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Health technology assessment in Türkiye: Current status and perspectives on future implementation

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ABSTRACT

Objective: : Türkiye's health care system reforms have led not only to increased access to health care but also to rising pharmaceutical expenditures. Therefore, health technology assessment (HTA) has become an important tool for evaluating priorities in reimbursement and budget allocation. Our study aimed to describe the current HTA environment in Türkiye and explore long-term perspectives from a broad spectrum of Turkish stakeholders on the development of HTA in the next ten years.

Methods: : In 2019, we used a convenience sampling method to conduct an online survey with stakeholders from different areas in the health system. Additional face-to-face discussions were conducted to clarify answers when needed. We assessed the current evaluation process for pharmaceuticals and examined the need for HTA in Türkiye. Online survey data were extracted into Microsoft Excel for analysis. Quantitative data were summarised descriptively.

Results: : A total of 27 Turkish stakeholders completed the survey; 21 were employed in the public sector, and 6, in the private sector. The majority of participants (18/27) suggested introducing HTA for all new health technologies considered for public reimbursement and instituting an additional review process for currently reimbursed technologies. Most respondents (25/27) agreed that a threshold for cost-effectiveness should be applied in the next ten years.

Conclusion: : The stakeholders concurred that Türkiye must implement an HTA process soon. However, further discussion and interaction between stakeholders are essential to ensure a broad commitment to the implementation of a structured HTA process in Türkiye.

Introduction

Türkiye introduced Universal Health Coverage (UHC) to address unmet needs and reduce inequities in health care services. Currently, 98% of the population is covered by the national health system[1]. As the stewards of the health system, the Ministry of Health and Social Security Institution must set clear strategic priorities with transparent mechanisms to efficiently allocate resources to cost-effective interventions.

Significant changes were made in the provision and financing of healthcare services in Türkiye with the Health Transformation Programme which was introduced in 2003. This extensive reform, including the introduction of UHC, increased health expenditures through increased access to health care and expensive therapies[2]. However, sustainable healthcare spending must be ensured. HTA is an informative approach to use for reimbursement and pricing of healthcare services.

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Therefore, health technology assessment (HTA) is needed to enhance the allocative efficiency of health care resources[[3],[4]]. Health technology assessment (HTA) is an effective tool to support priority setting and generate evidence for decision making[5].

The updated and most comprehensive definition of HTA defined by International Network of Agencies for Health Technology Assessment (INAHTA) and Health Technology Assessment International (HTAi) recently; "HTA is a multidisciplinary process that uses explicit methods to determine the value of a health technology at different points in its lifecycle. The purpose is to inform decision-making in order to promote an equitable, efficient, and high-quality health system."[6]The primary purpose of HTA is to inform health care policy-makers and support evidence-based decisions[7]. HTA are often conducted by interdisciplinary groups that use explicit analytical frameworks, drawing on a variety of methods[8]. HTA methodology can be applied at the macro, meso, and micro levels. Macro-level HTA would be useful for the national health policy, meso level HTA would be used in hospitals or health units, and micro-level HTA would be used for clinical decisions[9].

Although HTA has been increasingly considered in health policy decisions in the Middle East and North Africa region, several core HTA components, specifically the health economic evaluation and clinical guidelines, are not widely or formally utilised in the pricing and reimbursement decisions of health technologies. On the other hand, there are some countries such as Tunisia that have developed HTA mechanisms in decision making process.[10]

In Türkiye, the Turkish Medicines and Medical Devices Agency (TMMDA) at the Ministry of Health is responsible for the marketing authorisation, and pricing of human medicinal products, whether they are reimbursable or not. The national reimbursement body, the Social Security Institution (SSI), is responsible for negotiating the public prices of reimbursed medicines and determining reimbursement conditions. Although HTA is a recent concept, its popularity has increased rapidly in the Turkish health care sector. Under the Health Transformation Programme, some changes related to HTA were implemented. During the restructuring of the Ministry of Health, the General Directorate of Health Research (now named the Health Services General Directorate - Research, Development and Health Technology Evaluation Department) was appointed the responsible authority for HTA studies and operations. The department published several HTA reports (for obesity surgery, smoking cessation, peritoneal dialysis, and hyperthermic intraperitoneal chemotherapy) and clinical guidelines (for prostate cancer, cataract surgery, total knee arthroplasty, and total hip arthroplasty)[11]. In 2012, the TMMDA established an HTA unit focusing on medicine reimbursement evaluation. Around the same time, in 2013, the SSI also established an HTA department, which later became a unit. Although there is no independent institution that performs HTAs, the HTA units of the TMMDA and SSI are both part of reimbursement decision-making, which has resulted in a fragmented evaluation process and potential duplication of efforts. Legislation that defines the responsibility and communication of these HTA bodies has not been published. Due to the absence of a single HTA body, payers cannot apply standard evaluation criteria or value assessment to new therapies. Besides governmental bodies, several non-governmental organisations (NGOs) are actively involved in HTA, and hospital-based HTA has been introduced[3].

