International Journal of Technology Assessment in Health Care, 34:1 (2018), 97–104.

doi:10.1017/S0266462317001039

STAKEHOLDERS' PERCEPTIONS OF HEALTH TECHNOLOGY ASSESSMENT IN TURKEY

Kirstin Ozturk
Turkish Science & Technology Research Council
kirstin.ozturk@tubitak.gov.tr

Bilgehan Karadayı
Olgun Şener
Turkish Ministry of Health

Background: In April of 2014, the Turkish Ministry of Health held the First Annual Health Technology Assessment (HTA) Meeting in Antalya.
Objectives: The objectives were to understand the perceptions of stakeholders regarding the current status of HTA and document their recommendations and strategies for promoting systematic use of HTA in Turkey.
Methods: The study was conducted using a qualitative written survey assessing current compliance with the fifteen HTA principles suggested by Drummond et al. (*Key principles for the improved conduct of health technology assessments for resource allocation decision. Int J Technol Assess Health Care. 2008;24:244–258*) and a qualitative method referred to as the Collective Intelligence Platform®.
Results: A total of 216 stakeholders representing academic, public, and the private health sector attended the annual meeting; 178 completed the survey and 183 participated in the Platform. Quantitative Results: Survey participants reported that, although Turkey does not currently fully comply with any of the fifteen HTA principles, there is some compliance with all of them. The overall average score for all fifteen principles was 3.04. Quantitivate Results: Participants recommended a more transparent, independent, and evidence-based policy decision-making system through better coordination of HTA activities, data aggregation, capacity development, and a national HTA core model and framework.
Conclusions: Platform participants described the current HTA environment as disjointed and lacking in resources and support from policy-making leaders. Despite the persisting challenges, awareness of the strengths and weaknesses of the current system combined with increasing interaction among Turkish stakeholders and the international HTA community can meaningfully contribute to the continued development and promotion of HTA in Turkey.

Keywords: Health technology assessment, Turkey, Policy development

Turkey is not alone in facing the iron triangle of access, quality and cost in an environment of unlimited demand and limited resources. According to 2013 data, among all Organisation for Economic Cooperation and Development (OECD) countries, Turkey has the lowest total health expenditures as a percent of gross domestic product (GDP) at 5.1 percent (the OECD average was 8.9 percent). The total expenditures on health per capita (PPP) were US$ 941 compared with the OECD average of US$ 3,453 and it is noteworthy that 78 percent of Turkish healthcare expenditures were public. Despite having limited resources, the number of physician consultations per capita was 8.2 compared with the OECD average of 7.1.

Another reason for increasing demand has been increased access. One of the most significant areas of reform included an overhaul of the universal health insurance system. The Social Security Institution (SSI), the national universal health insurance scheme, merged several public social security schemes into one general health insurance program. SSI was also successful in practically eliminating the informal sector. In 2003, only 68 percent were covered under the national health insurance scheme, but as of 2015, the SSI covered 65 million or 85 percent of Turkey's citizens and legal residents. While the decade of radical health system reform that began in 2001 has led to improved access and quality of care, national healthcare expenditures in Turkey have increased 10-fold with an unsustainable average growth of 7.7 percent per year (1;2). The current strategic plans of the Ministry of Health (3), the Turkish Public Hospital Institution (4), and the Turkish Public Health Institution (5) include goals related to scientific and systematic policy making.

Health technology assessment (HTA) offers health policy decision makers a methodology to conduct holistic assessments of rapidly developing health technologies, but the use of HTA in Turkey is still relatively new. This study attempts to understand the perceptions of stakeholders regarding the current status of health technology assessment and document their recommendations and strategies for promoting systematic use of health technology assessment in Turkey.

