
RESEARCH REPORT

Analysis of strengths, weaknesses, opportunities, and threats in the development of a health technology assessment program in Turkey

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Objectives: The Turkish healthcare system is currently undergoing reform, and efficient use of resources has become a key factor in determining the allocation of resources. The objective of this study was to analyze strengths, weaknesses, opportunities, and threats (SWOT) in the development of a health technology assessment (HTA) program in Turkey.

Methods: A SWOT analysis was performed using a literature review and interviews with key people in the Turkish Ministry of Health and Ministry of Labor and Social Security.

Results: Regarding recent reforms in health care, investments for information network and databank are the strengths, but the traditional “expert-based” decision making, poor availability of data, and poor quality of data could be seen as some of the weaknesses. Another major weakness is lack of general awareness of HTA. Increasing demand for transparency in decision making, demand for evidence, and demand for credibility by decision makers are some of the opportunities, and current healthcare reforms, i.e., restructuring of healthcare and general health insurance, could also be seen as major opportunities. These opportunities unfortunately could be threatened by lack of funding, and resources are challenged by large, recent national investments.

Conclusions: There is a good opportunity for Turkey to use the skills in HTA currently being developed through activities in Europe and the Americas to assist in the development of a much more cost-effective and transparent healthcare system in Turkey.

Keywords: Turkey, Health technology assessment, SWOT analysis, Healthcare reform, Social security

Turkey is the third most populous country in the World Health Organization’s European Region, and its economy is among the ten largest economies in Europe (13;15;16). However, the population’s health status and the quality of the healthcare system are far below the country’s general level of development (13).

HEALTHCARE SYSTEM IN TURKEY

Turkey has relatively few health personnel compared with other countries: approximately 1 doctor per 731 people and 1 nurse per 864 people (7). Every medical school graduate is qualified to practice as a general practitioner. Those who

want to specialize need to take a centrally administered examination (*Tipta Uzmanlik Sinavi*, or TUS) organized by the Council of Higher Education. Worth noting is there is no gatekeeping or appropriate referral chains.

Turkey obtains pharmaceuticals through domestic production and import. In 2005, the total consumption of pharmaceuticals was US\$3,552.9 million at ex-factory prices, or US\$49.3 per person (8). These figures are low when compared with the pharmaceutical consumption of western European countries. Although Turkey has an unofficial list of essential drugs, the list has no practical implications for the pharmaceutical sector. Many drugs are sold over the counter without a prescription, and patients ask pharmacies for advice on their ailments. A system of green and red prescriptions is used to control the sale of certain drugs.

Turkey has three main sources of healthcare financing: tax revenue, social security contributions, and out-of-pocket payments. There are three main social security institutions: (i) SSK, the insurance scheme for private sector employees and blue-collar public sector employees; (ii) Bag-Kur, the insurance scheme for self-employed people; and (iii) GERF, which insures retired civil servants. These three institutions are planned to be united within current reform studies as one social security institution.

CURRENT HEALTHCARE REFORMS

After the Republic was established in 1923, Turkey developed a mixed economic model with considerable state involvement in the economy. Radical decisions taken in January 1980 to liberalize the economy have visibly affected the development of the country. The changes affected all sectors, including the health sector. The first attempt to adapt the health sector to the new market economy was the Basic Law on Health Services adopted by the Grand National Assembly in 1987. A more comprehensive and detailed process of reform was carried out from 1990 to 1993. A special project unit was formed within the Ministry of Health, and some funds from the First Health Project (part of a World Bank loan) were made available to prepare for healthcare reforms (13).

A loan agreement between Turkey and the World Bank for the Second Health Project was signed in 1994. The First Health Project and the Second Health Project were realized during the 1990s. Approximately 80 percent of the money for the first project was spent on renewing and improving infrastructure (purchasing equipment, building hospitals, renewing facilities), with the remainder spent on training and management development. The second project focused more on strengthening primary health care and healthcare reforms.

