



How to assess the economic cost of pain in Denmark

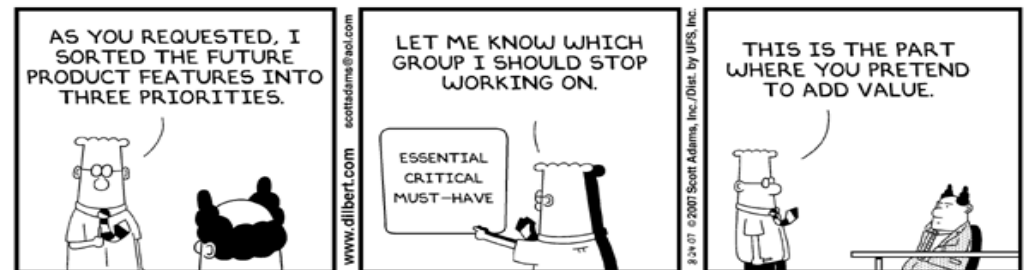
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Outline for this presentation

- Health Technology Assessment (HTA) in Denmark
 - The concept of HTA
 - Different types of HTA's
- Use of HTA in policy-making
- Two HTA-cases concerning pain treatment
 - Pain School
 - Postoperative pain treatment after foot surgery

A need for professional prioritizing!

- Still more – and often expensive – technologies are introduced in the health sector
- The health sector consists of complex, professional challenges functioning under resource constraints
 - Read: production under budget limitations
- The result is an increasing need for quality development and costs effectiveness



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The understanding of HTA... (1/3)

- HTA is a scientifically based tool as input for decision making in the health sector
 - HTA is a comprehensive, systematic assessment of the preconditions for and the consequences of using a health technology
- The predominant role of HTA in Denmark is to support decision-making for public authorities in the health sector, e.g.
 - Quality development and efficient use of resources
 - Smarter use of existing technologies
 - Introduction of new technologies

The understanding of HTA... (2/3)

- HTA is a systematic, research-based approach to analyse specific technologies
- A systematic, broad analysis...
 - Technology
 - Organisation
 - Patient
 - Economy
- HTA is based on several scientific disciplines: health science, social science, natural science and the humanities
 - Both a quantitative and qualitative approach

The understanding of HTA... (3/3)

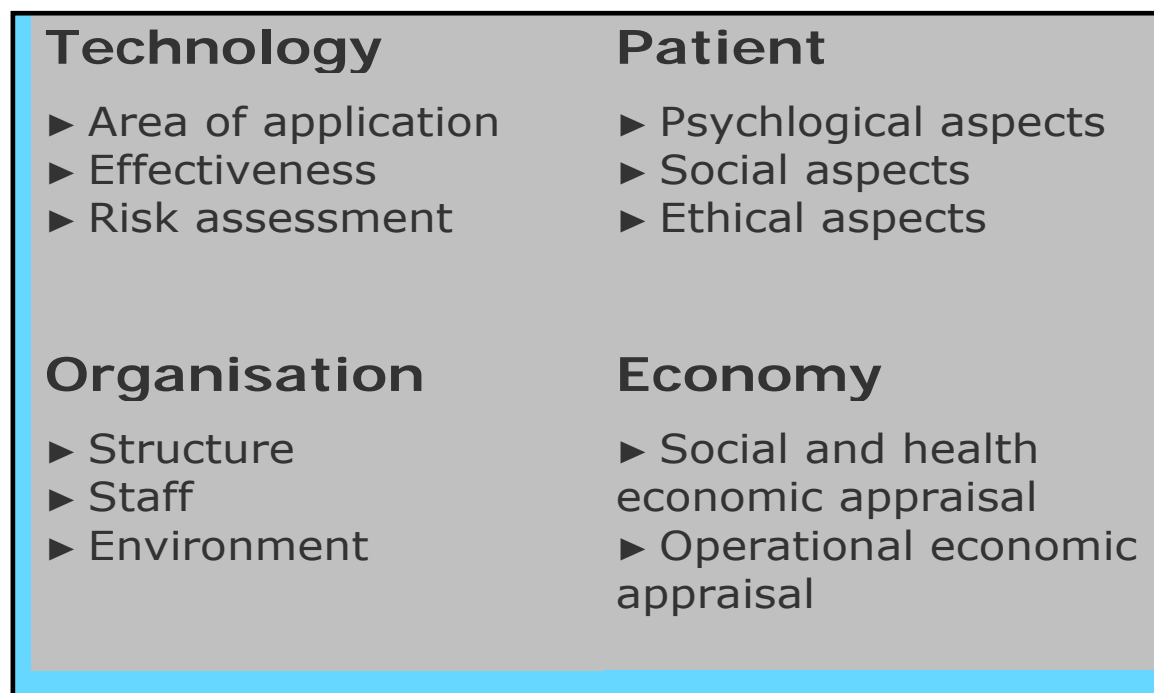
- Generally not all new technologies are assessed before implementation – HTA is not a legislative demand in Denmark
- As part of the administrative process the principles of HTA is used – sometimes in a more narrow and fractional sense
- Politically or administratively it can be decided to demand an actual – full – HTA as input for decision-making

What is a technology?