In this study, we aimed to detail the current status of HTA implementation in Türkiye and assess recommendations for HTA in the future. By drawing on insights from national stakeholders, such as government bodies, NGOs, and the private sector, our study sought to provide an HTA implementation roadmap.

Methods

For our study, we used the HTA implementation scorecard developed by Kalo et al. and designed to support HTA implementation in several countries[[7],[12],[13],[7],[19],[17]]. This scorecard is based on the input of a survey that evaluates the current status and future preferences for HTA implementation in eight areas: capacity-building, financing, organisational structure, scope, decision criteria, quality and transparency, use of local data, and international collaboration[[12],[13]].

HTA implementation scorecard was designed and developed after several international meetings and a draft version was created during the driatic Pharmacoeconomic Congress in April 2015 in Sibenik, Croatia. The scorecard was developed with different focus points that have seen as areas in establishment and development of HTA implementation and capacity building. The scorecard would be helpful to review the current status of HTA implementation and plan long-term objectives. Summary of the scorecard provided in the Table-1.

A convenience sampling method was used to recruit stakeholders, including representatives of the Ministry of Health, the TMMDA, and the SSI, as well as academics, physicians, representatives of NGOs, and private sector representatives from pharmaceutical companies and consultancy firms.

We aimed to involve different stakeholders from each sector, and we recruited at least three persons per stakeholder group for the survey. The total number of respondents was planned to be approximately 30, which aligns with other published research projects conducted using the same scorecard[14].

During 2019, the structured survey was distributed electronically with an explanation about the survey's aim, and additional questions were addressed face-to-face or via phone. Participants consented to their survey responses being aggregated and used anonymously in scientific presentations and publications. If more than three answers per person were missing or invalid in the survey, the response was considered invalid and not aggregated in the summary statistics.

Differences observed between public and private sector respondents were evaluated. Data were analysed descriptively from the survey responses. Following the responses from participants of the survey, additional follow-up was performed with respondents to clarify outputs. Due to involving information publicly available, ethical approval was not needed to obtain for our study and survey. Because of low number of respondents, we could only perform a semi-quantitative analysis and did not include statistical tests for analysis.

Results

Overview

The survey was disseminated to 30 stakeholders, and of the 27 valid responses, 21 (78%) were employed in the public sector, and 6 (22%), in the private sector. More specifically, respondents from the public sector were potential HTA users, including representatives from payers, pricing and regulatory bodies, academia, NGOs, and health care providers. Due to the limited understanding of HTA among patients, we did not recruit them. Respondents from the private sector were from pharmaceutical companies and consulting firms. All survey respondents were from Türkiye (see Table 2).

Capacity-building

Regarding HTA education, only 3 of the 27 respondents had no HTA-related training, while 13 indicated they had undergone some project-based training in Türkiye. Although 8 respondents mentioned the current availability of postgraduate training, several of them were referring to a master's degree programme that was conducted at Hacettepe University (with the contribution of other well-known international universities of the world) between 2014 and 2016, which was discontinued [[7],[8]]. Twenty-two respondents recommended the establishment of permanent training within ten years, and most of them would prefer graduate and postgraduate programmes with short courses (see Table 3). Several respondents from the public sector had completed a postgraduate degree in HTA (33%, $n = 7$), while private sector respondents had more often completed project-based training (83%, $n =$

Table 1
Scorecard details.

