

THE HOSPITAL CASE

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Zielsetzungen

- ❖ Kostenreduktion durch teilen von Know How und Infrastruktur
- ❖ Wettbewerbsfähigkeit erhöhen
- ❖ Kräfte bündeln
- ❖ Proaktive Analysen (predictive Analytics) um rechtzeitig Ärzte ausbilden zu können und vorbereitet zu sein
- ❖ Den Kunden neue Servicemodelle anbieten

Mehrwert für Patienten

- Qualitativ bessere Behandlung
- Schnellere Behandlung
- Kosteneinsparung
- Neue, innovative Angebote

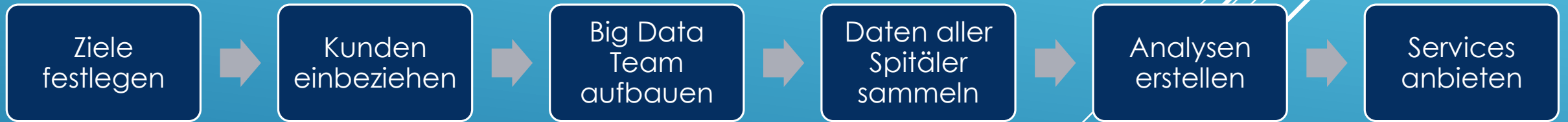
Mehrwert für Spitäler

- Know How Sharing
- Erhöhung der Effizienz
- Einholen von Zweitmeinungen
- Teilen von Infrastruktur

Relevante Daten

- Historische Daten von Fällen > Für Analysen und Hochrechnungen
- Verabreichte Medikamente > Wirkung, Verlauf
- Patientendossiers > Digitalisieren
- Aufgezeichnete Operationen > Für Schulungen, Review
- Anbindung von externen Daten (Hersteller, Zulieferer, andere Spitäler)

Projektplan



Rechtliche Probleme

- Datenfreigabe / Einverständnis der Patienten
- Zweckgebundenheit
- Zeitraum Datenspeicherung
- Dürfen Daten angereichert werden?
- Wem gehören die Daten?
- Rechtliches Firmenkonstrukt

Vision – The Digital Hospital of Tomorrow

HOSPITAL ROOM OF TOMORROW



1 SMART PILL

Intelligent pill technology is currently being used to **diagnose digestive conditions** such as Crohn's disease and colon cancer.



2 SMARTPHONE ULTRASOUND

Researchers are working on a **handheld machine that connects via USB to a smartphone**. The device could prove life-changing in developing areas where people have little access to medical technology.



3 TAKING CONTROL

Patients will be able to raise and lower the shades in the room, order food, shut off the lights and access the Web. Prototypes are being tested.



4 MEDICAL TRICORDER

With a name borrowed from "Star Trek," this device would use technology to **collect and analyze data on patients' health** and then compare that data to electronic medical records. It also would run simulations to determine the best course of treatment. Military researchers are currently in the conceptual phase on the technology related to such a device.

5 ARTIFICIAL WOMB

Straight out of "The Matrix," tanks are filled with **amniotic fluid**, and embryonic umbilical cords are attached to pumps that regulate **nutrient intake and waste production**. Such methods have been used for some animals, but they are still a theoretical possibility for use with human babies.

STEP INTO THE HOSPITAL ROOM OF THE FUTURE – OK, SO MAYBE ALL OF THESE COOL GADGETS WON'T BE IN ONE HOSPITAL ROOM (AND CERTAINLY NOT BY TOMORROW), BUT ADVANCES IN MEDICAL SCIENCE AND TECHNOLOGY PROMISE TO PROVIDE YOU WITH BETTER MEDICINE AND A MORE PLEASURABLE EXPERIENCE.



6 HEALTH DISPLAY

With the swipe of a card, **patient information will be displayed on a computer monitor** in the room. Doctors will see data they need to know (such as the full medical record). **Nurses will see information pertinent** to their jobs (like medical history and care requirements). Housekeeping staff will see information that helps them do their jobs. Prototypes are being tested.

7 CENTRALIZED IV SYSTEM

Nurses no longer will need to program your IV manually, as a **centralized system** at the nurse's station or elsewhere **will program them all automatically**.

8 SMARTBED

Without you being hooked up to 25 monitors, **your bed will track key health information**: Temperature, blood pressure, heart rate while you sleep. The information could then be sent wirelessly to health care providers' cellphones or email. Project is in developmental stages in Europe.

12 MEDICATION SECURITY

A medication dispensing system **will use bar codes and scanning technology** to reduce medication errors.

BETTER DRUGS

Research into **gene therapy will provide personalized medication like never before**. Your doctor will have access to your **complete genome**, so she'll be able to predict possible drug interactions and your body's reaction to potential treatments. Toxic reactions to drugs will plummet. Much of this work already is under way, and researchers predict many of the most life-changing advances will come in the next decade or so.

11 MEMORY RESTORATION

This military project is aimed at **restoring memory** by bypassing brain injuries. The theory is that injured soldiers would be able to return to the battlefield with improved performance. Researchers also hope the project will improve overall knowledge of short-term memory and brain functions.



10 ROBOTIC SURGEONS

These guys have been around since the late 1980s, but they are seeing increasing usage in heart, intestinal, brain, pediatric and orthopedic surgery. **Robotic "doctors" mirror human arms, allowing repetitive, controlled actions.**



9 ORGAN PRINTER

A complex 3D printing process can create tissue adequate for transplantation, bypassing the potentially lengthy process of waiting for an acceptable donor. While such devices aren't in use now to create full organs, some of the biological material they can produce has been used to help patients.

SOURCES

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