



Setting High Quality Standards in EU Regulation on HTA: Applying an Adaptive Approach to assess the value of medical technology innovation along the lifecycle

Discussion Paper by a Community of Interest of Topic Leads and Experts facilitated by MedTech Europe.

Background:

The EU Regulation on HTA comes with a high uncertainty about its added value and how JCAs will be used in national HTA processes. The EU Regulation on HTA, however, also provides an opportunity to ensure high quality, timely assessments of innovations, avoid duplication and improve timely decision-making across Europe. For this opportunity to be realized, MedTech Europe believes it is essential that the Regulation is implemented in a way that supports the real-world decisions that patients and healthcare decision makers need to make across member states to address unmet health and health system needs.^{1,2}

MedTech Europe welcomes the Regulation's recognition of the diverse nature of medical technologies, encompassing medical devices, *in-vitro* diagnostics, and other related technologies, as well as the recognition of the highly decentralized nature of their market access pathways. The MedTech Industry also acknowledges the importance of establishing a clear and predictable timeframe for the joint clinical assessment (JCA) of medical devices and *in-vitro* diagnostics. MedTech Europe believes that, on the one hand, there is a need to take into account the need for access to a wide range of technologies for patients but on the other hand, also the need for decision makers to obtain the best available information for a decision on adoption, funding and utilization of innovative medical devices. To this end, MedTech Europe supports the expressed opinion and call for an *adaptive approach* to assessments undertaken in JCAs and in HTA in Member States.

This paper aims to contribute to the current debate on high quality standards in the implementation and adoption of methods/guidance of the EU Regulation on HTA. The paper seeks to explain what is meant by an adaptive approach, why it is important, and how it can be applied in the context of the EU Regulation on HTA.

An adaptive approach to HTA for medical devices will need to be consistent with current expert thinking on adaptive approaches in HTA methodology. An adaptive approach that will be able to address concerns regarding the quality of recent piloting of JCA for medical devices under the EUNETHTA21 service agreement. It appears that some essential elements are being overlooked, and best practices not applied which limit their utility and lead to potential misinterpretation, at risk that Member States will ignore the reports when conducting national HTA and the regulation will add complexity. The shortcomings show that a change of mindset is required if the guidance and methods to be developed for the implementation of the HTA Regulation are to be fit for purpose. This paper sets out a reflection on how JCA could be implemented in the context of the Regulation on HTA to be of added value and we welcome your view.

1 MedTech Europe. EU Regulation on HTA Striking the Right Balance for Medical Technology Assessment. 2022.

2 MedTech Europe. Messages of the Medical Technology Industry on Health Technology Assessment. 2020.

Initiatives to Adapt HTA approaches

Various initiatives in recent years have attempted to make HTA methods and approaches more fit for purpose, either in general or specifically for medical technologies. Some examples are outlined in the table below:

Areas of Focus	Past/current Initiatives relating to adaptive assessment
Lifecycle Approaches to Assessment	<ul style="list-style-type: none"> • Lifecycle HTA Framework³: addressing sustainability of healthcare systems, evolving evidence, and uncertainty. Focus on early scientific advice programs, Research-oriented Managed Access (ROMA) to address uncertainty; de novo model development and Value-of-Information (VoI) analysis to support decision making. • Lifecycle evidence generation: examines device specific evidence requirements throughout the product lifecycle.^{4,5}
Value of Information	<ul style="list-style-type: none"> • ISPOR Good practice recommendations⁶:
Outcomes and Cost Analyses	<ul style="list-style-type: none"> • MedTechHTA Project⁷: EU specific initiative that led the development of specific methods/tools for Medical Device HTA. Focus on economic evaluation, regulatory/HTA harmonization, Conditional coverage with evidence development (CED). • COMED⁸: EU funded initiative strengthening HTA for medical devices. Focus on RWD/ RWE for high-risk devices, development of a framework for use of surrogate endpoint evidence, medical app HTA, quantifying uncertainty in early HTA & CED in Europe. • IMPACT-HTA⁹: development of innovative methodologies, toolkits and processes to aid assessment and adoption of medical technologies. Includes a focus on combining RCT and RWE evidence, cost analyses, HRQoL, MCDA and HTA implementation. • PECUNIA¹⁰: a 42-month project to establish standardised costing and outcome measures/ tools for optimised national healthcare provision in the EU. • EUnetHTA¹¹: A future model of HTA Cooperation, Final White Paper
Value Frameworks / ethical social & legal aspects	<ul style="list-style-type: none"> • VALIDATE-HTA¹²: integration of all aspects of value in HTA particularly for innovative complex technologies where there may be ethical and social implications. Focus on development of training materials and tools on integrative HTA. • HTx¹³: an EU project that aims to create a framework for the Next Generation HTA to support patient-centered, societally oriented, real-time decision-making on access to and reimbursement for health technologies throughout Europe.
Deliberative processes	<ul style="list-style-type: none"> • HTAi/ISPOR joint Taskforce¹⁴: development of a guidance and checklist for best practice deliberative processes in HTA.

