The International Network of Agencies for Health Technology Assessment

HTA Impact Assessment Study

Part I. Practices of HTA Impact Assessment in INAHTA Member Agencies

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Introduction

Health technology assessment[1] (HTA) is conducted to inform decision making in healthcare systems. To achieve this aim, HTA agencies assess health technologies and produce HTAs in the form of written reports that are provided to decision makers, who are often also the requestor of the HTA, for the purpose of supporting evidence-informed decision and policy making. HTA impact assessment in this context is an evaluation of the uptake and the effects of an HTA report.[2]

An important aspect of the effectiveness of an HTA program is the extent to which the information provided in its publications has an effect on decision making or other areas of the health system, and in what ways. Evaluating the impact of their reports enables HTA producers to be assured that the HTA's objectives have been met, to bring to light any difficulties with the decision-making or practical health care area that is informed by the report, and to strengthen the utility of their work for decision makers and health care professionals.[3]

HTA impact assessment (IA) is an important topic for many members of the International Network of Agencies for Health Technology Assessment (INAHTA). An INAHTA systematic review[4] and conceptual paper[5] on the influence of HTA analyzed IA literature to provide a description of the objectives and benefits of conducting impact assessment and to describe key concepts in this area. The present study builds on these foundational papers by further describing current IA practices among INAHTA members with a view to better understanding the field and to identify strategies to support HTA agencies to improve IA practice.

The assessment of the impact of individual HTA reports (HTA impact assessment) is different from the assessment of the impact of the agency that conducts the HTA. For example, some agencies undertake reputational research to understand stakeholders' perceptions of the agency[6]. In contrast to this, the present study focuses on the impact of HTA reports only.

The primary audience of this study is INAHTA member agencies to support consideration of their own capacity building for conducting IA. Secondary audiences include those in the wider HTA community involved in the production of HTA reports or their use in decision making. This study provides information about the requestors of HTAs, the types of decisions informed by HTAs, the indicators of impact that are assessed, and the methods and tools that are used in impact assessments.

This paper is the first of two reports produced in an investigation into IA practices among INAHTA member agencies. The current report describes the practices of IA among INAHTA member agencies and the second report describes agencies' perspectives on the factors that facilitate or inhibit the conduct of IA activities more generally[7].

[1] HTA Glossary definition. Available at: http://htaglossary.net/HomePage
[2] HTA Glossary definition. Available at: http://htaglossary.net/impact+analysis?highlight=impact%20assessment
[3] Hailey, D., Macpherson, K., Aleman, A. & Bakri, R. (2014) INAHTA Conceptual Paper on the Influence of HTA. Available at: http://www.inahta.org/wp-content/uploads/2014/03/INAHTA_Conceptual-Paper_Influence-of-HTA1.pdf
[4] Hailey, D., Gallegos-Rivero, V., Hipólito-Olivares, C., et al. (2014). INAHTA Systematic Review on the Influence of HTA. Available at: http://www.inahta.org/wp-content/uploads/2014/03/INAHTA_Systematic-Review_Influence-of-HTA.pdf
[5] Hailey, D., Macpherson, K., Aleman, A. & Bakri, R. (2014) INAHTA Conceptual Paper on the Influence of HTA. Available at: http://www.inahta.org/wp-content/uploads/2014/03/INAHTA_Conceptual-Paper_Influence-of-HTA1.pdf
[6] National Institute for Health and Care Excellence. NICE Connect. Available at: https://www.nice.org.uk/about/who-we-are/nice-connect
[7] Berndt, N. & Schuller, T. (2020). HTA Impact Assessment Study: Part II: HTA Impact Assessment: Factors that Enable or Inhibit the Conduct of HTA Impact Assessment Activities by HTA Agencies. Available at: http://www.inahta.org/download/part-ii-factors-that-enable-or-inhibit-hta-impact-assessment/?wpdmdl=7994

Study Methods

The study was cross-sectional in its design and used semi-structured qualitative interviews to scan INAHTA member agencies and gather information about if and how they conduct HTA impact assessment. In March 2017, INAHTA members were contacted by e-mail by the INAHTA Secretariat and invited to participate in a semi-structured interview to gather information about:

- The types of technologies assessed by their agency and their current use of impact assessment strategies;
- The organizations that usually request the agency's HTAs (the requestors);
- The purpose of the HTAs (i.e., what types of decisions are informed);
- The outcomes that are measured in assessing impact; and
- The tools used to measure the defined outcomes.

The interviews were conducted using a questionnaire that was shared in advance with interview participants. Interviews were conduced in the beginning of 2017 either by telephone or Webex®, a web-based meeting platform. Advance permission was obtained from all study participants to record the interviews and these recordings were transcribed independently by two researchers (NB and TS). A data collection template was created to organize the data according to the different elements of impact assessment processes asked about in the questionnaire. For the analysis, the number of times a particular element was mentioned was totalled and reported in the results. The study was overseen by an expert advisory group (DH, SM, KM, AA, MO, SSW) who met with the researchers at milestone points during the project and provided relevant guidance and advice.

