HealthService24

Continuous Mobile Services for Healthcare

eTEN-C517352

Project Facts and Figures

Vision of HealthService24

HealthService24 aims at launching innovative, integrated mobile healthcare services, supporting patient and health professional mobility, as well as enhancing quality-of-care whilst decreasing health expenditures

Goals of HealthService24

- Offer a viable mobile healthcare service permitting health professionals to remotely assess, diagnose and treat patients whilst the patients are free to continue with daily life activities and stay fully mobile
- Test the feasibility of the deployment of the existing prototype on the European market via pilot runs (prototype is based on the solution that has been developed in the MobiHealth project, IST-2001-36006)
- Demonstrate and validate the precise conditions to be fulfilled for subsequent commercial deployment
- Make the service applicable to many areas, ranging from patient management to sports, with post hospitalisation, public healthcare and home care

The project shall result in obtaining a fully marketable solution

HealthService24 - Project Consortium

4 Contractors

4 Members

ERICSSON

University of Twente
The Netherlands

Medisch Spectrum ▲Twente

University of Cyprus

POLYCLINIC LITO

TMS INTERNATIONAL

CLÍNIC
BARCELONA
Hospital Universitari

YUCAT
mobile business solutions

HealthService24 - Project Timetable

- HS24 project start: February 2005
- Start of validation trials phase I: July 2005
- Start of validation trials phase II: October 2005
- Start of validation trials phase III: February 2006
- Validation trials report: June 2006
- Final business plan: June 2006
- HS24 project finish: July 2006

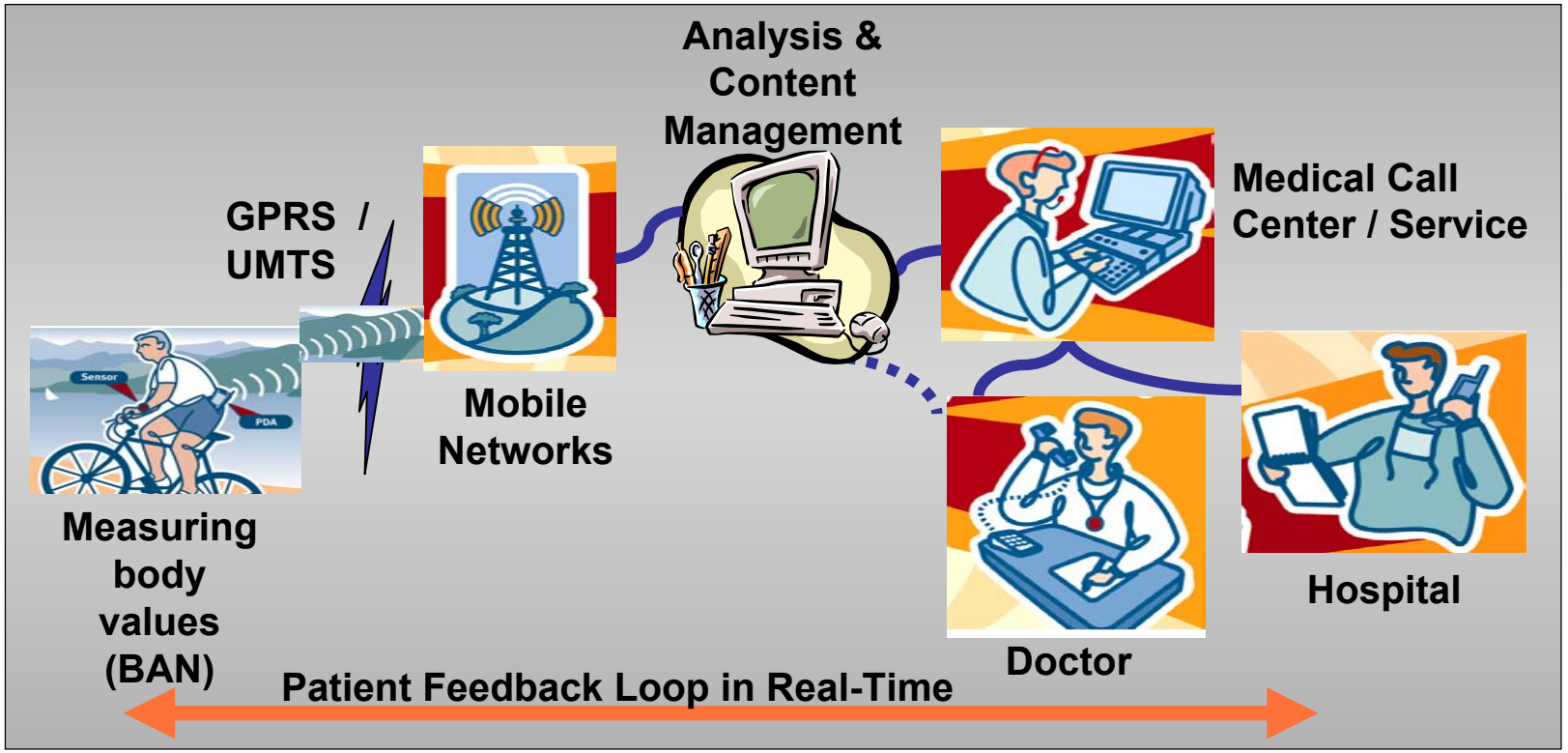
Total project costs: 2.24 mil € (EC contribution: 1.2 mil €)

