

Commentary

Cite this article: Pichler F, Oortwijn W, Ruether A, Trowman R (2019). Defining capacity building in the context of HTA: a proposal by the HTAi Scientific Development and Capacity Building Committee. *International Journal of Technology Assessment in Health Care* **35**, 362–366. <https://doi.org/10.1017/S0266462319000631>

Received: 19 December 2018
Revised: 13 August 2019
Accepted: 18 August 2019
First published online: 11 September 2019

Key words:

Capacity building; Health technology assessment; Definition

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Defining capacity building in the context of HTA: a proposal by the HTAi Scientific Development and Capacity Building Committee

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Abstract

Objectives. To develop a definition of “capacity building” relevant to Health Technology Assessment international (HTAi).

Methods. A review of capacity building activities undertaken by HTAi members, members of the International Network of Agencies for Health Technology Assessment (INAHTA), and regional HTA networks was compared against general literature on capacity building definitions and frameworks. The findings were reviewed by the HTAi Scientific Development and Capacity Building Committee. Furthermore, the Executive Committee and Interest Groups of HTAi provided input on the draft final paper.

Results. The literature demonstrated the need for a definition of capacity building specific to HTA. In the context of HTAi, it was necessary for the definition to cover (i) the broadest range of HTA-related activities, (ii) multiple stakeholders involved in the HTA process, and (iii) the spectrum of activities that compose capacity building. We propose the following definition of HTA capacity building: *The process by which individuals and organizations develop or strengthen abilities related to understanding, providing input to, conducting, or utilizing HTA for health policy and decision making, as well as, developing awareness and support in the environment within which HTA is being used.*

Conclusion. A definition of HTA-related capacity building that was intended to provide clarity about what this term means to HTAi was developed. As HTA is context-dependent, a need for further work to develop an operationalization “menu” relevant to the specific needs in which HTA is being used was identified.

Health Technology Assessment international (HTAi) has included capacity building for HTA as one of its key strategic goals for the development and use of HTA around the globe (1). The strategy seeks to “identify learning needs of the HTA doers and users within the HTAi community; collaborate with teaching centers and academia as well as partner with governmental and non-governmental HTA bodies to improve HTA capacity around the globe and build up an efficient learning environment.” At present, no formal definition of capacity building exists within HTAi and hence, as a first step toward realizing the strategic goal, HTAi has tasked its Scientific Development and Capacity Building (SDCB) Committee to develop a definition of what is meant by “capacity building” in the context of HTA.

The SDCB membership consists of a diverse group of HTAi members who represent a balance of the various relevant sectors, are geographically dispersed, and have representation from countries with developed and developing HTA systems (2).

In order to develop a definition, the SDCB Committee had three aims:

- (1) To reflect and integrate previous work in this area, especially by HTAi and members of the International Network of Agencies for HTA (INAHTA), as well as regional HTA networks.
- (2) To develop a definition that is comprehensive, in the sense that it is relevant for the whole membership of HTAi.
- (3) To develop this work in consultation with the HTAi Interest Groups and the HTAi Board.

Methods

The SDCB began with a review of key documents, notably the output of two HTAi/INAHTA workshops on the topic of HTA agency capacity building (3;4) and the European network for HTA (EUnetHTA) handbook on capacity building (5). This was followed by a nonsystematic review of peer-reviewed and gray literature on capacity building in HTA in order to understand the current state of play. After an initial identification of core activities related to capacity

building, a further literature review was undertaken to determine how such activities were used in capacity building definitions more generally (i.e. outside of HTA) and what learnings could be drawn on in the field of HTA.

In recognition of the need to involve a broad range of stakeholders, the chairs of the ten HTAi Interest Groups (6) were contacted in order to request feedback from their members. Finally, a draft manuscript was prepared and was reviewed by the HTAi Interest Groups and the HTAi Board.

Results

The concept of capacity building (also known as capacity development) originated in the 1990s in relation to development cooperation (for a review see 7). Based on these early concepts, UNESCO (7) defined capacity as “the organizational and technical abilities, relationships and values that enable countries, organizations, groups, and individuals at any level of society to carry out functions and achieve their development over time....it refers not only to skills and knowledge but also to relationships, values and attitudes and many others....” If capacity describes abilities, then capacity building describes the process by which societies, organizations, and individuals can obtain, strengthen, and maintain those abilities (adapted from 9).

This definition distinguishes different levels of capacity building, noting that these levels influence each other:

- **Environmental**, that is, the broader context within which the individual and organizational levels are operating. This includes legal and political frameworks, as well as informal institutions (i.e. norms, culture) that may enable or hinder individuals and organizations from carrying out their functions.
- **Organizational**, that is, the organizational structure, policies, and procedures that determine an organization’s effectiveness (8). This includes human resources, physical resources, intellectual resources, networks, leadership of managers, etc. (7). The organization level can include groups within a broader organization and their relationship to the organization as a whole.
- **Individual**, that is, the skills, experience, and knowledge that allow an individual to perform (8) and their attitude and motivations to use these abilities (9). This can be developed through formal training or education; or nonprogrammatic through doing, “on-the-job” training or internships; or informal education such as self-reading, etc.

