

# Establishment of Health Technology Assessment in Iran

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## Abstract

**Objective:** Health Technology Assessment (HTA) aims at informing healthcare policymakers, managers and practitioners of the “clinical consequences, but also the economic, ethical, and other social implications of the diffusion and use of a specific procedure or technique on medical practice”. So considering the policy-oriented nature of HTA that calls for a close integration into the functioning and governance of health systems the present study focuses on executive processes and function of the HTA office of Iran.

**Materials and methods:** Data of this review study were collected through documented sources and observations from 2007 to 2010.

**Results:** Health Technology Assessment began its activities as a secretariat in the Deputy of Health in 2007 and it continues as a Health Technology Assessment Office at the Management of Health Technology Assessment, Standardization, and Tariff at the Deputy of curative affairs of MOHME in the beginning of 2010. 14 Technology of modern medical equipment and 8 pharmaceutical medicine are assessed, Now many of measures for HTA establishment such as cooperation National Institute of Health Research (NIHR), Holding scientific committee meetings, Establishing the Master’s degree of health technology assessment ,Building capacities for health technology assessment through education in major universities of the country.

**Conclusion:** pay attention to health technology assessment, selection and application of proper technologies in the frameworks of policy-making and managerial strategies and make efforts to develop it with the support of the governmental in Iran is necessary.

**Keywords:** Health system, health technology assessment (HTA), Evidence Based Policy

## Introduction

Health technologies are one of the six building blocks

identified by WHO as essential for all health systems (along with financing, health workforce, information, service delivery and leadership/governance). If one or more of these six components is missing or inadequate, health systems cannot function at the level necessary to improve the health of individuals and populations in a sustainable way. Furthermore, health technologies have key implications for universal health coverage, for the way in which health care is provided based on

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individual and population needs, on sound governance and community participation, and on public health policies (1). Health Technology Assessment (HTA), aims at informing healthcare policymakers, managers and practitioners of the “clinical consequences, but also the economic, ethical, and other social implications of the diffusion and use of a specific procedure or technique on medical practice”. On the other hand, more efficient allocation of health technologies has received more attention in recent decades due to budget limitations (2, 3). In this regard, the World Health Organization has put a lot of emphasis on health assessment technology since almost two decades ago. Infect Health technologies are essential for a functioning health system. Medical devices in particular are crucial in the prevention, diagnosis, and treatment of illness and disease, as well as patient rehabilitation (4).

On the other hand Health-care policy, practice and decisions are needed to maximize the positive impact of health-care interventions while maximizing the value from the cost of providing them. So Formation of HTA organizations in countries such as Malaysia, the Philippines, Thailand, China, and Pakistan shows that health technology assessment has a growing trend in developing countries whereas industrialized countries like the USA and Canada and some European countries included HTA in their health system 35 years ago(5).

Therefore HTA agencies have emerged in response to the need for a formal organization to structure and undertake reviews of the safety, efficacy and effectiveness of health technologies and decision making in health-related areas has experienced a significant change in different countries such as Sweden, Spain, France, England, and Italy. In all, most countries that follow health sector reform, like the Islamic Republic of Iran, pay special attention to health technology assessment, selection, and application of appropriate technologies in the framework of political and managerial strategies (6, 7). The agencies are often established with a mission, and provided with financial and human resources to undertake systematic assessments of public policy questions with a defined set of objectives. Of course for many health-care interventions, the medical evidence on safety and efficacy is applicable across populations in different countries. Indeed, evidence used in HTA can be rapidly and easily shared around much of the world. However, the desirable or acceptable levels of safety, effectiveness, cost-effectiveness, and other attributes of a technology, as well as acceptable trade-offs among these, may vary in different countries. As such, in HTA,

it can be useful to “globalize the evidence, localize the decision” (8, 9). So considering the policy-oriented nature of HTA that calls for a close integration into the functioning and governance of health systems the present study focuses on executive processes and function of the HTA office after discussing its status in the structure of the health system of Iran.