The HealthService24 Mobile Monitoring System

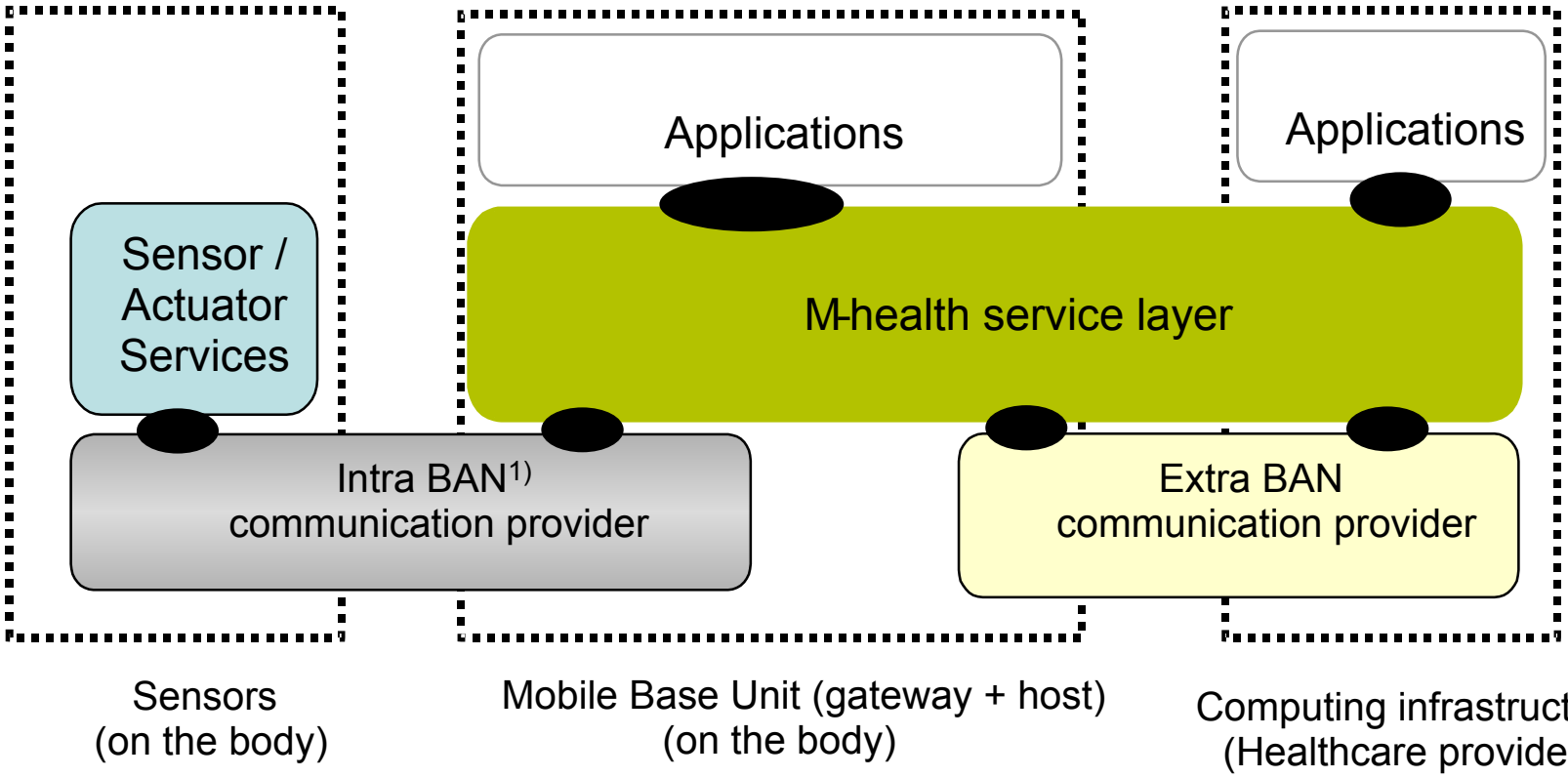
HealthService24 functional system description