1-HTA Capacity Building
Education (single choice)
No training
Project based training and short courses
Permanent graduate program with short courses
Permanent graduate and postgraduate program with short courses
2-HTA Funding
Financing critical appraisal of technology assessment (single choice)
No funding for critical appraisal of technology assessment reports or submissions
Dominantly private funding (e.g. submission fees) by manufacturers for the critical appraisal of technology assessment reports or submissions
Dominantly public funding for critical appraisal of technology assessment reports or submissions
Financing health technology assessment (i.e. HTA research) (single choice)
No public funding for technology assessment; private funding is not needed or expected
No or marginal public funding for research in HTA; private funding is expected
Sufficient public funding for research in HTA; private funding is also expected
HTA research is dominantly funded from public resources
3- Legislation on HTA
Legislation on the role of HTA process and recommendations in decision-making process (single choice)
No formal role of HTA in decision-making
Dominantly international HTA evidence is taken into account in decision-making
International and additionally local HTA evidence is taken into account in decision-making
Local HTA evidence is mandatory in decision-making
Legislation on organizational structure for HTA appraisal (single choice)
There is no public committee or institute for the appraisal process
Committee is appointed for the appraisal process
Committee is appointed for the appraisal process with support of academic centers and independent expert groups
A public HTA institute or agency is established to conduct formal appraisal of HTA reports or submissions
Public HTA institute or agency is established to conduct formal appraisal of HTA reports or submissions with support of academic centers and independent expert groups
Several public HTA bodies are established without central coordination of their activities
Several public HTA bodies are established with central coordination of their activities
4-Scope of HTA Implementation
Scope of technologies (multiple choice)
HTA is not applied to any health technologies
Pharmaceutical products
Medical devices
Prevention programs and technologies
Surgical interventions
Other scope of technologies (separated by commas)
Depth of HTA use in pricing and/or reimbursement decision of health technologies
HTA is not applied to any health technologies
Only new technologies with significant budget impact
Only new technologies
New technologies + revision of previous pricing and reimbursement decisions
5- Decision criteria
Decision categories (multiple choice)
None of the below categories are applied
Unmet medical need
Health care priority
Assessment of therapeutic value
Cost-effectiveness
Budget impact
Other decision categories (separated by commas)
Decision threshold (single choice)
Thresholds are not applied
Implicit thresholds are preferred
Explicit soft thresholds are applied in decisions
Explicit hard thresholds are applied in decisions
Multi-criteria decision analysis (single choice)
No explicit multi criteria decision framework is applied
Explicit multi criteria decision framework is applied
6- Quality and transparency of HTA implementation
Quality elements of HTA implementation (multiple choice)
None of the below quality elements are applied
Published methodological guidelines for HTA/economic evaluation
Regular follow-up research on HTA recommendations
Checklist to conduct formal appraisal of HTA reports or submissions exists but not available for public
Published checklist is applied to conduct formal appraisal of HTA reports or submissions
Transparency of HTA in policy decisions (single choice)
Technology assessment reports, critical appraisal and HTA recommendation are not published
HTA recommendation is published without details of technology assessment reports and critical appraisal
Transparent technology assessment reports, critical appraisals and HTA recommendations
Timeliness (single choice)
HTA submission and issuing recommendation have no transparent timelines
HTA submissions are accepted/conducted following a transparent calendar, but issuing recommendation has no transparent timelines
HTA submissions are accepted continuously and issuing recommendation has transparent timelines
7- Use of local data
Requirement of using local data in technology assessment (single choice)
No mandate to use local data
Mandate of using local data in certain categories without need for assessing the transferability of international evidence
Mandate of using local data in certain categories with need for assessing the transferability of international evidence
Access and availability of local data (single choice)
Limited availability or accessibility to local real world data
Up-to-date patient registries are available in certain disease areas, but payers' databases are not accessible for HTA doers
Payers' databases are accessible for HTA doers, patient registries are not available or accessible in the majority of disease areas
Up-to-date patient registries are available in certain disease areas and payers' databases are accessible for HTA doers
8- International collaboration
International collaboration, joint work on HTA (joint assessment reports) and national/regional adaptation (reuse) (single choice)
No involvement into joint work; and no reuse of joint work or national/regional HTA documents from other countries
Active involvement in joint work (e.g. EUnetHTA Rapid REA, full Core HTA)
National/regional adaptation (reuse) of joint HTA documents
National/regional adaptation (reuse) of national/regional work performed by other HTA bodies in other countries
International HTA courses for continuous education on HTA (single choice)
Limited interest in (1) developing / implementing of and (2) participating at international HTA courses
Interest only in regular participation at international HTA courses
High interest in (1) developing / implementing of and (2) participating at international HTA courses

Table 2
Demographics of survey respondents (N=27).