## Materials and methods

The present research evaluated health technology assessment activities and its foundation in Iran from 2007 to 2010. Data of this review study were collected through documented sources and observations and available letters, records, reports, and the direct presence of the authors in the structure of Office of Health Technology Assessment approved the reliability of data.

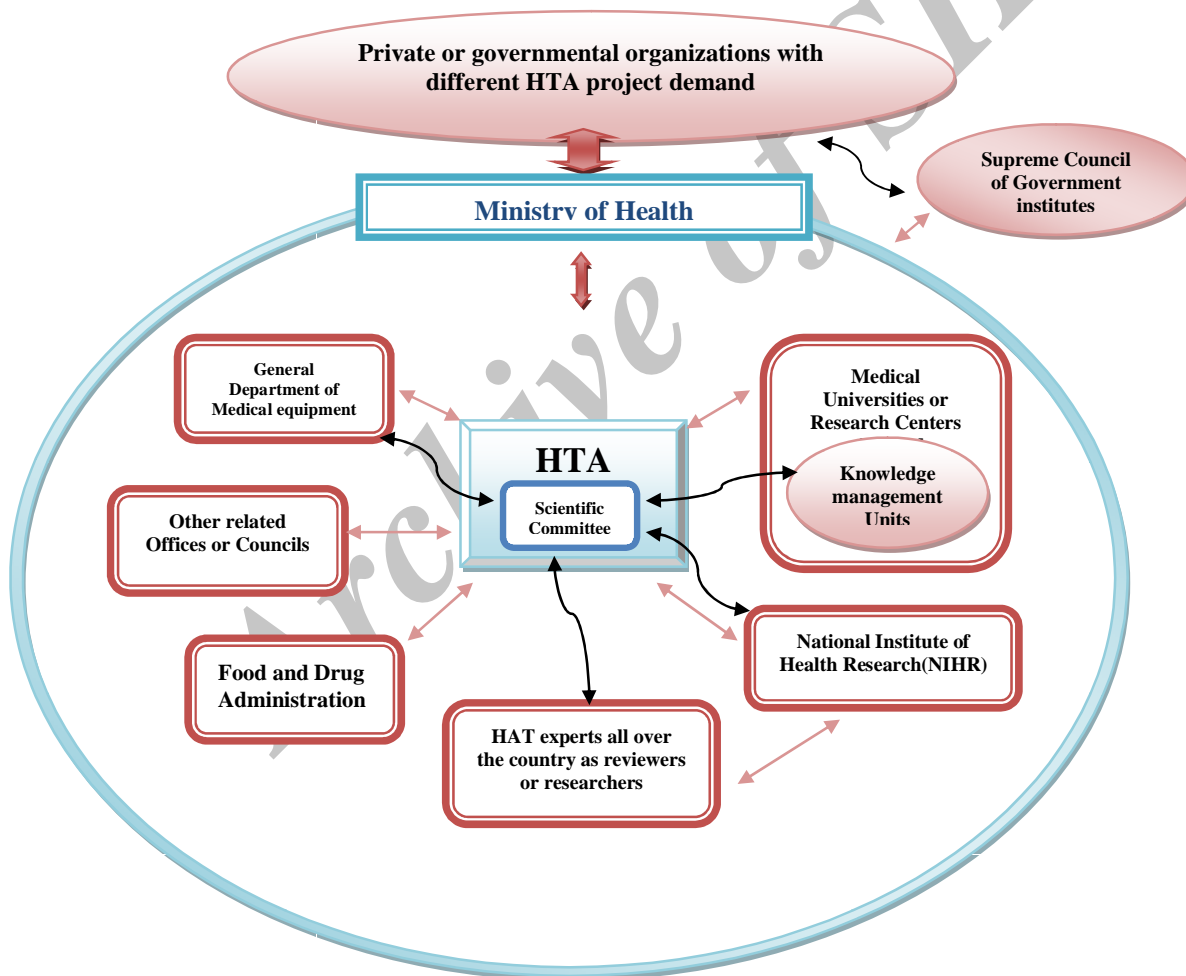
## Results

Health Technology Assessment began its activities at the Department of Health Economics, Center for Network Development and Health Promotion as a secretariat in the Deputy of Health in November 2007 and assessed a number of modern health technologies such as PET SCAN and Hyperbaric Oxygen Therapy (HBOT) with the cooperation of HTA experts. Following changes in the structure of the Ministry of Health and Medical Education and separation of the Deputies of Hygiene and Medical Care, HTA restarted its activity under the name of Health Technology Assessment Office at management of Health Technology Assessment, Standardization, and Tariff at the Deputy of curative affairs in the beginning of 2010 with structurally enhanced objectives and goals to promote evidence based policy making (figure 1). The mission of HTA office is systematic and rational assessment of health technologies with the purpose of improving the accessibility and productivity of the health system. This assessment is performed by independent experts and evaluates short and long term effects of health technologies until excellence in the quality of health services is achieved. Health technologies include medical equipment, drugs, biological substances, medical procedures, and interventions related to the support, organization, and management systems. HTA measures the effectiveness, efficiency, safety, cost-effectiveness, social effects like justice in access, and ethical and legal outcomes of these technologies as research projects. Now, 14 HTA projects on Medical Equipment and over 8 pharmaceutical

medicines are performed in HTA.

On the other hand, the number of the individuals who need further knowledge about health technology has increased and in addition to service providers, policy makers, researchers, legislators, managers, drug and medical equipment companies, and patients also need to know more about health technologies. In order to reach these evidences, economical effects and the quality of life resulted from applying technology, related ethical issues, cultural and social dimensions of function, and development of its dispersion are assessed besides information about safety and effectiveness. In countries where the