The Health Transition Project for the duration 2004–7 has also some funding from a loan from the World Bank (18). Studies toward reforms in the social security system started at the end of 2002, and at the beginning of 2004, the Project Department in the Ministry of So-

cial Security and Labor was established for coordination of The Health Transition Project and The Social Security Reform, which have common objectives that trigger each other (10).

The basic change planned within Turkey's Social Insurance Reform is The Universal Health Insurance Scheme, which has been an objective of every 5-year plan since 1963 (9;13). Within the General Health Insurance, the planned changes will be to initiate gatekeeping (i.e., developing a system of family medicine). This has already started, with pilot schemes taking place in over 20 cities. There is also restructuring of the Ministry of Health policy-making arrangements; autonomization of healthcare organizations; creation of organizations for pharmaceuticals and medical devices; the creation of quality and accreditation systems for high quality, effective health services; and the creation of integrated health information systems (13). The structure of the Ministry of Health is to be orientated toward policy making, monitoring and setting standards, and using resources in an effective, productive, and equitable way (12).

ANALYSIS OF STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS IN INTRODUCING HTA

The analysis of strengths, weaknesses, opportunities, and threats (SWOT analysis) is a tool used in the preliminary stages of decision making and as a precursor to strategic planning. It has not been widely used in the health sector (2;5). In the context of HTA, the first example of a SWOT analysis was the one published by Gibis et al. in 2001 (5). This report was a SWOT analysis of the development of an HTA program in Estonia and was a group-based analysis performed by representatives of a university and an international group of knowledgeable people after a 1-day workshop (5). The study gave a global SWOT analysis of HTA and a SWOT analysis of HTA in Estonia. This strategy was used to consider the best ways of creating a new HTA agency, and the results were found useful, although no evidence about the impact has been reported as yet.

The following year (2002), a SWOT analysis conducted in Romania was reported. This resulted from a mentoring relationship that was established between the HTA unit of the Alberta Heritage Foundation for Medical Research (AHFMR) and the Department of Public Health and Management (DPHM) within the University of Medicine and Pharmacy, Carol Davila, Bucharest, Romania, starting in 1998. Mentoring by an established HTA program was reported as a useful tool for this Romanian initiative and, based on feedback received, the process was considered successful in creating awareness of HTA and its necessity and utility in Romania. It provided an opportunity to develop an understanding of the HTA process and appropriate methods for various decision makers in the healthcare system (4;11).

AIM OF THE STUDY

Being the first article related to HTA in Turkish context, the aim of this study is to highlight the major challenges toward HTA in Turkey and to be a base for future studies. As HTA is one of the tools needed to achieve the goals set by the current reforms, it seems that HTA will soon be a priority in the list of objectives as well. Results of the analyses in the two examples of SWOT in Estonia and Romania were found to be useful, and it was thought that a similar approach could also be helpful in the situation of Turkey.

METHODS

The SWOT analysis was enriched by literature review and interviews with five key people working in the Ministry of Health and the Ministry of Labor and Social Security. The review—although findings not reported in this study—helped the authors to have a general sense about the following aspects: (i) how HTA started in other countries, and possible relationships between HTA and the respective countries' healthcare systems; (ii) on the modern Turkish healthcare system and the healthcare reforms occurring in Turkey in the past and current ongoing; and (iii) on SWOT analysis in HTA development in general and for any particular country.

The review focused on the experiences of the countries when establishing HTA capability and the challenges they might have faced during the process. The focus was on the possible strengths, weaknesses, opportunities, and threats in each case, even if this was not listed in this way in the literature. A list was made for each item for each country, later to be reexamined to see if this fit the case for Turkey.

