Mapping of Methods used for the Adoption and Adaptation of Health Technology Assessments (HTA): A scoping review

Protocol for a scoping review

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Abstract

Background: Health Technology Assessments (HTA) use a multidisciplinary process to determine the added value of health technologies and can aid the optimal use of scarce resources. However, developing HTAs requires expertise and significant time investments. Depending on the familiarity and institutionalization of HTAs, this expertise, as well as the political commitment and resources might not be present in a certain setting. Adopting or adapting existing HTAs from one context to another may offer a solution for these challenges.
Objective: This scoping review will map the existing methods and tools that aid the transfer, adaption or adoption of HTAs from one context to another.
Methods: This scoping review will conduct a systematic search, supplemented with a survey sent to HTA agencies in Europe to identify any unpublished tools. An iterative data charting process will ensure the right data will be extracted from included studies. The charted data will be analyzed, reported, and prioritized using narratives and tables where relevant.
Discussion: The results from this scoping review aim to provide an overview of existing tools that can be used in future adoptions and adaptations, as well as highlight any gaps, opportunities, or shortcomings of these existing tools and their applicability in a specific context.

Title:
Mapping of Methods used for the Adaptation and Adoption of Health Technology Assessments (HTA)

Protocol for a scoping review

Start date:
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End date:
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Objectives

To search and provide an overview of existing methods, including tools and checklists that are available for the 'transfer' of Health Technology Assessments (HTA) by either adopting or adapting an existing HTA to a new setting. For this review, HTAs will not be limited to just full HTAs, but will also include economic evaluations (EE) and other types of HTA-products such as relative effectiveness assessments (REA), rapid HTAs, and mini-HTAs.

Background

Description of the issue

In 2014, the resolution on Health Intervention and Technology Assessment in Support of Universal Health Coverage (WHA67.33, 2014) called on the World Health Organization (WHO) to develop global guidance on methods for Health Technology Assessment (HTA)[1]. Institutionalization of HTA enhances the implementation of cost-effective interventions and optimizes the allocation of scarce resources while effectively addressing the burden of disease (1). In many High-Income Countries (HIC), HTAs are used in the evidence-based decision making process. However, conducting HTAs requires expertise, sophisticated skills, and a considerable amount of time and resources (2, 3). Many countries, especially Low and Middle Income Countries (LMIC), are yet to develop these capacities to successfully and sustainably integrate HTA in their contexts. Transferring existing HTAs from one setting to another can aid the process of implementing HTAs in LMICs and help to develop the required capacities (1). Other highlighted benefits of HTA-transfers is that it may limit unnecessary duplication of efforts and improve collaboration between existing and upcoming HTA agencies (2, 4).

Current challenges with HTA 'transfers'
HTA transfers are challenging because HTA-practice differs considerably from country to country. Efforts in various networks across Europe and globally aim to harmonize methods for HTA. In a recent international collaborative effort, the following definition was proposed: *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 highly quality health system* (5). Since the emergence of the HTA field, global consensus on the definition of HTA had been missing. This shared definition is an important step towards global harmonization, but challenges persist on how to translate this definition to similar HTA methods and products.

What constitutes the final HTA-product varies among practitioners, institutes and countries. The International Network of Agencies for HTA (INAHTA) identifies three different types of HTA-products: HTA Reports, Mini-HTAs, and Rapid Reviews. The HTA report is most comprehensive product while the Rapid Review is most narrow (6). The European Network for HTA (EUnetHTA)[2] differentiates between full HTAs, Rapid Relative Effectiveness Assessments (REAs), and national appraisals (7). All these HTA products, except the national appraisals, at minimum include a description of the health technology and its current use, as well as, an evaluation of the effectiveness and safety of the health technology.
The HTA Report of INAHTA and the Full HTA and national appraisal of EUnetHTA include an economic evaluation (EE), while in the other HTA-products this is

[1] Resolution can be accessed via: https://apps.who.int/gb/e/e_wha67.html#resolutions
[2] The establishment of EUnetHTA helped to enhance collaboration and adaptation of HTAs conducted in the European Union (EU) and European Economic Area (EEA).

optional. EEs use quantitative methods to measure costs of a new health technology in monetary units while it can define the consequences in various units including monetary, natural (e.g. life years gained), and qualitative (e.g. disability-adjusted life years and quality-adjusted life years) (3). EEs are informative and valuable within HTAs, because EEs assess the economic impact of the health technology under assessment by comparing it to alternatives. This information can give practical insight for policymakers and optimize allocation decisions.