3 Kirwin et al. A Conceptual Framework for Life-Cycle Health Technology Assessment. VALUE HEALTH. 2022; 25(7):1116-1123

4 Tarricone R et al. Lifecycle evidence requirements for high-risk implantable medical devices: a European perspective. Expert Review of Medical Devices. 2020;17(10): 993-1006

5 Trowman R, Migliore A, Ollendorf DA (2023). Health technology assessment 2025 and beyond: lifecycle approaches to promote engagement and efficiency in health technology assessment. International Journal of Technology Assessment in Health Care, 39(1), e15, 1-7

6 ISPOR Good practice recommendations: Value of Information Analysis for Research Decisions – An Introduction: Report 1 of ISPOR Value of Information Analysis Emerging Good Practices Task Force.

7 <https://www.medteghta.eu/>; Tarricone R et al. Key recommendations from the MedtechHTA project. Health Econ.2017 :26(Suppl1) :145-152

8 <https://www.comedh2020.eu> Torbica et al. Economic Aspects of the Evaluation, Diffusion and Use of Medical Devices. Health Econ. 2022;31(Suppl1): 1-206

9 <https://www.impact-hta.eu/>

10 <https://www.pecunia-project.eu/>

11 <https://www.eunethta.eu/wp-content/uploads/2021/09/FMC-HTA-WHITE-PAPER-FOR-PUBLICATION.pdf>

12 <https://validatehta.eu/> van der Wilt et al on Behalf of the VALIDATE-HTA Consortium (2022). Health technology assessment: A matter of facts and values. International Journal of Technology Assessment in Health Care, 38(1), e53, 1-2

13 <https://www.htx-h2020.eu/about-htx-project/>

14 Oortwijn et al. Designing and Implementing Deliberative Processes for Health Technology Assessment: A Good Practices Report of a Joint HTAi/ISPOR Task Force. VALUE HEALTH. 2022; 25(6):869-886

MedTech Europe believes that valuable learnings have arisen from this work, and it is important that these are reflected in approaches to HTA that are adopted in the context of the HTA Regulation. Most important is that future approaches are framed and developed within what has become known as an Adaptive Approach to HTA.

The **adaptive approach** to HTA was discussed by the HTAi Global Policy Forum as described by Husereau et al 2014. While no formally agreed definition exists, the adaptive approach to HTA was described in the Forum discussion as one that is^{15,16}:

- i. **flexible and prospectively planned** within and between key decision makers,
- ii. intended to **reduce uncertainty** progressively to inform ongoing decisions on appropriate patient access and care,
- iii. intended to **promote informed choices and improved outcomes** and use of resources

At the core of the **adaptive approach to HTA** is a shift from a view of HTA as a rigid process with the same methods for all technologies, to an approach where the **timing and methods are adapted to the nature of the technology, its potential impact on health outcomes and care delivery, the nature of information needed by patients and health service decision makers, and the urgency and the level of certainty required**. In this way, the adaptive approach can reconcile on the one hand calls from patients, clinicians and health services for earlier patient access to promising innovative technologies with, on the other hand, decision maker's requirements for evidence of added value, for example through making more use of RWE,¹⁷ to be reviewed in the light of experience and further evidence following adoption. Note that, while an adaptive approach may result in a relatively rapid assessment to support a decision on uptake early in the technology lifecycle, an adaptive approach to HTA is not the same as "rapid HTA" or "early HTA": an adaptive HTA is a "full" HTA adapted to the specific characteristic of the technology, the health problem and the decision maker; the scope and timing will reflect those characteristics and it may rapid and early, or more detailed and relatively late in the technology cycle if that is deemed appropriate; a rapid HTA will always limit the scope of evidence considered in order to accelerate the assessment process; and an early HTA will always be done very early in the lifecycle, often defined as done ahead of market authorization.

