

# Assisting technologies from an economic perspective

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# Introduction

- When talking about "assisting systems", everybody has had experience of them using a car. The number of help, comfort and safety assistants is amazing. The possibilities include opening the doors and switching on the lights from a distance, giving warnings about unlocked safety belts and locked hand brakes, starting the windshield wipers when the first drops of rain are falling, taking over the braking procedure when the ground is slippery, opening the airbags when a crash is happening – and, if it is a more expensive car, even calling for emergency help automatically, sending the GPS data locating the accident. Automatic parking procedures are about to go into production. Even a middle-class car is provided with at least 70 processors and 3 km of cable, weighing approx. 65-70 kg altogether.

The results of all these types of assistance can be seen: the number of accidents, of insured people involved in accidents, and of people killed in accidents is decreasing, at least in Germany. Here accidents in households now claim more lives (6361 in 2007) than car accidents (5011 in 2007, 4467 in 2008). And 80% of the persons affected in households were over 65 years old. [\[1\]](#)

- [\[1\]](#) Stat. Bundesamt 2008

# A new Understanding of healthcare – towards an open healthcare society

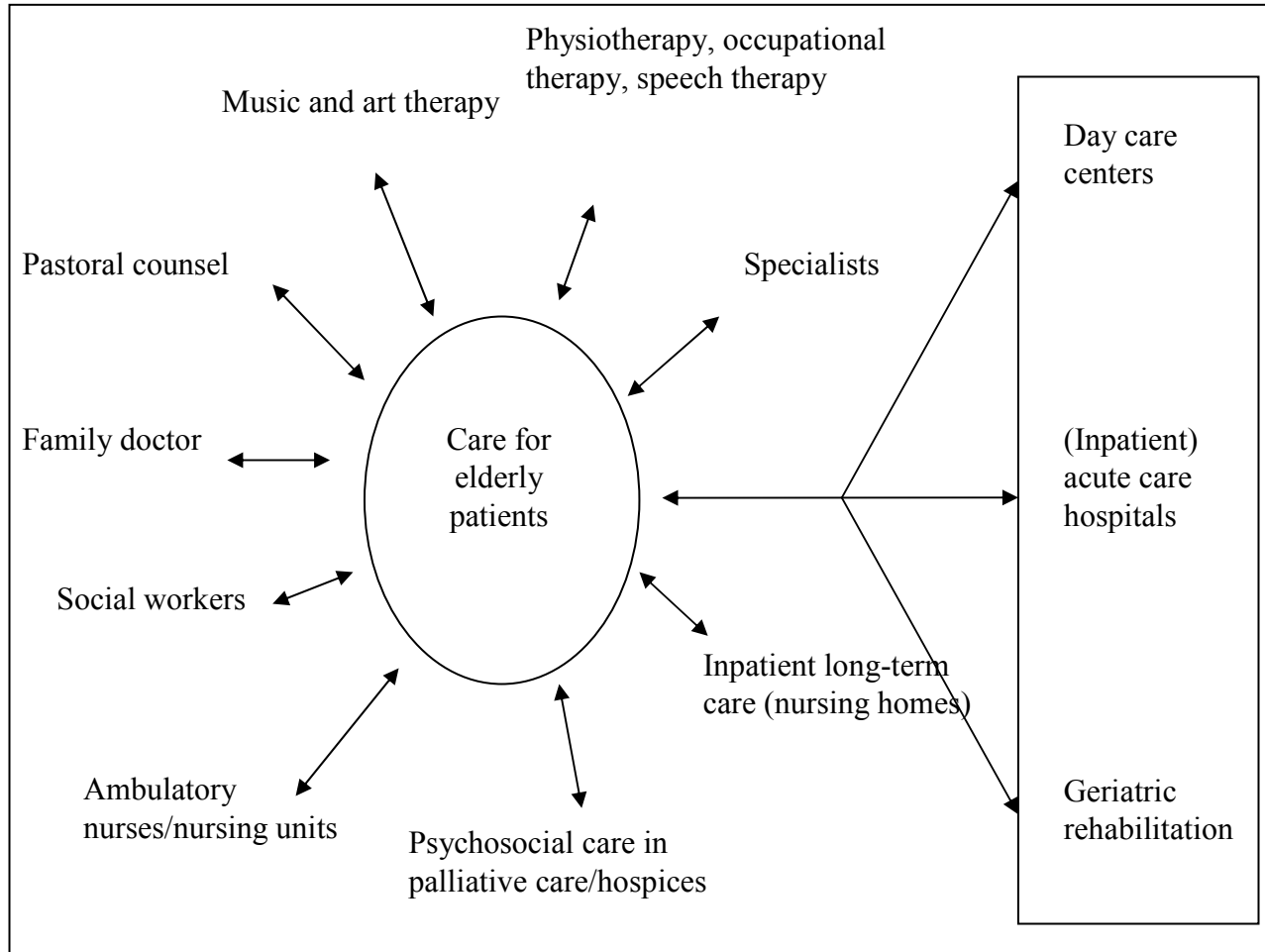
Instead of healthcare	→ Health economy
Instead of mainly state financing	→ New financing methods
Instead of input orientation	→ Result orientation
Instead of cost factor	→ Growth market/ new career opportunities
Instead of health consumption	→ Investments in health
Instead of a separate health sector	→ Health in all areas of life
<b>OLD UNDERSTANDING</b>	<b>NEW UNDERSTANDING</b>