Methods for 'transfer' address if existing HTA-products could fit within a new context and provide guidance on how to assess this fit. Data from clinical trials is often generalizable as long as the target populations are comparable. Results and recommendations from HTAs and EEs do not always have to be generalizable, because, for example, prices for treatments, clinical practices, and available healthcare resources can differ considerably between (and within) countries (8).

Guidance on the transfer of HTA is scarce, with limited insight on how to determine transferability of products or on information retrieval. The EUnetHTA toolkit is an example of an adaption guideline. Six speedy sifting questions appraise whether the existing HTA is fit for a transfer. Then various parts of the HTA report, also referred to as domains, are assessed and appraised on relevance, reliability, and transferability (9). The modularized structure of the EUnetHTA toolkit makes it applicable to many different types of HTA-products. More tools to aid the transferability of evidence syntheses in various forms as systematic reviews, HTAs, and EEs have been developed. The formats of these tools can be among other things: checklists, toolkits, index, and more (3, 10).

Description of the intervention

Another word for 'transfer' is adaptation or adoption. EUnetHTA describes adaptation as a process where one country uses parts of an HTA report produced elsewhere. While adoption directly uses an HTA report without making any changes (9). This review aims to find and provide an overview of methods and tools used for adaptation or adoption of existing HTAs.

Why is it important to do this review?

An up-to-date comprehensive overview of methods specifically for the 'transfer', adaption, or adoption of HTA-products is currently not available. The process of adaption tries to address the concern of generalizability and can play an important role in how to work with the various forms of evidence syntheses. An overview of existing methods for the adaption and adoption of HTA will aid future researchers who want to adapt an existing evidence and limit duplication efforts. It can also help to identify any methodological gaps and make recommendations for future tools.

Aims

The aim of this study is to provide an overview of the literature on methods that describe adoption or adaptation of existing HTAs from one context to another. The findings of the study can aid the selection of the right framework and highlight important factors for the adoption or adaptation of existing evidence to produce HTAs that fit the local setting. The findings of this review might especially benefit countries with inadequate core skills or resources for HTA.

Methods

This is a protocol for a scoping review that will provides an overview (or 'mapping') existing methods for transferring HTAs to a new context. The methods in this protocol follow the guidance from Arksey and O'Malley (11) and Peters, et al. (13) on how to conduct a scoping review. It includes a comprehensive and systematic search strategy for multiple electronic databases, the selection of studies, the in- and exclusion criteria, the data charting process, and the data synthesis.

No changes will be made to this protocol after publication. Any amendments to this protocol will be presented in the final article if deemed necessary to uphold transparency and the ability to replicate this study.

Research questions

Primary research question:
What existing methods, including approaches, checklists or tools, are available for the adaptation and adoption of HTAs?

Secondary research questions:

What factors of these existing methods are available for the adaptations and adoption of HTAs aids or hinders the process of integrating an existing HTA in a new context?

Are there any methodological gaps associated with these existing methods for the transfer of HTAs to a new setting context, specifically for the low- and middle- income countries?

Inclusion criteria

The objective of this study is to provide an overview of existing methods and tools available for the 'transfer' of HTAs by either adopting or adapting an existing HTA to a new setting or context. No restrictions will apply if the existing HTA is adapted from a broad (e.g. national or global) to a specific (e.g. local) setting or if the adaptation takes place between two global, national or local settings. Neither will restrictions apply on type of methods, meaning these can be tools, approaches, checklists, indexes, guidelines, etc.

Furthermore, no restrictions will apply on the transfer-method or the type of HTA-product. At minimum, the HTA-product has to include an evidence synthesis used for the clinical and/or economical assessment (with or without appraisal) for a certain health intervention. HTA-products, including economic evaluations, developed de novo and not re-using any existing evidence synthesis will not be included.