BACKGROUND

Turkey began exploring HTA at a national level in 2012 with a cooperative initiative between the Ministry of Health and England's NICE. The co-operation focused on developing evidence-informed guidance for elective c-section

The authors thank Hasan Karabakkal, Merve Sahin, Hanife Billerlioğlu, Burcu Deniz Tulek, Bakı Doga Gunay, Orhan Dursun, Batuhan Demir, Ayfer Maraba, Aslihan Beyan, and Elife Dilmac for their assistance with this study. This research received no specific grant from any funding agency, commercial or not-for-profit sectors. The authors have no potential conflicts of interest to disclose.

deliveries, building HTA capacity within the Ministry, and evaluating the family physician scheme within the context of universal health care. In 2013, the Ministry of Health (MoH) and the Social Security Institute (SSI) established three separate HTA departments. The two offices of the MoH were placed within the Health Research General Directorate (SAGEM) and the Turkish Medicines and Medical Devices Agency (TITCK). To date, these offices have published eight HTA reports on their Web sites.

The SSI office was established under the General Health Insurance General Directorate, which manages the nation's universal health insurance scheme covering 98 percent of the Turkish population (6). It has not produced any HTA reports to date, but successfully completed two initiatives related to HTA use in approving drugs for licensing and reimbursement decisions. The completed projects involved revising the process for drug applications and review to include HTA principles as well as capacity building training for the staff of decision-making bodies within the MoH, the SSI, the Treasury Department, the Turkish Pharmaceutical and Medical Devices Commission, the Ministry of Economics, and the Ministry of Development.

In 2009, the MoH received US$75 million for a Health System Strengthening and Support Project, which included plans for four HTA studies (currently at the Expression of Interest stage), a workshop to form a national institution for HTA (held July 14–15, 2016), a second national HTA conference (held November 16–18, 2016), membership fees for international HTA organizations (including EUnetHTA, HTAi, INAHTA, and ISPOR), subscriptions to databases (including EMBASE, SCOPUS, and the Cochrane Library), and workshops to strengthen university cooperation for HTA work and prepare national HTA guidelines in 2017 (7). The second phase of the Health System Strengthening and Support Project recently funded by the World Bank for US$134 million includes plans for at least twelve HTAs on prioritized topics to be completed and published by the year 2020 (8).

METHODS

The authors designed the methodology to best use the opportunity to reach 250 individuals invited by the Ministry of Health to attend the First Annual Health Technology Assessment Meeting as existing or potential stakeholders in the Turkish health system. The invitation list was prepared by the HTA department within the MoH Health Research General Directorate by first preparing a list of academic organizations actively working in HTA related areas, organizations that are involved in national level health policy and service delivery, MoH hospitals in each of the seven regions of Turkey, public organizations working with the Economic Coordination Council, SSI, and private and nongovernmental organizations in the Turkish health system. The maximum number of attendees was determined by the event's budget and the capacity of the facility. The slots were distributed among the selected organizations by the MoH. Each organization was then asked to submit a list of "academics/managers/employees or individuals actively working in the field of HTA, particularly health economics, finance or health policy." The individuals listed were then sent personalized invitations to the event.

Of those invited, 216 (86 percent) individuals signed the distributed attendance sheet. We developed two approaches to reach our research objectives: a quantitative survey and a qualitative research method developed by the Turkish National Science & Technology Research Council's Managament Sciences Institute (TÜBİTAK TÜSSİDE) referred to as the Collective Intelligence Platform (OAP®). A total of 178 attendees (83 percent) completed the survey and 183 attendees (85 percent) participated in the Platform. There were thirty-four invited individuals who declined to attend the meeting and thirty-three attendees who declined to participate in the survey or the OAP.

Quantitative Methodology

The written survey contained nineteen questions and was divided into two sections. Section I was a self-assessment of respondents' awareness of HTA, how HTA is related to their work, as well as their familiarity with Turkish HTA publications, Turkish and/or international HTA Web sites and organizations. Section II asked participants to rate on a scale of 1–4 how well they thought each of the fifteen principles presented by Drummond et al. were achieved in HTA projects in Turkey. The survey was distributed to all attendees of the First Annual Health Technology Assessment Meeting in a large hotel conference room in Antalya during the welcoming statements of the meeting and collected before the first presentation. Results were transcribed by the main researchers and analyzed using SPSS® 17.0.