The next step was to interview key people who have recently been involved in healthcare reform studies or have worked in healthcare projects departments. The names of the people to be interviewed were found by personal contact or references. They were the people who were working either in the Ministry of Health or the Ministry of Social Security and Labor as project managers related to the Health Transition Project or social security reform. Although twelve names were found at first, only five interviews could be scheduled. The reasons for not being able to interview the remaining seven included a lack of time and lack of interest or lack of knowledge about the field of HTA. The interviews were all conducted by one author (R.K.), recorded on a voice recorder. The interviews lasted 90 minutes on average. The interviewees were all physicians who later received some training in the field of pharmacoeconomics, healthcare economics, healthcare management, and/or medical technologies. They also had experience in the field of healthcare decision making in Turkey supported by their international experience. The interviewees were asked about their training details related to HTA field, their level of knowledge about HTA, any national or international experience in a meeting related to HTA, any unpublished attempt in Turkey toward HTA—ongoing or

planned—and the place of evidence-based decision making in Turkey in practice. Later, they were asked to make a practical SWOT analysis, listing items for each of the four groups and justify what they proposed as an item. Each interviewee had already performed at least one SWOT analysis before, which resulted in a faster, more efficient interview.

The ultimate SWOT analysis became an integration of the knowledge gained from the literature review and interview reports. Each strength, weakness, opportunity, and threat was listed as a separate item under each heading, justified to be such by the literature review and discussions with the interviewees and finally summarized in a table. This table of SWOT analysis was then interpreted by the author to form an action plan to start an HTA function in Turkey.

RESULTS

The SWOT analysis for Turkey in the development of an HTA program is reported in four main headings of strengths, weaknesses, opportunities, and threats and is summarized in Table 1.

Strengths

Although discussions started long before, comprehensive and detailed reforms were first carried out from 1990 to 1993. Some of key policy objectives identified in the First Health Project were (i) to increase the effectiveness of the healthcare system and improve the health of the country and (ii) to increase efficiency and to use resources to ensure effective health services (13).

The previous attempts—such as first health project—toward a new and more effective healthcare system were not totally successful, but at present, the World Bank has again provided a loan for the Health Transition Project for the duration 2004–7 (18). This time, the policy makers are more ambitious about the reform to be undertaken and strong steps are already being taken toward implementing the new system. The following specific objectives have jointly been set, in line with Government's Program for Transformation in Health: (i) to restructure the Ministry of Health for more effective stewardship and policy making; (ii) to establish a universal health insurance fund; (iii) to introduce family medicine as the model for the provision of primary healthcare services; (iv) to ensure financial and managerial autonomy for all hospitals irrespective of ownership; and (v) to set up a fully computerized information system (18).

There has already been large investment in an information network and databank within the recent reform studies, especially as a part of the studies toward establishing healthcare gatekeeping in the country. Starting with one pilot city, and then enlarged to ten and then twenty-two cities, there is a gradual adaptation to a family medicine model. Within these studies, patient records have largely been regulated also.

There are individuals in Turkey who are very well trained in HTA-related fields such as pharmacoeconomics, medical

Table 1. SWOT Analysis for HTA in Turkey

Strengths	Weaknesses
Individuals skilled and trained in HTA related fields International contact: World Bank and European Union relations Recent reforms in health care; investments for information network and databank Good examples of evidence-based decision making	Poor multidisciplinary approach, poor communication between stakeholders Traditional “expert-based” decision making Poor availability of data Poor quality of data Poor priority setting process Lack of general awareness of HTA Lack of interest by universities Lack of trained human resources Poor information technology
Opportunities	Threats
Demand for transparency in decision making Demand for evidence and demand for credibility by decision makers Interest of mass media in healthcare reforms Overwhelming demand for new technologies requires evaluation Current healthcare reforms: restructuring of health care, general health insurance Opportunity to engage politicians interest	Funding Political instability “New and expensive” is good belief Not a priority in current reforms Recent big national investments could challenge resources Possible resistance for use by decision makers

SWOT, strengths, weaknesses, opportunities, and threats; HTA, health technology assessment.

technology, decision support systems, and so on. Although lack of trained human resources could be named as a major weakness, these skilled individuals could be accepted as a strength if only they were allowed to share their knowledge and experience throughout the system.