Main employment	
Public sector	21 (78%)
Private sector	6 (22%)
Field of work	
Decision-maker, policy-maker, the public payer (Social Security Institution), Ministry of Health (potential HTA user)	16 (59%)
Academic sector	3 (11%)
Public health care provider (e.g., clinician)	3 (11%)
Consultancy and Other	5 (19%)
Major training	
Economics	5 (19%)
Pharmacy	6 (22%)
Medicine	6 (22%)
Other health care (e.g. nursing, dietetics)	1 (4%)
Multidisciplinary (at least two master degrees from the above list)	5 (19%)
Other	4 (15%)

Table 3
Summary chart of survey outcomes.

Element	Recommendation
HTA capacity building	There is a need for post-graduate training to develop knowledge and help for HTA capacity building of HTA based on Türkiye's need.
HTA financing	Public funding is expected to be dominated for both HTA research and critical appraisal and additional submission fees from industry to reach balanced funding for critical appraisals.
Legislation, process and organizational structure of HTA	Availability or accessibility to real-world evidence needs to be increased. Use of local real-world data and local HTA evidence in decision making is needed There are two main options for the institutionalisation of HTA: 1. A central HTA agency with the support of academic networks 2. Multiple HTA bodies with or without academic support, preferably with central coordination.
Scope of HTA implementation	Extending the scope of HTA for all new health technologies applying for public reimbursement, together with an additional revision process of the former assessments, is recommended.
Decision criteria	Therapeutic value with cost-effectiveness with a sort of thresholds can be used. Budget impact needs to be a criterion in order to provide sustainable pharmaceutical expenditure. Several other factors, such as MCDA, can be in use to improve decision making.
Standardization of methodology, Quality and transparency of HTA implementation	A transparent calendar for HTA submissions and evaluation process needs to be ensured. Publicly available reports and evaluations with standardized published checklist would improve the process.
Use of local data	Improving local data and collecting real-world evidence is recommended with the availability of the payer's database.
International collaboration	Establishing or joining international collaborations are highly recommended. Joining international HTA courses is very important to increase the number of HTA experts in the future.

5). Almost all the respondents supported the development and implementation of a postgraduate programme.

Financing

More than half of the respondents ($n = 14$) indicated that there is currently no funding provided for HTA, and 14 respondents reported no funding for HTA appraisal. In the future, most participants ($n = 21$) would welcome sufficient public funding for HTA evaluation, and 24 respondents would support funding for HTA appraisal in the future (see Table 2). As there is no specific HTA body available in Türkiye, most of the respondents indicated that committee members of critical appraisal process are non-paid and no specific funding is available for the HTA process.

Organisational structure

About half of the respondents ($n = 14$) indicated that HTA currently has no formal role in the decision-making process, and 7 of them mentioned that only international HTA evidence was considered in decision-making. Notably, 23 of 27 respondents would prefer using more local HTA evidence for decision-making in the future. Fifteen respondents suggested that local evidence should have an additional role without mandating it, while 8 indicated that the use of local HTA evidence should be mandatory in decision-making in the future. Regarding the organisational structure, 9 respondents noted that, currently, there is no public committee or institute for the appraisal process, while 11 respondents indicated that there is a committee appointed for the appraisal process either with or without academic support. Most of the respondents ($n = 25$) highlighted the need for a public HTA institute or agency in the future either with ($n = 16$) or without ($n = 2$) academic support or for multiple HTA bodies ($n = 7$; see Table 3).

Scope

Ten respondents (37%) indicated that HTA is currently not applied to any health technology, while 16 respondents indicated that HTA is currently used for pharmaceuticals alone, and 13 respondents reported the use of HTA for other health technologies. Seventeen respondents supported using HTA for pharmaceutical products in the future. In contrast to the perceived current status, most respondents favoured expanding the scope of HTA for evaluating prevention programmes ($n = 22$) and medical devices ($n = 17$), while 15 respondents indicated that HTA should also be used for evaluating surgical interventions. Many of the participants ($n = 18$) supported the introduction of HTA for all new health technologies considered for public reimbursement together with an additional revision process for former assessments. However, 5 respondents indicated that, within the next ten years, only new technologies with significant budget impact should be evaluated using HTA. Most of the respondents recommended HTA for evaluating prevention programmes in the future.