- Broad understanding of technologies
 - Procedures
 - Methods of prevention
 - Diagnostics
 - Treatment
 - Care
 - Rehabilitation
 - Equipment and medical drugs
- Social technologies
- Organisational technologies

The Danish HTA-model (the '4 boxes')

- Danish HTA's are broad analysis of preconditions for and consequences of a given technology...



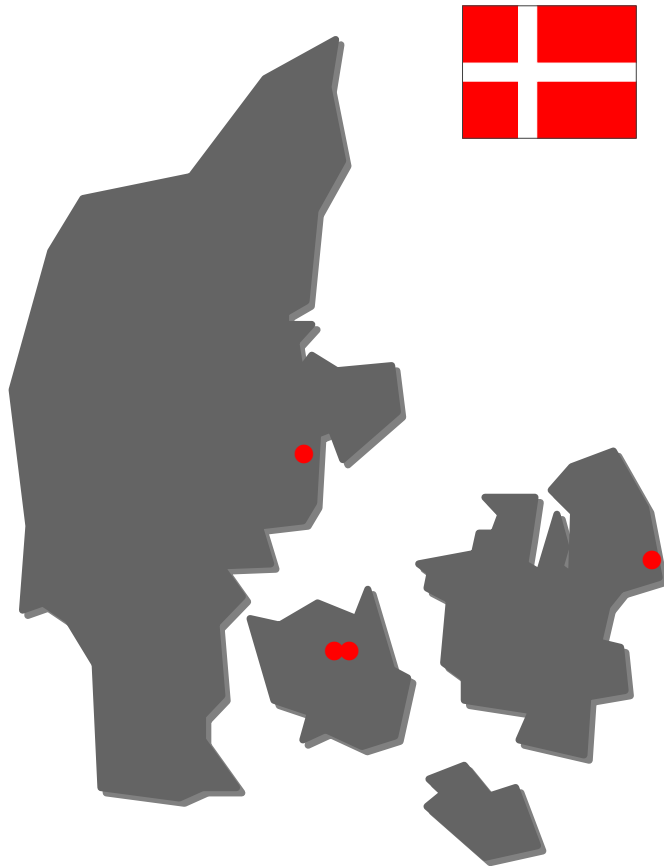
National Strategy for HTA

- The Danish minister of health released a new national strategy for HTA in December 2008
 - Replaces the first national HTA strategy from 1996

Six elements:

1. HTA will be incorporated into planning and operational policy at all levels in the health sector
2. Overview over and prioritisation and coordination of HTA-activities will be ensured
3. Utilisation of HTA-results will be promoted
4. Use of foreign HTA-results will be strengthened
5. The research base for HTA will be consolidated
6. The strategy will be evaluated

Organisation of HTA in Denmark



- DACEHTA is the national centre for HTA in Denmark
- 3 regional/local units
 - HTA & Health Services Research, Aarhus
 - Centre for Applied Health Services Research and Technology Assessment, Odense
 - Research and HTA unit, Odense University Hospital, Odense
- Others involved are universities, research institutions, consultancies & health care professionals

Different types of HTA's in Denmark

- HTA is not 'just' one type of report

Report type	Production time (ca)
HTA (full)	1-2 years
HTA (focused)	1 year
HTA-based analysis	3 months
Commented Foreign HTA	3-6 months
Mini-HTA	1-60 days

Economic evaluations in HTA's

- Economic analyses should help determine how resources find the best possible use in the health sector
- Provide information on necessary resource consumption through the use of health technologies and undertake a comparison with the health gains achieved thereby
- The greatest health gain per monetary unit

Typical types of economic analyses in HTA's

- Cost minimisation analysis (CMA)
 - assess the costs alone under the assumption that the consequences (the health gain) arising are the same from technologies compared
- Cost-effectiveness analysis (CEA)
 - consequences are assessed in natural units, e.g. years of life gained, and compared relatively to the costs of the technologies compared
- Cost-utility analysis (CUA)
 - the consequences are measured and valuated in the form of quality-adjusted life years (QALYs); CUA is a special case of CEA
- Cost-benefit analysis (CBA)
 - both costs and consequences are assessed in monetary units, and any net gain can therefore be calculated directly

