Development and Implementation of Health Technology Assessment: A Policy Study

SH Doaee [1], ***A Olyaeemanesh** [1, 2], **SH Emami** [3], **M Mobinizadeh** [1], **P Abooee** [2], **M Nejati** [1], **GS Zolani** [1]

1. Dept. of Health Technology Assessment (HTA), Deputy of Curative Affairs, Ministry of Health and Medical Education, Tehran, Iran
2. Dept. of Payment and Financing System, National Institute for Health Research, Tehran University of Medical Sciences. Tehran, Iran
3. Deputy of Curative Affairs, Ministry of Health and Medical Education, Tehran, Iran

Corresponding Author: Email: arolyaee@yahoo.com

Abstract

Background: To provide an overview of the development of health technology assessment (HTA) in Iran since 2007, and to facilitate further development of HTA and its integration into policy making.

Methods: Data of this study were collected through key documents (e.g. literature, laws, and other official documentation) and analyzed by experts of opinion in form of qualitative methods.

Results: Health technology assessment entered to the political agenda in Iran only in 2007 with a strong impetus of an evidence-based medicine movement with the bellow objectives: Institutionalization of evidence-based decision making in Ministry of Health, Creating an localization for structural HTA in Health system of Iran, Setting up training courses in order to educate capable manpower to full up the capacity of the universities, Establishment of a new field in HTA subject in medical universities for MSc and PhD degree, International communication about HTA through national website and possible participation in international Congress.

Conclusion: HTA has been established in the healthcare system of Iran but what is needed is a clear political will to push forward the objectives of HTA in Iran. Similar to other countries, advance the regulation on the adoption of new health technologies to improve not only technical or allocate efficiency, but also health equity.

Keywords: Health Technology Assessment, Development, Health equity, Iran

Introduction

During the past 35 years, health technology assessment (HTA) has been utilized in industrialized countries such as USA, Canada and Europe. A wonderful transformation has occurred in health decision in various countries such as Sweden, Spain, France, England, and Italy. However HTA is a new context in developing countries, and expanding rapidly (1-4). Health sector's decision and policy makers rely on comprehensive scientific evidence in order to make decisions.

Over the past few decades, a rising trend has been observed in these countries towards more efficient allocation of healthcare technologies under given budget constraints. Thereby, HTAs have turned out to be a recognized decision- and prioritization tool (5, 6).

World Health Organization (WHO) has paid special attention to the HTA during the past 2 decades. Utilizing HTAs is similarly expanding in developing countries, as the HTA organizations

have been formed in Malaysia, Philippine, Thailand, China, and Pakistan. Briefly, most of the countries such as Iran, that follow up their Health Sector Reform program, have paid special attention to the topic of HTA and to selecting as well as using the proper technology within the framework of political strategic and health sector management (7).

The aim of this study was to investigate the administrative process and function of HTA office in Iran.

Health care in Iran

Iran is located in the Middle East. The area of Iran is 1648195sq-km which makes it the 17th largest country in the world. Iran is divided into 31 provinces and 336 districts. Tehran is the capital of Iran. Iran's GDP at (PPP) per capita was 9200, 9800 and 11700 US$ in 2005, 2006, and 2007 respectively (8) also life expectancy for both sexes in 2002, was 68.9 yr (9).

Rahbar says: "The right of all citizens to health care is embodied in the Constitution of Iran which recognizes the rights of all citizens to health as well as an equitable distribution of health services based on ideology principles. In practice, this has resulted in a strong focus on basic public health financed through the public budget and delivered to all Iranians through a public primary health care delivery system run by MOH, while secondary- and tertiary- level curative care is financed and sometimes directly provided through the compulsory Social Security Organization (SSO) for formal sector employees and their dependants, the Armed Forces Medical Services Organization for members of the military and their dependants, and the Medical Services Insurance Organization (MSIO) for government employees, rural households, the self-employed, and <<others>> (e.g., student) (10)."