- A user is equipped with sensors interconnected under a Body Area Network (BAN) managed by a PDA or a mobile telephone
- The collected data is constantly and wirelessly transmitted via UMTS or GPRS to a medical service centre or directly to medical professionals
- Included content management functionality allows for immediate analysis of individual body data and personalized patient feed-back in real-time (e.g. alarms or reminders)
- Healthcare professionals can remotely assess, diagnose and treat patients whilst the patients stay mobile. In case of rapidly deteriorating medical conditions, the data centre can also send an SMS-alarm or provide the patient with a first level medical support

A mobile communication platform for healthcare

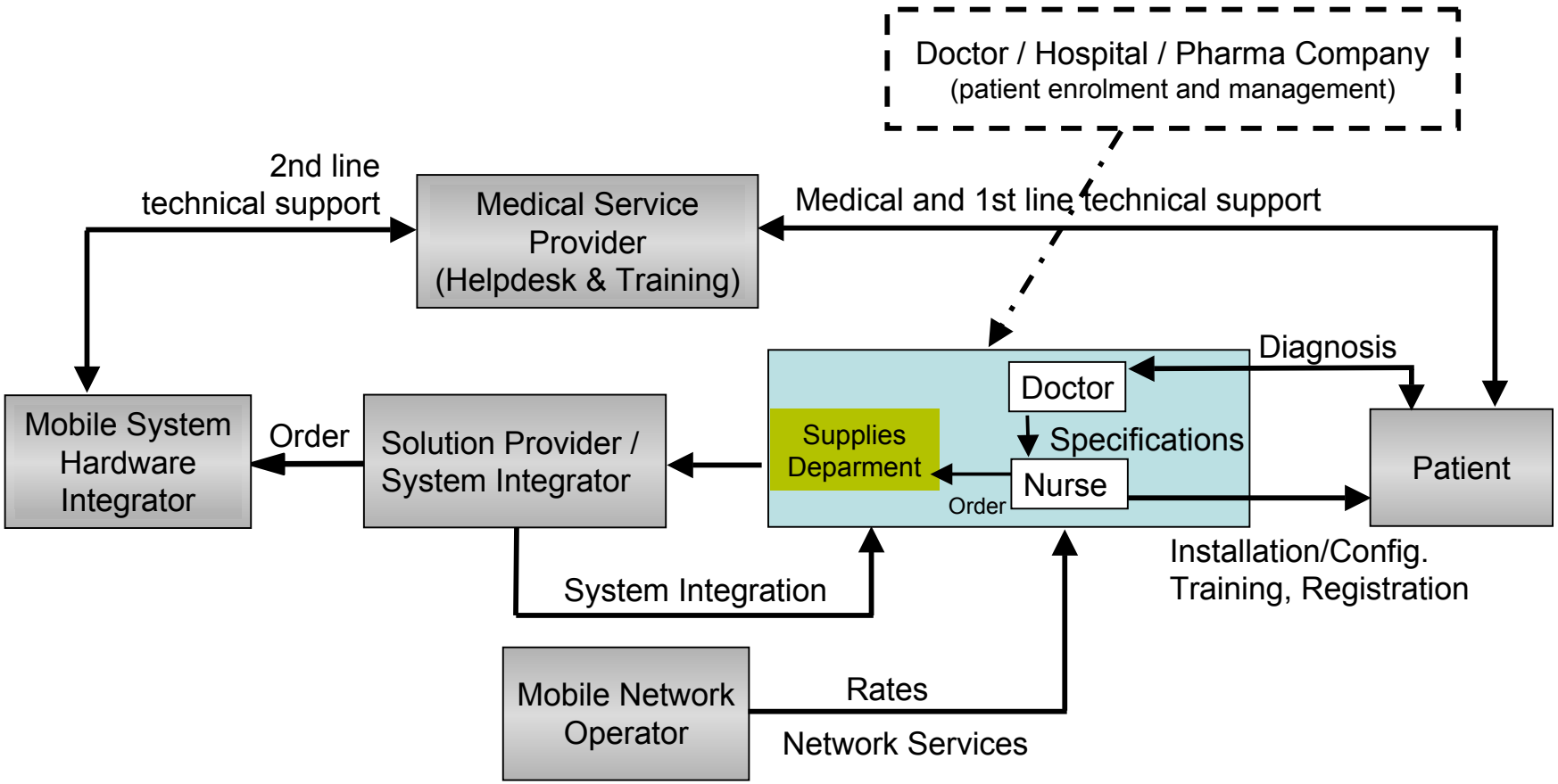


Overall system architecture



1) BAN=Body Area Network

Model for a service and supply chain



Market Considerations and Target Users

Current challenges in the healthcare

What keeps healthcare managers awake?

