outside-in' view

"What's best for the patient ?"

Demand for cost-saving measures and outcome-improving healthcare services globally

Care Integration through Digital Transformation

Six digital journey domains

Access and personalisation

Provide access to various care modalities and deliver personalised experiences

Simplifying care

Ease system navigation for patients through digital pathways, self-management and education tools, virtual visits, simplified billing, medication management, and access to non-clinical services

Make caregiving easier

Increase provider quality of life and focus on patient encounters through automation of documentation in the EMR and inbox management

Better serve vulnerable patients

Improve navigation to avoid unnecessary ED[1] visits

Power behavioural health

Use digital tools to address stigma, low supply of caregivers, and lack of screening

Enable new revenue streams

Explore new clinical revenue streams, product revenue, and technology commercialisation

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[1] Emergency Department.

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TAKE HOME MESSAGE

✚ VBC

$$\text{Patient Value} = \frac{\text{Health Outcomes}}{\text{Cost}}$$

HEALTH CARE DELIVERY STATUS

1. Ageing population

2. Rising risk

3. Rising cost

4. Performance issues (silos and poor quality)

5. Hospital-centric (non transmural)

6. Overcapacity (in beds)

7. Redundancy, care variation and waste

8. Unaffordable innovations

9. Non-patient centric

10. Etc.

VBC Business Model

Outcome

Perceived Q, Observed Benefit - adverse effects

Clinical Pathways

Engagement

Collaboration

Cost

€€€

Time

Carbon footprint

Lean & Outsource

Cost Reduction

Reallocation

Innovation

Technology

Digital Integration

VISION : DIGITAL HEALTH

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DESIGN and SCALE

- **PILOT PROJECTS**
  - Finance start-ups
  - Help Testing
  - Seek Platforms : HealthCareBelgium Platform etc.
  - Ensure Physicians acceptance (beyond "walls")

- **SCALE Up**
  - When KPIs are met
  - Over Silos
  - Specific funding
  - Share Benefits

Requirements

eHeath Standards	Patients	Physicians
• Data Safety • User authentication • GDPR • CE certified • Encryption • BackUp • Interoperability (API) • Etc.	• Easy Input • Telehealth • Control over data • CO2 footprint • Time Saving • Positive Experience • Faster service • Choice • Information	• Make it Simple • Processed Data • Connected to EHR • Interoperability • Free of Charge • Universal access • Shared Benefits • Transmural !! • CdSS +++

KPI level correspondence to VBC

Level 1

- StartUp or Industry
- Funding:
  - Patient/consumer
  - CareGiver/Hospital
  - Commercial

Level 2

- Pilot Project Selection (Validation Pyramid)
- Scale Up Testing
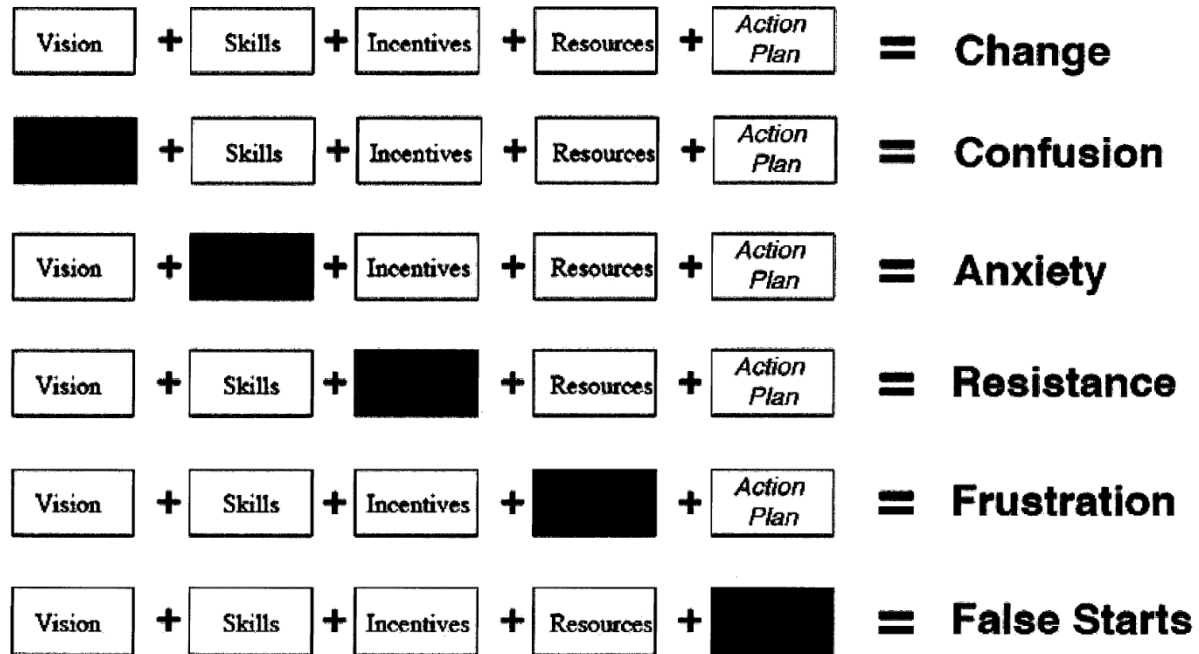 - Platform
  - Partner
- Gov or PP funding

Level 3

- KPI for VBC
- KPI for CareGivers
- Gov Funded
- Shared Benefits over Silos

Innovation works in VUCA

CHANGE MANAGEMENT

Managing Complex Change

Vision	+ Skills	+ Incentives	+ Resources	+ Action Plan	= **Change**
■	+ Skills	+ Incentives	+ Resources	+ Action Plan	= **Confusion**
Vision	+ ■	+ Incentives	+ Resources	+ Action Plan	= **Anxiety**
Vision	+ Skills	+ ■	+ Resources	+ Action Plan	= **Resistance**
Vision	+ Skills	+ Incentives	+ ■	+ Action Plan	= **Frustration**
Vision	+ Skills	+ Incentives	+ Resources	+ ■	= **False Starts**

Adapted from Knoster, T., Villa R., & Thousand, J. (2000). A framework for thinking about systems change. In R. villa & J. Thousand (Eds.), Restructuring for caring and effective education: Piecing the puzzle together (pp. 93-128). Baltimore: Paul H. Brookes Publishing Co.

TAKE HOME MESSAGE

- Reconnect to patients will save us !

- Create **Trust** before destroying **Silos** in order to enable innovation and help change

- **Shared** **Benefits (over KPI) for mHealth**

- **TELEHealth** **REIMBURSMENT :** **½ price, Lock on Volume, Test …**

- **Partner** with Physicians, promotes integrated care