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?
• “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?

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>My Doctor</td>
<td>72%</td>
</tr>
<tr>
<td>Health insurance</td>
<td>49%</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>47%</td>
</tr>
<tr>
<td>Research Institutions</td>
<td>35%</td>
</tr>
<tr>
<td>Pharma Company</td>
<td>20%</td>
</tr>
<tr>
<td>Government</td>
<td>12%</td>
</tr>
<tr>
<td>Tech Company</td>
<td>11%</td>
</tr>
</tbody>
</table>

With Which Tech Company Would You Share Your Health Data?

<table>
<thead>
<tr>
<th>Company</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google</td>
<td>60%</td>
</tr>
<tr>
<td>Amazon.com</td>
<td>53%</td>
</tr>
<tr>
<td>Microsoft</td>
<td>51%</td>
</tr>
<tr>
<td>Apple</td>
<td>49%</td>
</tr>
<tr>
<td>Samsung</td>
<td>46%</td>
</tr>
<tr>
<td>Facebook</td>
<td>40%</td>
</tr>
<tr>
<td>IBM</td>
<td>34%</td>
</tr>
</tbody>
</table>
VENTURE INVESTMENT IN DIGITAL HEALTH STARTUPS

Global digital health market (USD bn)

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 days¹
The rate medical data is expected to double by 2020

2 billion²
The number of people over the age of 60 by 2050

$47 trillion³
Cumulative estimated global economic impact of chronic disease between 2011 and 2030

12.9 million⁴
Global shortage of health-care workers by 2035

¹. https://www.clinicomed.com/2016/05/02/challenges-of-data/
². http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2809506/
HEALTHCARE DATA INCREASE
Surfing … or Suffering!
The Bottleneck

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

VISION: DIGITAL HEALTH

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TAKE HOME MESSAGE
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
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
   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

Source: Advisory Board interviews and analysis.
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 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
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

mHealth MODEL DESIGN

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TAKE HOME MESSAGE
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
Organizational structure

Partnership:
- Physician network with experience on local health problems and other issues, contacts to regional stakeholders
- Competencies in health sciences and health economics, know-how in the fields of prevention, controlling, management, investment capability

Shareholder:
- 66.6% MQNK e.V. (Arztenetz)
- 33.4% Optimedis AG

Contracts with providers
- Physicians
- Psychotherapy
- Hospital
- Pharmacies
- Nursing... Social Care ...

Triple Aim Results: Margin improvement for the two sickness funds in the Kinzigtal region 2013 – 5.5 Mio €
Development of Morbi RSA allocations, actual healthcare costs, margin improvement and number of insured of AOK und LKK in the Kinzigtal region

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### Requirements

**eHealth Standards**
- Data Safety
- User authentication
- GDPR
- CE certified
- Encryption
- BackUp
- Interoperability (API)
- Etc.

**Patients**
- Easy Input
- Telehealth
- Control over data
- CO2 footprint
- Time Saving
- Positive Experience
- Faster service
- Choice
- Information

**Physicians**
- Make it Simple
- Processed Data
- Connected to EHR
- Interoperability
- Free of Charge
- Universal access
- Shared Benefits
- Transmural !!
- CdSS +++
# KPI level correspondence to VBC

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>• StartUp or Industry</td>
<td>• Pilot Project Selection (Validation Pyramid)</td>
<td>• KPI for VBC</td>
</tr>
<tr>
<td>• Funding:</td>
<td>• Scale Up Testing</td>
<td>• KPI for CareGivers</td>
</tr>
<tr>
<td>• Patient/consumer</td>
<td>• Platform</td>
<td>• Gov Funded</td>
</tr>
<tr>
<td>• CareGiver/Hospital</td>
<td>• Partner</td>
<td>• Shared Benefits over Silos</td>
</tr>
<tr>
<td>• Commercial</td>
<td>• Gov or PP funding</td>
<td></td>
</tr>
</tbody>
</table>

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Innovation works in VUCA

**Complexity**
- Characteristics: The situation has many interconnected parts and variables. Some information is available or can be predicted, but the volume or nature of it can be overwhelming to process.
- Example: You are doing business in many countries, all with unique regulatory environments, tariffs, and cultural values.
- Approach: Restructure, bring on or develop specialists, and build up resources adequate to address the complexity.

**Volatility**
- Characteristics: The challenge is unexpected or unstable and may be of unknown duration, but it’s not necessarily hard to understand; knowledge about it is often available.
- Example: Prices fluctuate after a natural disaster takes a supplier off-line.
- Approach: Build in slack and devote resources to preparedness—for instance, stockpile inventory or overcome talent. These steps are typically expensive; your investment should match the risk.

**Ambiguity**
- Characteristics: Causal relationships are completely unclear. No precedents exist; you face “unknown unknowns.”
- Example: You decide to move into immature or emerging markets or to launch products outside your core competencies.
- Approach: Experiment. Understanding cause and effect requires generating hypotheses and testing them. Design your experiments so that lessons learned can be broadly applied.

**Uncertainty**
- Characteristics: Despite a lack of other information, the event’s basic cause and effect are known. Change is possible but not a given.
- Example: A competitor’s pending product launch muddles the future of the business and the market.
- Approach: Invest in information—collect, interpret, and share it. This works best in conjunction with structural changes, such as adding information analysis networks, that can reduce ongoing uncertainty.
Managing Complex Change

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

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