Qualitative Methodology

The Collective Intelligence Platform® was conducted over two sessions on the first day of the meeting. The Platform methodology is a patented and reproducible qualitative research tool developed at TÜBİTAK TÜSSİDE. Participants were assigned evenly among eighteen roundtables by the research team to ensure a mixed representation of stakeholders at each table. Distribution was designed to prevent dominance or supression among group members. Each group contained 10–11 members representing physicians, pharmacists, delegates from the private sector, researchers and academics, public officials, engineers, and economists.

Participants were given placemats printed with terms and definitions, a basic description of the HTA process, a list of stakeholders, and a Turkish translation of the key principles of HTA proposed by Drummond et al. (9).

In the first session, participants were given a set amount of time to independently write statements assessing the strengths

https://doi.org/10.1017/S0266462317001039 Published online by Cambridge University Press

Table 1. Self-reported HTA Activities by Organization (216 Respondents)

Respondents' organizations:	Ministry of Health	National public hospital institution	Universities	Private sector	Social security institution	Other public organizations
HTA activities (*mutliple responses permitted)*	n	n	n	n	n	n
Coordinating HTA activities	27	10	4	2	5	1
Producing HTA	20	7	3	10	2	1
Developing clinical guidelines	26	8	2	2	2	1
Reimbursement decision making	17	10	3	3	3	2
Using HTA reports for decision support	10	8	1	4	3	2
None of the above	16	12	17	7	3	3

HTA, health technology assessment.

and weaknesses of current HTA processes in Turkey on self adhesive notes (one statement per self adhesive note). Each table was then asked to synthesize their notes by removing duplicates and stick the unique statements on a flipchart stand visible to all group members. Members were then asked to individually select six statements from the board that they believed to be most important and submit their votes to the research team.

Researchers tallied up the votes from each table and presented each group's top six priorities back to them in the second session for respondent validation. Group members were then asked to develop recommendations to improve each of the six priorities using a form to ensure a standard level of detail for each recommendation. All self adhesive notes, flip chart sheets and forms were collected and labeled with group number by the researchers, transcribed, coded, and analyzed using NVivo®10.

RESULTS

Quantitative Results

The largest group of attendees completing the survey represented various directorates within the MoH, including Health Research, Health Services, Health Management, the Public Health Institution, the Turkish Medicines and Medical Devices Agency, and the Minister's office. Major MoH divisions have been separated in the table. Academic representatives were from ten universities and one teaching hospital in Istanbul, Ankara, Izmir, Konya, and Kayseri. All but one of the private sector representatives were from pharmaceutical companies. One representative from a private sector consulting company and one representative from a nonprofit pharmaceutical organization attended. Respondents were asked which if any HTA activities were conducted at their organizations ($n = 216$). In response, forty-nine respondents said "Coordinating HTA Activities," forty-three said "Producing HTA," forty-one said "Developing Clinical Guidelines," thirty-eight said "Reimbursement Decision Making," and twenty-eight said "Using HTA reports for decision support." Fifty-eight respondents said their organization did not conduct any HTA-related activities. Responses by organization are summarized in Table 1.

Respondents were asked if they had ever visited any of the eleven HTA related Web sites listed on the survey. A total of 136 respondents (76 percent) reported having visited www.hta.gov.tr, the MoH's HTA Web site and seventy-eight (44 percent) visited the MoH's clinical guideline dissemination Web site. Thirty-three (19 percent) visited the Ankara Teaching and Research Hospital's hospital-based HTA Web site. With regard to international Web sites, seventy-five (42 percent) had visited the National Excellence for Health & Care Excellence (NICE) Web site, sixty-five (37 percent) had visited HTA International (HTAi), fifty (28 percent) had visited EUnetHTA, forty-seven (26 percent) had visited the International Society of Pharmacoeconomics and Outcomes Research (ISPOR), forty (22 percent) had visited Germany's Institute for Quality and Efficiency in Health Care (IQWIG), twenty-four (10 percent) had visited the Canadian Agency for Drugs & Technology (CADTH), eighteen (10 percent) had visited the Swedish Council on HTA (SBU), and fifteen (8 percent) had visited the Danish Health & Medicines Authority Web sites.