The term capacity building has become widely used with limited consensus on a general definition (10). In fact, some commentators observe that the term can range in meaning from “little more than staff training” to as broad as “development” and are concerned that the practical utility can be limited without a more operational definition (e.g. 11;12). Therefore, we sought to develop a definition specific to HTA and to begin to elaborate with operational guidance.

Capacity building related to HTA

The definition of capacity building as used by EUnetHTA was based on the generic definition of UNESCO: “The process by which individuals, organisations, institutions and societies develop abilities (individually and collectively) to perform functions, solve problems and set and achieve objectives” (5). Similar definitions were also used in the recent workshops of

HTAi/INAHTA in this area (3;4). The SDCB Committee determined that a more HTA-specific definition would be of use in order to clearly delineate what the term means for HTAi.

Defining what capacity building means in relation to HTAi implies that we need to take into account:

- (i). the broadest range of HTA-related activities;
- (ii). to cover stakeholders relevant to HTA at the individual, organizational, and environmental levels; and
- (iii). to recognize that capacity building spans a range of activities from creating new skills or organizations through to upgrading existing abilities.

- (i). Broad range of HTA-related activities

It is important that the concept of HTA capacity building reflects good HTA practices, which covers governance and organizational aspects, framing and scoping, assessment and contextualization, implementation and monitoring (13). The definition needs to be applicable to the decision-making context (14;15) in which the HTA is conducted or used, including whether the HTA activity in question is highly specific to a health problem and/or component of the HTA process through to the broadest applications of HTA. As such, we believe that a general definition should be complemented by an operationalization “menu” from which components can be drawn, relevant to the specific application.

- (ii). HTA-relevant stakeholders across all levels

The definition also needs to be inclusive of relevant stakeholders, including (i) producers of HTA evidence (such as academic and industry researchers); (ii) stakeholders seeking to engage in the process such as patients, caregivers, and broader stakeholders; (iii) HTA organizations (agencies, committees); and (iii) users of HTA outputs, such as decision makers, providers, and health professionals.

For example, without appropriate capacity building, full participation of stakeholder groups such as patients, clinicians, and others is challenging as they will not be equipped to meaningfully contribute. For example, patients and/or their carers may be involved early in the HTA process to scope the relevant HTA question (15). Additionally, capacity is also required for stakeholders such as patients and their carers, the wider public, and clinicians to understand the reasons underlying the decisions (16). With regard to the involvement of patients, the European Patients’ Academy on Therapeutic Innovation (EUPATI) recently developed guidance on how to build capacity for patients and HTA agencies to work together in HTA (17).

- (iii). Capacity building covers a range of activities

A definition needs to encompass the full range of capacity building, for example, from building organizations and staff capability in countries where HTA is nascent through to well-established HTA bodies that are developing new capabilities, either through change in remit or through a need to respond to changes in the environment (such as the emerging need to develop big data expertise) (18).

Therefore, the SDCB propose the following definition for HTA-related capacity building: *The process by which individuals and organizations develop or strengthen abilities related to understanding, providing input to, conducting, or utilizing HTA for*

health policy and decision-making, as well as, developing awareness and support in the environment within which HTA is being used.

Core components of HTA capacity building

From the literature focusing on capacity building in the context of HTA, it becomes clear that this represents a much broader suite of activities than simply training of core HTA staff in technical competencies. Li *et al.* (16) state that capacity building encompasses a “spectrum of activities” that recognizes the roles and skills of all stakeholders involved in HTA and should be flexibly employed fit for purpose. As with the broader general literature where there is a debate on capacity building frameworks, there were differences in conceptualization of how these different activities can fit within an HTA-specific capacity building framework (e.g. see 16). For simplicity, clarity, and consistency with existing work by HTAi and INAHTA, we selected core components into environmental, organizational, and individual levels, as follows:

Environmental level

This is the wider context in which HTA operates; it includes political and legal frameworks that determine the remit and context within which HTA operates as well as social values that determine a range of aspects from definition of value, ethical viewpoints (e.g. how a society values end-of-life care) through to the extent of stakeholder and broader public engagement.

