

Webinar

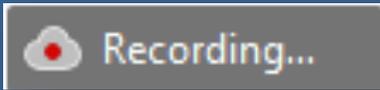
Health Technology Assessment: Historical Ride and Present Story

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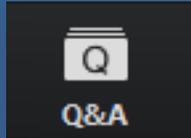
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Health Technology Assessment: Historical ride and Present story

Egon Jonsson PhD

Professor University of Alberta, Canada

HTA Expert/Advisor, ConnectHEOR

A review of some notable discoveries and technologies in medicine in the 1800s

1695



Microscope

(Van Leeuwenhoek, et al)

1816



Stethoscope

(Laennec)

1850



Ophthalmoscope

(Von Holst)

1856



Thermometer

(Fahrenheit/Celsius, et.al)

1796



Vaccine

(Jenner, Pasteur, Behring et.al)

1840



Spirometer

(Hutchinson)

1858



The Cell

(Virchow)

1895



X-Ray

(Roentgen)

An early indication of the need of safety in healthcare (from 1663)

The first known documented effort to protect patients from more harm than good might be the following from 350 years ago when the Swedish Collegium Medicorum was established to:

1. Distinguish quackery from medicine
2. Control the trade of poisonous drugs
3. Banish all swindlers who “grease people with their fake, fraudulent and harmful medicaments”

The establishment of OTA

The US Congressional Office of Technology Assessment (OTA) was established in 1972 to support the Congress with assessments suitable for policy making in, for example, the following areas:

- ❑ Space technologies
- ❑ Transportation
- ❑ Agricultural technologies
- ❑ Antiballistic technologies
- ❑ Ocean technologies
- ❑ Climate technologies
- ❑ Supersonic technologies
- ❑ Environmental technologies

Health Technologies
were added to the
program in 1974

Definition of HTA

Technology means “applied science”.

Health Technology Assessment evaluates the medical, social, ethical, legal, organizational, and economic implications of technology, including drugs, devices, medical and surgical procedures.

HTA is a multidisciplinary form of scientific research to synthesize evidence for the support of health policy and practice.

To answer to policy-makers, the research community came up with a structured approach including 4 critical parameters



Safety

The risk of the technology known



Efficacy

Is the technology doing what it is supposed to do?



Effectiveness

How does it impact patient health?



Cost-effectiveness

Cost related to health outcomes

Historical events which supported the establishing Health Technology Assessment

Horrific treatments in
history

Historical events which supported the establishing Health Technology Assessment

Horrific Treatments in History

The Thalidomide Scandal which led to new regulations on the marketing and sales of pharmaceuticals.



Historical events which supported the establishing Health Technology Assessment

Horrific Treatments in History

Lobotomy



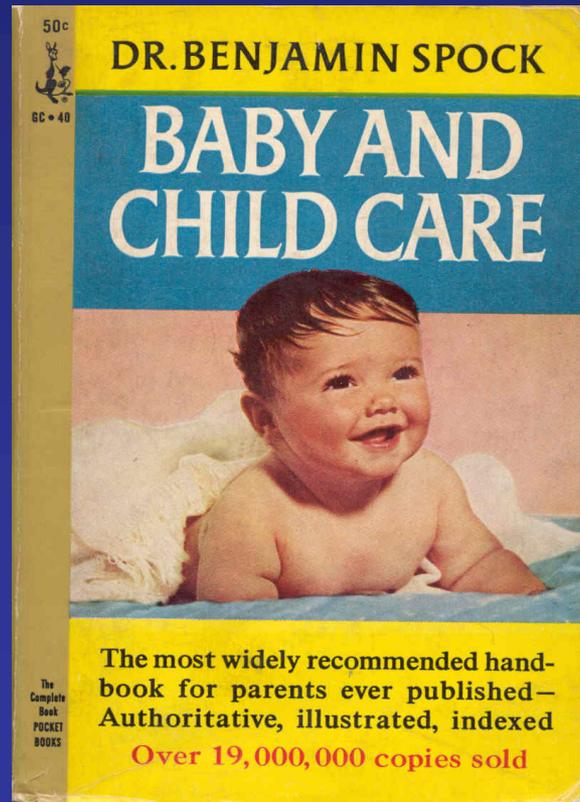
Historical events which supported the establishing Health Technology Assessment

