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Identifying Solutions for Strengthening the Health Technology Assessment Program in Iran

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1. Background

History of health technology assessment (HTA) program in Iran: given the ever-increasing need for existing technology assessments, in 2007, HTA activities began with the participation and support of stakeholders and researchers at the ministry of health and medical education (MOHME). The office's vision was to institutionalize HTA in the health system, such that all decision making of the health system in the field of technologies should be based on scientific evidence and HTA reports. Its mission was to develop and promote HTA in the health domain across the country, based on scientific evidence, aimed at health decision making for optimal and more efficient utilization of limited resources of the health sector.

The HTA process in Iran: currently, questions for carrying out HTAs are ordered by different individuals and organizations. The HTA office adopts a screening method for prioritizing and selecting appropriate questions for performing the HTA. Based on screening results done by the HTA office experts, some technologies are placed on the list of priorities that are safe and on which there are ample and valid evidence. After presenting the list of priority questions, the national institute of health research (NIHR) (that is in charge of performing and reviewing Iran's HTA reports) puts the list on its' call for proposals'. Over a specific period, interested HTA experts and researchers send their proposals to the NIHR in specific formats. The received proposals are reviewed by the institute's reviewers and then contracts are signed between NIHR and researchers. After finishing HTAs, the reports are peer-reviewed, and once they have received final approval, they are sent to the HTA office.

Impact assessment of Iran's HTA program and solutions for improving it: no doubt, describing the rate of achievement of goals set by Iran's HTA program and assessing the resultant benefit of reporting can help in the identification of appropriate strategies for creating greater advantages. One study assessed the impact of 23 HTA reports in Iran between September 2010 and 2013 through a case study approach, using the desk analysis method and through completion of questionnaires by HTA project executives and stakeholders. In this study, in addition to examining the impact of the reports, their qualities were also examined by existent critical appraisal tools, and the stakeholders were asked about their method of access to the reports and their utilization. Fifteen articles were published from 12 HTA projects (three in Persian journals and 12 in English journals), of which their mean number of citations in 2016 was 2.42. Only nine HTA report results were used to define future research studies, and the greatest impact was seen on decisions related to resource allocation. However, none of them had been used in decision-makings outside the health system or for development of policy briefs. This study also highlighted the fact that the quality of HTAs warranted greater attention. From the stake-

holders' perspectives, the status of utilization of results was different in different organizations; some organizations claimed that they would have utilized the report results if they had access to them, yet others believed that the report results could not be utilized. Therefore, the results of the aforementioned study indicated that HTA report results should be actively disseminated to stakeholders to increase the possibility of their utilization. The need for promoting and improving the structures and process of Iran's HTA program increases as science and technology progress and more novel technologies enter the country with the passage of time. One study aimed at designing Iran's scientific health map and indicated that among the trends affecting health, three super-trends affected the HTA program, social, technological, and economic trends (Box 1). Therefore, in the not so distant future, given the rising supply and demand of novel health technologies and the health sector's limited resources, the need for evidence-informed decision-making will be even greater for the import, production, and utilization of these technologies (level of technologies service delivery, their insurance coverage, availability, and access).

Ten years after the onset of the HTA program in Iran, it is now time to assess this program, to identify its challenges and to design and execute interventions required for improving it. Therefore, it was decided that, in addition to identifying the challenges faced by the HTA program in Iran, the solutions for rectifying these challenges should also be identified.

2. Methods and Results

To this end, two steps were taken; identifying articles that have examined the existent challenges faced by the HTA program, and, setting up focus group discussions with stakeholders to analyze challenges and to recognize their respective solutions.

To identify the challenges faced by Iran's HTA program, in January 2017, 'PubMed' and 'Scopus' were searched for the keywords 'health technology assessment' and 'Iran'. The inclusion criterion was any article that had investigated the success rate and/or challenges and barriers of the HTA program in Iran. In addition to searching the databases, hand searching was also performed in Google Scholar.

Eventually, 37 articles were identified; of which six were included in the study after examining their titles, abstracts, and full texts. The selected articles are described in Table 1. Moreover, another study titled 'Impact Assessment of Iran's Health Technology Assessment Program' was conducted by two of the authors and is currently under review. The data of this article was used as well. Thereafter, the data extraction form was designed and completed upon reading the articles.