Results

All agencies that were members of INAHTA at the time of the study were invited to participate in a semi-structured interview (47 agencies in total) and of these, 26 accepted to participate for a 55% response rate. A list of the agencies with representatives participating in the interviews is provided in Appendix A and a summary of each agency's impact assessment activities as reported in the interview is provided in Appendix B.

Agency HTA remit and impact assessment strategy

Interview results reveal that the majority of participating agencies assess both drug and non-drug technologies (58%). The remaining agencies assess non-drug technologies (34%) or pharmaceuticals (8%) only or as their most frequent HTA topic.

The majority (58%) of participants indicated that they conduct informal impact assessment where they examine certain aspects of impact. Just over a third of the interview participants (34%) reported that their agency has a formal strategy in place to assess HTA impact, although it may not be applied systematically or regularly, or the strategy is new and not yet implemented. Two (8%) participants indicated that their agency does not need to have a formal impact assessment strategy since the use of their reports is mandated by the policy procedures of the health system. In such cases, the HTA process is embedded in the health system in a way that requires or compels decision makers to consider HTA reports in their deliberations thereby reducing the perceived necessity to assess impact by these agencies. Table 1 summarizes the types of technologies assessed and whether the agency has a formal strategy or an informal approach to assessing HTA impact.

Table 1. Types of technologies assessed and type of approach to assessing HTA impact according to interview participants (n=26)

Type of health technology assessed by agency	# Agencies	Type of IA strategy		
		Formal IA strategy	Informal IA	IA not required
Drugs (always/most frequently)	2 (8%)	-	2	-
Non-drug technologies (always/most frequently)	9 (34%)	3	6	-
Both drug and non-drug technologies	15 (58%)	6	7	2
Total	26 (100%)	9 (34%)	15 (58%)	2 (8%)

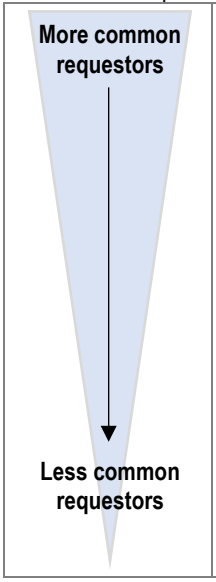
Note: IA = impact assessment

Requestors of the HTAs

Interview participants were asked to identify the requestors of their HTA reports. All indicated that their agency receives requests from the Ministry or Department of Health at the national or regional level. This is perhaps not surprising since one of the membership criteria[8] for INAHTA requires agencies to have links to regional or national decision makers.

Other requestors include clinicians, health practitioners/professionals, national-level organizations of physicians, hospitals, and other national agencies such as those in the areas of social security and public health. Requests for HTA reports were also received from fee schedule commissions, pricing institutions, national health insurance bodies and insurance companies. Other, less frequent, requestors reported include patient organizations, industry and NGOs, the general public, academia or academic groups, horizon scanning bodies or other HTA bodies. Table 2 shows the requestors of HTAs reported by interview participants in decreasing frequency of mention.

Table 2. The requestors of HTAs as identified by interview participants (n=26)



- **Ministry/Department of Health** (Federal/National) (n=26)
- **Clinicians, health practitioners/professionals/providers; medical societies** (n=11)
- **Regional, Provincial or local health authorities** (n=7)
- **Insurers** (n=7)
- **Patients/end users** (n=5)
- **Hospitals** (n=5)
- **Industry** (n=4)
- **General public** (open call for topics) (n=4)
- **Other national government Ministries or agencies** (e.g., social security, food & drug safety, public health) (n=3)
- **Fee schedule commissions or pricing institutions** (n=2)
- **Academia/academic groups** (n=2)
- **Horizon scanning bodies** (n=1)
- **Other HTA bodies** (n=1)

[8] INAHTA Membership web page. Available at: http://www.inahta.org/about-inahta/memberships/

Types of decisions informed by the HTAs

Interview participants were asked to identify the types of decisions that are typically informed by the HTAs produced by their agency.

All participants reported that their agency produces HTAs to inform formulary listings, coverage, or reimbursement decisions including decisions about disinvestment. HTA reports are also very often used in the development or implementation of clinical practice guidelines or protocols, to improve routine health care practice and optimize the use of health technologies, and to inform decisions about the procurement of materials or equipment. HTAs were also often used in capital funding decisions and to inform the development and operation of health programs. Although less frequently, interview participants further indicated that HTAs are also used to inform health services research or to allocate research funds, to inform pricing negotiations, or to guide the optimal use of resources. Decisions about reassessments, budget impact, needs assessments for registries for conditional coverage, and regulatory processes were mentioned by one interview participant each. Table 3 presents the types of decisions informed listed from the most common to the least common requestors.

