

**Innovative business and
reimbursement models –
enabling care transformation of care
across the complete cycle**

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Opportunities for growth in healthcare arise from the megatrend of demographic change

Relevant Megatrend

Demographic Change

i.e. aging
and growing
population

Major Implication

**Growing demand
for healthcare**

Major Challenges

**Capturing of
efficiency potential
in healthcare systems**

Healthcare costs

Growth Opportunities

**Workflow
Improvement,**

e.g. through:

Earlier diagnosis &
intervention

Disease orientation

Knowledge-
based decision

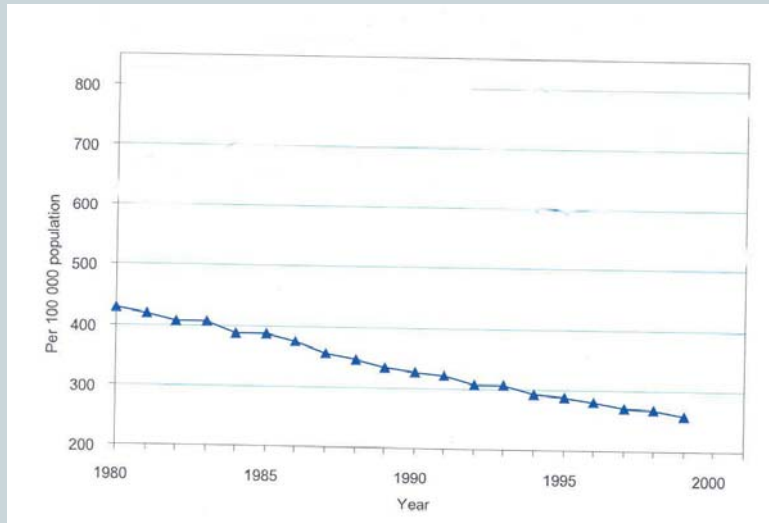
support

Integrated IT systems

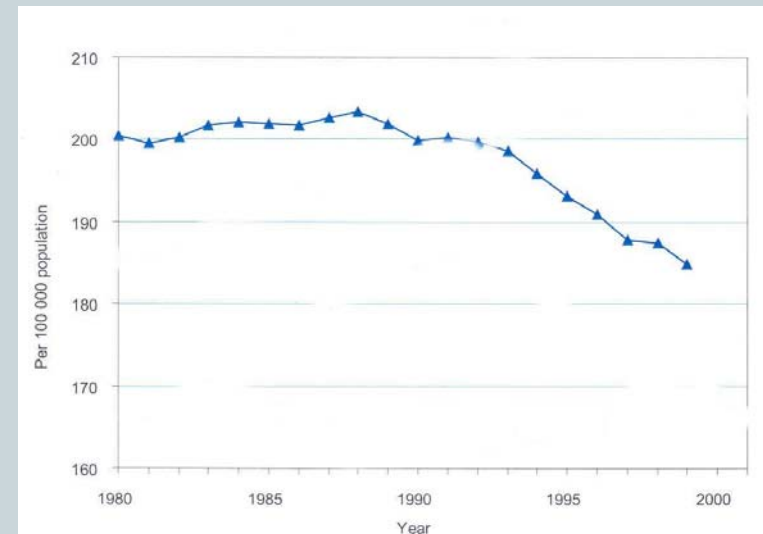
Good job in acute care, room for improvement in chronic care

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Death from Cardiovascular Disease



Death from Cancer



Diabetes
(patients in
millions)