The Ministry of Health (MOH) is responsible for planning, monitoring, and supervision of health related activities for the public and private sectors in Iran. This ministry delegates its supervision to medical universities across the country. There is at least one medical university in every province. The president of a medical university is the highest health authority in the province who reports to the Minister of Health and Medical Education. The president of the medical university is in charge of public health, health care provision in public facilities and medical education. The public sector provides primary, secondary, and tertiary health services. The private sector plays a significant role in health care provision in Iran. And they mainly focus on secondary and tertiary health care in urban areas (8).

The Ministry of Health has six deputies that are mentioned as follows:

- deputy of hygiene,
- deputy of curative affairs,
- deputy of education,
- deputy of research and technology,
- deputy of development in management and resources

The HTA office is under supervision of Technology Assessment, Standardization and Tariffs within the deputy of curative affairs.

Setting up HTA in Iran

HTA has been started since October 2007 in Health Deputy of MOH as a secretariat, in Health Economics group which has been defined in the center of network development and health promotion. Following changes in the organizational structure of MOH in 2010, the deputy for health was divided to deputy of hygiene and deputy of curative affairs. After this restructuring, HTA was categorized as HTA Office under supervision of Health Technology Assessment, Standardization and Tariffs Office in curative affairs department within the MOH.

The objectives of this office, which are planned to be achieved by 2012, can be listed as follows:

- Institutionalization of evidence-based decision making in MOH.
- Creating an localization for structural HTA in Health system of Iran
- Setting up training courses in order to educate capable manpower to full up the capacity of the universities.

- Establishment of a new field in HTA subject in medical universities for PhD degree.
- International communication about HTA through national website and possible participation in international Congress.
- Creating and settling formal centers to accomplish health technology assessment plans in the medical universities of the country such as knowledge management units (KMU).
- Building capacity in terms of perusing health technology assessment in medical university of the country through different approaches such as: Establishing a HTA site for communication to other HTA sites.
- Coordinating with Welfare Ministry for health insurance issues.
- Developing decision making on the basis of evidence in all levels of health management system.
- Planning and ordering the assigned projects of health technology assessment for Drugs and Medical Equipment.
- Attracting collaborations of the related organizations and departments such as Iran Medical Equipment Department and so on.

The method of supplying financial sources for performing projects

In countries such as Canada, England and Spain, where health systems are mainly supplied by general section of HTA, the governmental institutes or the organizations with preferably governmental budget of HTA have been formed, and their main concentration is on the costly technologies.

In some countries such as Italy and USA where private sectors manage the remarkable part of services and the governmental system does not have scientific and executive management powers in proportion to the volume of service and technologic expenses, academic and independent institutes have been established in order to appraise technologies and to increase budget allocated to effectiveness services .

In Iran, expenses of performing HTA projects are supplied by the governmental budget (from the budget of Department of Medical Equipments)[1].

HTA work process

1- Prioritizing the purposes of the appraisal:
In order to decide on projects that have to be selected, we need to take into consideration seven following specifications:

- Incidence of diseases
- Burden of diseases
- Expenses
- Fluctuation rates in healthcare administration
- Political acceptance
- Moral acceptance
- Applicability of results

2- Ordering projects to researchers, this has been done by National Institute for Health Research (NIHR) since April 2010. Before this time, HTA secretariat took on this responsibility. Now, 12 HTA projects on Medical Equipment and over 8 pharmaceutical medicines are performed in HTA office (Table 1).

3- Submitting the results to the ministers and politicians in order to make the final decision.

4- Organizing scientific Committee.

5- Conversion of reports to policy statement.

Accomplished measures

- **Training in HTA**
1) Recognizing the scientific potencies and experts in medical universities.
2) Setting up the educational justifying seminar for health assistants in medical universities.
3) Equalizing the criteria for performing health technology assessment among

---

[1] The Department of Medical Equipments, this department is responsible for supervising imports, implementation and maintenance of medical equipments.

conductors of health technology appraisal projects in various research centers (11).

4) Setting up training courses in order to educate capable manpower to full up the capacity of the universities.

5) Establishment of a new field in HTA subject in medical universities for MSc degree.