We are getting older, chronic diseases are on the increase

Costs, budget deficits rise and can't be controlled

Research for new drugs becomes very expensive

Patient empowerment

Outdated and not-integrated ITC systems

m-health services are suitable to contribute to solving the challenges of the healthcare sector

The future of m-health

Personal healthcare, prevention, fitness and wellness is one of the most dynamically expanding markets concerning consumption of media and information systems – including mobile solutions [1)]

Mobile Healthcare will be one of the most rapdily growing segments in the area of mobile enterprise solutions 2)

1) Durlacher
2) Gartner Group

m-health market projections

Forecast for total e- and m-health market potentials in EU countries – examplified calculation for the German market

- **Health industry 2010:** **271 Billion Euros (figure for Germany)**
- **eHealth industry 2010:** **5 % of health budgets will be invested in eHealth systems and services:**

  for Germany: 13.55 Billion Euros
- **mHealth industry share:** **<u>10-15% of eHealth budgets</u>**

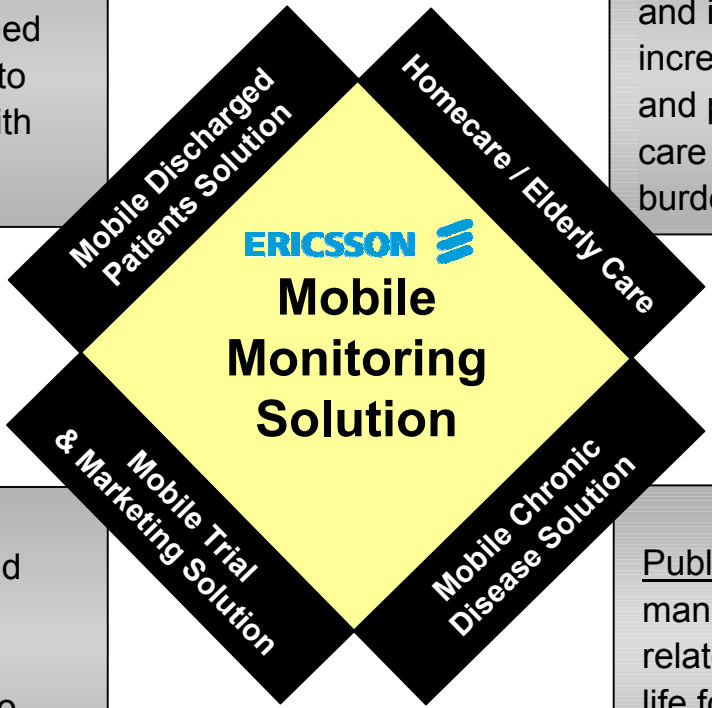
  for Germany: 1.356 - 2.03 Billion Euros

Source: European Union

HealthService24 – target groups and value propositions

Hospitals: mobile patient monitoring of early discharged patients in complete safety to reduce costs and comply with cost cutting

Homecare / Elderly Care: mobile and in-home patient monitoring to increase patients' quality-of-life and piece-of-mind. Reduction of care costs and formal operational burdens for care companies