170



340

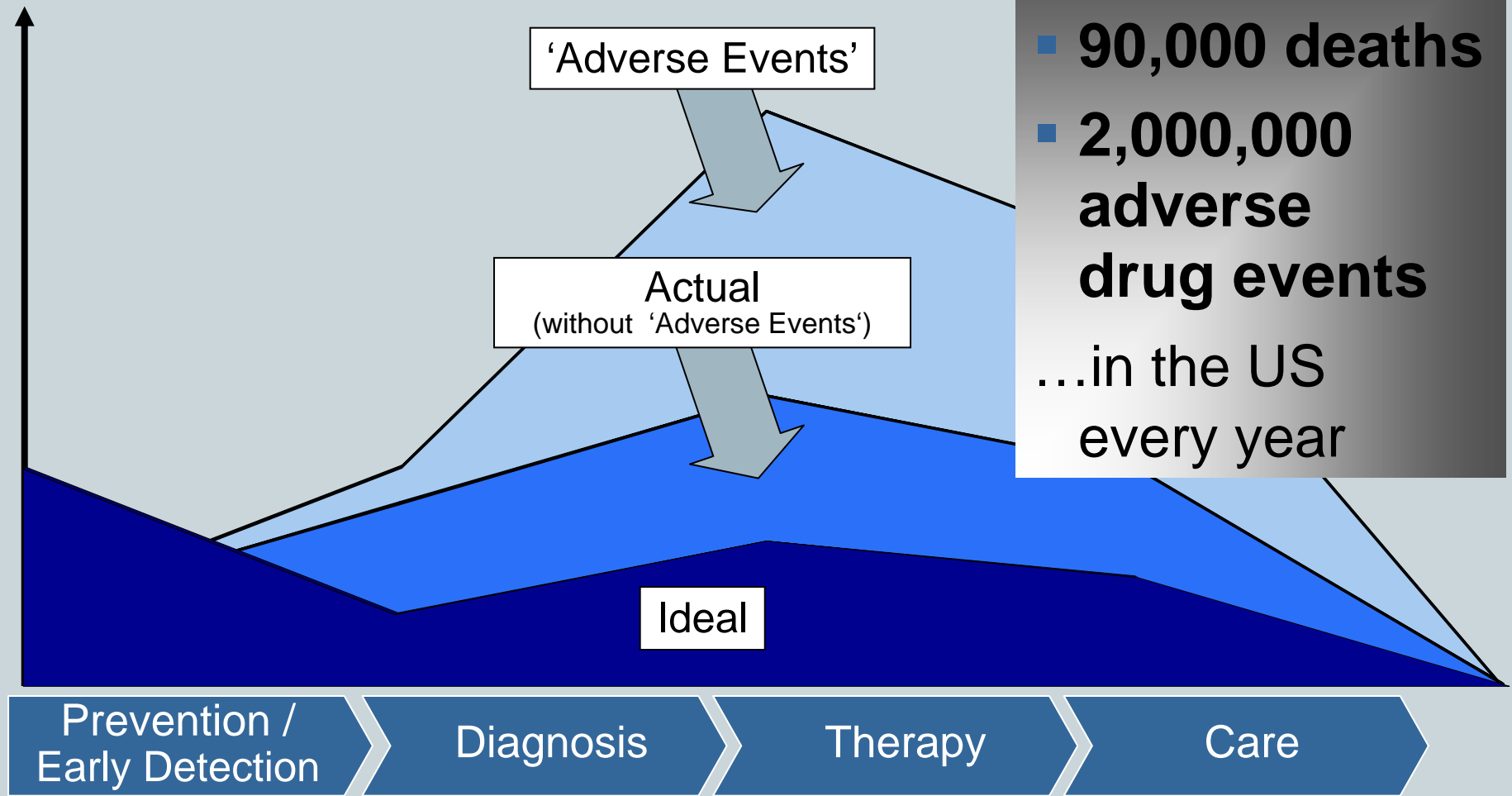
2005 2025

**Chronic diseases
account for > 70 % of
total cost in healthcare**

There is great potential
to improve healthcare efficiency

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Costs for the insured



Source: Institute of Medicine, *To Err is Human*, 1999, p.26. American Hospital Association. Hospital Statistics. Chicago. 1999; RAND study, *Journal of Health Affairs*, September 2005; Institute of Medicine, *Preventing Medication Errors*, 2006

Hugh success with medication management in hospitals

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- Up to 73 % reduction of wrong and unclear prescription due to IT supported medication process *
- Up to 64 % shorter time between prescribing and administering of a medication **
- Estimated cost reduction of 840.000 USD due to decrease of error rate in medication **



Stockholm, Schweden



Ohio, USA



Virginia, USA

Source:

* W. Baldauf-Sobez, et. al., How Siemens computerized order entry systems helps prevent the human error, *electromedica* 71 (2003) no. 1, 2-10

