HEALTH TECHNOLOGY ASSESSMENT

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Health Technology

The drugs, devices, and medical and surgical procedures used in health care
Types of Technology

- Drugs and biologics
- Equipment and machines
- Physical techniques
- Procedures (usually a combination of technologies)
- Systems
Purpose of Health Technology

- Prevention and health promotion
- Screening
- Diagnosis
- Treatment
- Rehabilitation
- Supportive care
Life Cycle of Diesthylstilbestrol (DES)

• 1939 - synthesis of DES
• 1940s - studies of DES in pregnancy showing possible benefit, followed by increasing use
• 1950s - randomized trials showing no benefit
• 1970 - vaginal carcinoma reported in DES daughters
Development of Electronic Fetal Monitoring (EFM)

- 1793 – fetal pulse reported
- 1921 – auscultation of fetal heart
- 1893 – criteria for fetal distress
- 1900s – auscultation standard practice
- 1961 – fetal blood sampling
- 1972 - commercial EFM
- 1976 – first RCT published
- 1979 – EFM standard practice in USA
- 1979 – NIH Consensus Report
- 1980s – Multiple RCTs
- 1990s – reassessments and new reports (continued spread)
Technology Assessment

- A comprehensive form of policy research to examine short- and long-term consequences of the application or use of technology

- Health technology assessment is concerned with a broad range of effects. It is particularly concerned with efficacy (benefits), safety and costs
Health Technology Assessment

- Technical safety and efficacy
- Clinical safety
- Clinical efficacy/effectiveness
- Costs and cost-effectiveness
- Organizational implications
- Ethical, legal, social, cultural implications
Process of Health Technology Assessment

- Identification and priority-setting
- Literature search and synthesis
- Original data collection
- Final synthesis and conclusions (and perhaps recommendations)
- Dissemination and implementation
- Evaluation and feedback
Functions of a National HTA Program

- Continuous monitoring of health status, health policy, and health technology
- Interactions with policymakers
- Carrying out assessment of important technologies
- Suggest changes in policy (coverage?)
- Evaluate results, feedback
Establishment of HTA as an Important Policy Tool

- 1975 - US Congressional Office of Technology Assessment (Health Program)
- 1987 - Swedish Council for HTA (SBU)
- 1990s - Spread throughout Europe
- 1990s into 2000+ - Acceptance by international organizations
- 2003 - Incorporation of HTA as an important tool in European Union health policy
Relations between health policies and evidence

- Evidence often points out the need for changing policy
- Much policy implementation can be improved by use of evidence
- Some policies depend on use of evidence
- Growing links between evidence and payment
- Links between quality assurance and evidence
Important Health Policies

- Public health policies
- Policies toward evidence
- National pharmaceutical policy (including regulation for efficacy and safety)
- Equipment policy
- Policies toward payment
- Quality assurance
- Information and educational strategies
Relation of HTA and Pharmaceutical Regulation

• Decades of experience - HTA essential to effective regulation for efficacy and safety

• Pharmaceutical regulation a relatively complete system of assessment and policymaking - but many issues such as indications of use not dealt with

• Trend toward regulation on basis of cost-effectiveness
Pharmaceutical Regulation and Coverage

• In the European Union, pharmaceutical regulation is centralized (EMEA)
• Before 1989, European countries depended on regulation to control pharmaceuticals - that is not possible in centralized situation
• Interest has shifted to pharmaceutical coverage
• Restricting drugs by coverage decisions is entirely legal
HTA and Coverage of Pharmaceuticals

• The European Court has found that limiting coverage of pharmaceuticals is legal as long as the procedures are transparent, objective and verifiable
• HTA is the means of meeting these requirements
• Movement towards cost-effectiveness - pharmacoconomics
Western European Countries with a Positive List for Drugs (partial list)

- Austria
- Belgium
- Finland
- France
- Greece
- Italy
- Portugal
- Netherlands
- Switzerland
- Sweden
Potential Roles for HTA in Pharmaceutical Coverage in Europe

- Regulation of market entry
- Definition of covered list and formulations
- Positive and negative lists
- Pricing
Examination of the Drug List in One Non-EU European Country

- List not based on priority decisions to assure coverage of essential medications
- Essential drugs not necessarily covered or fully covered
- Many unproven drugs covered - including very expensive new drugs
- A number of obsolete drugs covered
- Basis for coverage decisions not transparent
Control of numbers and placement of facilities and technology

- Government authority necessary
- Decisions often highly political
- Evidence should play a part in the process
- Positive approach – attempts to solve health problems of population
- Negative approach – limit investments for purposes of cost-containment – reduce hospital beds, control expensive machines
Relations between payment and evidence

- Every system characterized by incentives and disincentives at every level – must be analyzed
- Rising expenditures related to technological change
- Rising expenditures can be controlled by prospective fixed budgets
- Fixed budgets do not assure cost-effectiveness
Health insurance coverage and evidence

- Health systems generally provide a defined package of benefits
- Traditionally, the package has been defined by medical doctors
- Growing trend, especially in Western Europe, to define benefits through a process of using evidence
- New technology is not admitted until known to be effective (and perhaps cost-effective)
- Old technology removed from the package based on effectiveness and cost-effectiveness
Coverage and HTA

- Health care systems generally provide a defined package of benefits
- Traditionally, the package was defined by medical doctors - growing dissatisfaction
- Trend to define package through a process of HTA
- New technology not added to the package until proven, old technology removed when shown to be ineffective or too expensive
Quality improvement

The objective of quality improvement activities is to “improve the outcome of all health care in terms of health, functional ability, patient well-being and consumer satisfaction.”

WHO, 1988
Quality improvement

- Definitions not clear or accepted – WHO now emphasizes health outcomes
- Wide range of activities – routine statistics, audits, licensing, accreditation, certification, guidelines, information dissemination
- Defining improved health outcomes requires evidence – do these activities improve health outcome?
Dissemination and implementation

- Much public health practice is not based on evidence
- Formal policies only control a relatively small part of the system
- Dissemination of evidence is important, but only has a moderate impact on behavior
- Implementation gaining increased attention
Clinical guidelines and HTA

- Details of search for evidence
- Description of how recommendations developed
- Guidelines should consider health outcomes
- Explicit link between recommendations and evidence on which based
- External review before publication
Challenges in Eastern and Central Europe

- Political instability
- Lack of knowledge of HTA in general
- Lack of commitment of policy makers
- No tradition of use of evidence in policy making (ideology)
- Lack of leadership and expertise in HTA
Some countries that have made a beginning

- Latvia - a national center for HTA
- Lithuania - efforts to develop a critical mass of experts, programs in medical centers
- Poland - many conferences and courses
- Hungary - strong interest in health insurance
- Most countries still at stage where knowledge of existence of HTA needed
Some remaining challenges

- Overuse, inappropriate use, and underuse remain frequent
- Issues of efficacy/safety
- Issues of cost-effectiveness and choice
- HTA and evidence-based health care need to spread to every country - an integral part of modern health care