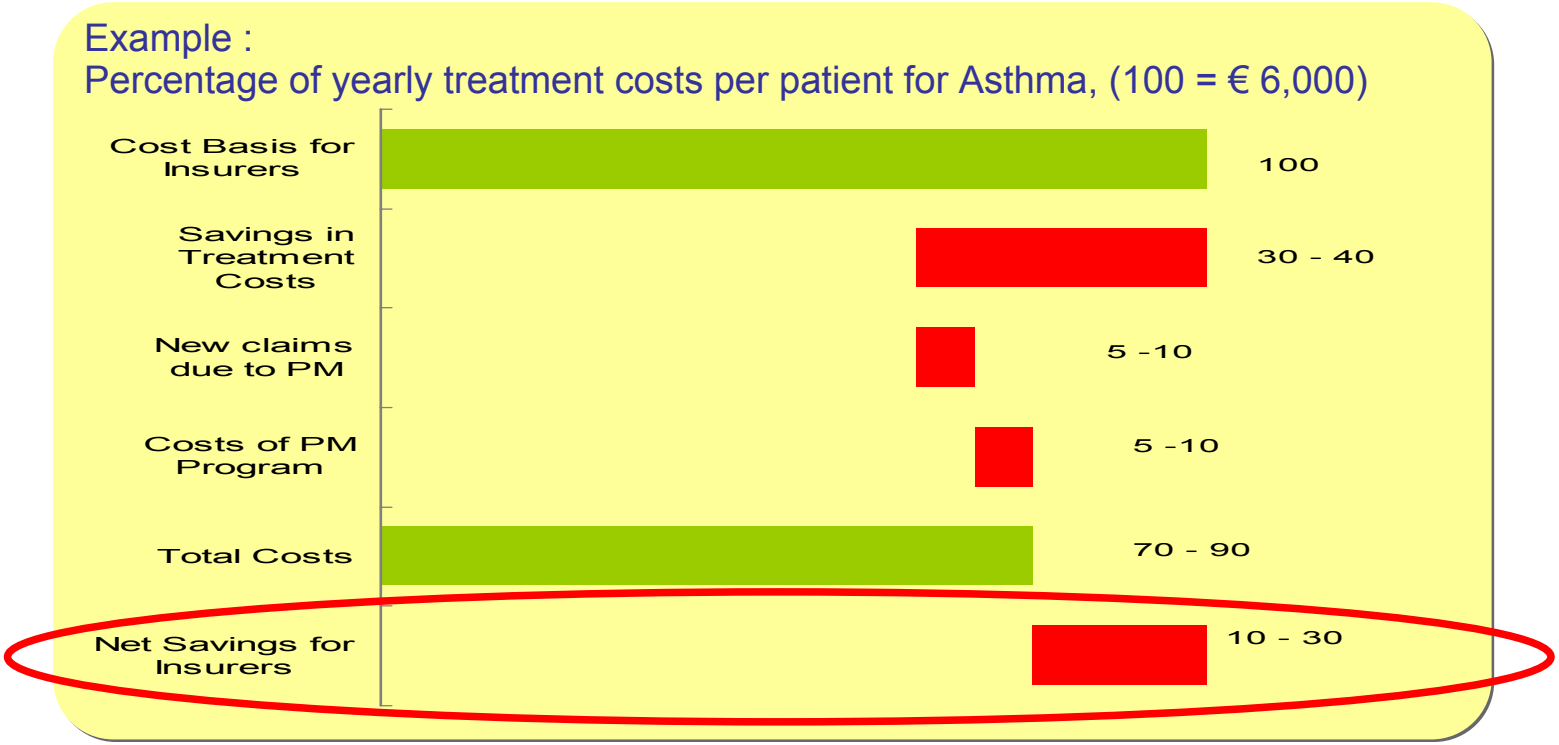


Pharmaceutical industry: mobile clinical trials (fast and high-quality clinical data for shorter time-to-market and safer medicine) and direct-to-patient communication

Public Healthcare: mobile disease management (e.g. less disease related costs and better quality-of-life for chronic disease patients)

Example for cost savings in public health through patient management (D)

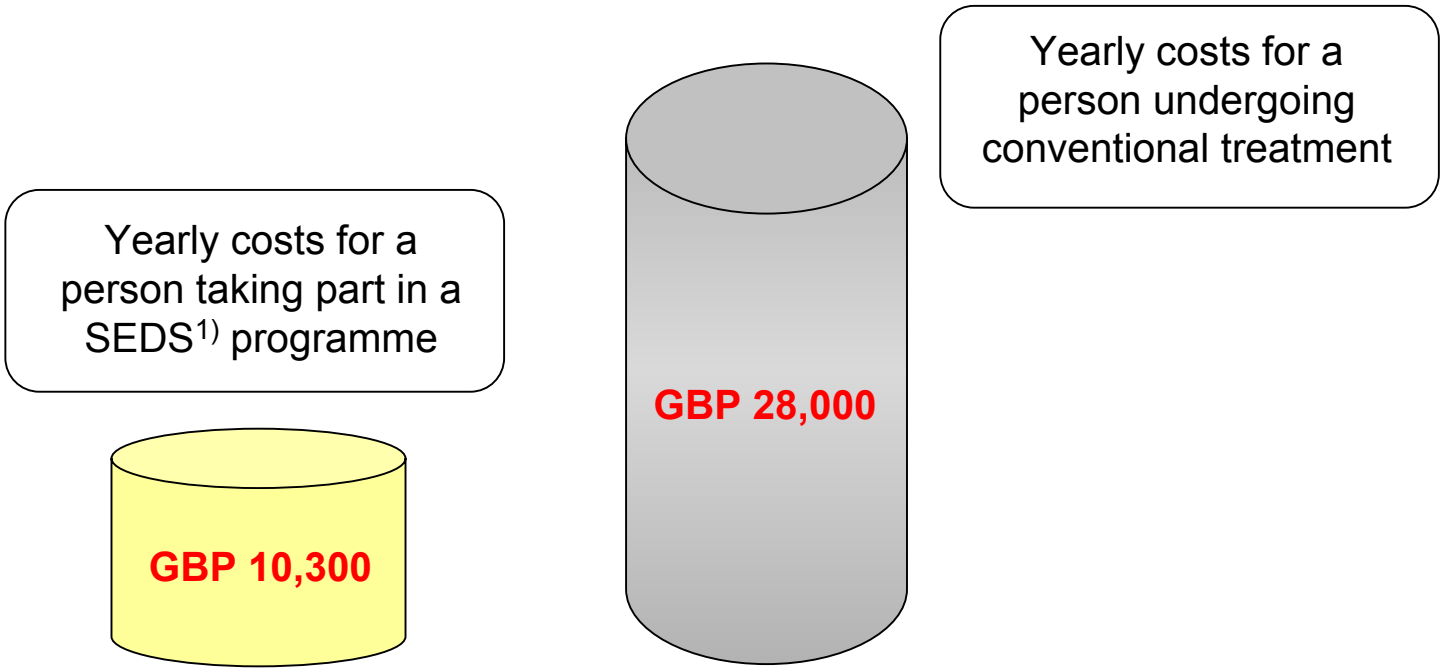
The Asthma case: potential yearly **gross** savings/patient in Germany amount to € 1200 - € 2100 (20-35%)