Inclusion criteria

- Full-text articles describing specific methods, with or without the use of a specific tool, to adopt, adapt or transfer an HTA-product or EE
- Full-text articles describing any type of tool, framework or checklist that aids the adoption, adaptation or transfer of an HTA-product or EE
- Conference abstracts that describing an approach or tool that aids the adoption and adaptation of an HTA-product or EE
- Systematic reviews (full-text) which provided an overview of tools, checklist, methods for transfer, adoption, or adaption of an HTA-product or EE

Exclusion criteria

- Full-text articles that discuss transferability, adaption or adoption of an HTA-product on a theoretical level
- Full-text articles that discuss the transferability or generalizability of an HTA-product or EE, but did not transfer an HTA-product
- Full-text articles that do not focus on approach, checklist, framework, or tools, for transferability, adaption, or adaptation of an HTA-product
- Full-text articles that did not re-use existing evidence, no transfer of evidence between minimal two distinct contexts
- Full HTAs or Full EEs made de novo
- Any articles not related to (public) health
- Any articles not written in English
- Any article that has no full-text available
- Any articles written before 2005

Search strategy

Information sources

The following electronic databases Cochrane Library, Cochrane Methodology Register, Embase, Epistemonikos, and MEDLINE will be searched to provide a comprehensive overview of the published literature. In consultation with the research team, an information specialist will create a search strategy according to eligibility criteria. The final search results will be exported into EndNote X9 and the information specialist will remove duplicates.

In addition, members of INAHTA will be consulted through a questionnaire with the aim to triangulate the findings from scoping review.

Literature Search

The following decisions were made to translate the eligibility criteria in a viable search strategy. Firstly, HTA and EE are used as keywords for titles and abstracts, as well as, the associated MeSH-terms. Including keywords for HTA, EE, evidence synthesis, and systematic led to a large amount (several thousands) of non-relevant records mainly in the form of original HTAs, EEs, and systematic reviews. To limit this type of noise words as ‘evidence synthesis’ or ‘systematic review’ were not used. Not all HTAs include an EE, but EEs aid the evidence-based decision-making process by answering questions on the added economic value of a new health technology. To ensure no relevant tools are missed, and considering EEs do play a role on policy- and decision-making, both terms are included.

Furthermore, the information specialist used the adjacent function in the search strategy. Keywords for titles and abstracts had to mention words for ‘adoption’, ‘adaption’ or ‘transfer’ in close proximity of the keywords used to describe the HTA-

product. These same keywords were also combined with the MeSH-terms, to limit the noise of original HTAs, systematic reviews, or EEs.

Given the time available for this research, a time restriction from the year 2005 until now was applied to reduce the amount of hits. The year 2005 was chosen based on advice of experts, and this being the year EUnetHTA was established. Systematic reviews that previously synthesized methods for transfers are also included, reducing the chance any essential methods and tools are missed. Conference abstracts were considered from 2017 until now, to capture tools that have been proposed recently.

To ensure that all relevant published tools are included, the reference list from the included studies will be searched. Lastly, grey literature will be considered by distributing a short online questionnaire to the members from INAHTA (see Appendix 1).

Study selection

The included studies will be uploaded to Covidence, an online software developed to aid the screening process. The screening process consists of two steps, executed by at least two independent reviewers. The primary researcher will compare the first three to five extracted articles with the other independent reviewers as a calibration exercise in each of the steps.

In the first step, two reviewers will independently decide from the title and abstract if an article fits the eligibility criteria. The inclusion and exclusion criteria may be refined during the calibration process or if necessary during the search. Any disagreements will be discussed, if the disagreement cannot be resolved a third independent reviewer will have the final judgement.

In the second step, two reviewers independently read the full-text of the included studies to decide if the article fits the eligibility criteria. Again, in the case of disagreements that cannot be resolved between the two reviewers, a third independent reviewer will make the final decision.

Data Charting

In scoping reviews, extraction of data is referred to as data charting (11-13). Information will be collected on the approach, tools used, design, HTA dimensions considered, and usability from the included studies. Special attention will be placed on identifying factors that support the integration of evidence from the existing HTA in the new context, as well as highlighting methodological gaps and making recommendations for future tools. Table 1 outlines the preliminary outline of the data charting form. An iterative process will be followed; therefore, the data charting form might be refined and adapted depending on the findings. The form might also be shortened when themes are restructured.