Source: compiled by the authors

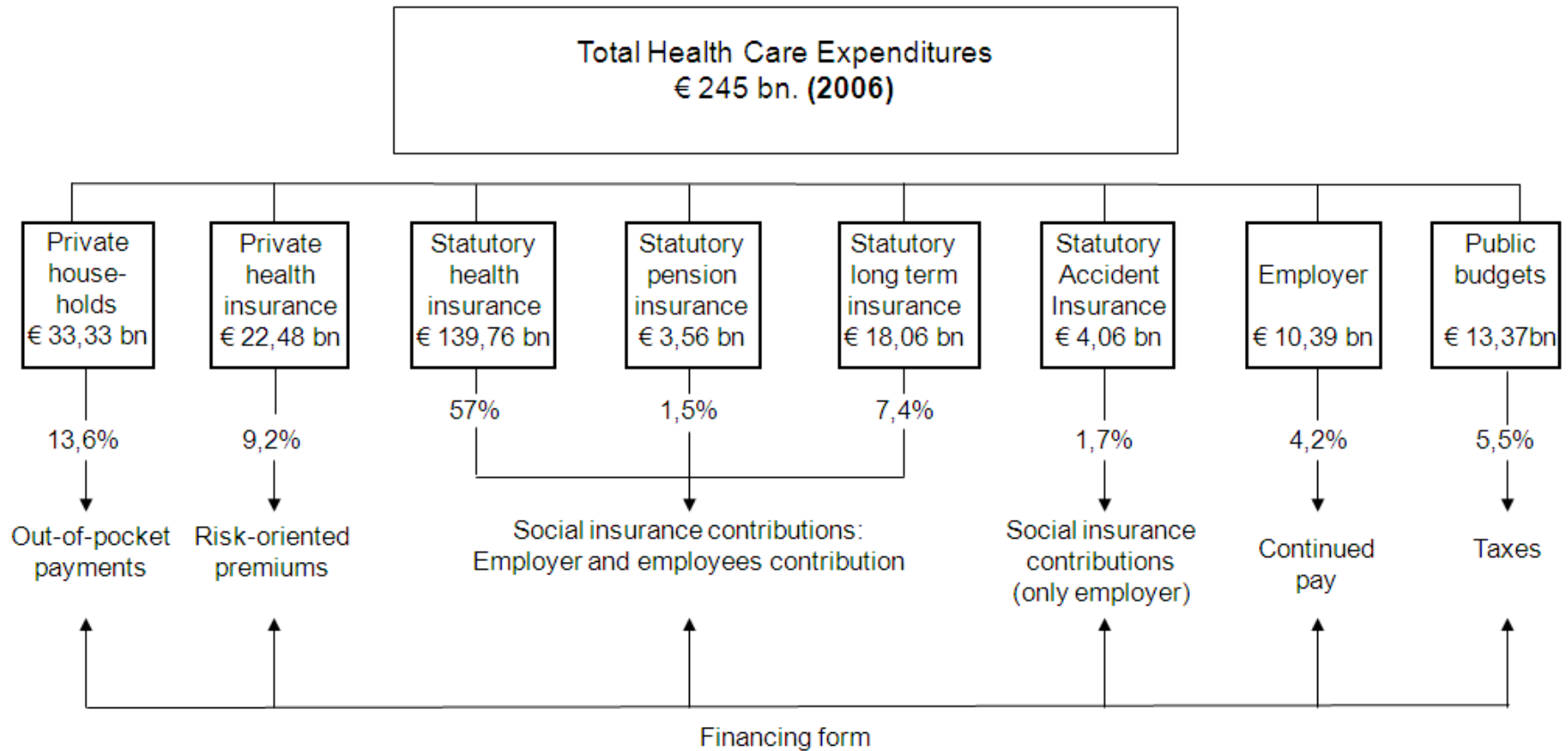
## ■ The overall objective of AAL

- Healthy aging as a growth determinant
- Avoidable mortality
- Avoidable morbidity
- Rehabilitation comes first, Nursing home care of the elderly comes second
- Preserve individual autonomy as long as possible
- More efficient organisation of the service sector (outpatient/ inpatient nursing and medical care)