Source: McKinsey

Example for cost savings in public health through patient management (UK)

Mobile patient management can yield significant cost savings for health providers

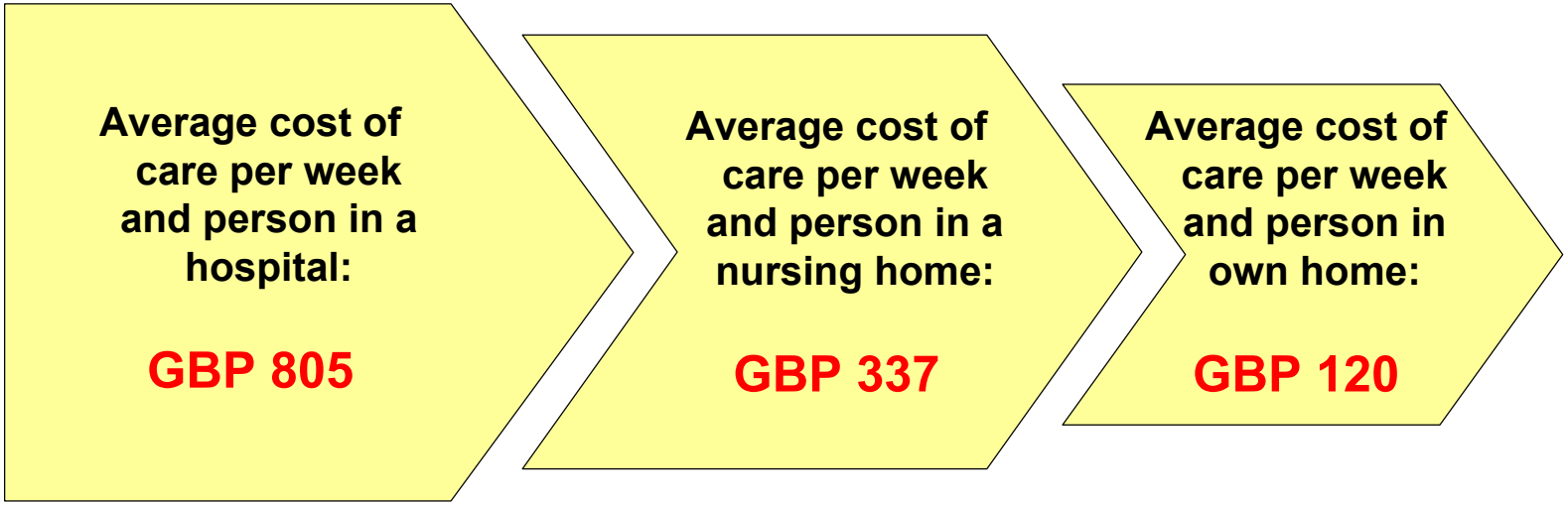


Source: Wireless Healthcare 2004

1) SEDS – Supervised Exercise, Diet and Stress management programme

Example for cost savings in public health through early hospital discharge (UK)