Weaknesses

The steps to a computerized information system will largely overcome the great weakness of lack of data and low quality of the present data related to patient records. Needs assessments currently being done by the Ministry of Health will become more reliable over time. The low availability and quality of data are not only related to poor record keeping but also to lack of encouragement of scientific researchers in Turkey. Decisions currently have mostly to be made by relying on data from foreign literature, sometimes without adaptation to Turkey’s context.

Traditionally, decision making in Turkey could be considered as expert-based rather than evidence-based, but in recent years, there has been an increased interest toward evidence-based medicine (EBM). The Ministry of Health has published clinical practice guidelines for primary care particularly, and universities have more interest in EBM.

As one of the interviewees mentioned, Turkey has not been successful in the past in applying individual skills to the whole system. The number of individuals in Turkey who are very well trained in HTA-related fields is not sufficient, and the ones present have not yet been sufficiently able to share their knowledge. Similarly, there has been lack of a multidisciplinary approach and poor communication between stakeholders. The decision-making process in the recent past was

not explicit or transparent, and the qualifications of the people in decision-making committees were not always made public.

Another major weakness—perhaps the most important—is the lack of general awareness of HTA in the health-care sector. It is known that this is not only an issue in Turkey, but still this could be more dramatic in the case of Turkey. Universities, although interested in EBM, have almost no interest directly in HTA. The people who are interested in HTA can only be found by personal contact as there is no register of HTA interests and no related articles published could be found in the literature. Raising the awareness of HTA among the clinicians and academics could be a good start to the development of HTA in Turkey.

Opportunities

The lack of an explicit, well-structured decision-making process in health care often causes policy makers to have many difficulties when justifying their decisions. Particularly, the regulations regarding insurance coverage decisions about pharmaceuticals and payment protocols for certain tests made in hospitals are subject to certain criticisms by the public and physicians. The Ministry of Health and Social Security Institution do not yet have a specialist unit that is known to support their decisions by providing evidence-based recommendations, although the policy makers have an increasing demand for evidence to support their decisions. The public and the physicians are asking for a more explicit decision-making process. Also, because of a great interest from the mass media in the latest decisions regarding health care, the policy makers are squeezed with such a strong demand for

transparency. All these are great opportunities for a good start for HTA in the country, as HTA has the potential to relieve problems associated with transparency of decision-making. This will give the policy makers the chance to increase credibility they already demand.

There is overwhelming demand for new technologies in Turkey, as in the rest of the world. Considering the speed of introduction of new technologies to the market, policy makers are challenged by the difficulty of making decisions about the introduction of technologies or the coverage decisions. Still, with current scarce resources in the country and increasing demand for new technologies, their evaluation becomes an urgent need—which is a great opportunity as HTA could fulfill this aim.

In addition to the strength of having World Bank support for the current healthcare reforms and restructuring of health care, the introduction of general health insurance with the objective of more effective healthcare system in Turkey could be a great opportunity. HTA having the potential to introduce clinical and cost-effectiveness to the healthcare system could well be taken as a part of the reforms.

Threats

Political instability that has been an issue in the past has been a great barrier for the introduction of new approaches of policy making. In 6 years, six different Ministers of Health have been appointed and major changes could not be expected from people who do not have stable positions, even if they have the skills to make changes for the better.

“Whatever is new and expensive must be good” is a common belief among the public and also the politicians, so the public has an increasing demand for new and expensive technology, usually as soon as it is introduced to the market. The politicians as a result can approve expensive technology with limited evaluation of its cost-effectiveness.

There might be possible resistance by decision makers for the uptake of HTA in both public and private sector mostly due to the uncertainty about the results of a new approach that is not well known to them. The uptake by decision makers could only be increased by a wide range of training methods.

Another major threat is the lack of funding to start HTA. Turkey already has scarce resources, and the large, recent national investments could challenge the current resources more. Financial management and support for the provision of cost-effective treatment methods is mentioned as one of the basic objectives of the healthcare reform (9). One of the basic changes planned within general health insurance is the founding of organizations for pharmaceuticals and medical devices (13). The structure of the Ministry of Health is to be orientated toward policy making, monitoring and setting standards, and using resources in an effective, productive, and equitable way (12). So, in effect, the aims mentioned within the current reforms light the way toward the development of HTA. The basic threat of lack of funding could be overcome

by demonstrating that HTA can reduce health spending by introducing more effective healthcare provision.