When asked about HTA projects done in Turkey, 103 (58 percent) of respondents said they had no knowledge of any HTA projects. Of the seventy-five (42 percent) respondents that said they did have knowledge of HTA projects done in Turkey, of those, forty-eight (64 percent) were able to name specific HTA projects.

With regard to respondents' self assessment of their knowledge and awareness regarding HTA, thirty-three (19 percent) described themselves as advanced, sixty-eight (38 percent) intermediate, and fifty-one (29 percent) low. Twenty-six (15 percent) said they had no prior knowledge or awareness of HTA. These twenty-six respondents were asked to end the survey at this point. The others were asked to continue to the final section of the survey regarding the fifteen principles of HTA proposed by Drummond et al. (9). Respondents were asked to rate

https://doi.org/10.1017/S0266462317001039 Published online by Cambridge University Press

Table 2. Assessment of Turkish HTA System According to HTA Principles

Assess the current Turkish HTA system according to the following HTA principles on a scale of 1 to 4 (Drummond et al., 2008) 1=Disagree; 2=Partially Agree; 3=Agree; 4=Definitely Agree		Average score
1.	A clear system for setting priorities for HTA exists.	2.61
2.	The goal and scope of the HTA is explicit and relevant to its use.	2.96
3.	HTA is an unbiased and transparent exercise.	3.07
4.	HTA includes all relevant technologies.	3.15
5.	HTA is timely.	2.97
6.	Those conducting HTAs actively engage all key stakeholder groups.	3.06
7.	HTAs explicitly characterize uncertainty surrounding estimates.	3.04
8.	The link between HTA and decision-making processes is transparent and clearly defined.	2.97
9.	Those undertaking HTAs actively seek all available data.	3.09
10.	HTA incorporates appropriate methods for assessing costs and benefits.	3.20
11.	HTAs consider a wide range of evidence and outcomes.	3.28
12.	A full societal perspective is considered when undertaking HTAs	3.13
13.	HTA findings are communicated appropriately to different decision makers.	3.11
14.	The implementation of HTA findings is monitored.	3.00
15.	HTAs consider and address issues of generalizability and transferability.	2.98

HTA, health technology assessment.

Turkish HTA activities on their compliance with each of the principles on a scale of 1–4 (disagree to agree). The results can be seen in Table 2. The lowest score was given to the first principle (A clear system for setting priorities for HTA exists), while the highest score was given to the 11th principle (HTAs consider a wide range of evidence and outcomes). The overall average score for all fifteen principles was 3.04.

Qualitative Results

A total of 183 attendees (82 percent) participated in the Collective Intelligence Platform®. The top six priority statements were prioritized by participants individually and tallied up to identify priorities for the group. Some statements contained more than one theme (for example, the statement "there are not enough public sector positions dedicated to HTA and universities do not offer enough HTA training"). These were split into separate statements during the coding process resulting in more than six priorities for some of the eighteen groups. The prioritized statements about the current Turkish HTA system were coded under eleven reoccurring themes. In descending order of prioritization, participants identified a lack of coordination among institutions, problems in the production of HTA, problems regarding access to data and the ability to transform data into knowledge, problems related with the usage of HTA, a lack of awareness about HTA, inadequate capacity, the need for support from the executive level, a lack of communication among stakeholders, a need for a national HTA strategy, sustainability, insufficiency of methodology, and a need for financial support.

