



Mehr Dynamik im Health Sektor:

Wie sich Medizintechnik,
Forschung und Gesundheits-
wesen gegenseitig befruchten

Information Security in Health Conference, 23. Juni 2015,
Rotkreuz

Dr. Patrick Dümmler, Cluster Manager, Health Tech
Cluster Switzerland

Dipl.-Ing. Martina Böhm, Geschäftsführerin Verein
Technologie Forum Zug

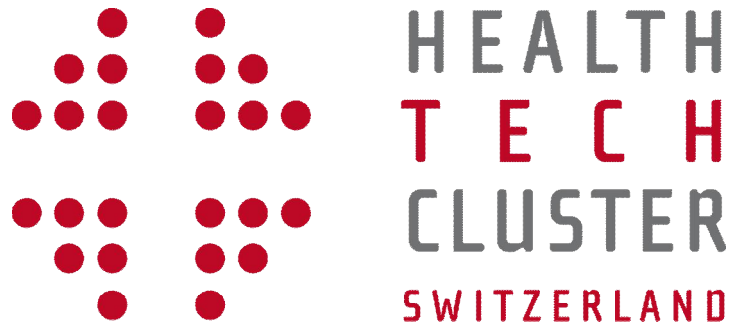
Agenda . Parallele Break Out Sessions

13.45 bis 14.30 und 14.45 bis 15.30

1. Input Referat
2. Diskussion in Workshop Gruppen
3. Präsentation der Ergebnisse

1. Input Referat

Profil des Health Tech Cluster Switzerland (HTCS)



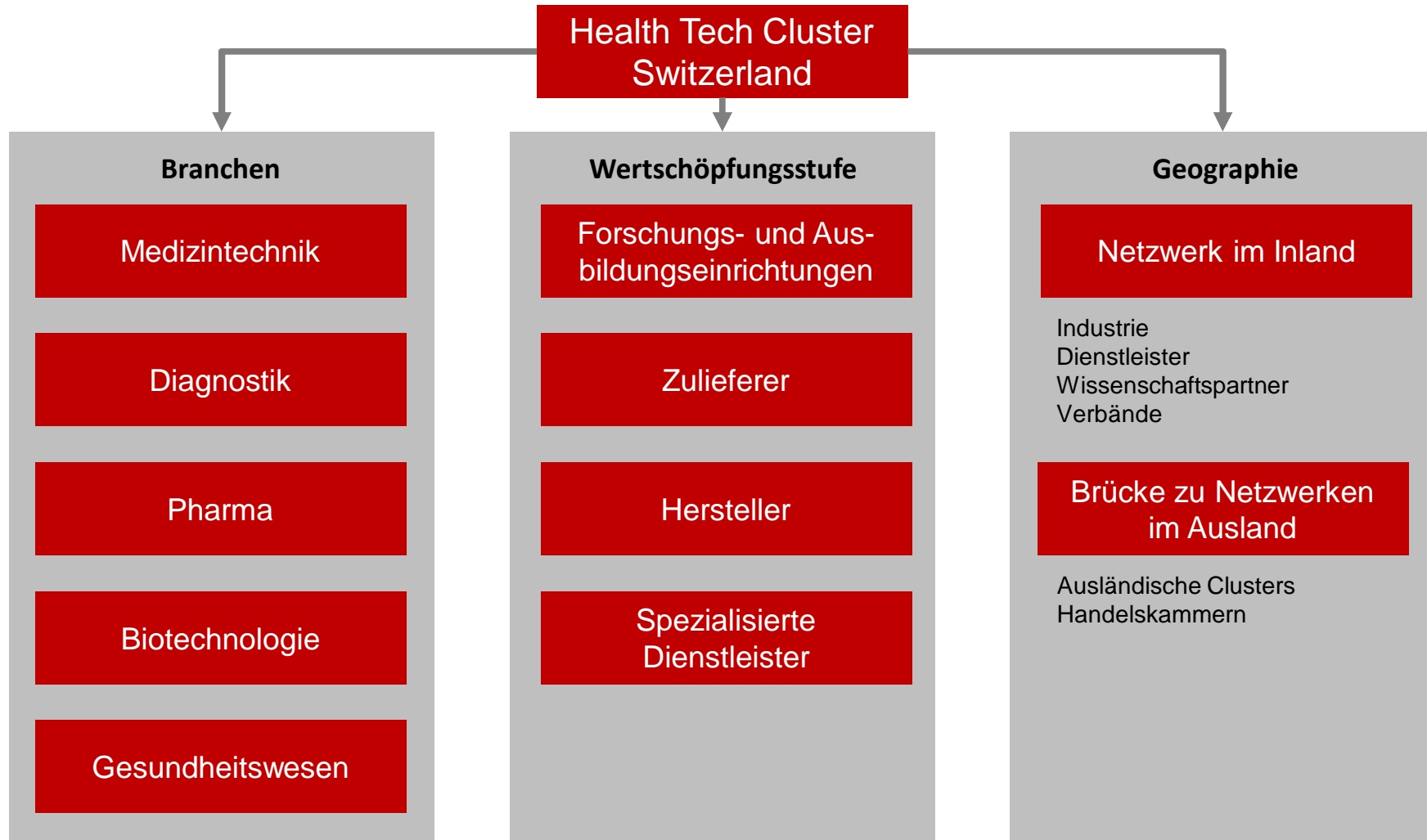
- Gegründet 2014
- Zurzeit 97 Mitglieder, Anzahl stark wachsend
- Offenes Wirtschaftsnetzwerk; Fokus auf Akteure der «Health Technology»
- Bessere Vernetzung der Mitglieder durch ein regelmässiges Angebot an Plattformen des Austauschs
- Öffnen ausländischer Netzwerke durch strategische Partnerschaften mit ausländischen Clustern



Steigerung der Dynamik und Synergien wie beispielsweise Produktinnovationen, neue Lieferanten- und Kundenbeziehungen oder ein gut funktionierender Markt an hochqualifizierten Arbeitskräften

Weitere Informationen und Anmeldung unter www.healthtech.ch

Fokus des Health Tech Cluster Switzerland



Nächste Veranstaltungen des Health Tech Cluster Switzerland



Die Veranstaltungsreihe «4 Medtech Experts - Innovation methods & tools» wird angeboten durch Health Technology Cluster Switzerland, der Swiss Medtech Expo sowie ausgewählten Partnern. Die Veranstaltungsreihe findet 4x jährlich statt.