The barriers identified were classified to eight domains: stewardship of the HTA program, different viewpoints on the definition and necessity of HTA, stakeholder participation in the HTA program, identification and prioritization of topics, performing the HTA, peer-review of HTA reports, dissemination of HTA results, and utilization of HTA results. Thereafter, five focus group discussions (each 90 minutes long) were held with Iran's HTA program stakeholders to analyze the challenges identified in the articles. Decisions were made regarding what should be done, whether meetings should be set up to exchange ideas with the stakeholders about the appropriate solutions and/or if primary or secondary research should be done to recognize the appropriate solutions (Table 2).

The meetings were hosted by the NIHR; in collaboration with "the knowledge utilization research center". Representatives from MOHME's HTA office, MOHME's general directorate for medical equipment, food and drug organization, HTA educational board, and HTA students (a total of 16 individuals) participated in these sessions. Since the researchers intended to first identify the challenges faced by the HTA program inside MOHME and to later invite the stakeholders from outside MOHME, they did not invite insurance representatives to attend the focus group discussions at this stage.

Finally, a list of projects required and their RFPs were documented. Regular sessions were set up for cases that demanded expert consensus.

3. Discussion

In the end, it is important to mention that now is a crucial time for advancing the HTA program in Iran; ten years after its launch in the country it has been assessed and the points that require intervention have been identified. Given its mission, the NIHR has perceived the sensitivity of this time period in strengthening health policy-making, and since 'health technology assessment' is a major issue in achieving this goal, it has put the list of required projects among its research priorities.

The results of meetings and projects will be presented in this journal, in the near future.

Box 1. Super-Trends and Trends Influencing the Health Technology Assessment Program in Iran

Title of Trends Affecting Health
Social trends
Rising demand by the public for utilization of high quality health services
Rising inclination to utilize luxurious health services
Technological trends
Increasing utilization of novel and developed technologies in the health domain
Increasing purchase and transfer of knowledge and technology from outside the country
Rapid development of medical equipment
Increased optimization by adhering to international standards and reduction of costs of utilization of technology in the country
Increased focus on evidence based sciences in the health domain
Economic trends
Expansion of privatization and targeting of subsidies
An economic outlook toward science and technology
Increasing budgetary limitations of the health sector resulting from increased economic and health burden of non-contagious diseases and novel diseases resulting from environmental changes
Increasing health costs
Increasing economic sanctions against Iran

Table 1. List of Articles Included in the Study

No.	Author Name	Paper Name
1	Doaee S. H. et al. 2013 (1)	Development and implementation of health technology assessment: a policy study
2	Cheraghali, A. M. 2013 (2)	Implications of pharmacoeconomics for Iran's national health system
3	Olyaeemanesh, A. et al. 2014 (3)	Health technology assessment in Iran: challenges and views
4	Dehnavieh, R. et al. 2015 (4)	The vulnerable aspects of application of 'health technology assessment' (letter)
5	Mohtasham, F. et al. 2016 (5)	Health technology assessment in Iran: barriers and solutions
6	Yazdizadeh B et al. 2016 (6)	Stakeholder involvement in heath technology assessment at the national level: a study from Iran
7	Yazdizadeh B. et al. (under review)	Impact assessment of Iran's health technology assessment program

Footnote

Author's Contribution: Contribution of Reza Dehnavieh, Afrooz Latifi, Mohammadreza Mobinizadeh, Shekoufeh Nikfar, Alireza Olyaeemanesh, Aziz Rezapoor and Fereshteh Torabi are same and the order of them is based on alphabet order.