Each group then developed recommendations for each of the priorities they had identified using a standardized form. The most frequently repeated recommendations among the groups centered around developing a national framework to coordinate and conduct HTA work that establishes common definitions, models, data sources, and methodology. Many groups encouraged the establishment of a new independent organization for this purpose. Other areas of focus included the consolidation, standardization and sharing of data needed for HTA projects and the development of a local quality-adjusted life-years (QALYs) value set. Some groups suggested that producers of HTA should be certified to ensure standardization and quality. Several recommendations addressed issues of capacity including train-the-trainer, university degree programs, conferences and international collaborations. Finally, the groups offered several suggestions to increase awareness of how HTA can support decision makers at the executive level including lobbying, mandatory usage of HTA, and targeted reporting. The results of this qualitative study have been summarized in Table 3.

DISCUSSION

In 2008, before any HTA departments had been established in Turkey, Kahveci and Meads (10) analyzed the strengths, weaknesses, opportunities, and threats (SWOT) in the development of HTA in Turkey by interviewing stakeholders in the Turkish healthcare system. The results of that qualitative study are summarized in Table 4.

Since 2008, there has been some improvement in the areas of weakness identified by Kahveci and Meads, specifically around awareness, availability, and quality of data, and interest by universities. In general, participants showed increased acceptance that continuing with the current policy development system will mean a continuing rise in unsustainable healthcare expenditures, but weaknesses around poor multi-disciplinary collaboration, tradional "expert-based" decision making, and a lack of human resources to support HTA continue to be challenges.

A recently implemented national strategy to increase drug and biomedical technology manufacturing in Turkey (11) and

https://doi.org/10.1017/S0266462317001039 Published online by Cambridge University Press

Table 3. Current Status Assessment: Prioritized Statements Coded by Themes

Theme	Assessment of current HTA system in Turkey Examples of group statements	Recommendations for Improvement Examples of recommendations repeated among groups
Methodology	26 prioritized statements • "We do not have a national HTA strategy." • "Our country doesn't have a standard HTA model." • "Topics are selected without sufficient research and analysis." • "Clinical studies based in Turkey are few in number, insufficient and access to existing studies is limited." • "Too much priority is given to cost reduction and not enough is given to quality- particularly clinical quality." • "Reports are not disseminated effectively." • "HTA recommendations are not enforced." • "The impact of HTA reports is not measured." • "Turkey does not have a local QALY index to be used in cost-benefit analyses."	• "Transparent, scientific, and independent procedures and a handbook should be developed for the HTA process." • "A national database of HTA reports should be established that can be accessed openly." • "Producers of HTA should be certified." • "National Clinical Guidelines should be published to support evidence based decision making." • "A QALY valuation index should be developed for our country."
Coordination	25 prioritized statements • "There is insufficient collaboration among stakeholders." • "Information shared among stakeholders is not clear or accurate." • "The conflicting authority given to the organizations (MoH, SSI) is an obstacle to collaboration." • "The organizational structure and equipment are insufficient in HTA practice." • "Especially in the public sector, new leaders start from scratch instead of continuing with previous leaders' projects and this wastes time."	• "An independent organization should be established to coordinate universities, public organizations, private firms and NGOs." • "All organizations should support consensus and harmony with regard to terminology." • "The job descriptions of units involved in HTA should be clearly defined in the legislation." • "Turkey should apply to host international HTA meetings (ie. ISPOR, NICE, INAHTA)." • "Regular meetings should be organized where stakeholders can meet face to face to share their work and knowledge (once every three months)." • "Space should be given to ideas generated outside of centralized management."
Data and knowledge	15 prioritized statements • "Lack of data sets" • "Non-standardization of data" • "Data is not consolidated under one system" • "It is difficult to access data"	• "A national health data warehouse should be built that integrates and standardizes data from various stakeholders." • "Legislation about protection of and access to data should be improved."
Use of HTA	10 prioritized statements • "Decisions are not based on scientific evidence, but on individual opinions and experience." • "We do not have a culture of evidence-based decision making." • "Producers of independent and resource-heavy HTA reports worry that decision makers will not pay attention to them and this affects motivation."	• "Reports should be shared openly with all stakeholders and open meetings should be held to assess the impact of reports."
Human resources	10 prioritized statements • "We have a deficit of employees with experience regarding HTA" • "Existing qualified human reources are not sufficiently motivated or utilized in a coordinated way."	• "Reciprocal staff exchange programs should be established."