Decision criteria

The majority of the respondents reported that budget impact analysis is currently the most important criterion in decision-making in Türkiye. Most participants suggested that decision-makers weigh the therapeutic value ($n = 22$) and cost-effectiveness ($n = 21$) in the reimbursement process. Budget impact ($n = 20$) and health care priority ($n = 18$) were rated the third and fourth most essential criteria in future decisions, while unmet medical need was deemed a vital decision-making criterion by 16 respondents. The majority ($n = 20$) of respondents reported that no threshold is applied currently to cost-effectiveness in Türkiye.

Most respondents ($n = 25$) agreed on the need for a cost-effectiveness threshold in the future. More specifically, only 4 respondents preferred using implicit (indirect) thresholds, and 13 respondents preferred applying soft explicit thresholds, which would allow deviation in exceptional cases (e.g., acceptance of higher incremental cost-effectiveness ratios for orphan drugs)[15]. Hard explicit thresholds without exceptions were only supported by 4 respondents. Most respondents ($n = 22$) indicated multi-criteria decision analysis (MCDA) as a preferred method in a future HTA framework. When comparing responses from different settings, the majority of public respondents expected an explicit threshold ($n = 18$), while the expectations of private sector respondents varied.

Quality and transparency

The majority of respondents ($n = 16$) reported that none of the quality elements, such as methodological guidelines and regular follow-up research on HTA recommendations, is currently used in HTA for decision-making in Türkiye. A publicly available critical appraisal checklist was recommended by 17 respondents to create a standard evaluation process for HTA submissions[16]. Furthermore, the availability of published methodological guidelines for HTA submissions was supported by 11 respondents, and more than one third ($n = 10$) of the respondents indicated the need to introduce regular follow-up research on previous HTA recommendations. Most respondents ($n = 18$) preferred full transparency by making the HTA agency's

recommendations and related appraisal reports available in the public domain, while about one fifth of the participants ($n = 9$) preferred publishing only the HTA recommendations. Nearly all participants ($n = 26$) favoured transparency of calendar in the HTA submissions process.

Use of local data

Eleven respondents indicated that using local data for HTA is not mandatory in Türkiye, although 12 respondents indicated that the use of local data is mandatory in specific categories. Most ($n = 22$) participants favoured mandating the use of local and reliable data in specific categories and assessing the transferability of international evidence. In particular, respondents from the public sector preferred the increased use of local data ($n = 14$), while private sector respondents preferred international evidence ($n = 2$) in addition to the use of mandatory HTA evidence in decision-making ($n = 2$). Nineteen of the respondents reported limited availability or accessibility of local real-world data. Notably, 17 respondents preferred changing this practice regarding the real-world data and investing in up-to-date registries and practices to provide payers' databases available for preparing evidence for HTA submissions.

International collaboration

Eighteen respondents indicated that, currently, there is no active initiative available or joint work and adaptation of joint work or national/regional HTA documents from other countries. However, almost all ($n = 25$) respondents would like to engage in international collaboration in the future, and 24 respondents preferred the national adaptation (reuse) of joint HTA reports. About one third of respondents ($n = 9$) were interested in regular participation in international HTA courses, while more than 50% of the respondents ($n = 17$) were interested in developing or participating in international HTA courses; 9 of the respondents were interested only in participating in these courses.

The survey results are detailed in Appendix 1.

Discussion

HTA intends to support decision-makers with the available evidence on emerging and commonly used health technology to guide policy decisions in various contexts. In this survey, we assessed the current environment of HTA in Türkiye and explored long-term preferences from a broad spectrum of Turkish stakeholders regarding the use of HTA in the future.

The survey results indicated significant gaps between the current and preferred status of HTA implementation. As HTA systems require sufficiently trained experts in both the public and private sectors, Turkish stakeholders supported domestic options for graduate and postgraduate training. Short courses providing from Universities or Associations would meet with some of the expectations in short term while graduate and postgraduate programmes can support this in medium or long term. In the meantime related public authorities, universities and industry have significant workforce in HTA related areas. Though survey respondents reported that HTA currently has no formal role in decision-making, stakeholders expected the use of local data and HTA elements such as therapeutic value and cost-effectiveness, to increase in the future. Survey findings indicate public funding as the preferred financing for the appraisal process, while the technology assessment (i.e., scientific research process) should keep balance with the public and private funding. Currently HTA units in different bodies do not receive specific funding for HTA and this would be a reason of limited capacity and resources. The institutionalisation of HTA necessitates an independent HTA agency, which evaluates both pharmaceutical and non-pharmaceutical technologies at launch and reviews previous policy decisions. The Agency also take responsibility for prevention programmes that would develop a plan to decrease burden of chronic diseases on future. For decision criteria, respondents indicated that budget impact, therapeutic value, cost-effectiveness (based on a threshold), and health care priority should play important roles in the future. On the other hand, cost-effectiveness threshold will be important to define, but establishment of the methodological and process guidelines are probably even more important on the short term. Philippine HTA process guideline clearly defines appraisal and decision making process[[22], [23]]. The guideline aims to define which health interventions are considered cost-effective (CE) varies with CE level and total users.