Der Health Tech Cluster Switzerland ist Partner der Swiss Medtech Expo.

4 MEDTECH EXPERTS

Innovation durch attraktive Arbeitgeber

- 2. Juli 2015, 16.30-19.30
- iHomeLab, Luzern
- In Zusammenarbeit mit der der Swiss Medtech Expo und Konplan

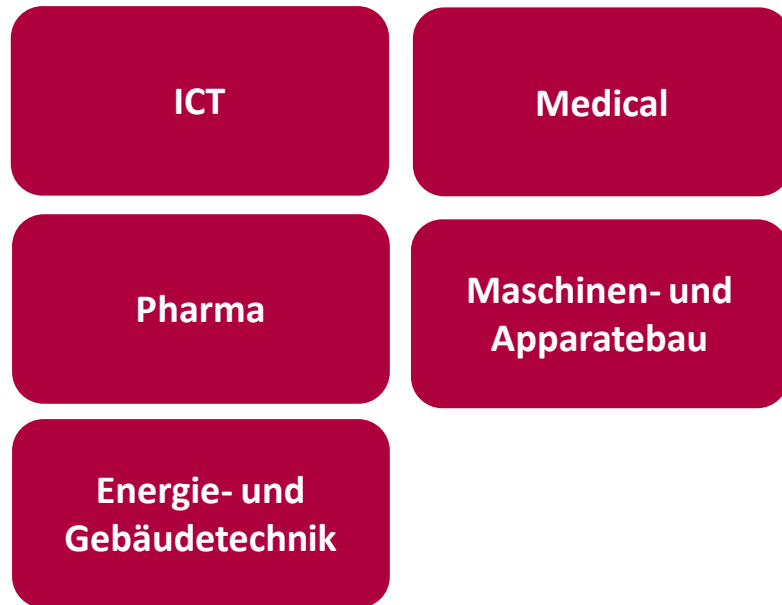
SWISS MEDTECH EXPO

- 15.-16. September 2015, Messe Luzern
- 150 Aussteller, Science Park und Rapid.Area (additive Fertigung)
- **4 Medtech Experts – Swiss Innovation**
- Internationale Innovation Symposia
- Medtech Night
- www.medtech-expo.ch

Technologie Forum Zug (tfz)

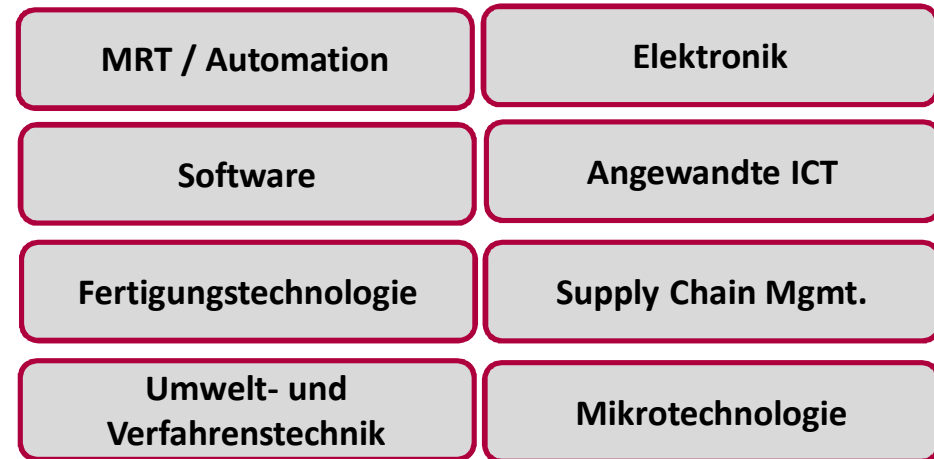
- “ Aktive Vernetzung von technologisch führenden, innovativen Firmen in der Wirtschaftsregion Zug
- “ Bündelung des vorhandenen Know-hows in Clustern
- “ Branchen- und Fachthemen-Cluster
- “ Mehrwert für Mitglieder durch unternehmensstrategisch-, innovations- und technologie-relevante Themen
- “ Strategische Allianzen mit Fachhochschulen & Universitäten sowie anderen thematisch führenden Instituten

