

HEALTH TECHNOLOGY ASSESSMENT: PERSPECTIVE FOR ARAB COUNTRIES

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“ All the cutting edge of science and technology is valuable only when it results in the alleviation of human suffering and the over all enhancement of life”

ANON

What is Health Technology?

Universally Accepted Definition:

Health Technology



Designed to:

- Improve Health
- Prevent, Diagnose and treat
- Rehabilitation and long term treatment

Includes:

- Drugs, Vaccines, and blood products
- Medical devices
- Medical, surgical & therapeutic procedures
- And Knowledge associated with these such as systems, IT etc.

“It’s the application of Organized knowledge and skills in the form of devices, medicines, vaccines , procedures and systems developed to solve a health problem and improve quality of life”

WHO

HTA Covers all of the above including systems etc.

Health Technology Assessment (HTA)

- “A multidisciplinary field of policy analysis for **improving the evidence based in the Healthcare System**. It studies, the medical, ethical and economic implication of development, diffusion and use of health Technologies”

Healthcare cost, quality and outcome ...ISPOR book of terms, 2003

- **The careful evaluation of a medical technology for evidence of its safety, efficacy, cost, cost-effectiveness and ethical and legal implications.....**

Structured way how to use and apply scarce resources ..

What is Evidence Based ?

□ “The consciences, explicit and judicious **use of current best evidence in making decisions** about care of individual patients”

David Sackett..2003

□ “the systematic application of the best available evidence to the evaluation of options and to decision making in clinical, management, and policy settings.

Randall ..2004

Evidence based: EBM, ECPOE, EBAM, CPGs ,HTA

Health care professionals:

1. Need to stay up-to-date
2. Well informed of related research
3. Keep up with advances in there field
4. Keep updated with HTA tools

Why HTA is necessary?

- Visibility of emerging Technologies
- High expenditure for Healthcare
- To rationalize and optimize healthcare
- The need for ethical information
- Expert opinion for healthcare decision makers
- Not to be dependant only on Suppliers

To improve healthcare delivery services

Why HTA is important ?

- Technology accounts for more than 60% of healthcare cost with lots of waste!
- 50% of all diagnostics and treatment methods used today did not exist 10 year ago, How many are very necessary?
- There are more than 490,000 medical devices and more than 20,000 drugs
- More than two millions article available annually, review reliable findings..

Benefits of HTA

- To facilitate **evidence-based decision making**, which in turn improves the quality and cost-effectiveness of healthcare. Acquiring new and innovative technology, medical question etc.
- Provide healthcare managers with information on **technology alternatives, advisor to government regulatory, health Insurance etc.** Even for clinicians and patients.
- It evaluates the **clinical effectiveness , cost effectiveness** and **impact of health technologies and their use.**
- Coordinate the development of **clinical guidelines and pathways** and their implementation
- **Training** on evidence based policy and decision making for healthcare providers, **capacity building**
- **CON** for big ticket Medical devices

Medical Devices

- 2003 Research estimated at \$220 Billions a year
- Estimated updated may reach \$350 Billion a year 2015

☐ USA	40%
☐ EU	30%
☐ Japan	15%
☐ Rest of the world	15%

Source: Eucomed

Medical devices' HTA / Regulation

<i>Function</i>	<i>FDA/CE</i>	<i>HTA</i>
Main focus	Safety, performance, quality	Clinical and cost affectivity Robust data/ more evidence
Other focus	Pre marketing, on market, post market	Social and legal
Timing of approval	Premarketing approval	Throughout life cycle
Care taker	Government	Government and or Private
Outcome	Mandatory/ regulation	Recommendation, guidelines, reference etc.
Data/ Evidence	Limited	Robust, practical

Examples of HTA for Medical devices

- ✓ Hyperbaric oxygen therapy for the treatment of diabetic leg ulcers
- ✓ Cost and outcome of chiropractics treatment for low back pain
- ✓ Liquid based techniques for cervical cancer screening
- ✓ 3 Tesla or more verses 1.5 tesla MRI in an institution
- ✓ Multi-Slices CTs 256 and 320 detectors and beyond
- ✓ The use of Robotic in Surgical procedures
- ✓ Reprocessing single use Medical Devices
- ✓ E-Health ; EMR, E-Physician, E-Pathology, E-Robotic, etc
- ✓ Others...