Sufficient capacity for those integral to the successful implementation of HTA (such as politicians and policy makers) through to those outside of the traditional HTA community (i.e. the media and the broader public who react to HTA outcomes) to understand and support HTA outcomes is a determining factor in how and when HTA will be used. Key components pertinent to possible capacity building within the environmental context can be summarized as follows:

- **Political support for HTA (5;14–16;19):** without political support and the associated funding and establishment within a health system, the use of HTA will be inherently limited. This includes the political support required to encourage the integration of HTA across the health system; particularly so where HTA provides information to decision makers in different organizations.
- **Demand for HTA by HTA users (15;20):** this applies to a broad range of potential users from policy/decision makers to providers (such as clinicians). The demand for HTA is, in part, fueled by an understanding of what HTA is and what it can be used for. Demand can create a supportive environment to foster HTA activities (e.g. if health professionals are actively wanting and using HTA information).
- **Legal framework (5;16;19):** legal frameworks are an essential factor in determining the remit of HTA agencies, governance and regulation surrounding the HTA process including the role of stakeholders (e.g. industry), and the use of HTA for decision making (e.g. for determining the health benefit package).
- **Media and broader public (16):** the awareness of the importance and general understanding of HTA among these wider stakeholders is relevant for HTA settings. The media can publicize decisions based on HTA, and where decisions are controversial, this can impact many stakeholders. The broader public are important both in terms of reacting to the media but also as a source of understanding social values.

- **Financial and technical support from (inter)national or regional partners (15):** this kind of support, particularly for lower and middle-income countries beginning their “HTA journey” is vital—without initial financial and technical support from (inter)national or regional partners, there may be limited impetus for implementing an HTA framework. Often, in order to demonstrate the benefits HTA can bring and to work toward a sustainable health system, an initial injection of funds and technical expertise is required.

Organizational level

This context relates to the organizational structures, policies, and procedures of HTA, including the role, tasks, and responsibilities of agencies and committees, academic research institutes or universities, technology manufacturers, consultancies, patient groups, hospitals, health departments, and the organization structure of the health system through to HTA networks (such as INAHTA, HTAi, and regional HTA networks) and other collaborations.

It includes organizational relationships, from that of how a working group within a larger organization interacts with that organization through to the organization’s interaction with other organizations in the broader system. If an HTA unit (such as in a hospital, company, or agency) does not interact well with the rest of the organization then regardless of the quality of the HTA product, its impact will be limited. Equally, if the organization as a whole is not well linked to its intended consumer (such as an HTA agency to a decision maker) then its impact will be limited as well.

Key components pertinent to possible capacity building within the organizational context can be summarized as follows:

- **Linkage of HTA with health system decision makers/policy makers (5;14–16;19;20):** where HTA is not linked with decision and policy making, its use is more likely to be academic in nature rather than useful for health policy or decision making. Strengthening this link is important to increase the impact of HTA outputs. This could include, but is not limited to, using HTA for planning (such as horizon scanning) and priority setting, determining health benefit packages/coverage and reimbursement, and informing technology acquisition and adoption.
- **Governance, processes, and management (5;14;16;19;20):** these factors are integral to the foundations of any HTA system and have a close relationship to how HTA systems and working processes are established. Governance, in particular, also relates to quality assurance of the HTA process and products. The processes by which HTA is undertaken will impact on its efficiency and quality. In this context, management refers to how an organization manages its individuals (i.e. HR, leadership, organizational culture, retention schemes, outsourcing to vendors) and is a key factor in enabling and motivating individuals to perform their functions.
- **Guidelines, methodologies, dissemination (5;14;16;19):** these factors are what many may consider as core elements of traditional HTA capacity building in HTA agencies. The development of capacity in these areas is essential for nascent HTA systems but also for more mature HTA systems that need to react to continually evolving technological advances and innovations.
- **Resourcing (5;15;16;19):** access to resources such as sufficient trained staff, budgets, equipment, allocation of sufficient time to do the work are requirements for conducting effective HTA. Furthermore, the effective management of resources (as and when secured) also requires specific skills and processes.

Resource availability can be a limiting factor for many organizations, whether this is a nascent HTA agency, a patient group, a small enterprise, or a hospital committee. Origin of resources can sometimes be an issue in terms of the perception of conflict of interest. Sustainability of funding for the organization is often an important aspect in ensuring long-term effectiveness.

- **Acceptability of, and demand for, HTA information (14, 21):** applicable to both inputs into the HTA process as well as HTA outputs, acceptability of HTA information ultimately rests on how well trusted that information is. Trust is based on the quality of the information, including how potential bias is addressed, transparency of the process by which that information was generated, and acceptability of the methodologies employed (see 13). Although these aspects are also important for HTA demand, the key driver of demand is the relevance of the information. If the information is not relevant to the end-user (e.g. decision maker, hospital manager) then it can reduce their demand for more such information regardless of the level of acceptability of that information.
- **Networking to support the development of new or low-capacity HTA agencies (5;16;19–21):** there are a number of international and regional societies with stated aims and objectives of supporting the development of HTA in new or low-capacity HTA agencies. These include, but are not limited to, international societies such as HTAi, INAHTA, and regional networks of HTA agencies such as RedETSA, HTAsiaLink, and EUnetHTA. Additionally, organizations such as the World Health Organization, PAHO, and the World Bank are all active contributors to the development and support of new or low-capacity HTA agencies.