Horrorific treatments in history

Opinion based medicine

Historical events which supported the establishing Health Technology Assessment

Opinion Based Medicine (Eventually replaced by Evidence based medicine)



Historical events which supported the establishing Health Technology Assessment

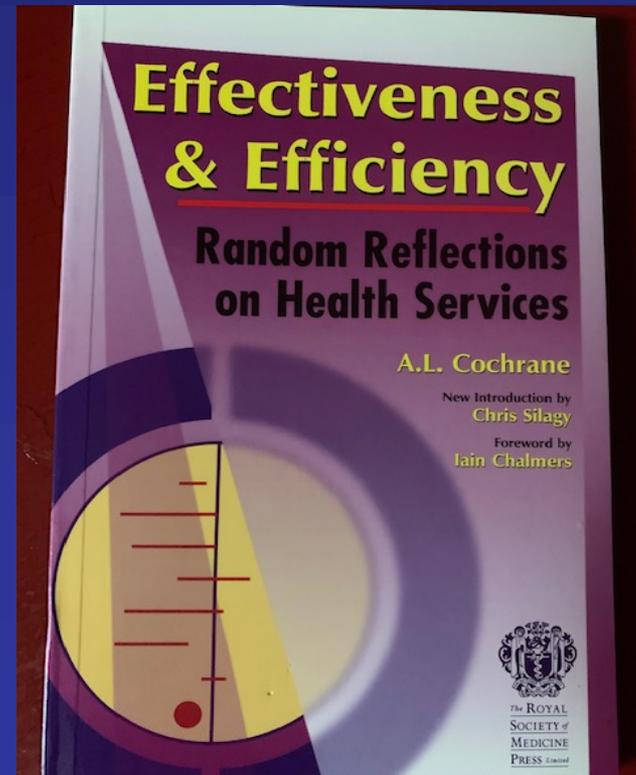
Horrorific treatments in history

Opinion based medicine

The landmark publication of Archie Cochranes “Effectiveness and Efficiency in the Health Services”

Historical events which supported the establishing Health Technology Assessment

Cochrane collaboration and Cochrane Library by Archie Cochrane



Historical events which brought up the interest for establishing Health Technology Assessment

Horrorific treatments in history

Opinion based medicine

The publication of Archie Cochranes landmark “Effectiveness and Efficiency in the Health Services”

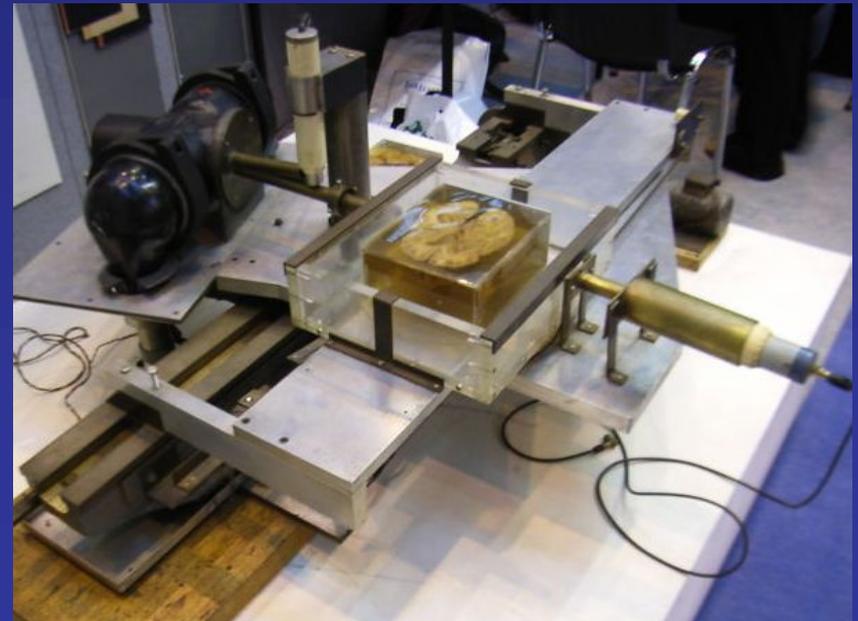
The introduction of a stunning technology developed by EMI in the UK

Historical events which increased the interest in establishing Health Technology Assessment

In 1972 the company EMI in the UK invited a large group of researchers and high level policymakers to the launch of a new and stunning, indeed disrupting health technology

The news got attention from health community globally.