Examples of HTA in Medical Practice

- ✓ Spinal cord stimulation for relief of neuropathic nerve
- ✓ Transcranial magnetic stimulation for major depression
- ✓ Pneumatic Compression for Prevention of Deep Vein Thrombosis
- ✓ Liquid based techniques for cervical cancer screening
- ✓ Blockchain technologies
- ✓ Artificial Intelligence devices
- ✓ Remote autonomous monitoring devices
- ✓ Brachytherapy for Breast Cancer
- ✓ Positron Emission Tomography (PET) for Alzheimer's Disease
- ✓ Continuous Glucose Monitoring Systems
- ✓ Pneumatic Compression for Prevention of Deep Vein Thrombosis
- ✓ Occupational Therapy for Attention-Deficit/Hyperactivity Disorder (ADHD)

HTA World-Wide

- **1972** : HTA started in the US with OTA, **now** there are more than 55 HTA agencies, among them Blue cross blue shield, ECRI, NIH Hayes and many others
- **1980s**: HTA in UK
- **1990s**: HTA in European Countries
- **1990** : HTAi Global 1200 members (59 Countries)
- **1993**: INAHTA 56 members from 26 countries
- **2005**: EUnetHTA for all Europe (34 countries)
- **1994**: Initial steps in KSA at a hospital level
- **2004** : WHO efforts in HTA in Africa and Latin America
- **2005** : HTA in other countries; China, Korea, Malaysia, Philippines, Singapore, Australia, Canada, Israel, New Zealand, Latvia, Hungary
- **2011/12**: **Initial steps in Jordan**

HTA in Arab Countries Is missing

Jordan and KSA initiated HTA but never sustained!

HTA trial in Jordan
2012
Under High Health Council
Terms of Reference

- Provide awareness and orientation about HTA and its benefits to all the health sectors.
- To institutionalize HTA and Collaborate with international agencies for HTA and provide access to data bases as a reference guide to the steering committee.
- Forming specialized HTA committees for the various technology subdivisions such as medical, pharmaceutical and medical devices and the HTA Strategy planning committee.
- Review and study the need to implement the Certificate Of Need (CON) and make recommendations in this regard.

Initial steps taken...

- ✓ The establishment of the National steering committee
- ✓ Term of reference was established and approved
- ✓ 2 workshops was completed and one is planned for 2012
- ✓ Subcommittees for Clinical, Pharmaceutical and Medical devices were formed
- ✓ HTA strategic committee was established
- ✓ HTA strategic plan for 2012-2015 was instituted
- ✓ It's all in the initial stage ... many challenges ...

Jordan HTA Structural elements

- Jordan High Health Council
- National steering committee
- HTA strategy Committee
- HTA subcommittees
- Collaboration with international and regional HTA agencies
- Program coordination with stakeholders

HTA in Jordan

- Did not continue due change of leadership, lack of policy and sustainable system ...
- The end of WHO Budget for this program
- No funds available
- Expertise is missing
- Lessons learned ...

HTA in KSA

- The first program to start in 1996 at KFSH&RC
- The program stopped
- No clinical support
- No management support
- Know how is limited

HTA challenges in Arab Countries

- HR
- Data
- Lack of system
- Lack of cooperation
- Lack of awareness
- Budget
- Net working
- HTA report as an interim Support for new technology
- Criticism of assessments
- Lack of CRO
- Recommendation
- Applying HTA in hospitals
- Access to HTA data bases
- Continuous training and knowledge process
- Gap between HTA findings and the decision making process
- Need HTA infrastructure
- Need top support from top

Recommendations

- Starting HTA in every country with sustainable policy
- HTA initiative for Arab countries –working together to reduce challenges
- HTA Strategy plan for coming years through the Arab league or GCC
- Allocation of resources for HTA
- HTA infrastructure; action plans, HR, Organization, policies and procedures, approval for utilization and implementation
- Regional and International collaboration and networking
- Education, training, conference, workshops and seminars
- Local and regional evidence and data collections
- CRO
- **Start with HTA at hospital level as a Clinical Engineering initiative**

Recommendations

-HTA at hospital level as a Clinical Engineering initiative

- Establish an HTA committee at the hospital or hospitals group
- The committee represents interdisciplinary team including Physicians, Clinical Directors from Inpatients and outpatients
- Procurement department, Financial department
- Facility management
- Information Technology
- Clinical Engineering

-Assessment by the committee will start after collecting all requested medical equipment from all departments and after Clinical Engineering review and evaluation

- Assessment to include:

- clinical necessity
- availability of existing assets and compatibility with existing system
- efficacy of clinical outcome and operational and capabilities and history
- cost benefit analysis and cost of ownership
- compatibility with existing equipment and systems
- Standardization and utilization factors
- Project prioritation and recommendation to Management

Conclusion

Working together is a success!

**“ Knowing is not enough; we must apply.
Willing is not enough; we must do”**

Goethe

HTA is a must now more than any other time!

Clinical Engineering needs to play a Key role

شكرا جزيلًا Thank you

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