Table 3. Types of decisions informed by the HTAs according to interview participants (n=26)

More common types of decisions informed ↓ **Less common types of decisions informed**	▪ **Formulary, coverage or reimbursement decisions (including disinvestment)** (n=26) ▪ **Clinical practice guideline/protocol development or implementation** (n=17) ▪ **Improvement to clinical or routine practice, quality standards, appropriate use of health technology** (n=11) ▪ **Procurement decisions** (Equipment) (n=10) ▪ **Capital funding decisions** (n=6) ▪ **Program development/operations** (n=7) ▪ **Health services research/allocation of research funding** (n=4) ▪ **Pricing decisions/negotiations** (n=2) ▪ **Optimal use of resources** (n=2) ▪ **Reassessments** (n=1) ▪ **Budget impact** (n=1) ▪ **Needs assessments for registries for conditional coverage** (n=1) ▪ **Safety & effectiveness** (regulatory process) (n=1)

Indicators of HTA impact that are assessed

Participants reported several types of outcomes and indicators that are measured in HTA impact assessments. There were 22 outcome indicators identified that can be grouped into five areas of impact: 1) impacts related to the HTA report itself, e.g., the quality of the report, number of downloads of the report, retweets, etc.; 2) impacts related to the agency, i.e., change in awareness of the agency and return on agency investment in the cost of the production of the report; 3) impacts related to decision making and health policy, e.g., how the decision maker used the HTA in deliberation and whether or not the recommendations contained in the HTA were followed or not; 4) impacts relating to the health system, e.g., changes in coverage or reimbursement status, change in clinical practice, changes in health policy, the update or initiation of guidelines, budget impact; and finally 5) impacts outside the health system, e.g., changes to legislation or regulation, media

coverage, parliamentary debates, or change in knowledge about the topic of the HTA by health professionals or other players within the health system.

Table 4 lists the indicators reported by interview participants organized by these five types or areas.

Table 4. Indicators of impact identified by the interview participants (n=26)

Impacts related to the report (n=10)
- Appropriate format of the HTA to meet the requestor's needs
- Quality of the HTA report contents
- Requestor/client satisfaction with HTA report
- Website or social media indicators (# website visitors, download rates, app statistics, social media use: retweets, likes, etc.)

Impacts related to the agency (n=2)
- Change in awareness about the agency
- Value for money of the HTA report (return on investment to the agency for the cost of production of the HTA report)

Impacts related to the decision makers/policy (n=15)
- Use of HTA report in decision making: decision maker consideration/use of HTA in deliberations
- Influence on decision making: acceptance of recommendation(s) of the HTA in decision making; incorporation of HTA information in decision making
- Change in knowledge/awareness about the HTA topic
- Change in policy, organizational recommendations, or policy agenda

Impacts related to different levels within the health system (n=21)
- Changes in coverage or reimbursement (addition/removal of technology from the benefits catalogue/schedule, formulary listing, etc.)
- Change in (clinical) practice, prescribing patterns, technology consumption/use, adoption of technology in hospitals, changes in program development or delivery
- Update of clinical practice guideline or development of new guideline
- Changes in procurement, i.e., (dis)investment in technologies or equipment.
- Change in patient health outcomes
- Budget impact and cost savings
- Changes in health system research focus or priorities
- Change in knowledge/awareness about the HTA topic among different stakeholders within the health system

Impacts outside the health system (n=5)
- Changes to legislation or regulations
- Media coverage (newspapers, radio, television, magazines, social media, etc., discussion of or reference to HTA products).
- Parliamentary debates
- Change in knowledge/awareness about the HTA topic outside the health system

Note: The frequency of mention for each main indicator type provided in brackets.

Methods and tools to assess HTA impact

Interview participants were asked to describe the methods and tools their agency uses for assessing the impact of their HTA and to describe the sources of data for IA.

Analysis of health system databases or other secondary administrative data was identified by participants as an important source of impact assessment information. Examples of such sources include drug checklists; clinical outcomes data, prescribing and drug utilization reports, formulary or medical benefits listings, procurement information, and epidemiological data.

Another commonly reported method of impact assessment was direct communication by means of interviews with the HTA requestors, health professionals, clinicians or other stakeholders as appropriate to the particular

context. According to interview participants, these type of interviews could be formal or informal discussions conducted in-person or via telephone or email, either one-to-one or in a focus group structure. Quantitative surveys or questionnaire instruments were used as well where requestors are asked to complete an evaluation form on their HTA report and return it to the HTA agency.

Interview participants indicated document analysis to be another method by analyzing media releases, government documents and reports, meeting minutes or notes, and guideline updates to determine the impact of their work. A few participants also mentioned social media analytics as a source of impact evidence, for example, the number of downloads of an HTA report, number of website visitors, the number of re-tweets on Twitter or 'likes' on Facebook. Additionally, participation in or observation of decision-making committees and case studies are also ways to assess HTA impact. Other indications of impact may be seen in the amount of media coverage, frequency of mention in parliamentary debates, or through clinical or educational audits. Table 5 presents the methods for impact assessment reported by interview participants.