Costs and resource consumption

Table 9.2. Types of resource consumption and costs in an economic analysis

Perspective		Type of costs	Resource consumption	
Society	Health care sector	Hospital	Direct costs: - in hospital	Health personnel, medicine, utensils, tests, capital equipment (plant & buildings), in-patient stay(hotel), outpatient visits, overheads (food, lighting, heat, etc.), (research & training)
			Direct costs: - in the primary health care sector	Consultation with general practitioner, practising specialist, physiotherapist, etc., prescription medicine (the Danish National Health Insurance Service's share), public surveys
			Direct costs: - in other sectors	Home care & home nursing, social events, including support for medicine (municipal grants), aids
			Direct costs: - for patient & family	User payment (medicine, dentist), transport, time spent on investigation/treatment, (unpaid) time spent by family or friends in caring for patients
			Production loss/gain in society	Changes in patients' temporary absence through sickness, reduced ability to work due to sickness and disability, or lost production in the case of premature death
			Future costs	Future unrelated costs including health costs generated as a result of a patient's lifetime being extended or shortened

Two HTA cases: pain treatment

- Pain treatment have been analysed by the means of HTA in a number of cases; here two Danish cases:
 1. Pain School (the Multidisciplinary Pain Centre)
 2. Postoperative pain treatment after out-patient foot surgery

Pain school (1/4)

- Cognitive-behavioural group treatment at Herlev University Hospital (called Pain School) to patients with chronic non-malignant pain
- It is estimated that 16-20% of the adult population in Denmark suffer from chronic pain
 - The Pain School aims to help patients accept their chronic pain and consequent loss of functions and to give them adequate tools to achieve a better health related quality of life
 - Should the concept of the Pain School be disseminated to corresponding treatment units and the primary sector

Pain school (2/4)

- Focus is on the effect of the Pain School to patients'
 - health-related quality of life
 - evaluation of the significance of the Pain School
 - utilisation of the health care services during 8 months after their participation in the Pain School
- Costs of intervention and economic costs of the treatment
- Organisational conditions and consequences of carrying through the treatment and its dissemination

Pain school (3/4)

- Direct costs to the Pain School is 1,475 DKK (198 EUR) per patient participating in the treatment
- A cost minimising analysis shows, that the Pain School does not contribute to decrease patients' utilisation of services from the health care system
- A cost benefit analysis shows, that the Pain School represents an economic extra expenditure of 2,381 DKK (318 EUR) per patient all in all
- The economic analysis cannot point to any economic reason why the Pain School should be maintained

Pain school (4/4)

- The results of the HTA point in several directions
- Very uncertain if the treatment form Pain School has an independent effect of patients'
 - health-related quality of life
 - their utilisation of the health care system
- On the other hand, the group treatment maintains the effect of the individual treatment for at least six months
- patients express that the Pain School contributes to a larger extent of understanding and acknowledgement of their chronic pain
- No recommend the Pain School spread to the primary sector, as we have not demonstrated an isolated effect of the Pain School

Postoperative pain treatment (1/4)

- Postoperative pain treatment after out-patient foot surgery
- New analgesic method after ambulatory foot surgery
 - Patients have moderate to severe postoperative pain lasting 3 – 4 days
 - Conventional oral pain killers do not provide sufficient analgesia

Postoperative pain treatment (2/4)

- Until the HTA report, the standard postoperative pain treatment regime for these patients has been a blockade (block method)
- The problem with this regime is that duration of analgesia is too short
- Introduction of a new method, where the effect of the blockade is prolonged by continuous infusion of a local anesthetic using a pump (block + pump)

Postoperative pain treatment (3/4)

- No differences were found as regards the elapsed time before the patients were able to start working nor in the frequency of extra contacts with health services
- The cost-utility analysis demonstrates that the block + pump method has higher cost
- But gives a slightly better quality of life in the first postoperative days, compared to the block method

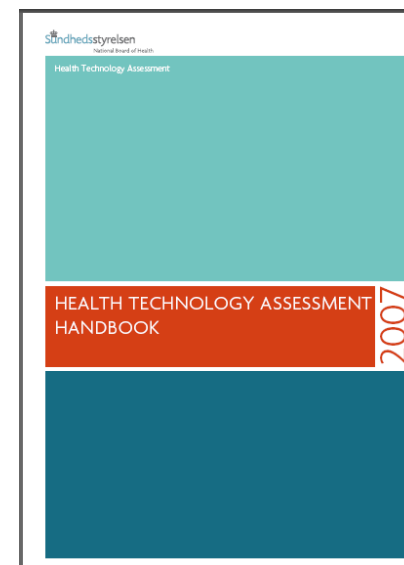
Postoperative pain treatment (4/4)

- Direct and indirect costs, incl. production loss
- No definitive recommendation: better effect, but at a higher cost

(DKK)	Block	Block+pump
Total costs	33,833	34,204
Life quality loss per day (QALD)	0,176	0,124
Incremental cost utility ratio	7,135 per QALD	

HTA methodology

- DACEHTA has published a HTA-handbook to ensure an up-to-date methodological approach to assessment of technologies within health care
<http://www.sst.dk/English/DACEHTA/Toolbox.aspx>
- The handbook illustrates a number of methodological challenges which should be handled to ensure good quality of HTA's



Thank you for your attention!

www.dacehta.dk