** HIMSS Analytics, *EMR Sophistication Correlates to Hospital Quality Data*, 2006

IT supports the annular screening for diabetic retinopathy

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Huge Potential

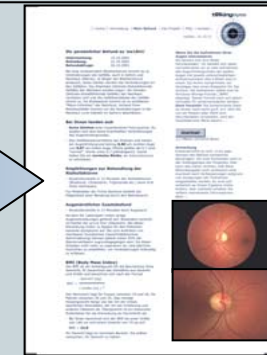
- Up to 10% of Europeans diabetic
- 60% of diabetics develop DR
- DR is leading cause of blindness for individuals > 65 years of age
- Blindness can be avoided in 90% of DR cases if detected early

NHS Scotland
Implementation of an integrated, IT-supported Disease Management

Improved ...

- ✓ Quality
- ✓ Compliance
- ✓ Processes
- ✓ Use of Resources
- ✓ Outcomes

- **300.000** examinations / year planned
- **73** locations
- **5** regional evaluation centers



Registration, Invitation

Mobile Examination

Central Evaluation by Experts

Inform Patient

* Initial results were obtained from the „TOSCA-Project“, a project supported by the European Community

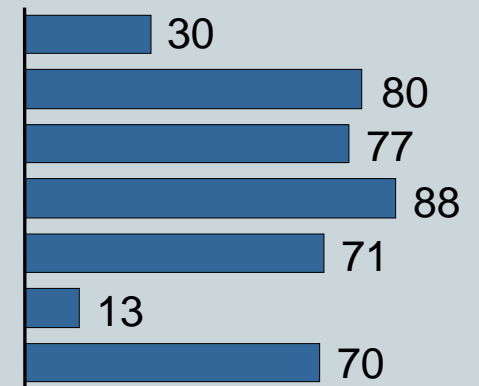
Great acceptance by patients and significant cost savings



Tele-Monitoring at patients with chronic heart failure

Patient acceptance of telematic monitoring in %

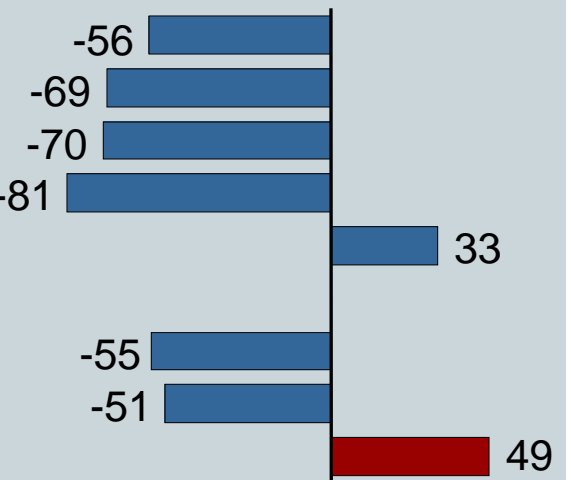
- Better health status
- Faster help
- Risk reduction
- Better care
- Higher safety
- Less physician contact
- Manage anxiety



