

Health Technology Assessment

A brief introduction

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Objective:

to provide an overview of HTA as a multidisciplinary research effort aimed at supporting decision-makers in health care

Health technology

⦿ Definition

- ‘The drugs, devices and medical and surgical procedures used in health care, and the organizational and supportive systems within which care is provided’

(Source: Office of Technology Assessment, 1978)

⦿ Examples of organizational systems

- Primary care, secondary care
- Transmural care, intensive care

⦿ Examples of supportive systems

- The electronic patient record
- Hotel service in hospitals

Health technology

Classification

⌚ Medical purpose

- Diagnostic
- Preventive
- Therapeutic
- Rehabilitative
- Palliative
- Organizational or administrative
- Supportive

⌚ Physical nature

- Drug
- Device
- Procedure

Health technology

Characteristics

- ⊖ Relatively small and discrete
 - E.g. in comparison with military technology, air and space technology, and environmental technology
- ⊖ Highly pervasive
 - Refers to the impossibility to lead out lives without, sooner or later, being confronted with health care technology in matters of life and death

Health technology

Positive aspects

- ⊖ Associated with health benefits
 - Increase of life-expectancy
 - Increase of healthy life-year expectancy
 - Reduction of human suffering

Health technology

Controversial aspects

- ⌚ Technologization of health care
 - E.g. applying a technology where it would have been more appropriate to e.g. provide reassurance by talking to a patient
- ⌚ Medicalization of society
 - Inappropriate translation of societal problems to healthcare problems
- ⌚ Technologies that do not work
 - DES in prevention of complications during pregnancy
 - Gastric freezing in treatment of peptic ulcers

Health technology

Controversial aspects

- ⌚ Overuse of technologies
 - Diagnostic technologies
 - Related to defensive medicine
- ⌚ Ethical aspects of the use of technology
 - E.g. at the beginning and at the end of life
- ⌚ High costs of technology
- ⌚ Equality and equity in access to technology
- ⌚ Evaluation, planning and control of technology

Health (care) technology assessment

Definition

- ⊕ HCTA is the systematic evaluation of the properties and effects of health care technology. The primary purpose of HTA is to provide objective, reliable, and valid information to support health care decisions and policy-making at the local, regional, national and international level (...).

(Source: ISTAHC leaflet, 1995)

- ⊕ HCTA is a multidisciplinary activity which uses analytic frameworks from a variety of methods.

(Source: ISTAHC leaflet, 1995)

Health technology assessment

Establishment

☉ United States

- 1972 U.S. Congress Office of Technology Assessment (OTA)
- 1975 – 1991 Health program at OTA

☉ International

- 1985-2003 International Society for Technology Assessment in Health Care (ISTAHC)
- 2003 – present Health Technology Assessment international
- 1993 – present International Network of Agencies for Health Technology Assessment (INAHTA)

Health technology assessment

Scope

- ⊖ Aspects
 - Safety
 - Efficacy/effectiveness
 - Economic
 - Legal
 - Organizational
 - Ethical
 - Educational
 - Accreditation and certification
- ⊖ Diffusion
 - Adoption
 - Use

HTA and decision-making

To serve as an aid to decision-making, hta should be done in phase with the life-cycle of a technology

- ⌚ Future technology
 - Technology not yet developed
- ⌚ Emerging technology
 - Technology prior to adoption
- ⌚ New technology
 - Technology in the phase of adoption
- ⌚ Accepted technology
 - Technology in widespread use
- ⌚ Obsolete technology
 - Technology that should be taken out of use

HTA and decision-making

New technology

- ⊖ Industry
 - Marketing and promotion
- ⊖ Policy-makers
 - Regulation, legislation, evaluation
- ⊖ Hospitals and providers
 - Purchase and use
- ⊖ Patients
 - Individual healthcare decisions
- ⊖ Insurers
 - Payment

A process or system of HTA

Six steps: 1-3

- ⌚ Identification
 - Monitoring technologies
- ⌚ Priority setting
 - Selecting those technologies most in need of assessment
- ⌚ Testing
 - Conducting the appropriate data collection and analysis

A process or system of HTA

Six steps: 4-6

⌚ Synthesis

- Collecting and interpreting existing information and the result of the testing step and, usually, making recommendations on judgments about appropriate use

⌚ Dissemination

- Providing the synthesized information to the appropriate persons who use or make decisions concerning the use of health care technologies

⌚ Implementation

- Using methods that are intended to turn changes in knowledge and attitudes of decision-makers into changes in behaviour