- **Organization of HTA**

6) Forming a scientific committee that consists of expert individuals in this field. This committee is formed by professors of medical universities of the country who are specialists in the field of HTA. The task of quality appraisal of HTA final reports are commissioned to this committee and the scientific review of result is also commissioned to the Technical Advisory Committee that is the subcommittee.

7) Prioritizing the assigned projects.

8) Placing orders of the prioritized projects to research centers.

9) Attracting and collaboration of General Department of Medical Equipment.

10) Following up in order to get the necessary credits.

11) Studying the situation of health technology assessment in the world countries.

12) Collecting and submitting proposals regarding the structure of health technology assessment secretariat to the honored minister.

13) Coordinating with General Department of Medical Equipment regarding the nonexistence of the necessary authority for importing medical equipments of new capital to the country without performing health technology assessment.

14) Making contract with National Institute for Health Research.

15) Create a formal structure for HTA in Deputy of Curative Affaire within MOH.

16) Participation in Singapore International Technology Assessment Conference and Workshop In 2009.

17) Participation in Brazil International Technology Assessment Conference in 2010.

18) Performing several projects on the basis of following models for 2008- 2011:

Table1: The list of health technology assessment projects

Accomplished	Ongoing
PET Scan	HIFU (whole body)
HBOT (Hyperbaric Oxygen Therapy)	Stereotactic Nero Surgery
HIFU (High Intensity Focused Ultrasound)	Magnetic Stimulation
Screening of HTLV-II in Iran	Optical Mammography
CT Scan 64 slice (single and dual)	CAD CAM system
MRI 3 Tesla	Implanon (The Long Acting method for contraception)
CBCT (New Tom 3G)	Compact Gas Mixer for Air
Gayro Knife & New Generation	Navx navigator
New Generation Laser	CT scan & MRI mobile
New anesthesia medicines compared to Hallotan.	Enterable formulation powder
Femtosecond laser	New Generation for serialization
Tomography (CRT 2000)	3 MAX
HTA for Drug: Voriconazole, Etanercept,Analog Insulin, infliximab,zoledronic Acid,pregabalin, Exemestan, Brotezomib.	MRI PET

Conclusion

Since evidence based on decision making including HTA provides minimum adverse impacts on the system, policy makers should strongly support this field.

So far, deputy of Curative Affairs at MOH made its decision on the necessity of these assessments and results of these projects has informed decision makers at MOH which helped establishing of HTA for all of decision makers and health politicians.

Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc) have been completely observed by the authors.

Acknowledgement

References

1. Marzban S (2007). *Health Technology Assessment Methodology*. 1st ed. Shokravi publisher, Iran, pp: [In Persian] pp:2-12.

2. Sadasivan S (2009). History of health technology assessment: A commentary. *Int J Technol* Assess *Health Care*, 25(1): 285–287.

3. David B, Finn B.K, Egon J(2009). A history of health technology assessment at the European level. *Int J Technol* Assess *Health Care*, 25(1):68–73.

4. Sadasivan S(2009). Health technology assessment in the Asia Pacific region. *Int J Technol* Assess *Health Care*, 25(1):196–201.

5. Facey K, Topfer L, Chan L (2006). on behalf of the International Network of Agencies for Health Technology Assessment. *Health Technology Assessment (HTA) Glossary*. 1st ed. Stockholm: INAHTA Secretariat.p.:53

6. CAHTA(2008). *EUnetHTA Handbook on Health Technology Assessment Capacity Building. EUnetHTAWork Package 8*. Catalan Agency for Health Technology Assessment and Research (CAHTA).pp.:31-33

7. Anonymous [cited Sep 2011]. Available at: URL: http//www.htai.org .

8. Ramin M (2009). Health System in Iran. *International Medical Community, 52* (1): 69-73

9. Anonymous [cited Sep 2012]. Available at: URL: http://www.who.int. (The world health report, Iran)

10. Rahbar M (2006). *Series of Health Reports In Islamic Republic of Iran*. Ministry of Health & Medical Education, Deputy for Health .p:17.

11. Yazdani, Sh (2008). *Health Technology Assessment: HTA workshop*. Clinical Governance Center in Shahid Beheshti University, Iran, Tehran. *Bibliography\l 1033.*