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Table 2. Challenges Faced by Iran's Health Technology Assessment Program and the Methods Used to Identify Their Respective Solutions

Challenges Faced by Iran's HTA Program	Method of Identifying the Solution	
	Focus Group Discussion	Evidence Production
Stewardship of the HTA program		
Disagreement over the stewardship of the HTA Program (some organizations disagree on the current structure wherein the HTA stewardship is central and is based in the Ministry of Health)		
Lack of higher legal regulations strengthening the standpoint of the HTA program		√ Title of the project required: Presenting a model for Iran's HTA system
Lack of transparent laws and executive guarantees on the utilization of HTA report results in decision-makings		
Absence of macro policies and frameworks for managing technologies in stakeholder organizations		
Conflict of interests in preparation of reports (the impact of political factors and pressurizing during report preparation)		√ Title of the project required: Conflict of interests in preparation of reports (the impact of political factors and pressurizing during report preparation)
The HTA cash flow:		√ Title of the project required: How should stakeholders participate in providing financial resources to the HTA program?
1- Lack of participation of stakeholders in provision of financial resources		
2- Insufficient budget for performing HTA		
Different viewpoints on the definition and necessity of HTA		
The stakeholders' lack of awareness of:		√ Title of the project required: How should stakeholders participate in Iran's HTA Program?
HTA goals and approaches,		
Complete details of the country's HTA process,		
The significance of applying HTA results in decision-making,		
The current gap between the stakeholders' expectations of HTA report contents and the domains that are currently dealt with in HTAs		
Stakeholder participation in the HTA program		
Lack of stakeholder participation in development of the HTA proposal		√ Title of the project required How should stakeholders participate in Iran's HTA Program?
Lack of a specific method for defining public participation in the HTA program		
Asymmetry of information between the public and other sectors of the health system		
Identification and prioritization of topics		
Absence of an appropriate prioritization system and/or not informing the stakeholders of it		√ Title of the project required: How should stakeholders participate in Iran's HTA Program?
Lack of participation of stakeholders in determining the topics and prioritizing them (lack of consistency of stakeholder organizations' priorities with the HTA Office's priorities; e.g. the Higher Insurance Council's agenda does not match that of MOHME's, lack of participation of support and management professionals in the prioritization process)		
Performing the HTA		

The lengthiness of the assessment procedures (the stages of announcing the topic, signing the contract, finishing the assessment, and peer-review approval)	√	
Lack of human resources:		Title of the project required: Examining ways to recruit human resources into Iran's HTA Program
Lack of specialized human resources for performing HTA (especially regarding supportive and managerial system technologies)		
Scarcity of scientific courses for the professionals involved		
Inappropriate system of recruiting students based on their interest in HTA, inappropriate curriculum of the HTA discipline for developing HTA professionals' skills, lack of a PhD degree in HTA		
Absence of a specialized HTA group for assessing the course and designing questions (currently, the management department has this responsibility)		
Disparity of HTA activities in different faculties and institutes' educational departments and their lack of communication with each other; the possibility of overlap in their projects		
HTA reports' emphasis on the cost-effectiveness aspects and ignoring other domains such as, the required cultural, social and infrastructural domains	√	
Inappropriate quality of HTA reports:	√	
Absence of protocols and methodological guides		
Registration of HTA projects by well-known individuals, but having them conducted by students or colleagues -without completely supervising the research procedure		
Lack of trust in HTA reports' quality by stakeholders inside and outside MOHME		
Lack of appropriate domestic evidence and lack of definition of thresholds and discount rates for calculating the budget impact		
Peer-review of HTA reports		
Inappropriate supervision and peer-review	√	
Disagreement over the validity of HTA reports		
Lengthiness of duration of HTA reports' peer-review		
Lack of simultaneous peer-review at each stage of the HTA project		
Lack of clear-cut frameworks for step-by-step supervision of the HTA		
Difficulties in publishing articles resulting from HTAs (that affects the trust in validity of results)		
Dissemination of HTA		
Lack of dissemination of report results in the target audience's language		√ Title of the project required: Development of an executable procedure for disseminating HTA results –aimed at promoting the application of HTA reports at different levels of decision-making in the health system
Lack of active dissemination of HTA reports to stakeholders		
Inappropriate presentation of results in the Higher Insurance Council meetings (the reports must first be reviewed during expert sessions and then decisions be made during important sessions)		
Lack of applicability at peripheral levels of HTA in organizations capable of purchasing		
Utilization of HTA results		

It is not clear how the HTA results are applied in the stakeholder organizations	√ Title of the project required: Development of a procedure for assessing the impact of utilizing HTA reports at different levels of decision-making in the health system