# ■ Integration of health service providers in health care of the elderly



# Healthcare Expenditures and External Financing



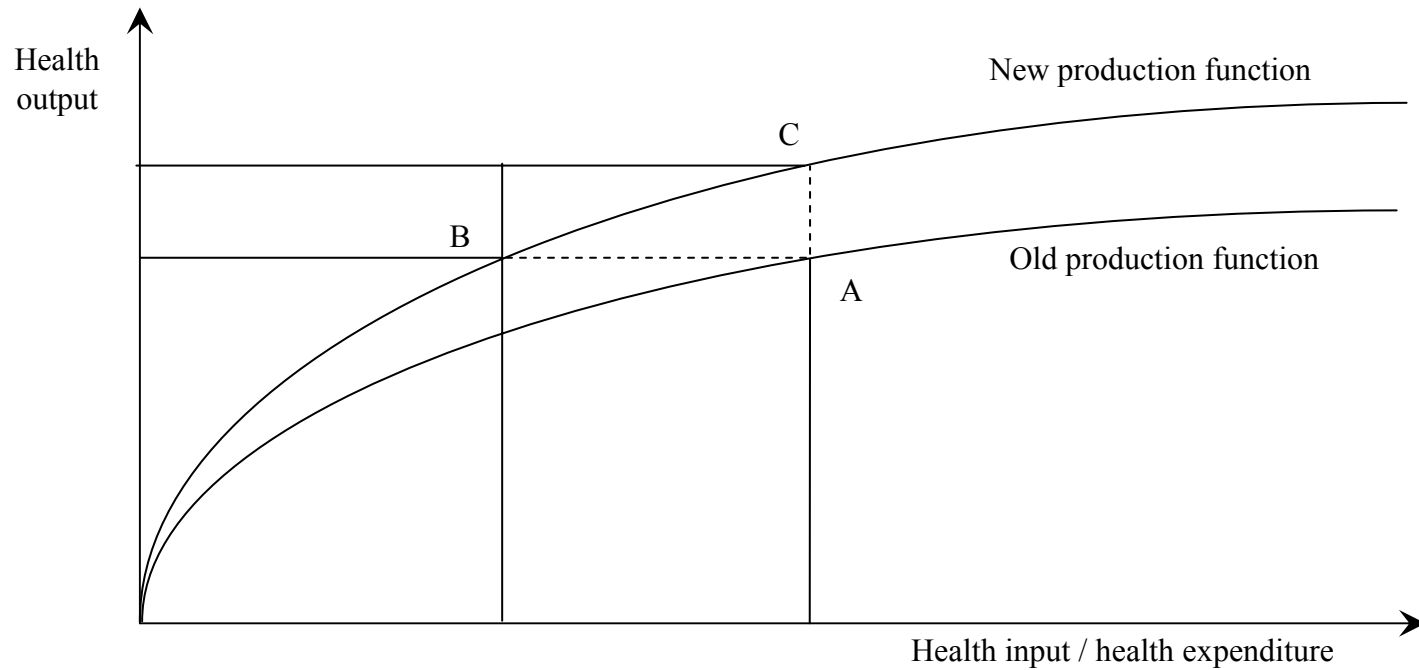
Source: [www.gbe-bund.de](http://www.gbe-bund.de)

# Internal finance of healthcare services

## Internal finance

- In hospitals
- In nursing homes
- In rehabilitation facilities
- For outpatient nursing care and related services
- For office-based doctors
- For dentists
- In pharmacies (Prescription pharmaceuticals, over the counter-market)
- For therapy (physical therapy, ergotherapy, speech therapy)
- For medical aids (visual aids, hearing aids etc.)
- For emergency services
- For ambulance services
- For medical devices

## ■ Self-financing through technological progress and innovation





## ■ AAL: Co-financing the first market?

- Better health (and education) of the population is an investment in human capital.
- A healthier workforce is a more productive one (economically productive life-years).
- These developments lead to a better basis for financing other parts of the economy, too.
- AAL systems keep people away from public services in the traditional sense.
- In addition, new professions in therapy, new study fields and research areas are developing at the same time.

## Perspective

- Imagine homes with smart meters for electricity, water and gas. On the one hand, smart meters can give an exact overview of the consumption of residents. They can visualize the consumption on a daily basis, from one week to another, from weekends to weekdays etc., thus increasing awareness. On the other hand, they can easily be used to determine that an elderly person used water, electricity etc. late at night but not again the next morning. Detecting irregularities and/or a failure to use gas, water and electricity supplies can help to reveal an emerging illness.

Of course, nobody should know absolutely everything about a resident's daily routine - but the home itself could know and learn and self-configure. The home could - in suspicious circumstances - send information. A sudden increase in wakeups during the night could, maybe, cause a traffic light signal to switch to amber; no life signs at all would switch it to red. Then somebody could start to care