At least one member from the research team will independently chart the data. An independent second reviewer will check this to see if anything was missed. In the beginning of the data-charting process, the members of the research team will discuss the results from the first five articles. Any inconsistencies will be discussed to ensure the development of a consistent extraction strategy. An Excel-file will be used to provide an overview of the charted data. After all information is extracted, the primary researcher will perform a last check. If any inconsistencies arise, these will be discussed in the research team before the results are synthesized.

Table 1: Data items
Study characteristics: Author, date, study title, publication type, funding source
Study objective or Research question
Type of HTA-product (E.g. Full/partial HTA, EE, REA, etc.)
How is HTA defined?
What HTA domains are considered?
Transfer between … (E.g. countries, settings, etc.)
Methods for transfer, adopt, or adapt
Is the method, tool, etc. specific for LMICs? Or relevant within the context of LMICs?
Approach, Experience
What were the steps within the approach?
What factors of the transfer-experience/approach were beneficial to the HTA process?
Was a tool created? (If, yes go to tool section)
Tool, Checklist, etc.
What is the name of the tool?
What are the required inputs for the tool?
What are the outputs of the tool?
What are the steps within the tool?
Is the tool developed for a specific context or transfer?
What format is the tool/approach? E.g. checklist, guideline, index, etc.
Is it publicly available?
Is it peer-reviewed?
Discussion
What factors support integration of HTA in a new context?
Weakness method
Strength method
Recommendations for future tools/approaches

Assessment of risk of bias

This scoping review will not include a quality appraisal of the included studies and tools, which is in line with the methods of a scoping review (11, 12).

Data synthesis

A PRISMA-flowchart accompanied with a narrative description will describe the study selection process. All included articles will be listed in the final article or its appendix. If deemed necessary, this table will be accompanied by an overview of the charted data. Otherwise, the charted data will be reported in a narrative with tables in the main text. If possible, results will be systematically categorized by domains of an HTA, for instance, specific checklists or tools for HTAs or EEs will be presented separately. Further, additional attention will be given if a tool is specifically made to aid transfers from or to LMICs.

The data charting will follow an iterative process meaning that the presentation of findings will be determined throughout this process. However, priority will be given to two themes. Firstly, the amount and type of tools that currently exist for the

transfer of HTAs, including for what purpose the tool was made and by whom. This might highlight any missed or understudied general areas in the field of adaptations. This priority plays an important role in identifying research gaps. Secondly, the usability of the existing approaches and tools. To help identify the factors in the existing tools that aid the transfer, adoption or adaption process of HTAs and inform to the successful development of future tools.

The reporting of results will include responses from the members of INAHTA. This consultation might have found studies which otherwise would have been missed in the literature search. It will also give some indication of the use and helpfulness of the tools.

Limitation & Dissemination

A limitation of this study is that the search strategy is rather broad while the research question is very specific. Primary articles might have used tools that did not show up as methodological articles. For example, these might be methods or tools made for transfers of existing HTA-products produced by a specific HTA agency and only used in-house. Further, EEs that adapted existing models might have been missed, if this was only mention within the full-text of the article. This issue will be addressed through the questionnaire for INAHTA members; however, some relevant studies may still be missed.

The findings of this study will be published on the website of the Norwegian Institute of Public Health and might be published in a scientific journal. The results of this scoping review, that includes a systematic search of the literature, will provide an overview of existing methods for transfers of HTA and highlight methodological gaps. These results can aid the development of future tools, as well as, help individuals to choose the right tool for their adaptation or adoption.

Peer review of the protocol and report

The protocol was (internally) peer-reviewed by Vida Hamidi Ashtiani and Vigdis Lauvrak from the Norwegian Institute of Public Health. The final report will also be peer-reviewed by at least two researchers independently.

Timeframe

Start date: 01.09.2020.
End date: 06.31.2021

Phase	**Start date**	**End date**
Initial idea, Course, Protocol development	September	November
Search Strategy	October	26 November
Study selection	26 November	5 February
Data extraction	5 February	26 February
Data synthesis	26 February	15 March
Draft report	15 March	**15 May**
Peer review back	15 May	31 May
Approval	**15 June**	End of June
Submission to commissioner and publication	July	July

Measures to be taken in the event of delays/unforeseen developments

In the case of delays, some extra time is available in July.