Cluster . Kernstücke des tfz



Branchen-Cluster

Diskussions- und Vernetzungsplattform für Entscheider



Fachthemen-Cluster

Fachthemen-Austausch zwischen Fachexperten

 www.technologieforumzug.ch

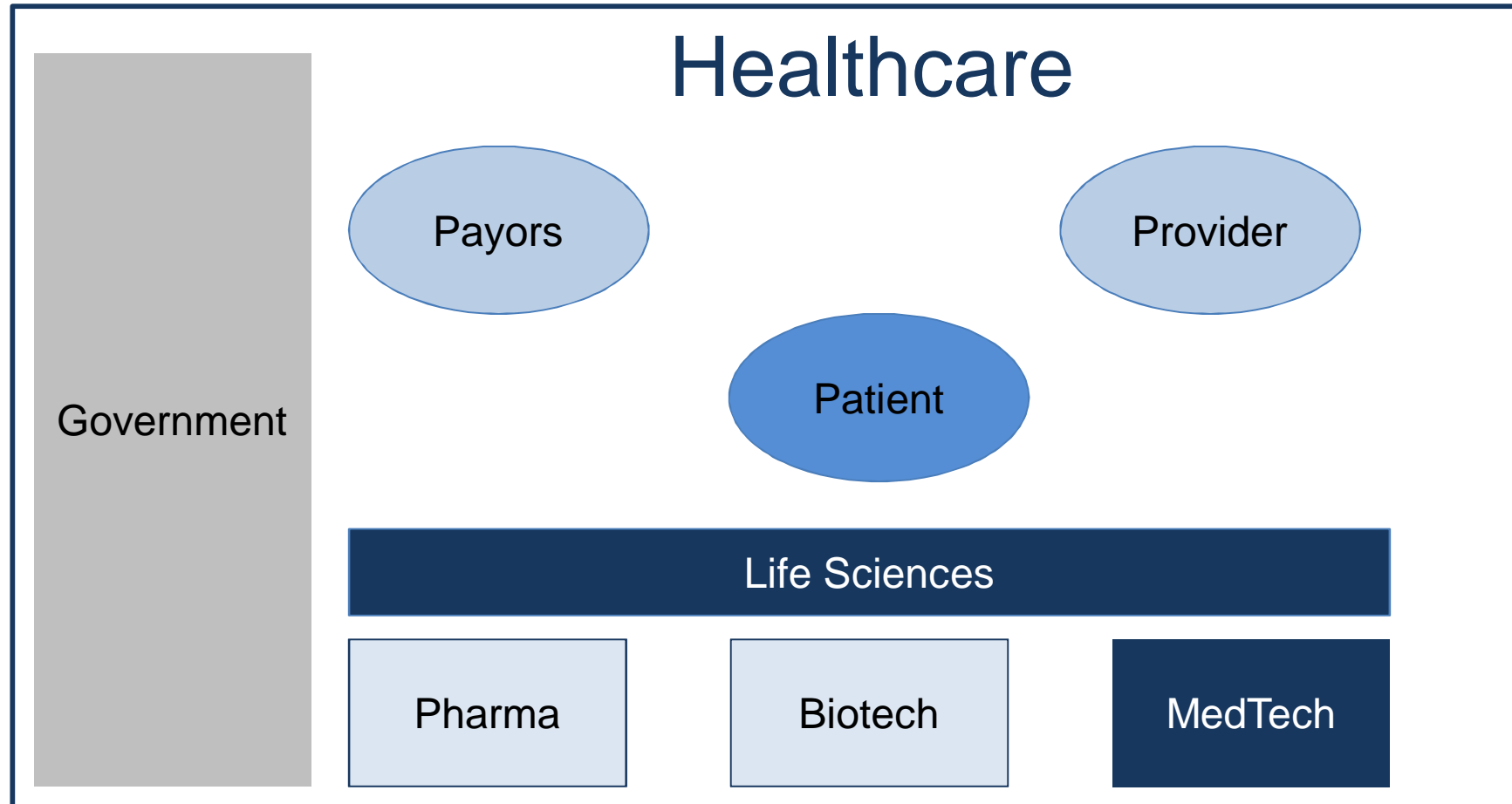
Food for Thought

% Diseases have no borders - we (MedTech) as an industry leader have to collaborate across all Life Science sectors and with healthcare authorities to cater for local needs.+



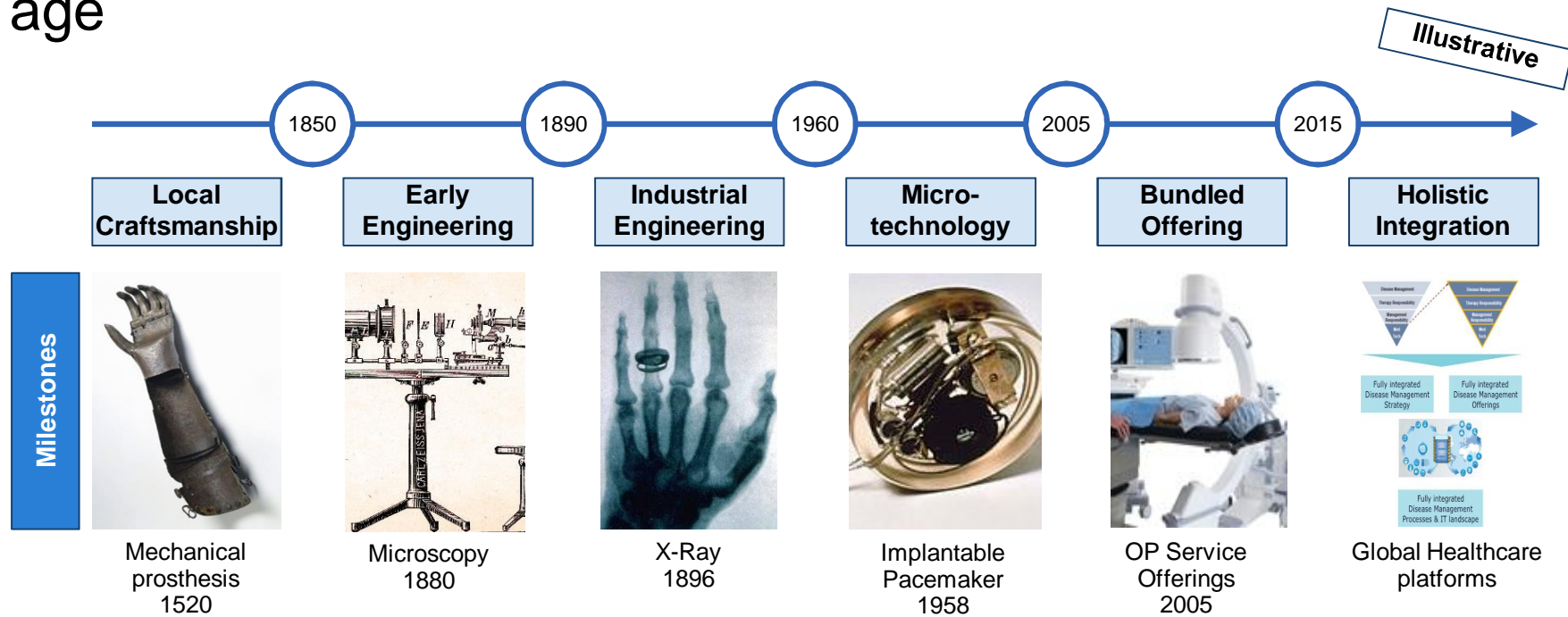
Source: P. Dümmler, B. Hofrichter, A. Ruzicic (2013): The Global Medtech Industry. Publisher: Medtech Switzerland, Bern