https://doi.org/10.1017/S0266462317001039 Published online by Cambridge University Press

Table 3. Continued

Awareness	10 prioritized statements • "Healthcare professionals believe HTA to be a budget cutting tool" • "Top level policy decision makers (Ministry of Health, Social Security Institute, etc.) are not sufficiently aware of HTA."	• "National health system conferences should include HTA as a topic heading." • "Awareness messages should be sent to targeted audiences like physicians and firms (drug and medical devices)." • "Patient focused NGOs should be encouraged to participate." • "Scientific panels should be organized with newly identified stakeholders."
Training	8 prioritized statements • "There isn't a training organization that includes HTA in its scope" • "Our academic environment is not developed enough to be able to bring HTA projects to life in our country."	• "First, certificate programs should be developed within multi-disciplinary (social, engineering, and health fields) branches; then add government and sector focused distance or formal training programs" • "Undergraduate and Graduate Health Sciences programs should include a class on HTA." • "Relevant organizations (MoH, SSI) should give preferred hiring status to applicants who have had HTA training." • "Clinical engineering departments should be more active." • "International training opportunities should be developed."
Stakeholders	7 prioritized statements • "Needs and assessments are only done from the perspective of clinical demand and clinicians" • "In determining national health technology policies, qualified individuals should be kept in their positions" • "Not all stakeholders are participating." • "The private sector (industry) is not given enough of a voice in HTA."	• "Different commissions (stakeholders) should be developed depending on the technology to be assessed." • "Individuals who have basic HTA training should form a group that can train others and also be further trained themselves." • "The private sector should contribute. Industry should have a say. All justifiable decisions should be shared with industry."
Executive level support	7 prioritized statements • "Health policy decision makers do not believe in HTA enough." • "Current legislation should be developed more to support HTA."	• "A list of necessary infrastructure components should be developed and included in the national budget." • "The Turkish National Parliament's Health Commission should be informed of all HTA activities to highlight their importance." • "The Ministers of relevant ministries should be given an informative presentation." • "Research should be conducted to identify barriers to supporting HTA among policy makers." • "Lobbying activities are needed from the ground up." • "Reports should be presented within the context of political and economic processes so that the projected impact and how decision mechanisms contribute to that impact is clearly explained."
Financial support	3 prioritized statements • "There are no specified national or ministry level budgets dedicated to HTA."	• "HTA research should be added as a national budget line item." • "Public hospitals should increase their budgets for research and development."

HTA, health technology assessment; QALY, quality-adjusted life-year; NGO, nongovernmental organization; ISPOR, International Society for Pharmacoeconomics and Outcomes Research; NICE, National Institute for Health and Clinical Excellence; INAHTA, *International Network of Agencies for Health Technology Assessment.*

https://doi.org/10.1017/S0266462317001039 Published online by Cambridge University Press

Table 4. SWOT Analysis for HTA in Turkey (Kahveci)

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

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

the recent approval of legislation in 2014 to establish a national health sciences institute under the MoH (12), are expected to put new pressures on licensing and reimbursement policies. Also, in January of 2015, the Turkish Parliament approved legislation that established a Scientific Advisory Council for the SSI that is charged with providing evidence to support policy development (13). Kahveci et al. recently published a follow-up analysis of Turkey's policy changes in the Turkish health system and developments regarding HTA that concluded by recommending HTA be given a larger role in guiding policy development to optimize investments by promoting evidence-based policy making, developing better collaboration among stakeholders, and increasing awareness of HTA methodology (14).