Table 5. Methods of impact assessment used by agencies according to interview participants (n=26)

Analysis of health system databases or other secondary administrative data sources (n=18) ▪ Drug checklists ▪ Clinical outcomes data (medical files, timeframe indicators, etc.) ▪ Data on technology use collected by insurers ▪ Prescribing drug utilization reports. ▪ Formulary or medical benefits listings ▪ Patient statistics, patient outcomes, registries ▪ Procurement information ▪ Program monitoring ▪ Epidemiological data (prevalence, incidence, etc.) **Discussions/interviews (n=17)** in follow-up with requestors, experts, users, health professionals, clinicians, etc., as appropriate to the context. ▪ Formal or informal in structure. ▪ In-person, or by email or telephone. ▪ Could be 1:1 or focus group.	**Surveys (n=10**) ▪ Follow-up survey, questionnaire or feedback form administered to the requestor or client. ▪ Longer-term follow-up survey to look at the trends or tendency of changes in the healthcare system **Document analysis (n=10)** of various sources ▪ Media releases ▪ Government documents and reports, e.g., public summary documents ▪ Meeting minutes, notes ▪ Update of guidelines **Social media & web analytics (n=6)** ▪ Analytics for Facebook, YouTube, LinkedIn ▪ Analytics of agency websites (# downloads, # visitors, etc.) **Analysis of media coverage (n=3)** ▪ Articles or coverage of HTA report on radio, TV, internet, newspapers, etc.)	**Unsolicited feedback (n=2)** from requestors, experts, users, health professionals= (i.e., stakeholder feedback provided to agency without any prior request). **Clinical or educational audits (n=2)** **Participation on / observation of (sub) committees (n=1)** during decision making or policy discussions **Analysis of parliamentary debates (n=1)** **Case studies (n=1)**

Discussion

The findings of this investigation among INAHTA members help address knowledge gaps in the field of HTA impact assessment to better understand the types of strategies used, the requestors of HTAs, the types of decisions informed by the HTAs, the indicators of impact that are assessed, and the methods and tools that are used to assess the impact

The results reveal that approximately one-third of participating agencies have a formal impact assessment strategy in place; however, the majority of agencies assess HTA impact informally. Two agencies reported that they do not conduct impact assessment since their health system provides some procedural protocols that guarantee that the HTA is considered in decision making. Therefore, in situations where the HTA is formally imbedded in decision making, formal assessment of HTA impact is not perceived to be necessary. This variance in the conduct of impact assessment suggests that the local health system context influences the perceived need for impact assessment.

Results of the current study further show that the main requestor of HTA reports are officials in the Ministry or Department of Health. HTAs are also requested by other groups such as clinicians, patients, insurance bodies, regional or local health authorities, hospitals, academics, and industry, among others. This range of requestors may suggest that HTA is understood and valued by different stakeholder groups in different jurisdictions. Since the Ministry of Health is the most common requestor it is perhaps not surprising that most HTAs inform coverage, reimbursement, or formulary decisions. Other types of decisions that are informed by the HTA include clinical practice guideline formulation, procurement and capital funding decisions, and setting research funding priorities, according to the requestor's needs and role in the health system.

Participants identified impact indicators that relate to different aspects of the health system, i.e., indicators relating to decision and policy making, to the report itself, to the agency, or to impacts outside the health system. Linking impacts that exist 'downstream' from the HTA production, such as impacts on clinical practice or changes in patient outcomes, can be difficult to link clearly to the HTA report when no highly structured impact assessment strategy is put into place. It is perhaps for this reason that most agencies choose to measure the impact of their HTA on factors associated with the report and decision-maker rather than the impacts further 'downstream' in the health system that are likely to be the result of high range of influences. Some participants noted that the responsibility of their agency refers to producing high-quality HTA that is useful to decision makers, and their role is not to assess the impacts further downstream in the health system. Interview participants described a variety of tools and methods that are used to measure impact and agencies tend to use a mix of methods (e.g., interviews, review of administrative data, document review, tracking the download rate of reports) that are appropriate to their particular decision and health system context.

Study limitations

This study was conducted with the aim of supporting INAHTA member agencies to learn about each other's impact assessment practices. The findings represent a moment in time when the data collection was completed (March-May 2017) and the results should be interpreted as a picture of impact assessment that may not reflect current practice at all responding agencies. While caution is recommended regarding the generalizability of the findings to other agencies as the response rate was modest (26/47 agencies), it must be noted that for the field of HTA, a sample of 26 agencies in a study of this type represents a large portion of the total population of publicly-funded agencies and therefore the results are anticipated to relevant to this topic area. Moreover, while senior staff and officials participated in the interviews, their responses were self-reported and are not to be necessarily interpreted as an official agency response.

Conclusion

This study was conducted with the objective of understanding the approaches taken by INAHTA member agencies to assessing the impact or influence of their HTA reports. The methods, tools and practices shared by INAHTA members in the interviews should not be considered as a benchmark as the study did not aim to assess the performance of HTA agencies but rather aimed to improve knowledge and practice in this area. The identified strategies aid understanding of impact assessment and may be used to elaborate and ultimately guide the development of practices that fit within the specific context and organisation of each agency. As INAHTA member agencies fit within different health systems, each has specific priorities and a different cultural framework. Evaluating the effects of a health technology report or HTA program may be prioritized differently across agencies. For this reason, this report is not intended to be prescriptive, but rather offered as knowledge sharing only.