Key factors for the successful adoption of an adaptive approach are collaboration and engagement of all key stakeholder's, such as health technology developers, HTA bodies, patients and patient groups, health care professionals, payers, and independent experts) to discuss and agree the nature of the questions to be addressed, the timing and methods of assessment, and how appropriate data can be collected in practice¹⁷

An adaptive approach to HTA in the European context

Key dimensions of adaption:

In the context of the HTA Regulation, there is critical need for an adaptive approach to assessment, focusing on three key dimensions

1. Adapting to the disease and/or care context that the technology is addressing.

This first dimension is critical as it helps identify and capture the magnitude of the unmet need within a specific condition and the burden of the disease associated with that. This allows the added value of the technology being assessed to be placed in context and hence better understood, which in turn helps decision makers ensure that access reflects need across the healthcare spectrum, including for rare diseases or small groups of patients.

15 Husereau et al. Adaptive approaches to licensing, health technology assessment, and introduction of drugs and devices. International journal of technology assessment in health care, 30:3 (2014), 241-249.

16 Trowman R, Migliore A, Ollendorf DA (2023). Health technology assessment 2025 and beyond: lifecycle approaches to promote engagement and efficiency in health technology assessment. International Journal of Technology Assessment in Health Care, 39(1), e15, 1-7

17 HTAi Global Policy Forum Virtual Webinar 2022 HTAi GPF -Topic Scoping Paper

2. Adapting to the nature of the technology, the intended purpose, and its impact on outcomes and care delivery

This second dimension is key to understanding the nature and potential magnitude of benefits, outcomes for patients and care delivery¹⁸. It is important that impact on care delivery is considered from a system-wide perspective and considering all actors involved. The COVID-19 pandemic has shown how stretched resources are in many health systems, with access to screening, early detection, diagnosis, care, and treatment for many people living with acute and chronic non-COVID related diseases being disrupted¹⁹. Adopting labor-saving or capacity-enhancing healthcare innovations (including digital and AI-based solutions) can reduce costs and improve efficiency and throughput which in turn can increase the capacity of the health system and increase resilience across the board^{20,21}. Such technologies can also increase healthcare worker satisfaction and the quality of care.^{22,23,24}

3. Adapting the methods and evidence collected to the nature of the questions and timing of assessment.

Consideration of 1 and 2 above will define the nature and urgency of the questions to be addressed in the assessment, the extent of unmet need, the magnitude of potential benefits, the tolerance of uncertainty, and the point in the lifecycle that assessment should be undertaken. The methods used and data collected need to be adapted to reflect all these factors. It is important that the full range of potential methods and data sources and analysis are considered at a given point in time for “evidence generation” and to ensure “sufficient data for a given point in time is available to inform decision making.. Given that the extent of potential benefits and/or urgency decision makers tolerate different levels of uncertainty The degree of certainty and the strength and limitations of available evidence need hereby to be reported as foreseen in the Regulation on HTA.

Evidence generation requests for medical technologies and solutions need to be pragmatic, proportionate and feasible, taking account of the nature of the decision-making context, the technology, the disease or care area involved, and the nature of the expected benefits. Evidence requests should also reflect the stage in the product lifecycle when the assessment is conducted.²⁵ This approach brings more flexibility in the assessment timing, facilitating the equitable access for patients to innovations without compromising the quality of the evidence and minimize delays to access the use of available and newly created RWD (i.e. registries, or other observational studies) is key to the assessment of many medical technologies. The actual effectiveness and holistic value of many medical technologies can only be assessed with the aid of RWD of clinical practice, considering contextual factors (i.e., the users’ proficiency or ‘learning curve’, training, interpretation, multiple indications, pace of the technologies’ innovation cycle, the adaptation of the care pathways, health systems performance, the socio-economic and organizational efficiency impact, etc.). RWD has the potential to bridge the gap between the evidence sought for long term reimbursement or funding decisions, and that available at early stages in the technology life cycle.