private sector provide remarkable portion of their health services such as Italy and America, governmental system lacks enough executive and scientific power as compared to the portion of services and technological costs. So, academic and independent institutes have been established to assess health technology until the effectiveness in cost of services promotes. Whereas in countries such as Canada, England, and Spain, the main concentration of governmental institutes or organizations formed with the governmental budget is on assessing the expensive equipment (10). In Iran, HTA projects are funded through governmental budgets.



Curved arrow: scientific communications

Straight arrow: process & information relationships

**Figure 1:** Health Technology Assessment Data flow diagram in Iran

Totally, decision on the prioritization of health technologies in our country is based on 7 main factors (prevalence of the disease, load of the disease, cost and fluctuations in applying technologies, political and ethical acceptance, and application of findings). Regardless of setting priorities and selecting investigation subjects, other functional procedures of the HTA office are as follows:

- Outsourcing projects to researchers; according to a memorandum of understanding between the Deputy of curative affairs and National Institute of Health Research (NIHR) in 2010, the institute became responsible for outsourcing the orders to promote the scientific quality of projects whereas Health Technology Assessment Secretariat was responsible in the past.
- Receiving the final reports of completed projects and assessing their quality: quality assessment was formerly performed by university professors after removing the researcher's name and place of research but is done by National Institute of Health Research since the beginning of 2010.
- Holding scientific committee meetings with professors and experts in HTA with the aim of group discussion and exchange of views on the final report of the projects
- Reflecting the findings to the policy makers and authorities for making the ultimate decisions

On the whole, health technology assessment office programs its activities in 3 domains of educational, executive, and legal as follows:

- Educational activities
  - ✓ Recognizing skillful and capable people at medical universities around the country
  - ✓ Holding training courses
  - ✓ Equalizing the method of performing health technology assessment projects in different research centers around the country
  - ✓ Establishing the Master's degree of health technology assessment
  - ✓ Building capacities for health technology assessment through education in major universities of the country
- Executive activities
  - ✓ Ordering HTA projects
  - ✓ Summarizing the projects
  - ✓ Publishing the final reports of the projects
  - ✓ Declaring the results to the authorities
  - ✓ Follow-up to obtain necessary funds
- Legal
  - ✓ Preparing the bylaw of health technology

assessment in the area of medical equipment, obtaining its approbation at general department of medical equipment and receiving the approval of the minister

The health technology assessment office has had an outstanding performance in all three domains since its foundation including recognition of skillful and capable individuals at medical universities around the country, building capacities for health technology assessment, holding training seminars, and equalizing the executive areas of HTA in different projects of research centers.

## Discussion

The necessity of applying health technology assessment in health systems has been highlighted by scientific centers and international organizations such as the WHO and World Bank because not only this interdisciplinary knowledge facilitates response the unlimited needs of the population with the limited available resources through systematic assessment of the effects of technology on health, but also affects other aspects of health systems such as equality and responsiveness. On the other hand, the circle of individuals who require more knowledge on health technology is widespread and in addition to service providers, policy makers, researchers, legislators, managers, drug and medical equipment companies, and patients should also know more about health technologies (11). In this regard, economical effects and the quality of life resulted from applying technologies, related ethical issues, cultural and social dimensions of function and development of its dispersion are investigated besides information about safety and effectiveness. So, health technology assessment should receive proper attention since it tries to promote evidence based policy making and the results of its activities ensure minimal adverse outcomes for the health system and the population. Undoubtedly, differences in culture, policy, methods of financing health care, and principles of performing technology assessment all have great impacts on the formation and function of technology assessment in each country (7, 12).

For instance, the initial formation of health technology assessment was without any special pattern or structure in the United States and was performed in governmental and private forms with different purposes for years while it is very systematic now and in addition to the HTA office of the country, which is supported by the congress

budget, 5 other organizations assess health technology in different fields such as drug and therapeutic methods. In Iran, HTA is performed by independent and skillful individuals and short and long term effects of health technologies are constantly evaluated until excellence in the quality of health services is achieved. However, health technology assessment started without a comprehensive pattern like most countries in Iran. However, in the present year, with the establishment of the Health Technology Assessment, Standardization and Tariffs Office, HTA is followed in a completely systematic fashion and with a widespread approach by the governmental sector. It now has assessment of the drugs, therapeutic methods, and modern health technology in its schedule and it is expected that the role of the private sector be clarified in HTA in the new future (13). Although health technology was founded in Great Britain in 1993, the first informative study on HTA was conducted for tuberculosis screening via mass miniature radiography and then the development of heart transplant was assessed before HTA became the greatest R & D program of the country(7). Considering this fact, we noted that Iran started its activity in health technology assessment through a PET scan project. In Germany, the Joint Federal Committee is responsible for identification and assessment of new diagnostic and therapeutic methods besides assessing available technologies to promote the import of new technologies (14), which is like Iran undertaken by health policy-making centers, according to existing scientific evidence and needs. Thus, it is observed that regardless of the main differences among countries, most of them move toward making health technology assessment structural, considering their unique local conditions. Therefore, it is of crucial importance for the health technology assessment system of the country to perform its duties more efficiently, with the support of the government, because the existence of rules and regulations in each country enhances its capability, continuance, and better structuring.

### **Conclusion**

Regarding the ever-increasing importance of evidence-based policy making, provision of scientific and comprehensive evidence is in the center of attention of health system authorities and decision makers. On the other hand, budget limitations and more efficient allocation of health technologies have augmented the

necessity of their assessment and prioritization based on population needs in recent decades. Therefore, considering the emphasis of the World Health Organization and the key role of HTA in promoting evidence-based policy making, most countries that follow health sector reform, such as the Islamic Republic of Iran, pay attention to health technology assessment, selection and application of proper technologies in the frameworks of policy-making and managerial strategies and make efforts to develop it with the support of the government.

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