The results of this qualitative study address the same issues identified in WHO resolution WHA7.23 Health Intervention and Technology Assessment in Support of Universal Health Coverage (UHC), which was approved in May of 2014 at the 67th World Health Assembly (15). The resolution urges Member States to consider taking eight steps regarding the use of HTA that include establishing national systems of health intervention and technology assessment, strengthening the link between HTA and regulation and management, developing national guidelines and monitoring systems, collaborating with other Member States to collect and share information and lessons learnt, developing and improving the collection of data to improve assessment capacity, identifying gaps with regard to promoting and implementing evidence-based health policy, and consolidating and promoting HTA within national frameworks like health system research, health professional education, health system strengthening, and UHC. The recommendations of the stakeholders participating in this study matched with all of the WHO resolution steps except for the last step, presumably because it requires a maturity that has not yet been reached in the Turkish HTA environment.

Overall, platform participants described the current HTA environment as disjointed and lacking in resources and support from policy-making leaders. One of the strongest recommended strategies for improving the HTA environment was developing a more transparent, independent, and evidence-based policy decision-making system by coordinating HTA activities under one independent umbrella organization. A first step toward consolidation took place when the SSI dissolved its HTA division in February of 2017 and committed to working with the MoH HTA organization. It is noteworthy that during the study some stakeholders voiced concerns that an HTA agency within the MoH cannot be independent and urged the establishment of an HTA agency outside the jurisdiction of any organizations responsible for policy regarding health technology use. The MoH General Directorate currently responsible for the HTA division is scheduled to close by the end of 2017 and discussions are currently under way regarding how the HTA divison should be restructured.

A second strong recommendation involved aggregating data from different sources. Turkey's centralized healthcare system and universal health insurance scheme with online prescribing and claims processing give the country a significant headstart in terms of quantity, depth, and quality of data. However, providing researchers and policy makers with access

https://doi.org/10.1017/S0266462317001039 Published online by Cambridge University Press

to data continues to be a challenge as policy makers struggle to balance the need for access with concerns about privacy and security.

A third focus of recommendations focused on developing human capacity to conduct and use HTA, specifically through part-time, full-time, and online health economics and HTA degree programs in Turkish universities. A successful on-line program was piloted at Hacettepe University which was supported by international instuctors and several other universities have began to offer health economics programs. Finally, there was a general consensus that a national HTA core model and framework with guidelines for terminology, methodology, reporting, use, and monitorization will be important to developing a cohesive and sustainable HTA capacity in Turkey. A workshop to begin developing a national framework is planned for 2017.

It was a strength of this study that representatives of so many stakeholder organizations participated in this study. Although the results revealed consistent frustration regarding the lack of coordination among these stakeholders, a clear commitment to HTA was also expressed as all of the invited organizations sent delegates. It is a weakness of the study that invited organizations did not include many private sector organizations other than pharmaceutical companies. Medical device manufacturers, hospitals, nonprofit organizations representing healthcare professionals, and especially organizations representing patients were not invited to participate, all important stakeholders in the healthcare system. It is likely that the exclusion of these stakeholders made the assessment of the current situation favorably biased as the majority of respondents (52 percent) represented organizations coordinating and producing HTA was high as seen in Table 1.

CONCLUSIONS

Turkey's journey toward using HTA to support policy-making decisions started 3 years ago and while consistent progress toward to the ideals developed by Drummond et al. is being made, it is only the beginning of the journey. Platform participants described the current HTA environment as disjointed and lacking in resources and support from policy-making leaders. The priority recommendations of the participants include developing a more transparent, independent and evidence-based policy decision-making system by coordinating HTA activities under one umbrella agency, aggregating data from different sources, developing capacity through health economics and HTA degrees in Turkish universities, and developing a national HTA core model and framework. Despite the persisting challenges, awareness of the strengths and weaknesses of the current system combined with increasing interaction among Turkish stakeholders and the international HTA community can meaningfully contribute to the continued development and promotion of HTA in Turkey.