Individual level

The accrual of skills, experience, and knowledge to allow an individual to appropriately inform, conduct, interpret, or use HTA is essential. Without this, HTA may be done ineffectively, or at worst, in a manner that is harmful and is a wasteful use of limited resources. Although the core components of the environmental and organizational levels are critical to embed HTA in health systems, capacity at the individual level is a prerequisite for HTA. Key components pertinent to possible capacity building related to the individual level can be summarized as follows:

- **Networking, knowledge transfer, and collaborating between HTA experts (5;14;16;19–21):** enabling collaborations and creating networks to share knowledge and transfer skills are key elements for building and developing HTA expertise. Global and regional HTA networks, academic and professional networks all play a role in developing individual capacity in all facets of HTA.
- **Training, mentorship, and on-the-job experience (14;19;20):** this is a primary means for how capacity building at the individual level is conducted. Given the complexity of the processes and the range of issues and multidisciplinary factors to be considered within HTA, these elements are key for individual development. The HTA training and education agenda typically consists of two broad strands: training to understand/implement HTA findings (evidence-based policy and practice, i.e. for the “users” of HTA) and training to conduct HTA.
- **“Hard” and “soft” skills required by HTA users and producers (3–5;16):** given the many elements of HTA conduct and application, there are a number of skills that need to be

developed by users and producers (refer to 3–5 for lists of these skills). “Hard” (objective/quantifiable) skills are more specific, teachable abilities, and can be measured or defined (such as teaching how to develop an economic model). “Soft” skills are also an important element for users and producers of HTA to gain proficiency in; these skills are pivotal for dealing with interpersonal issues/people such as clear communication of the purpose and results of HTA and effective consultation during the HTA process.

- **Understanding of the concepts of HTA and its procedures (4;5;16;21):** although it is given that individuals directly involved in HTA need a level of understanding of HTA, this also applies to broader stakeholders that can impact on or be informed by HTA at the environmental and organizational levels. Health service managers need to understand how HTA could be of benefit to them (e.g. resource allocation or purchasing medical equipment). Company decision makers need to understand why they should allow the inclusion of HTA-related end points in trial designs. Patient advocacy group leaders need to understand where in an HTA procedure is an opportunity to provide input. An understanding of HTA may help ensure fair reporting of HTA-related outcomes in the media.

Next steps

In consideration of the broad range of activities covered by the definition of HTA, including the level of development and integration of HTA in a given system, its remit and resourcing and whether it is undertaking its activities in isolation or collaboration, a simple answer to capacity building is not feasible (14;16;20).

Instead, the HTA community needs to further specify the core elements of capacity building to reflect:

- (1) Nascent to mature HTA systems;
- (2) HTA that is specific for a narrow role (e.g. specific to clinical assessment of new surgical interventions in a hospital or an algorithmic multicriteria decision analysis for inclusion of health services in the benefit package as in Colombia) through to a very broad scope (e.g. such as the broad remit of the National Institute for Health and Care Excellence (NICE) in the United Kingdom),
- (3) HTA collaborations, especially where there is joint work (e.g. EUnetHTA, RedETSA);
- (4) The process of HTA, including how the HTA reports lead to a recommendation or decision; and
- (5) HTA dissemination and measuring the impact.

This means that the HTA community needs to develop operational guidance for capacity building across the full range of activities under this definition, though this may not be relevant in every context. The HTA-related capacity building needs for a hospital decision maker will vary from that of a company health economist, or a patient advocacy organization. Therefore, taking this as a starting point, the SDCB Committee will consider developing an operationalization “menu” that members can draw from relevant to their specific needs and context.

Acknowledgements. This paper is presented on behalf of the HTAi Scientific Development and Capacity Building (SDCB) Committee: André Pichon Riviere, Institute for Clinical Effectiveness and Health Policy,

Argentina; Anna Scott, University of Sydney, Australia; Gert Jan van der Wilt, Radboud University Medical Centre, the Netherlands; Janet Martin, Schulich School of Medicine and Dentistry, Western University, Canada; Ken Bond, Institute of Health Economics, Canada; Sebastian Garcia Marti, Institute for Clinical Effectiveness and Health Policy, Argentina; Yue Xiao, China National Health Development Research Center, Division of Policy Evaluation and HTA, China; and Yingyao Chen, Key Lab of HTA, Ministry of Health, China.

Financial support. N/A.

Ethics committee approval. N/A.

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