DISCUSSION

The SWOT analysis for Turkey yields a set of barriers for implementation of HTA in the country, but also helps to illustrate the strengths and opportunities. Discussing questions about steps that policy makers need to take to implement HTA yields an action plan to overcome potential barriers. The three main issues are listed and discussed below:

Increase General Awareness of HTA

Any further steps could not be expected if HTA awareness is not gained. This major weakness is the basic barrier for a future establishment of HTA, as policymakers need to know what changes HTA could bring to health policy field. An increase in general awareness could be obtained by taking the following steps: (i) Start a Web page in Turkish that would include a glossary of terms, a history of HTA in the world, examples from countries where there are well-established HTA units with good examples of impact on health care. (ii) Run seminars, arrange workshops, and develop group discussions with key actors in the healthcare system. (iii) Involve universities in the workshops and seminars and invite them to create a course program for HTA if possible. (iv) Prepare a manuscript on HTA for publication in a Turkish medical journal.

Focus on Communications with Interested Parties

A variety of different groups within Turkey need to be contacted and encouraged to learn about HTA. These include the following:

- Policy makers
 - Inform them about HTA and increase general awareness.
 - Use reform as an opportunity for establishment of HTA and consequently for transparency in decision making and to enhance the credibility of decision makers.
- Universities
 - Involve them in the seminars and workshops.
 - Focus on communications with the people in universities who are interested in the field and could be willing to be involved in further studies.
- Mass media
 - Focus on how the efficient use of resources can affect public health and how HTA could help transparency in decision making.
 - Explain the concept of opportunity cost so that, with a fixed budget, they can see why spending money on expensive new technologies may restrict current treatments that are known to work well.
- Individuals within Turkey
 - Identify individuals who could be mobilized for the development of HTA in Turkey.

- Establish a database of skilled and trained people in HTA-related fields and conduct interviews with those interested in further contact and further training in HTA-related topics.
- Activate an HTA research core group of people who have skills and specific interests in the field, who have good contacts with universities and policy makers. This approach could enable the start of the creation of an HTA center. Activities of this center could include noting of developments in HTA in other countries, the collection of reports from other agencies to identify those that may have relevance to Turkey, and the production of summaries for decision makers in Turkey.
- Find individuals who could represent the country in international conferences to show Turkish interest in HTA and who can develop good contacts with the international community of HTA professionals.
- International organizations and people
 - Contact international organizations and people to seek assistance toward raising awareness. Meetings such as conferences or symposiums could be arranged with invited delegates from several well-known associations related to HTA and create a forum with policy makers to draw attention and raise awareness.

Search for Potential Funding Sources

As with all new enterprises, there is a need to obtain funding for a successful process. Although international sources such as World Bank could be a possibility, national sources could well be of success following raised awareness. An opportunity could be engaging universities, research institutes, and different governmental units in the national level in an HTA project with the current financial resources in Turkey.

CONCLUSION

There is a good opportunity for Turkey to use the skills in HTA currently being developed through activities in Europe and the Americas, to assist in the development of a much more cost-effective and transparent healthcare system in Turkey. HTA can determine the most appropriate indications for healthcare services and can be seen as an analytical tool for both improving quality and improving value for money (1;14;17). It is one of the methodological tools to produce sound information for making better choices in health care (6). Now seems the best timing to introduce HTA to the Turkish healthcare system. HTA can be a great tool in restructuring health care by facilitating the allocation of resources in relation to the goals of the healthcare policy makers (3). As the pressure on resources increases, decisions will have to be made explicitly and publicly; those who make decisions will need to be able to produce and describe the evidence on which each decision was based. There needs to be a transition from opinion-based decision making to evidence-based decision making, and HTA should have an explicit role in aiding this process.

CONTACT INFORMATION

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