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APPENDIX A. Interview participant list

Note: Senior staff from the following 26 INAHTA member agencies participated in this study. Examples of the position titles of interview participants include CEO, Department Head, (Executive) Director, Head of Unit, Team Lead, Principal Research Lead, Program Officer, etc. To preserve confidentiality of the responses provided, the titles of the individuals who participated in an interview are not specified.

Agency with representative participating in the study
ACE, Singapore
AHTA, Australia
AOTMiT, Poland
ASSR, Italy
Avalia-T, Spain (Galician Agency for Health Knowledge Management)
CADTH, Canada
CDE, Taiwan
CEM, Luxembourg
CENETEC, Mexico
G-BA, Germany
HAD-MSP, Uruguay
HAS, France
HIS, Scotland (SHTG)
HQO, Canada
IHE, Canada
INESSS, Canada
KCE, Belgium
LBI-HTA, Austria
MaHTAS, Malaysia
MTU-SFOPH, Switzerland
NECA, South Korea
NIHR, United Kingdom
Osteba, Spain
SBU, Sweden
ZIN, The Netherlands
ZonMw, The Netherlands

APPENDIX B. HTA agency impact assessment activities reported by participating agency representatives

Agency name & types of technologies assessed	Impact assessment strategy	Requestors of HTAs	Types of decisions informed	Number of reports assessed	Indicators of impact	How they assess impact
ACE, Singapore Drugs Devices Diagnostics Health services	No formal strategy, however impact being looked at and internally assessed. Plans to develop formal strategy in future.	Government (MOH) Some requests from local level, hospitals and private institutions (for research)	Coverage decisions Guideline formulation (appropriate care guides) Formulary decisions in hospitals (occasionally) Procurement decisions	Some/selected: those expected to have greater impact, e.g., drugs or specific pieces of guidance expected to have higher budget impact	Clinical practice, i.e., changes in prescribing Adherence to guidelines	Educational audits Drug utilization reports Drug checklists (for subsidy eligibility) Survey or in-person interview (planned)
AHTA, Australia Drugs Medical Services	No formal strategy to assess impact since HTAs are commissioned directly by the government for coverage decisions so impact is immediate and direct. Impact can be observed in the results of the decision-making process.	Federal DOH Occasionally State governments Horizon scanning for HealthPACT and Medical Services Advisory Committee (MSAC).	Coverage and access Reimbursement Disinvestment	N/A	Listing of the technology on the schedule. Use of HTA in committee decision making. Change in practice due to new technology being covered and available for use.	Seeing the listing of the technology on the schedule Detail in public summary document from the MOH. Participation in some sub-committee meetings as part of the decision. making process, review of meeting minutes.
AOTMiT, Poland Drugs Medical devices (rarely) Procedures (infrequently) Food supplements for special needs Public health programs of local governments	Informal assessment by agency. Impact is also assessed by private company (external to MOH and HTA agency) in a more systematic way. For local government (public health programs) no formal impact assessment, but changes in quality of program delivery are looked at.	MOH Local government (public health programs only)	Coverage decisions Program development decisions (local level)	Selected reports/situations	Coverage decisions: if recommendation was followed or not. Change in quality of program delivery (local public health programs)	Two points are assessed by private company: - If the statement of the Transparency Council aligns with the recommendation of the President of the Tariff Council; If the MOH decision is in line with the recommendation of the President of the Tariff Council.

Agency name & types of technologies assessed	Impact assessment strategy	Requestors of HTAs	Types of decisions informed	Number of reports assessed	Indicators of impact	How they assess impact
ASSR, Italy Non-drug technologies (medical devices, diagnostic tests, big machinery)	No formal strategy, but impact is looked at in some cases. Occasional follow-up.	Regional health authority Local hospitals Clinicians Industry	Appropriate use Recommendations for research Protocol development	Selected (informal/random)	If HTA indications are followed (or not) in: - Organizational recommendations - Procurement	Clinical data audit Informal interviews (did the clinicians use the HTA results) Personal communication Document analysis Procurement information
Avalia-T, Spain (Galician Agency for Health Knowledge Management) Medical devices Medical procedures Drugs (rarely) Some combination therapies	No formal strategy, but it is looked at (e.g., the alignment between recommendations and the commission's resolution is known to be high) Reports are developed in a cyclic process with requestors, clinicians, managers, etc., to discuss report and gather their views which inform the final report.	MOH (Regional and National) Non-governmental stakeholders, e.g., healthcare professionals, patients, hospital managers,	Coverage decisions Disinvestment decisions Need assessment for registries (for conditional coverage) Appropriate use indications/improvement to routine practice Guideline development Equipment procurement	All reports	Implementation/ acceptance of recommendations Change in policy HT adoption in hospitals (decision making impact, not "downstream" impact on patients)	Discussions