Stakeholders expected more transparency in decision-making and the publication of appraisal reports. Finally, the participants concluded that international collaborations would be helpful both in joint works and education. Based on the survey we understand that most of the respondents have medium or high level understanding of HTA and economic evaluation due to increased knowledge in related topics in recent years. Short courses and trainings would help to increase the knowledge in short term period.

We see consensus on significant elements of HTA implementation with other countries and regions that used the same scorecard. Survey results from Romania indicated that a more efficient HTA system should result from the continued educational and methodological enhancement of current operations. Findings also indicated that the evidence gathered locally should be prioritised in policy decisions[18]. Romania's roadmap establishes long-term objectives centred on multi-stakeholder discussions in line with the HTA institutionalisation process supported by international organisations.

Another study based on this scorecard[17] indicated that Ukraine, still in the beginning stages of HTA implementation in 2016, needed to increase HTA expertise and establish formal HTA processes. Similarly to Turkish respondents, all Ukrainian experts supported HTA implementation for pharmaceuticals; most of the experts preferred a cost-effectiveness criterion and indicated health care as a priority in the evaluation process. The majority of Ukrainian experts (81%) preferred public funding for HTA appraisal in the future. After the publication of the survey results in 2020, new regulation in Ukraine proposed an independent HTA agency, authorised by the Ministry of Health to temporarily perform HTA functions, set detailed HTA procedures for medicines (including fast-track and regular assessments), and mandate the launch of HTAs for medical devices in 2022.

According to a regional survey in the Middle East and North Africa (MENA), HTA execution in the region was still in the initial phase[5]. The authors indicated that the quality of HTA outputs could be enhanced by implementing standard procedures that establish HTA deliverables and time frames. The critical appraisal of HTA dossiers in MENA countries would require expanded public funding. Most respondents mentioned limited options for HTA training, mainly short courses with industry sponsorships; hence, they supported more permanent graduate or postgraduate programmes in the future.

Based on a Latin American survey, countries in the region were upgrading their HTA systems according to their national requirements [12]. Similarly to Türkiye, almost all survey participants supported graduate and postgraduate programmes in the future. While half of the respondents reported that, currently, HTA has no formal role in the decision-making process, almost all respondents preferred formal HTA processes for pharmaceuticals, medical devices, and prevention programmes and the use of local data in the future. The majority of respondents preferred increasing the roles of cost-effectiveness, budget impact, and therapeutic value criteria in the future. Respondents noted that HTA reports and appraisals were not publicly available; they supported making HTA reports and appraisals accessible. Most of the respondents indicated that the use of local data was not currently necessary, but they supported its use in the future. Almost all respondents asserted that joining international collaborations would be helpful for both decision-making and capacity-building[7].

Most of the respondents in other countries share an expectation for the role of HTA in decision-making. While HTA currently has a limited

formal role in policy decisions, the majority of experts in Türkiye, Ukraine, Romania, MENA, and Latin America supported applying HTA to future policy decisions. Budget impact and cost-effectiveness were mentioned as the top criteria; however, in all regions, respondents supported the use of other criteria, such as unmet medical needs and therapeutic value. Increased transparency, methodological guidelines, and checklists for appraisal were expected for all published studies. The use of local health data is currently possible only in Türkiye, but respondents expected accessible real-world data for HTA submissions in the future. Furthermore, respondents from Türkiye, Ukraine, Romania, MENA, and Latin America preferred relying on economic evidence based on local data[7],[19],[18],[20].

Each country applies its own policy; however, it is important to increase communication among authorities in terms of exchanging best practices and sharing information. Türkiye can also benefit from experiences in the Asia region for HTA development and institutionalization that may be potentially applicable and useful[26–29].