CONFLICTS OF INTEREST

The authors have nothing to disclose.

REFERENCES

1. OECD. *OECD reviews of health care quality: Turkey 2014: Raising standards*. Paris: OECD Publishing; 2014:115.
2. Turkish Statistical Institute. Healthcare Expenditures Statistics 1999–2015; (updated November 15, 2016). http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=21527 (accessed March 17, 2017).
3. Turkish Ministry of Health [Internet]. Ankara: Ministry of Health Strategic Plan for 2013–2017 (updated July 01, 2015). http://www.sp.gov.tr/tr/stratejik-plan/s/855/Saglik+Bakanligi+2013-2017 (accessed May 13, 2016). Turkish.
4. Turkish Public Health Institution[Internet]. Ankara: Turkish Public Health Institution Strategic Plan for 2014–2017. http://www.sp.gov.tr/tr/stratejik-plan/s/978/Turkiye+Halk+Sagligi+Kurumu+2014-2017 (accessed May 13, 2016). Turkish.
5. Turkish Public Hospital Institution [Internet]. Ankara: Turkish Public Hospital Institution Strategic Plan 2014–2018. http://www.sp.gov.tr/tr/stratejik-plan/s/403/Turkiye+Kamu+Hastaneleri+Kurumu+2014-2018. (accessed May 13, 2016). Turkish.
6. Turkish Social Security Institution. Monthly Statistics Report for December 2016. http://www.sgk.gov.tr/wps/portal/sgk/tr/kurumsal/istatistik/aylik_istatistik_bilgileri (accessed January 22, 2017). Turkish.
7. World Bank. Turkey - Restructuring of health sector support project. Washington, DC: World Bank Group. 2016. http://documents.worldbank.org/curated/en/306061467993511615/Turkey-Restructuring-of-Health-Sector-Support-Project (accessed March 19, 2017).
8. World Bank. Turkey - Health system strengthening and support project: Procurement plan. Washington, DC: World Bank Group. 2016. http://documents.worldbank.org/curated/en/903911473672103614/Turkey-Health-System-Strengthening-and-Support-Project-procurement-plan (accessed March 19, 2017).
9. Drummond MF, Schwarts JS, Jonsson B, et al. Key principles for the improved conduct of health technology assessments for resource allocation decision. *Int J Technol Assess Health Care*. 2008;24:244-258.
10. Kahveci R, Meads C. Analysis of strengths, weaknesses,opportunities, and threats in the development of a health technology assessment program in Turkey. *Int J Technol Assess Health Care*. 2008;24:235-240.
11. Republic of Turkey Ministry of Science, Industry and Technology. Turkey Biotechnology Strategy and Action Plan (2015-2018). May 2015. Republic of Turkey Ministry of Science, Industry and Technology. http://www.sanayi.gov.tr/DokumanGetHandler.ashx?dokumanId=017882b9-01fe-4b8c-86dd-b5d9ca996e60 (accessed February 22, 2017). Turkish.
12. Health Institutes of Turkey. Laws. 19 November 2014. Health Institutes of Turkey. http://www.tuseb.gov.tr/yuklemeler/TUSEB_Kanunu_6569.pdf (accessed February 23, 2017). Turkish.
13. KAYSİS. National Legal System Database (KAYSİS). *Record No. 57261*. (updated February 22, 2017). https://kms.kaysis.gov.tr/Home/Goster/57261 (accessed February 23, 2017). Turkish.
14. Kahveci R, Koç EM, Küçük EÖ. Health technology assessment in Turkey. *Int J Technol Assess Health Care*. 2017. [Epub ahead of print].
15. World Health Organization. *Resolution WHA67.23 Health intervention and technology assessment in support of universal health coverage*. 67th World Health Assembly. Geneva; 2014.

https://doi.org/10.1017/S0266462317001039 Published online by Cambridge University Press