Efficiency regarding clinical and economical aspects %

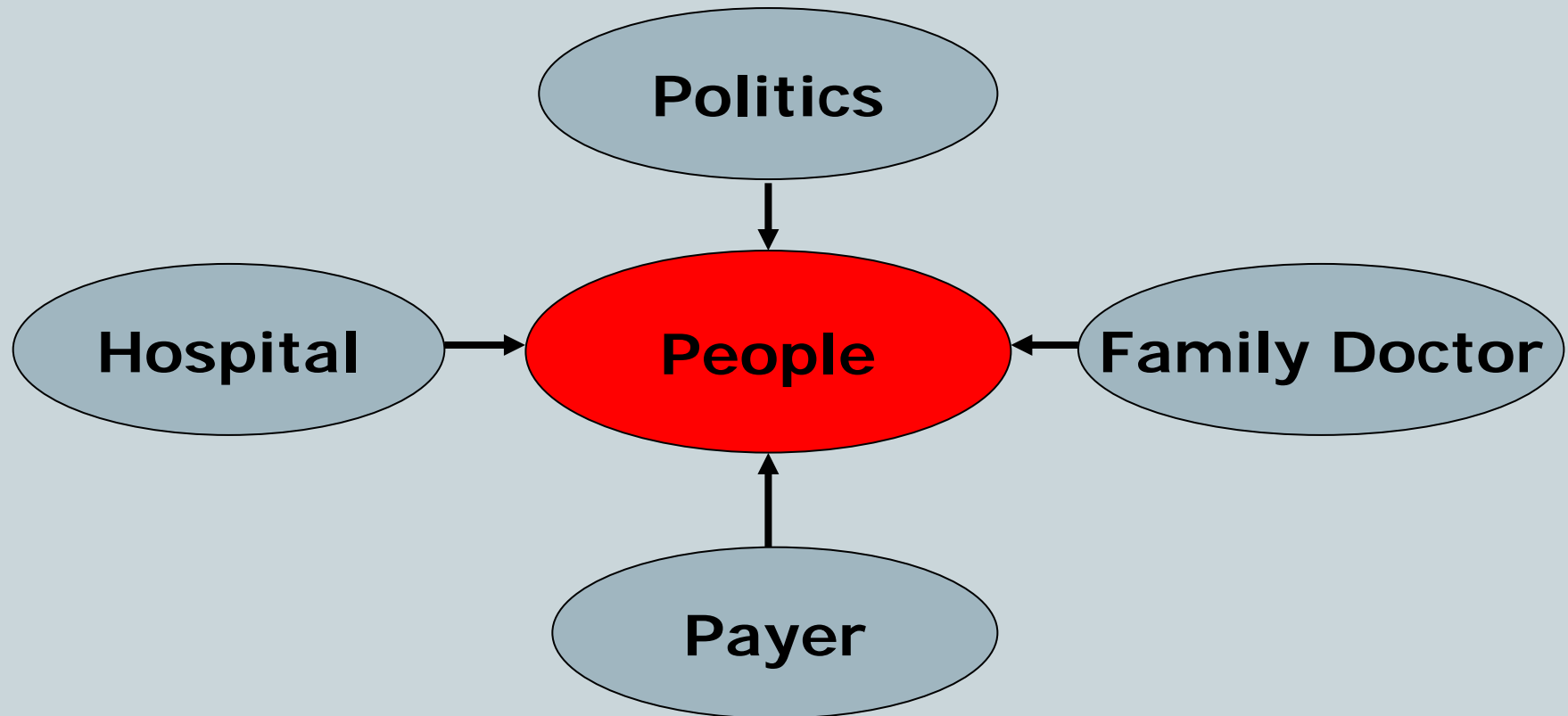
- Hospital stays / year / Pt.
- Length of stay
- Emergency cases
- Hospital stays >3/ year / Pt.-81
- Discharge to admission

- Hospital costs
- Intensive care costs
- Medication costs



Whose vital interest is it to keep people healthy?

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Who receives incentives if people are kept healthy?

An integrated approach is necessary

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- Care institutions, providers and payers have to make a joint effort to keep their clients healthy
- Clinical pathways have to be defined and followed
- Transparency of care and quality measurements have to be established
- Only a competitive healthcare market serves the needs of people

First Examples

- Integrated care models in Germany and Switzerland
 - Payers and providers are negotiating care contracts
 - Capitation payment possible
 - Possibility that also providers take part of the morbidity risk

- Kaiser Permanente (KP) in the US
 - Payers and providers belong to the same organization
 - Up front payment of providers instead of fee for service

First Results (1)

- KP, being a nonprofit organization, is the largest managed care organization in the US
- KP clients have a 30% lower probability to die on cardiovascular disease than the rest of US citizen
- KP clients are therefore the only one in the world that most probably die on cancer than on cardiovascular disease
- KP is investing 5 % of their annual turn around into healthcare IT

First Results (2)

KP in Northern California

- Breast cancer screening: 79%
- Chlamydia screening in women age 16-25: 64%
- Childhood immunizations: 86%
- Controlling high blood pressure: 76%
- Persistence of beta-blocker treatment after heart attack: 85%
- Comprehensive diabetes care, LDL-C screening: 95%

Recommendations

Consider the comprehensive care process

Focus on early detection and prevention

Give priority to keep people healthy rather than to cure them, when they are ill

Reimburse continuous processes rather than fee for service

Link the interest of care providers and payer to keep people healthy

Help patients learn to manage their own illness



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