Agency name & types of technologies assessed	Impact assessment strategy	Requestors of HTAs	Types of decisions informed	Number of reports assessed	Indicators of impact	How they assess impact
CADTH, Canada Drugs Devices Medical & surgical interventions Diagnostic tests	Yes, formal strategy.	Ministries of Health Regional health authorities Academic groups Hospitals Clinicians Industry (drugs)	Coverage/formulary decisions Capital funding decisions Procurement decisions Guideline implementation Clinical care improvement (routine practice)	Potentially all, but this depends on the requestor, some are more interested to provide impact information, others less so. Rapid response	Client satisfaction Formulary decisions Coverage decisions Change in policy Change in awareness Change in clinical practice	Surveys Interviews Impact database to collect feedback (based on Sharepoint software) Research team in knowledge mobilization/client engagement/impact assessment
CDE, Taiwan Drugs Devices	Yes	MoH and National Health Insurance Administration Sometimes medical associations	Reimbursement decisions Reassessments	Selected reports	Quality and appropriateness of the HTA report to the requestor Requestor satisfaction.	Follow-up questionnaire to the requestor.
CEM, Luxembourg Medical procedures & services (Tariffs) Medical devices	No formal strategy. Occasional follow-up with changes in laws, medical benefits schedule, etc.	Ministry of Social Security MOH National healthcare insurance Fee schedule commission	Reimbursement & coverage decisions Clinical guideline formulation/adaptation	Selected (informal/random)	Change in medical benefit schedule Changes in laws, regulations	Media releases (press releases reviewed daily on newspaper, internet, radio, TV) Document analysis Informal discussions Unsolicited feedback on work

Agency name & types of technologies assessed	Impact assessment strategy	Requestors of HTAs	Types of decisions informed	Number of reports assessed	Indicators of impact	How they assess impact
CENETEC, Mexico Drugs Medical devices Equipment Diagnostic / laboratory equipment (infrequently)	No formal strategy, although impact is looked at.	MOH General Health Council (formulary decisions) Health authorities Commission for Price Negotiations (CPN)	Coverage decisions Equipment procurement Formulary decisions	Some/selected Don't assess full HTAs due to complexity.	Formulary listings % of decisions followed recommendations Cost savings Procurement (of high-cost technologies)	Formulary review Annual reports of CPN Document analysis
G-BA, Germany Drugs Medical devices Dental care Preventative services Screening Diagnostics Therapeutic interventions Psychotherapy	Yes. Legal task to evaluate guidelines/regulations. Extensive observation/ assessment conducted by external third parties, i.e., industry. Not led or sponsored by G-BA.	Federal top organizations of physicians, hospitals, sickness funds, or patient representatives	Coverage decisions Decisions on added benefit of new drugs to inform price negotiations Health services research Disease management programs Guidance on quality assurance measures	Selected reports: Obligatory for preventative screening measures Occasionally conduct impact assessment for other decisions Some decisions are legally binding (e.g., exclusions from benefit package).	Determine if/how guideline or decision works in practice; if coverage is complete (for example); to identify unanticipated problems or barriers.	Depends on research question and data availability. Can be mixed methods, e.g.: - Secondary administrative data - Hospital surveys - Literature search - Database development
HAD-MSP, Uruguay Drugs Devices (sometimes)	No formal strategy, although impact is assessed informally	MOH	Reimbursement decisions Formulary/Coverage decisions Equipment procurement Program operations	Selected reports	Number of recommended drugs listed on the formulary Policy changes Change in clinical practice (implied with addition of drugs to the formulary)	Additions to formulary (e.g., divided into positive and negative recommendations and then measuring these against the formulary listings)

Agency name & types of technologies assessed	Impact assessment strategy	Requestors of HTAs	Types of decisions informed	Number of reports assessed	Indicators of impact	How they assess impact
HAS, France Drugs Devices	No formal strategy, but some impact assessment done.	MOH (Ministry of Health and Ministry of Social Security), National Health Insurance, public health bodies such as cancer foundations, healthcare professionals and patients can help to define topics, also non-governmental organizations can request HTAs.	Coverage decisions Pricing decisions Guideline formulation (clinical guidelines, guidelines within HTA reports, guidelines in public health, i.e., screening, improvement to routine practice).	Not all, but examples of situations when impact is assessed: - Appropriateness of procedures; - Updating public health guidelines; National quality and safety indicators can be linked to some HAS guidelines which can be observed in ad hoc fashion.	Changes in practice. Prescribing patterns.	Analysis of data from the National Health Insurance (but not tracked regularly, rather analyzed/consulted in certain situations such as the update of a guideline)
HIS, Scotland (SHTG) Non-medicines technologies	No formal strategy specifically for HTA impact, but organizational strategy to assess influence. SHTG has outcomes and evaluation framework.	Anyone can refer a topic, e.g.: Government Industry Healthcare professionals Hospitals Patients Academia General public National-level groups of clinicians or healthcare planners SHTG also issues "topic calls" asking for topics within a defined period.	Technology adoption or disinvestment decisions Capital funding decisions Equipment procurement Guideline formulation Practice improvements	All (some additional effort made for bigger products, i.e., full HTAs)	Scale of influence "no influence", "consideration in decision making", "informing a decision", "informing further research". Short term outcomes (e.g., awareness of SHTG) Medium-term outcomes (e.g., informing care policy and practice) Longer-term outcomes (e.g., maximize health gain via appropriate use)	Questionnaire to clients/requestors Grey literature (meeting minutes, notes, unsolicited feedback/thanks for work)