For the first time policymakers turned to the researchers - not only in medicine, but also in epidemiology, health economics and ethics and asked for help to assess the technology in a broad policy perspective



Poll: Which health technology is this?

The journey of HTA

The CT scanner and Cochrane



The CT scanner and Cochrane marks
the very beginning of HTA in 1974

Policy decision makers demanded:

- ❑ A synthesis of what are the medical, ethical, organizational, social, and economic implications of this technology.
- ❑ Along with a thorough comparison of the alternatives.



The development of agencies in HTA

The program at OTA inspired many researchers in Europe.

The first agency outside the US was established in Sweden in the 1980s followed by 14 more agencies in Europe within a period of about 10 years.



Sweden(1)



Spain(5)



France(2)



Holland(1)



Poland(1)



Finland(1)



Norway(1)



UK(1)(NICE)



Germany(1)



Scotland(1)

The development of agencies in HTA

Eventually agencies were established in



Canada(3)



Australia(2)



S. America(5)



Malaysia(1)



Thailand(1)



S. Korea(1)

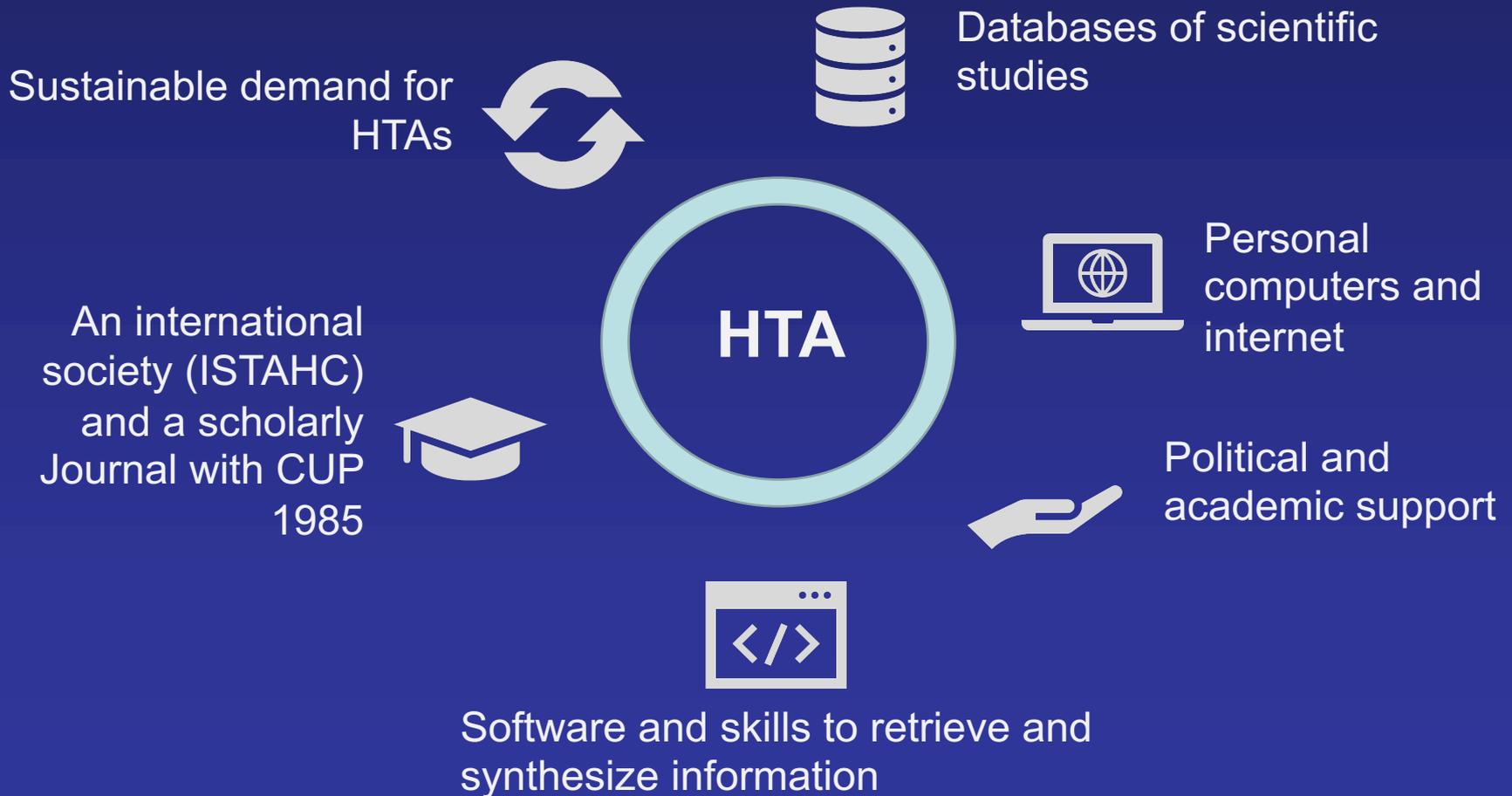


S. Africa(1)



China(2+)

Some other developments of importance which synergized HTA

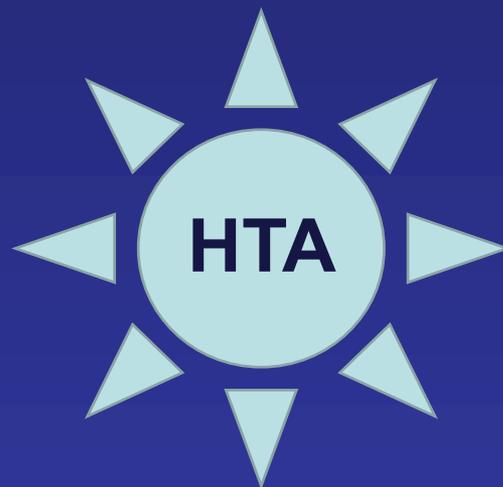
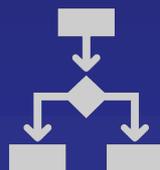


The use of the findings from HTAs



A basis for innovations in health services

Assist in health policy decision making



Reimbursement decisions

Controlling the diffusion and use of technology



Development of guidelines

Health Evidence Network

HEN

World Health Organization
(Question Answers)

Examples of questions to the HEN disease specific issues



What are the most effective diagnostic and therapeutic strategies for the management of depression in specialist care?



What are the effectiveness and cost-effectiveness of home compared with hospital or satellite unit haemodialysis for people with end-stage renal failure?



How effective are different types of day care services for people with severe mental disorders?

Examples of one-page summaries of partners reports



Are bigger hospitals better?



What is the nature of hospital accreditation?



What part does voluntary insurance play in health care?



Are routine dental checks useful?



Which are the best strategies in treating dementia?

Examples of short answers



What is the efficacy/effectiveness of antenatal care?



Antenatal care is necessary but should be kept at a simplified level



What are the main risk factors for disability in old age and how can disability be prevented?