Simplified healthcare market framework



Source: ConCep+ (2015) www.conceplus.ch

The future of medtech: At the dawn of the holistic integration age



Duration, transition and adaptation of ages is based on technology readiness, socio-economical development/wealth of nations, education, and demography

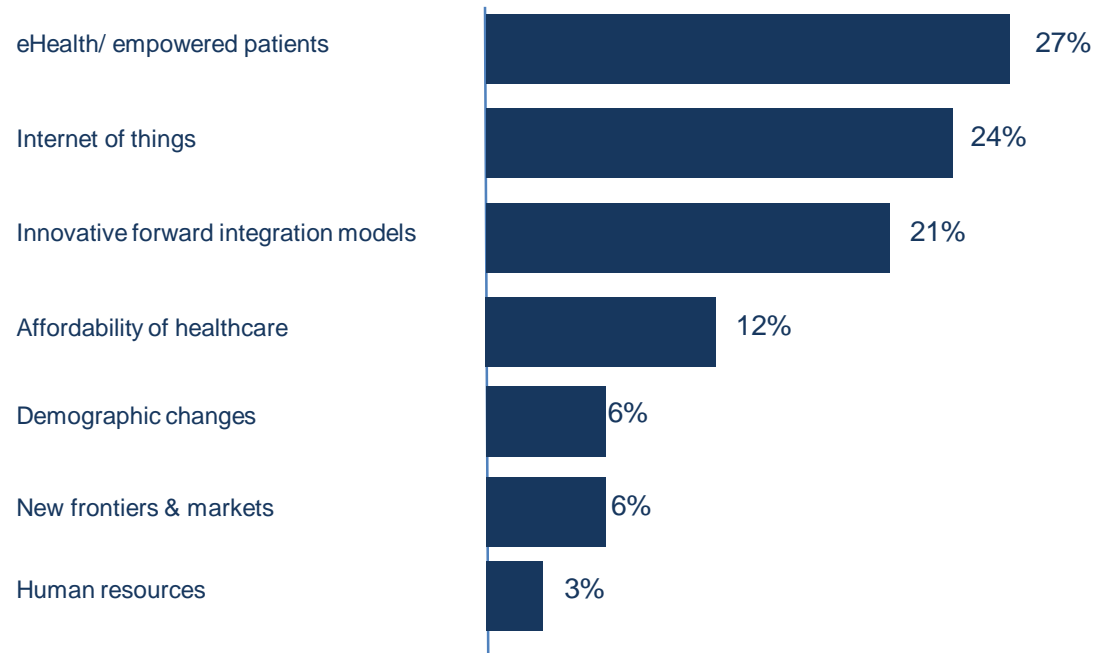
➤ A holistic approach leads us to better understanding of diseases resulting in truly personalized healthcare provision+

Images: Carl Zeiss, GE, Siemens and Fresenius

Source: P. Dümmler, B. Hofrichter (2014): The Swiss Medical Technology Industry 2014. Publisher: Medical Cluster, Bern

Key trend themes in medtech for 2025/ 30

Major themes shaping MedTech in 10 to 15 years



Comment

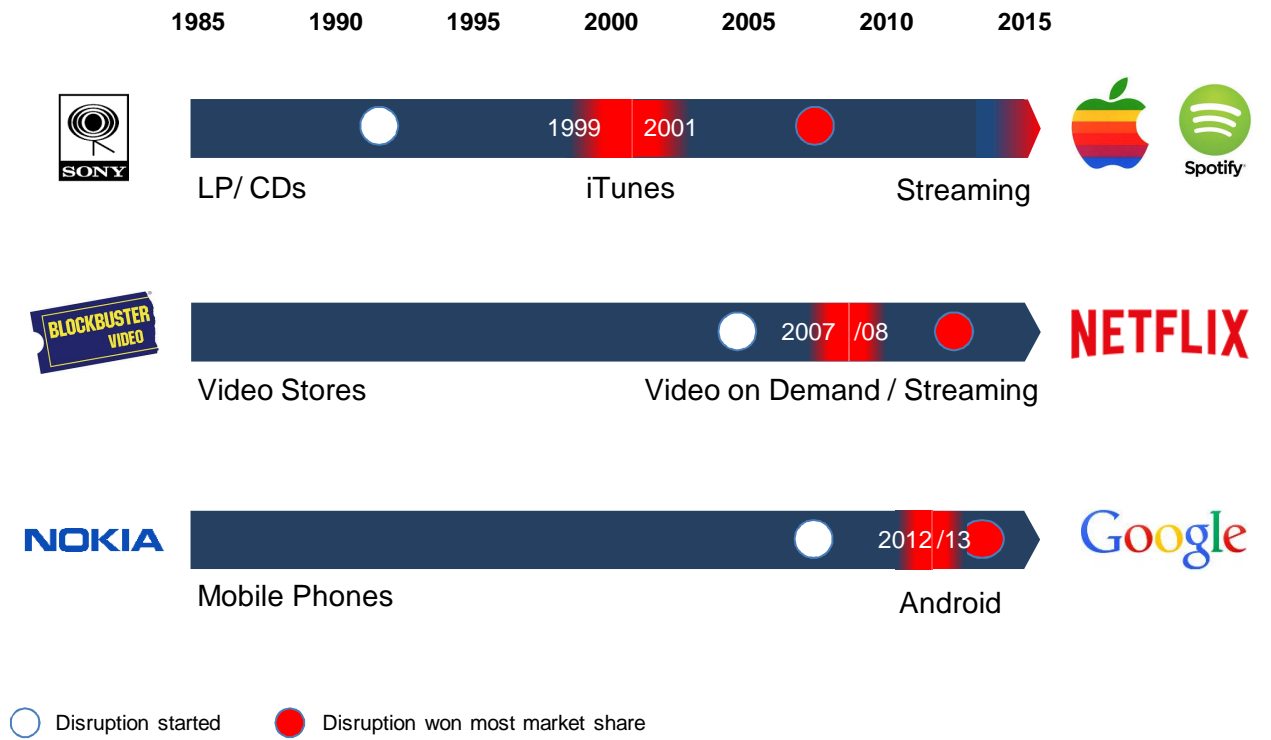
- MedTech leaders foresee ICT impacting/ radical changing tomorrows technology+ offering
- Empowering patients and internet of things are gaining momentum in R&D
- First innovative forward integration models have proven their impact . the HC market will see bolder and broader stroke in the coming years