Deliverables and publication

Protocol: NIPH Website, if possible: f1000
Publication: NIPH Website, if possible: f1000 or other scientific journal

Related NIPH projects, publications or studies

Not Applicable

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Competing Interests

The authors declare no competing interests.

References

1. Bijlmakers L, Mueller D, Kahveci R, Chen Y, van der Wilt GJ. Integrate-HTA: a low- and middle-income country perspective. International journal of technology assessment in health care. 2017;33(5):599-604.
2. Turner S, Chase DL, Milne R, Cook A, Hicks NJ, Rosten C, et al. The adaptation of health technology assessment reports: identification of the need for, and development of, a toolkit to aid the process. Int J Technol Assess Health Care. 2009;25 Suppl 2:28-36.
3. Goeree R, He J, O'Reilly D, Tarride J-E, Xie F, Lim M, et al. Transferability of health technology assessments and economic evaluations: a systematic review of approaches for assessment and application. ClinicoEconomics and outcomes research: CEOR. 2011;3:89.
4. Turner S, Chase DL, Milne R, Cook A, Hicks NJ, Rosten C, et al. The health technology assessment adaptation toolkit: description and use. Int J Technol Assess Health Care. 2009;25 Suppl 2:37-41.
5. O'Rourke B, Oortwijn W, Schuller T. The new definition of health technology assessment: a milestone in international collaboration. International journal of technology assessment in health care. 2020;36(3):187-90.
6. Merlin T, Tamblyn D, Ellery B. What's in a name? Developing definitions for common health technology assessment product types of the International Network of Agencies for Health Technology Assessment (inahta). Int J Technol Assess Health Care. 2014;30(4):430-7.
7. EUnetHTA Joint Action 2 WP. HTA Core Model ® version 3.0 (Pdf). 2016.
8. Drummond M, Manca A, Sculpher M. Increasing the generalizability of economic evaluations: recommendations for the design, analysis, and reporting of studies. Int J Technol Assess Health Care. 2005;21(2):165-71.
9. Guegan E, Milne R, Pordage A. EUnetHTA HTA Adaptation Toolkit & Glossary: Revised Version 5. UK: EUnetHTA; 2011.
10. Munthe-Kaas H, Nøkleby H, Nguyen L. Systematic mapping of checklists for assessing transferability. Systematic reviews. 2019;8(1):22.
11. Arksey H, O'Malley L. Scoping Studies: Towards a Methodological Framework. International Journal of Social Research Methodology: Theory & Practice. 2005;8(1):19-32.
12. Peters MDJ, Godfrey CM, Khalil H, McInerney P, Parker D, Soares CB. Guidance for conducting systematic scoping reviews. International Journal of Evidence-Based Healthcare. 2015;13(3):141-6.
13. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Annals of Internal Medicine. 2018;169(7):467-73.

Appendix

Appendix 1 - Consultation: Questionnaire INAHTA

Dear member of the INAHTA community,

Currently, we are starting a project with the aim to provide an overview of the existing tools, checklist, and/or other methods that are used to adapt or adopt existing HTAs to a new context. Next to a systematic search, we are also interested in the experience of people within this community and would like to ask you six short questions. The answers can be provided via the questionnaire in this link* or can be mailed to XXX.

1. Have you ever adapted or adopted an existing HTA? (Yes/no)
2. Did you use a specific tool for the adaptation/adoption? (Yes/no)
    a. If yes, what tool did you use for the adaptation/adoption?
3. Is the tool freely accessible for the public? (Yes/no)
    a. If yes, where can it be found?
4. What type of HTA was adapted/adopted?
5. To what extend did the tool help in the adaptation/adoption process?
6. Any other comments?

Thank you in advance for your time and help. We will update you with the findings of our research. Due to the nature of this data collection, it will not be anonymous. However, we will not save the email-address except when persons indicated they would like to receive a copy of the results. The answers to the questions will be saved separately from the email-addresses and the emails will only be used to send the finalized article.

For any questions, feel free to reach out to XXX

Kind regards,

XXX