In countries with severe resource constraints, the Scottish Medical Consortium is often referenced as an efficient HTA organisation despite its small size and low budget[4]. Based on the Scottish experience, several middle-income countries, including those in Central and Eastern Europe, decided that health technology manufacturers should be responsible for generating and funding HTA evidence in submission dossiers[4]. HTA capacity in the early phases may not be sufficient to support a wide range of services or decision domains; thus, prioritisation would be necessary. It is crucial to start embedding HTA in legislation, even if it does not cover a broad scope of services or decisions. First, HTA can be used to evaluate new pharmaceuticals with a high expected budget impact, as it has in some MENA countries[7]. An example of applying HTA, especially for high-cost medicines or medicines with high budget impact, in support of the development of the pharmaceutical reimbursement list is from Thailand[25]. Survey findings support the prioritisation of evaluation based on the country specific needs.

Public HTA bodies should mainly be responsible for critically appraising submitted evidence. While opinions differ among survey respondents in different regions on the reliance on private funding for HTA (based on submission fees for pharmaceutical reimbursement dossiers), the importance of balanced public funding was highlighted in every region.

Condensing to the approval of medicines and medical devices with Türkiye's public resources, a powerful HTA body can play a crucial role in improving allocative efficiency and facilitating evidence-based decisions. Reliable and accessible local data are crucial for appraisal. The role of local evidence must be developed based on patient registries and payers' databases. Currently, using local data can be difficult because electronic patient records may not be comprehensive. However, full dependence on international data for decision-making may cause more harm than good[18]. International data needs first to be assessed for transferability, and often, cost elements are not transferable[20]. What is cost-effective and affordable in one country may not be cost-effective and affordable in other countries, economic calculations should be local [24]. For this reason, using international relative effectiveness evidence in parallel with the best available local cost data while increasing the local data quality would be optimal for developing an HTA mechanism. When the capacity and resources to conduct economic evaluations domestically are limited, transferable elements of existing such results may be considered[24].

Finally, to avoid the duplication of work, international collaborations can advance research that is transferable across countries. Türkiye may benefit from joining the EUnetHTA with an independent HTA body in the future. Several countries have already established regional collaborations, such as Beneluxa (BE, NL, LU, AT, IE)[21] and the Nordic Pharmaceutical Forum (NO, SW, DK)[21], to improve the efficiency of HTA and price negotiation processes. The quality and transparency of the HTA process should be improved[13]. Publicly available HTA reports would increase the effective use of healthcare resources and address critical voices related to both negative and positive reimbursement decisions. Further studies should be performed to understand the effects and impact of the transferability of HTA evidence from other jurisdictions to the Turkish healthcare system.

The strength of our study lies in the use of the scorecard that has previously been applied in several countries to identify the expectations of HTA in the future. A limitation is the low number of respondents due to the limited number of Turkish experts with understanding and experience of HTA principles. We believe that further studies, including workshops on specific topics, would be helpful to determine a more detailed pathway for HTA implementation in Türkiye.

Our survey demonstrates that there is a large appetite for the development of an HTA roadmap for Türkiye. To develop HTA, there is a need for the development of local postgraduate training programmes to enhance human resources capacity in Türkiye. With the Health Transformation Programme, all projects and reforms from past to present were reviewed, and changes necessary to design the future healthcare system and transition to this system were planned. One challenge in the next decade will be managing new high-cost therapies in smaller patient populations within a sustainable healthcare budget. Multi-stakeholder discussions and interactions, such as workshops, are essential to ensure a broad commitment to implementing a structural HTA process in Türkiye.

Concise summary of the article

The current HTA environment in Türkiye and explore long-term perspectives and suggestions from a broad spectrum of Turkish stakeholders regarding the preferred status of HTA on future.

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Not required.

Author contribution

Z.K. and A.N.F. designed the survey model, E.K.A conducted surveys, E.K.A and A.N.F analysed the data and summarised the outcomes, A.M.T and W.G. evaluated the idea and study aim, gave inputs for methodology and outcomes. G.O and Z.C. and H.K. reviewed the study aim and gave inputs for Turkish Healthcare System,

E.K.A took the lead in writing the manuscript with input from all authors. H.K worked on concept and gave input during writing and revision.

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Declaration of Competing Interest

Kağan Atikeler is currently employed at Sanofi Türkiye.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.hlpt.2022.100701.

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