Agency name & types of technologies assessed	Impact assessment strategy	Requestors of HTAs	Types of decisions informed	Number of reports assessed	Indicators of impact	How they assess impact
HQO, Canada Medical devices Health services Other non-drug HT	No formal strategy but impact is looked at. Previously, some aspects of impact were assessed. Formal strategy being developed/updated.	MOH Anyone in the province, e.g., patients, physicians, industry, etc.	Coverage decisions Formulation of quality standards	All reports assessed (during previous agency assessment program)	Pre/post HT usage rates	Provincial databases (prevalence, incidence, etc.)
IHE, Canada Medical devices Programs Services Health care organization	No formal strategy. Ad hoc program evaluation conducted in the past. INAHTA impact assessment form (conducted 6-months after HTA produced) Occasional requests from MOH for post-program/project evaluation.	Provincial MOH Insurance bodies, industry (rarely) Healthcare professionals Strategic clinical networks	Coverage decisions Capital funding decisions Equipment procurement Guideline formulation Formulary decisions Program operations Influence routine practice Healthcare delivery policies Reimbursement models	Selected. Convenience sample of reports that were likely impactful; reports where the requestor was known to be still in their position for follow-up.	As on the INAHTA impact framework Policy change Influence on decision Suitability of HTA product, i.e. if requestor needs met/ useable report format, etc.	INAHTA impact framework Personal communication, e.g., Email, telephone Key informant interviews Surveys Focus groups Case studies

Agency name & types of technologies assessed	Impact assessment strategy	Requestors of HTAs	Types of decisions informed	Number of reports assessed	Indicators of impact	How they assess impact
INESSS, Canada Drugs Medical devices Diagnostic tests Social services	No formal strategy for individual HT. Every 4 years review of agency evolution conducted examining impact on health systems.	MOH and Social Services	Formulary listings Prescribing guidelines Optimal use of resources Appropriate use of HT Provides advice on some aspects of coverage decisions	Some/selected, e.g., traumatology, cardiology, other specialized services All reports assessed indirectly as part of the agency review every 4 years.	Implementation/ acceptance of recommendations Economic impact (health system and societal perspectives) Change in practice Medicines prescribing/use Change in HT usage/consumption Health outcomes Process outcomes	Health system data (prescribing, outcomes, etc.) Clinical data (medical files, timeframe indicators, etc.) Registries (where available) Expert opinion
KCE, Belgium Medical devices Health services Organization of healthcare Drugs	Yes have a strategy Two approaches: - Ongoing/recurrent assessment - Milestone assessments (2010, 2013 etc.) Do not directly ask decision makers for feedback.	MOH National insurance institutes Other Ministries Health practitioners Public (annual call for topics)	Coverage decisions Reimbursement decisions Capital funding decisions Guideline formulation Improvement to routine practice	Depends on the type of approach: - Ongoing: all reports, "KCE" more generally Milestone: selected reports	Media indicators (frequency that KCE products are mentioned in newspapers, magazines, social media, etc.) Website usage statistics (downloads, visitors, likes, retweets, etc.) KCE app statistics Verbal/informal feedback requested from users/audience, e.g., professionals, health practitioners Changes in policy (part of informal follow-up)	Media & social media analytics including KCE app Website analytics (downloads, visitors, etc.) Informal questioning of audience/users about changes in practice, policy, etc.

Agency name & types of technologies assessed	Impact assessment strategy	Requestors of HTAs	Types of decisions informed	Number of reports assessed	Indicators of impact	How they assess impact
LBI-HTA, Austria Drugs High-risk medical interventions	Yes, formal process, called "administrative document" Conducted every 3-4 years for most reports Conducted every year for high-risk hospital interventions	MOH Federation of Social Security Institutions Social Health Insurance Bodies Regional health funds	Coverage decisions Formulary decisions Routine practice (appropriate care) Program operations Equipment procurement Capital funding decisions	All reports produced in the 3- to 4-year period of impact assessment	Download rates Type of decision made Media coverage Types of investments made Inclusion in benefits catalogue Parliamentary debates	Program monitoring Social pressures (media, parliamentary debates) Interviews
MaHTAS, Malaysia Medical devices Healthcare programs Procedures Drugs (sometimes)	Yes	Government, MOH, Program administrators End users Insurance companies HTA of drugs usually requested by clinicians (not industry)	Coverage and reimbursement Capital funding decisions Procurement decisions Budget impact and program scoping (e.g., full population or subgroups as recipient) Guideline formulation	Full HTA Mini HTA	Quality and appropriateness of HTA Provision of new information and awareness in the HTA Decision maker use of HTA Change in policy Change in practice	User feedback form of three types depending on HTA: - Recommended HT - Research purpose - Not recommended HT Administered twice per year to HTA requestor.