Processes to support adaption

Successful implementation of an adaptive approach to HTA in the EU requires a commitment to, and processes to support, engagement, dialogue and cooperation between health technology developers, health system decision makers, HTA and payer bodies, patients, clinicians, throughout the technology lifecycle-from early dialogue, through evaluation of estimated benefit of emerging technologies, joint scientific consultation (JSC) to the scoping and finalization of the JCA and any further data collection or review that may be agreed.

18 Callea et al. Recommendations for the design and implementation of an Early Feasibility Studies program for medical devices in the European Union. Expert review of medical devices 2022, 19(4):315-325

19 COVIDSurg Collaborative. Elective surgery cancellations due to the COVID-19 pandemic: global predictive modelling to inform surgical recovery plans. BJS 2020; 107: 1440-1449

20 Choudhary , P. et al. The Challenge of Sustainable Access to Telemonitoring Tools for People with Diabetes in Europe: Lessons from COVID-19 and beyond. Diabetes Ther (2021) 12:2311-2327

21 Hu, Y., et al. Outcomes from different minimally invasive approaches for infected necrotizing pancreatitis. Medicine (2019) 98:24(e16111).

22 Jiang, S., et al. A Universal Deep Learning Approach for Modeling the Flow of Patients Under Different Severities. 2018 154: 191-203

23 European Parliamentary Research Service (2022). Artificial Intelligence in healthcare. Applications, risks, and ethical and societal aspects

24 MedTech Europe. Through the looking glass: Adjusting to the ‘new normal’ post-COVID-19. 2022

Authentic engagement and meaningful dialogue are especially crucial at early phases of Technology Identification and Prioritization and during the scoping stage to ensure an understanding of the contextual factors and that assessments serve their intended purpose. Identifying the genuine extent of patients' unmet needs, assessing the potential of a specific technology, and addressing the information requirements of relevant decision-makers necessitate a deliberative dialogue with stakeholders. This goes beyond merely 'consultation,' which often takes the form of inviting written input.

Ensuring that the EU Regulation on JCA adds value and enhances patient and health system access to innovations that will improve health outcomes and health system performance across Europe.

An adaptive approach to assessments is essential if JCA in the EU is to be fit for purpose and meet the needs of patients and decision makers. To achieve this

- the Member States HTA Coordination Group supported by the European Commission needs to promote an adaptive approach when providing strategic direction for the work of the subgroups and ensure that the adaptive approach is reflected in the methods to be adopted for the JCA and other EU-level work.
- The process for conducting JCAs must –in line with the provisions and recitals of the Regulation:
 - Involve patients, technology developers and other key stakeholders in deliberative dialogue to scope the assessment and identify patients' needs and priorities, health system needs, the nature of the technology and its potential to address the needs identified, the potential importance of the technology, the urgency and the likely tolerance of uncertainty about benefits.
 - Adapt the methods of assessment and the data reviewed and requested to reflect the above
 - Recognize that evidence standards and tolerance of uncertainty about benefits varies across agencies and decision makers in Member States and therefore considers all relevant studies and forms of evidence, including non-randomized designs, the use of surrogates, and the use of real-world data to meet the needs decision makers of all Member States.
- HTA bodies and decision makers in Member States should be encouraged to use JCAs undertaken in this way and adapt their own processes to the nature of the needs for and potential benefits of the technologies they are considering.

An adaptive approach to assessment when applied in the ways described above will succeed in streamlining and raising the quality and relevance of JCA in the EU and help to promote the development of timely and equitable access to safe, effective and high value innovations that will improve patient outcomes and health system performance.

About the Community of Interest

To inform the discussion on innovative approaches to apply in the EU regulation on HTA for Joint Assessment as well as to be considered in National HTA, MedTech Europe as a European Trade association facilitates the creation of an opinion by topics leads and experts.

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Now, as we strive to build out a broader community of interest supporting the future adoption of innovative approaches and setting the benchmark for high-quality and timely assessments under the Regulation on HTA, we eagerly anticipate your input. Your reflections are pivotal in this collaborative endeavour, and we invite you to share your views with us at CreatingValue@Medtecheurope.org. Let's together pave the way for advancements that will define the future landscape of medical device assessments.