Encourage the elderly to exercise

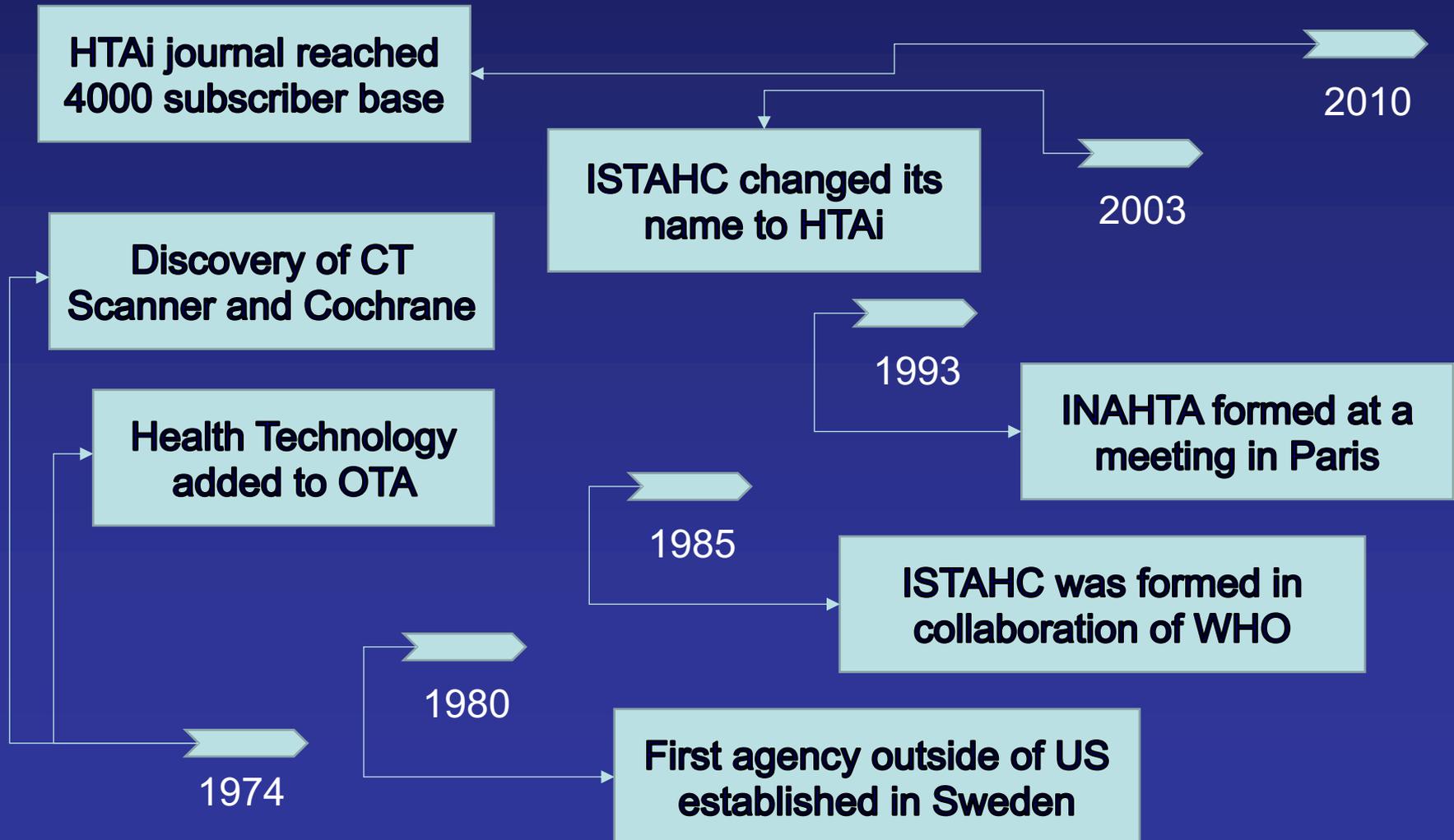


Which are the most effective and cost-effective interventions for tobacco control?



Permanent price increases and bans on advertising

A timeline summary of events in the journey of formation of HTA



Present state of HTA



HTA is based on findings from scientific studies on the safety, efficacy, effectiveness and cost-effectiveness of **both new and established technologies in health care**



HTA has a strong political support in those countries where it is established and is known for providing syntheses of findings from research useful in health policy making and health practice.



HTAs are produced and **used by - Governments, Academia and Industry.**

Some progress in using **Artificial Intelligence** in HTAs.

Present state of HTA

There are currently **52** agencies in more than **30** countries who are members of INAHTA.

There are an estimated **15** more agencies in HTA.

Together with researchers working on HTAs in universities, industry, and in the consulting sector there are an estimated **5,000-10,000** researchers in this field.

What are the 10 most important issues to address in an HTA?

1. What are the benefits to the patients of a new or already established technology in healthcare?
2. What are the alternatives to the investment?
3. What are the broader economic, social and equity implications of the investment?
4. Is the investment affordable and cost-effective?
5. Is management and clinical skill available for appropriate use and development of the technology?

What are the 10 most important issues to address in an HTA?

6. Is the technology safe, effective and cost-effective?
7. Are training and maintenance secured?
8. What are the potential social, and equity implications of the diffusion of the technology?
9. Will the indication for use of the technology expand?
10. What are the impacts of the technology on access, to health services, fees, waiting times, and insurance issues.



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Discussion.



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