- These will support
 - All markets
 - the demographic changes
 - The rising middle classes in growth markets

Source: ConCep+ (2015) - THINKING AHEAD! 1st LIMEDex Report . Q1/ 2015, www.conceplus.ch

It takes less than 1.5 years to completely change an industry

ICT players apply %fast & smart+disruption models



C-Level notion¹

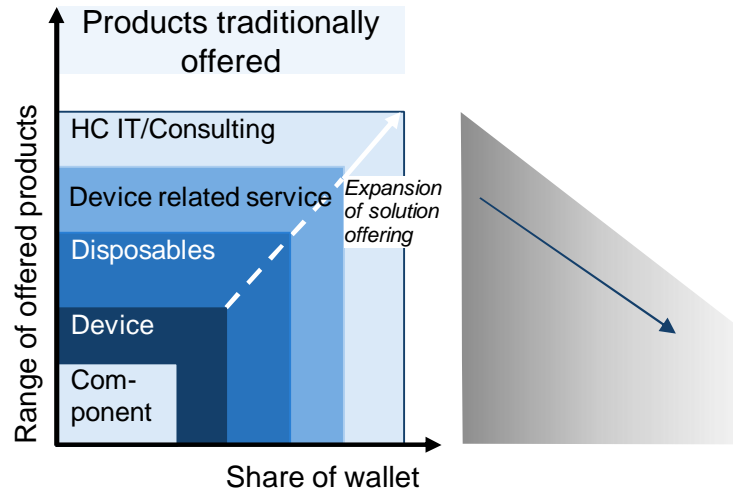
We observe, than innovate, and apply pivoting meaning to completely overhaul our initial model idea to establish new models. This happens on average within 6 weeks+

1) Ch. Keese %Silicon Valley+, 2015.

Source: B. Hofrichter, A. Ruzicic, P. Dümmler, (2014): 2nd Global Medtech Industry Report. Publisher: ConCep+/Executive Insight, Weggis/Zurich

Large manufacturers move towards owning disease areas

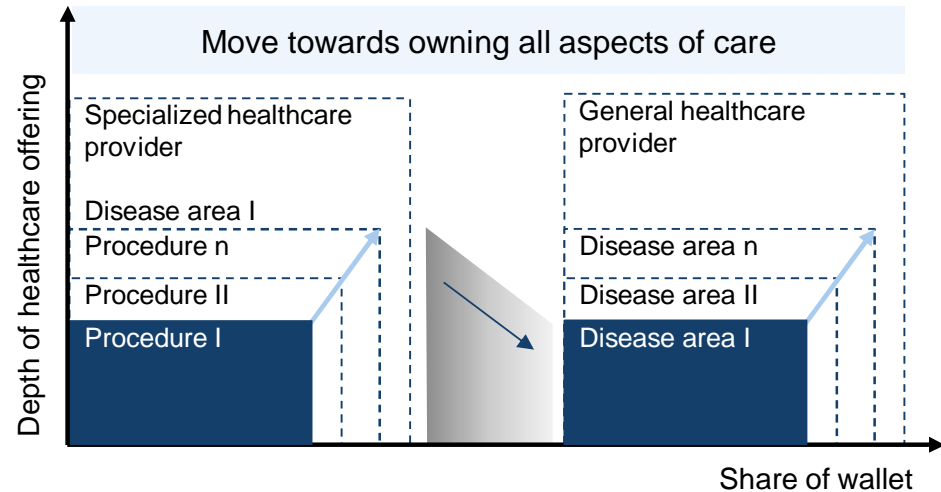
Drive to dominate the whole market for one medical procedure



COMMENTS

- The traditional medtech value chain model is centered around the component and/or device
- Today, companies offer solutions that include disposables, related services, healthcare IT, process consulting and more
- Next steps may lead manufacturers to target entire medical procedures

A contributes towards an own the disease model providing a firm with direct access to healthcare providers