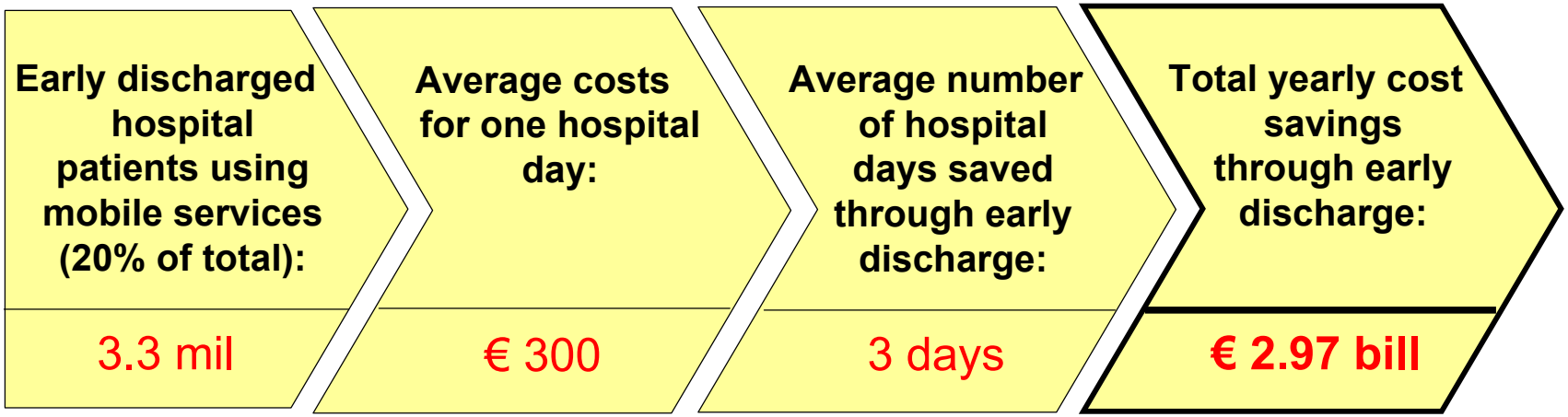
Discharging patients earlier from hospitals to their homes can result in savings of 85% in weekly care costs



Source: Wireless Healthcare 2004

Example for cost savings in hospitals through early discharge (D)

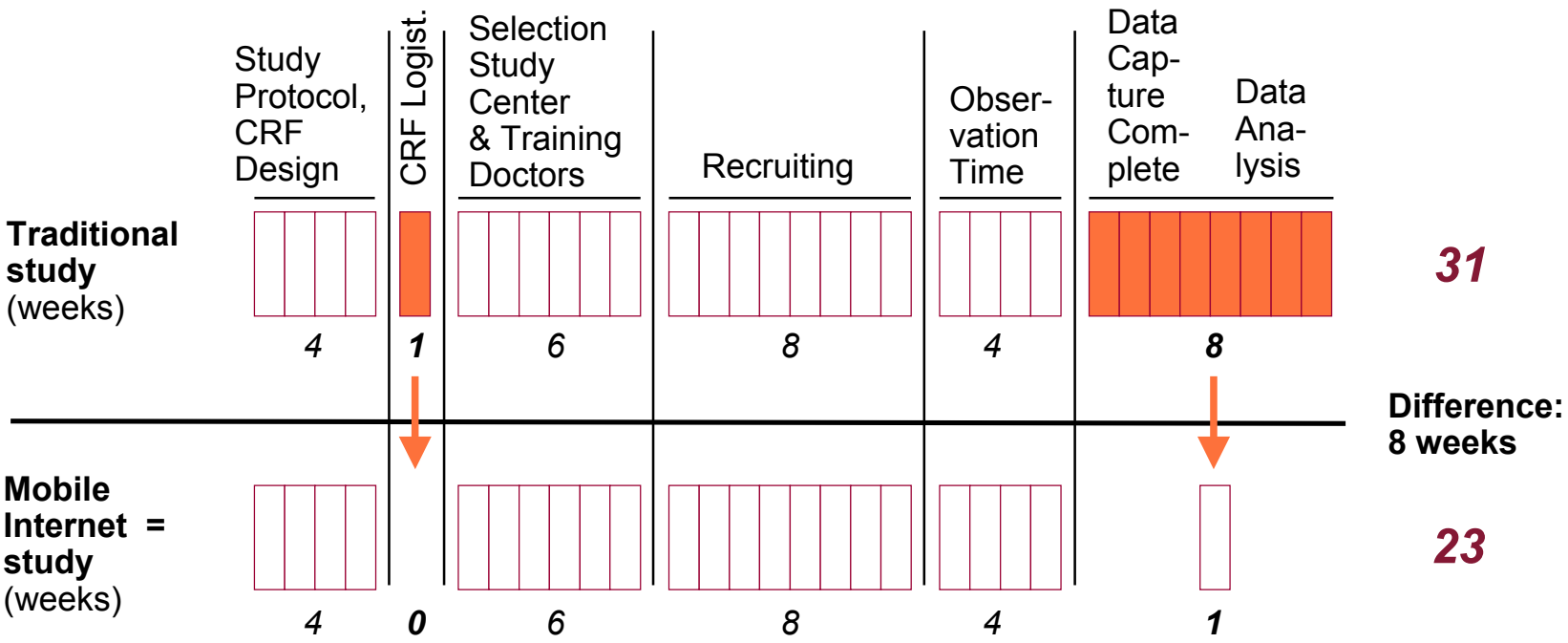
Hospitals in Germany can save up to €2.97 bill per year through early discharge of patients made possible by mobile monitoring services