Agency name & types of technologies assessed	Impact assessment strategy	Requestors of HTAs	Types of decisions informed	Number of reports assessed	Indicators of impact	How they assess impact
NECA, Korea Drugs Devices	Yes, asses impact but no formal strategy. Assessed annually, requires 4-5 months to review the projects in previous year.	Ministry of Health & Welfare National health insurance Ministry of Food and Drug Safety Medical societies	Efficient resource use Health policy decisions Safety & effectiveness (regulatory process) Clinical guideline formulation	All HTAs (But not new HTA reports which are part of regulatory decision-making process)	Policy impact: 3 categories: - HTA information use by requestor in policy agenda - incorporation of HTA information in decision making - HTA product linked to legislation	Discussions (involvement in policy discussions) Internet searches Document analysis (i.e., media releases, government documents)
NIHR, United Kingdom Drugs Devices All/varied	Conducts impact assessment periodically (2003, 2015). Considering a more formal strategy for ongoing impact assessment.	DOH, NICE (through the Technology Assessment Review Program), plus many others, i.e., Public Health England, local public health agencies, social care.	Coverage decisions Guidelines Guidance formulation	Ad hoc. Most reports tracked through a software program (Researchfish).	Many types of indicators depending on the study topic. Considering a broad view of impact.	Depends on the HTA and the context. Often mixed methods such as document analysis, Researchfish data (software used to track research impact), interviews, etc.

Agency name & types of technologies assessed	Impact assessment strategy	Requestors of HTAs	Types of decisions informed	Number of reports assessed	Indicators of impact	How they assess impact
Osteba, Spain Medical devices Organizational aspects Drugs (infrequently)	No formal strategy Some informal/ implicit assessment done to look at influence	Regional MOH National MOH	Coverage decisions Equipment procurement Guideline formulation, Clinical Practice Guidelines Program operations (e.g., hospitals)	Selected reports	Number of downloads of HTA reports, press releases, social media use Number of printed materials disseminated Other indicators depend on topic, e.g., purchase of equipment or not, changes in practice, rate of use or other statistics related to interventions Policy changes	Website analytics (downloads) Social media analytics (Facebook, YouTube, LinkedIn) Selected tools related to specific reports, e.g., 3-4 year post hoc survey looking at tendency of changes Hospital databases for patient statistics, changes in practice
SBU, Sweden Drugs (usually not requested by industry, could be included as comparator to other types of interventions) Surgical procedures Psychological treatment Diagnostics Public health interventions Very broad range of HT in health & social services	Yes, model but not yet implemented a systematic approach (are identifying resource needs for this) Involve recognized experts and champions in development & dissemination of report (at conferences, etc.)	MOH National agencies (e.g., reimbursement agency, medical product agency, social insurance agency, public health agency) County Councils Patient organizations Public (template on website)	Coverage decisions Guideline formulation Reimbursement decisions Disinvestment	Impact is to be assessed for all reports by project director	In process of defining appropriate impact measures, e.g.: - Patient outcomes - Health policy changes - Changes in practice - Changes in research - Impact on healthcare budget Social media statistics (Facebook, YouTube, etc.) SBU app statistics Media coverage	Registries and databases for technology use, patient outcomes, etc. Interviews/conversations with requestors Model and tools are being developed. Social media analytics (Facebook, YouTube, etc.) Scanning of media for mention of SBU & reports

Agency name & types of technologies assessed	Impact assessment strategy	Requestors of HTAs	Types of decisions informed	Number of reports assessed	Indicators of impact	How they assess impact
SFOPH, Switzerland Drugs Devices Procedures	No formal strategy. It is obligatory for the advices to be taken into account (impact is assured). Impact can be observed in outcomes of the decision-making process.	MOH (Federal Commission for General Health Insurance Benefits who then advises the Swiss Minister of Home Affairs for decision making)	Coverage and reimbursement (disinvestment)	N/A	Results of decisions, e.g., adoption of new or adapted regulations.	-
ZIN, The Netherlands Drugs Medical devices Healthcare organization/ delivery	Formal strategy. Unique criteria and approach for each case.	MOH Insurers Healthcare providers Patient organizations	Coverage decisions (insurance) Healthcare organization Quality improvement (guideline formulation)	Selected products (e.g., budget impact, societal impact, high risk treatments, length of HTA product)	Varies depending on product, e.g.: - Clinical care choices - change in guidelines - policy changes	Data on technology use (collected by insurers) Surveys Interviews Document analysis

Agency name & types of technologies assessed	Impact assessment strategy	Requestors of HTAs	Types of decisions informed	Number of reports assessed	Indicators of impact	How they assess impact
ZonMw, The Netherlands All types (one program for drugs, one for non-drug technologies)	No formal strategy, although impact is looked at. A formal strategy is being developed. Distinguishing between scientific impact vs. change in practice (more broadly) Grant applications must indicate if the research will address a gap, if it is relevant to clinical practice or coverage decisions, and include an implementation strategy.	MOH (provides grant funding and defines HTA program goals) Other HTA bodies (i.e., ZIN)	Coverage decisions Guideline formulation Improve routine practice Allocation of funding for research	Some/selected (i.e., the most promising projects)	Influence on daily practice updates or development of new guidelines Results used to inform coverage decisions (ZIN) Value for money (ROI on research investment)	Publications, reports Questionnaire Interviews (follow-up)