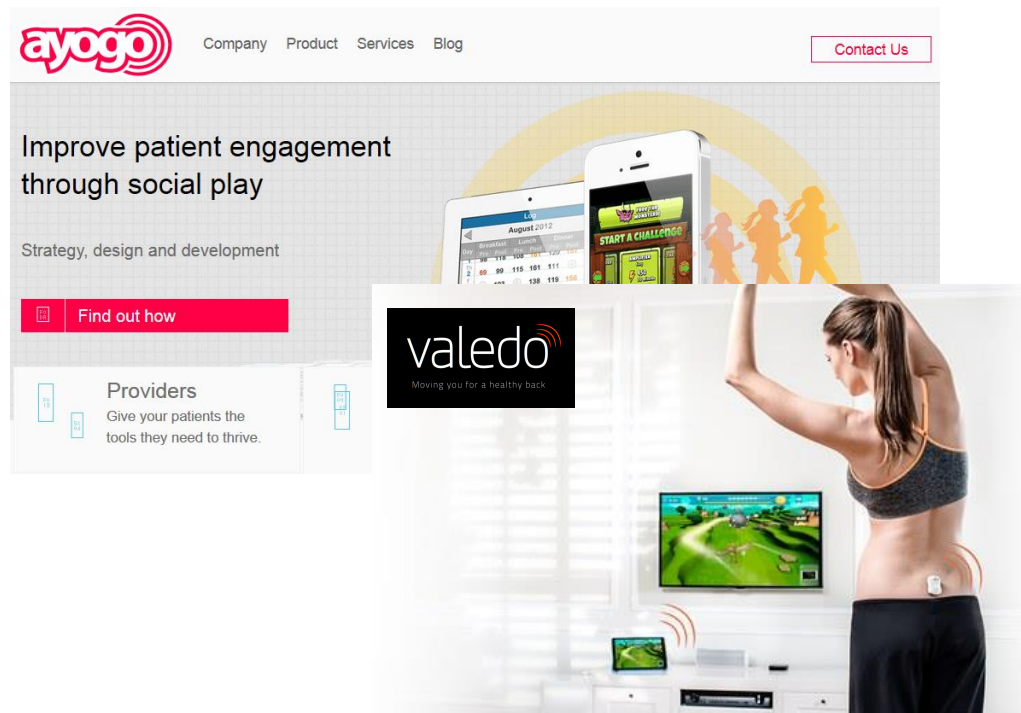
COMMENTS

- Expanding the portfolio to include healthcare services must start with a procedure and outcome focus. This requires a strategic alliance mindset
- Capturing one procedure as a market leader allows the addition of other procedures for a single disease
- The goal is to own one or several disease areas. Expect only a few large companies can accomplish this. Some large companies have already achieved success with this approach

Source: P. Dümmler, B. Hofrichter (2014): The Swiss Medical Technology Industry 2014. Publisher: Medical Cluster, Bern

Gamification and home based healthcare solutions are rapidly gaining market shares

Case study: App based healthcare solutions



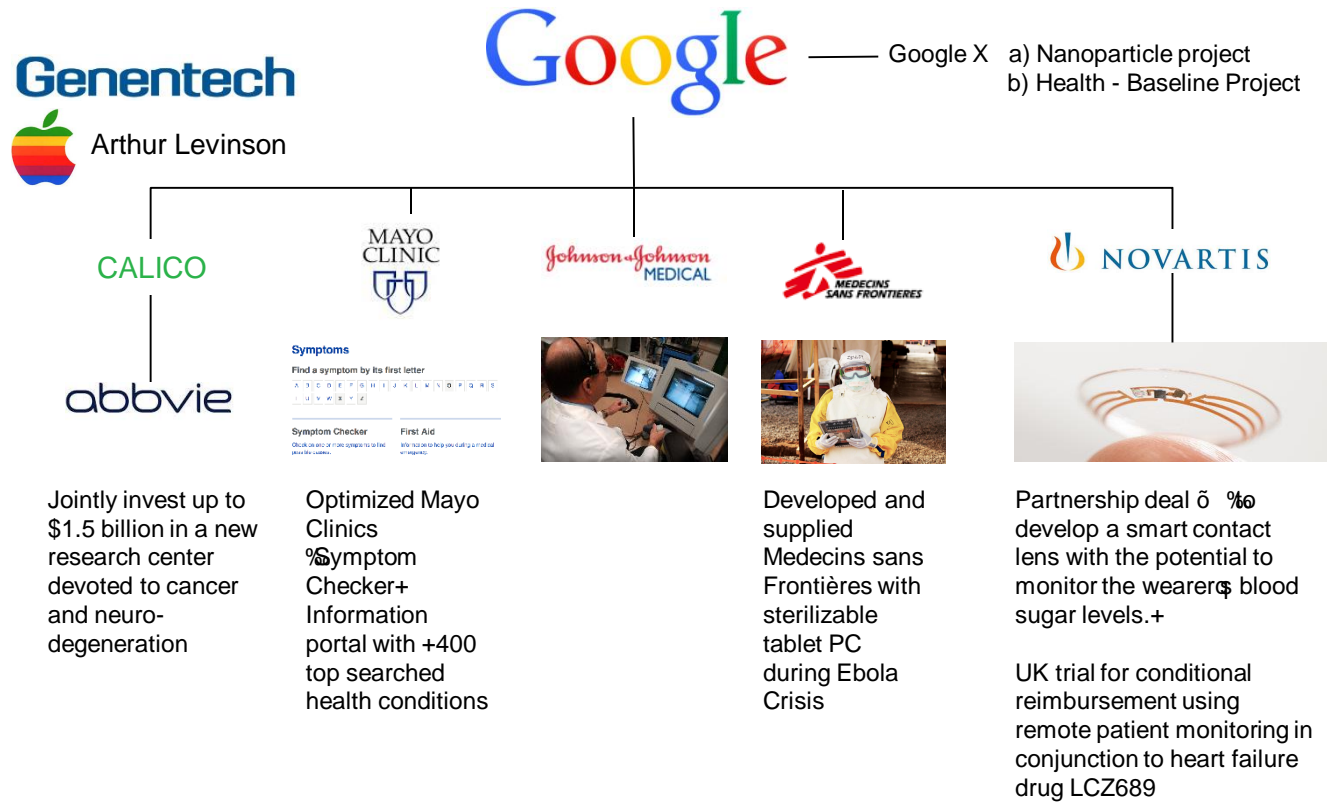
- Patients are assigned small activities, games and surveys and rewarded for positive changes
- Compliance to a therapy is higher if performed in a game like environment
- App based solutions are rapidly growing, enlarging out-of-pocket healthcare market
- Demand for smart mobile and homecare solutions is high

Source: ConCep+ (2015) www.conceplus.ch

Google has massively invested into healthcare and will continue to do so

Google goes Healthcare+with Biotech & MedTech big time

C-Level notion



MedTech leaders can learn from dominant ICT players and past IT revolutions leading to transformation in other industries.