Source: GesundheitScout 24 GmbH and Bayerisches Rotes Kreuz

Benefits for pharma companies: shortening of clinical trial time

The pharma industry loses on average $ 1 mil for each day a new pharmaceutical product is not yet on the market



Source: BMZ (CRO), Munich

The Validation Trials

HealthService24 trials – High risk pregnancies

- **High-risk pregnant women trial**
  - Support integrated homecare for women with high-risk pregnancies
  - Homecare with continuous monitoring is desirable and can postpone hospitalisation, reduce costs, and offer more security for the mother and unborn child

- **In this trial**
  - patients will be monitored using the mobile patient monitoring solution
  - Remotely transmission of maternal and foetal bio-signals to the hospital.
  - Evaluation if such a solution postpones hospitalisation and reduces costs

HealthService24 trials - COPD

- **COPD - patients trial**
  - Support remote assistance for elderly and chronically ill patients suffering from COPD
  - The HS24 nurse monitoring solution will be used to perform patient measurements during nurse home visits
  - The HS24 patient monitoring solution will be used for continuous monitoring during patient rehabilitation at home or outdoors
  - **Parameters** to be measured: oxygen saturation, ECG, spirometry, temperature, glucose and blood pressure

HealthService24 trials - Cardiology

- **Cardiac patients trial**
  - **Group1**: Patients who had an acute episode and have been admitted and stabilized but need continuing monitoring of condition and drug regime for a further few days
    - With HS24 these patients will be allowed an earlier discharge, with an appropriate monitoring

  - **Group 2:** Patients in a suspected acute episode, brought in for examination
    - a decision needs to be taken whether to keep the patients at the hospital for observation, or to discharge them home
    - In case a patient is discharged, and there is a suspicion of an abnormal condition, the patient will be equipped with the HS24 patient monitoring solution enabling constant monitoring of the patient's state

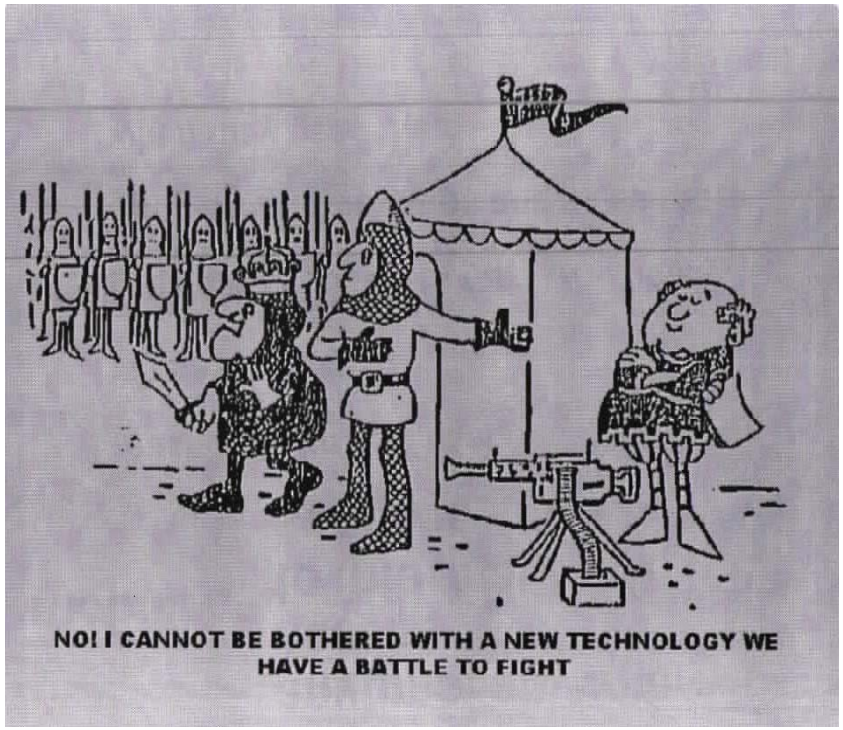
Concluding Remarks

Barriers of entry

- Reluctance of the healthcare players to embrace new technologies, work methods and business processes
- Healthcare is a highly regulated area and difficult to access
- Lack of health-political support
- Potential health hazards from wireless communication technology
- Medical data security hurdles, ethical and legal requirements
- Technology is not enough – management of complex value chains and processes is necessary

Factors of success – technology is not enough

- Adequate market entry-startegy, taking into account all value chain players and providing resepective business models and benefits
- Integration of e- and m-health
- Complete system offer, providing end-to-end services and solutions
- Straight-forward, easy to handle and robust solutions to show quick benefits and return-on-investment
- Availability of good medical and health-economic validation data



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THANK YOU


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