Source: ConCep+ (2015) www.conceptplus.ch

Apple built its monitoring platform on mobile technologies

Apple aims at transforming the way how clinical studies are done

The diagram illustrates Apple's mobile health ecosystem. At the top center is the Apple logo. To its left is the label 'Apple Watch' with a line pointing to a photograph of a red Apple Watch. To its right is the label 'iPhone' with a line pointing to two screenshots of the 'Health' app. Further right is the label 'ResearchKit' with a line pointing to a screenshot of the 'ResearchKit' app interface. Below the 'Health' app screenshots are two bullet points: 'Measuring and tracking own health data' and 'Possibility to share data for health studies (Research Kit)'. Below the 'ResearchKit' app screenshot are two bullet points: 'Hundreds of millions of possible participants in health studies' and 'Open source framework, allowing to program tailored apps'.

Apple Watch

- Health & Fitness monitoring
- Sensors for heart rate, blood sugar, blood pressure, air pressure, altitude, temperature, weather, ultraviolet light exposure, calories, steps, and sleep.

Health

"How are you?" now has a really accurate answer. Heart rate, calories burned, blood sugar, cholesterol — your health and fitness apps are great at collecting all that data. The new Health app puts that data in one place, accessible with a tap, giving you a clear and current overview of your health. You can also create an emergency card with important health information — for example, your blood type or allergies — that's available right from your Lock screen.

- Measuring and tracking own health data
- Possibility to share data for health studies (Research Kit)

ResearchKit

ResearchKit is already being used today. Several of the world's leading medical institutions are already using ResearchKit to gain further insight into some of our most serious diseases. Learn more about their stories below. You can also download these apps from the [App Store](#).

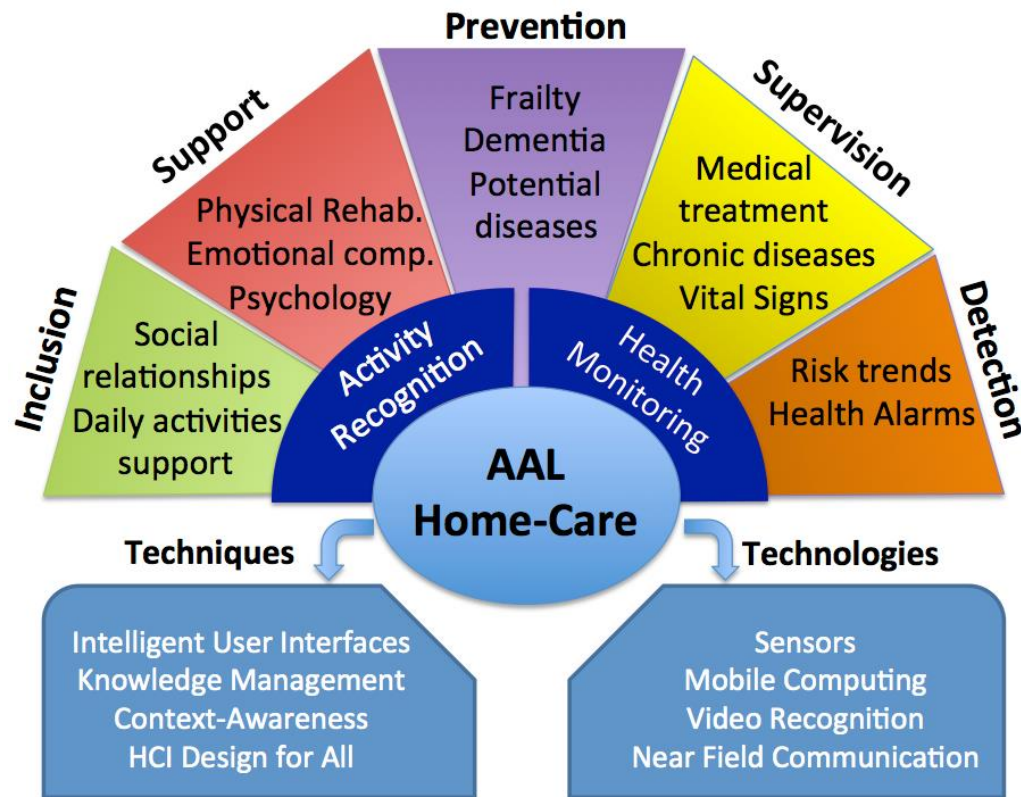
Helping asthma sufferers breathe more easily. Mount Sinai, Weill Cornell Medical College, and LifeMap developed their Asthma Health app to gain greater insight into triggers for the disease. It helps participants self-manage their asthma by avoiding areas where air quality could worsen symptoms. And since the study tracks symptom patterns in individuals, researchers hope to discover new ways to personalize treatment.

- Hundreds of millions of possible participants in health studies
- Open source framework, allowing to program tailored apps

Source: ConCep+ (2015) www.conceptplus.ch

Connecting different technologies and integrating them on a smart platform opens new healthcare business opportunities

Case study: Connecting the dots . Combining technologies for AAL



- Combining different technologies with advanced techniques on one platform
- The Internet of Things (IoT) supports the emergence of smart homes and Assisted Ambient Living (AAL) home care solutions



Source picture: MAMl Research Lab; ConCep+ (2015) www.conceplus.ch

Payers are eager to obtain data and promote individual health data collection

Case study: Swiss healthcare insurer SWICA



BENEVITA Bonusprogramm
BENEVITA Bonusprogramm mit digitalem Gesundheitsdossier

Je mehr Sie für Ihre Gesundheit tun, desto mehr können Sie profitieren.

- Benevita offers a solution to store personal health related data (e.g. sports activity, nutrition education) in a health record
- The more data is stored in the personal health record the lower the insurance fee

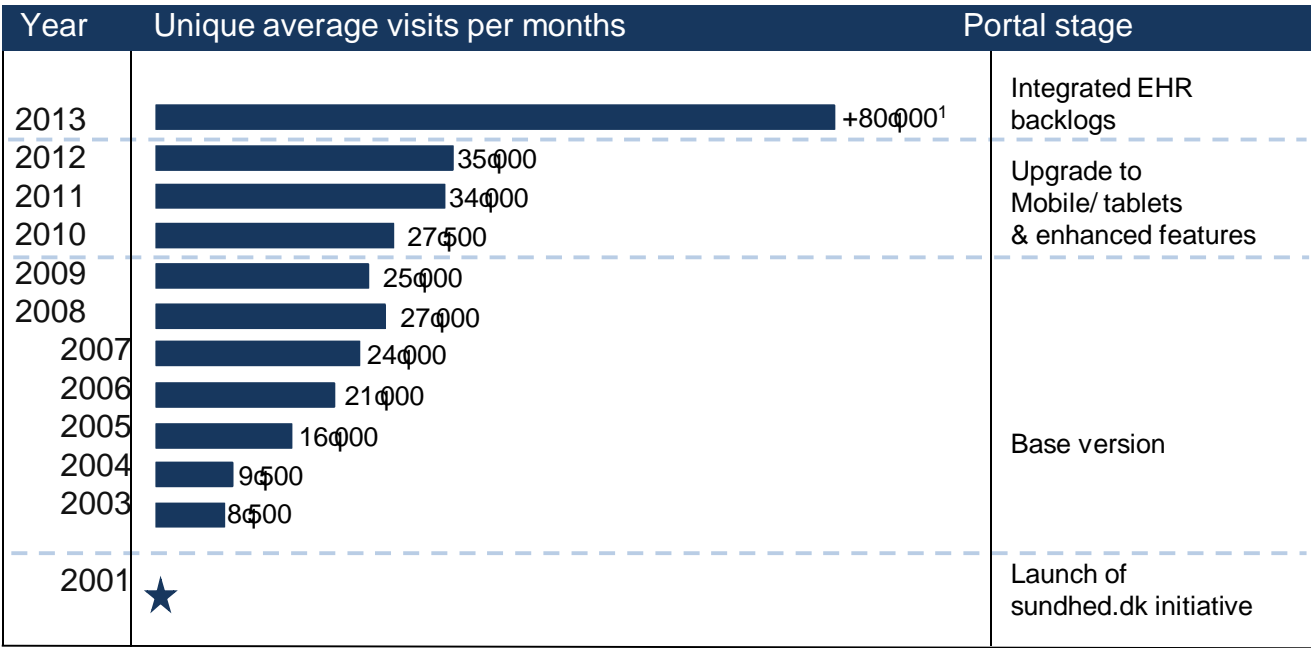
Source picture: www.swica.ch

Denmark's sundhed.dk is leapfrogging ehealth

Case study: %Sundhed.dk . a leading healthcare portal+



User acceptance since launch of sundhed.dk



■ Est. monthly avg. unique visits
 1) Only data of 1. half of 2013 available

Source: www.sundhed.dk & WMTF 2013 presentation

Swiss Medical Technology Industry Survey (seit 2006)



The Global Medical Technology Industry (seit 2012)



Thinking Ahead! LIMEDex (seit 2015)



Downloads via
www.conceptus.ch

ConCep⁺
 Think Tank & Strategy Consultant

2. Diskussion in Workshop Gruppen

Welche Vorteile habe ich als Patient von den Entwicklungen?

Welche Risiken bestehen für mich als Patient?

3. Präsentation der Ergebnisse

Welche Vorteile habe ich als Patient von den Entwicklungen? . Feedback aus der Gruppendiskussion

Im Bereich der Leistungserbringer:

- “ Behandlungsqualität steigt
- “ Mehr Transparenz gegeben
- “ Kostensenkungen durch Synergien
- “ "Evidence based medicine" einfacher umsetzbar
- “ Bessere Übersicht über vorhandene Daten / Informationen / Vorgeschichte
- “ Schnellere Verfügbarkeit von Informationen
- “ Geringeres Risiko von Fehlmedikamentationen
- “ Keine Medienbrüche in der Kommunikation von Leistungserbringern
- “ Bessere Behandlung durch Optimierung der Geräte und Prozesse
- “ Bessere Versorgung durch einfachere telemedizinische Behandlung

Im Bereich Versicherer:

- “ Benchmarking der Leistungserbringer möglich
- “ Mögliche Prämienreduktionen durch bessere Patientensteuerung
- “ Zugeschnidertes Angebot an Zusatzleistungen
- “ Weitergabe von Kostenersparnissen, z.B. durch Vermeidung von Doppeluntersuchungen, transparente Leistungserbringung, besseres Risikomanagement

Im Bereich Forschung:

- “ Nutzung der "evidence based medicine"
- “ Besseres Erkennen der optimalen Medikation
- “ Breite Datenbasis liefert bessere Auswertungsmöglichkeiten
- “ Steigerung der Produktivität

Welche **Risiken** bestehen für mich als Patient durch die Entwicklungen? . Feedback aus der Gruppendiskussion

Im Bereich der Leistungserbringer:

- “ Falsche Diagnosen halten sich länger durch fehlende Neubetrachtung des Patienten
- “ Mangelnde Neutralität der Betrachtung
- “ Erhöhte Angriffsfläche auf Patientendaten aufgrund der weiten Verbreitung

Im Bereich Versicherer:

- “ Möglicher Ausschluss von Versicherungsnehmer aufgrund eines Risikoprofils
- “ Benachteiligung bei Prämien, Leistungen, Arztwahl
- “ Aufgezwungene Standardbehandlung
- “ Aufgezwungene Lebensweise (Bewegung, Ernährung, etc.)
- “ Indirekter Zwang zur Datenoffenlegung bei prämiensensitiven Personengruppen

Im Bereich Forschung:

- “ Sorgloser Umgang mit Daten
- “ Datenverkauf als Geschäftsmodell
- “ Unzureichende Kontrolle des Patienten über seine Daten
- “ Forschung über seltene Krankheiten wird vernachlässigt