Briefing on Health Technology Assessment in the European Union

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1. Introduction: why a Briefing on HTA

The need for a briefing document on Health Technology Assessment (HTA) arose during the course of 2016 when the European Commission launched the initiative "Strengthening EU cooperation on Health Technology Assessment"[1]. The initiative included a public consultation, an impact assessment and study that together would inform the drafting of a legislative proposal[2].

The European Patients' Forum (EPF) raised awareness and promoted the EC-led initiative[3] among their membership and larger patient community, highlighting the importance of ensuring the patients' voice is heard in a technical domain that has significant implications on quality of life and access to high quality healthcare.

This briefing document provides an overview on Health Technology Assessment at EU and national level and shows the perspectives of all interested parties, (stakeholders).

Whilst HTA is considered a highly technical domain, it is important to understand the policy and political implications and how the interests of diverse stakeholders are affected.

2. What is a Health Technology?

Before looking at what HTA is, it is important to get an understanding of what a "health technology" is. A **health technology** is described by EUnetHTA[4] as *"the application of scientific knowledge in health care and prevention"*[5]. The term applies to a wide range of products and services available in the healthcare systems: diagnostic tests and treatment methods, medical equipment and devices, rehabilitation and prevention programmes, pharmaceuticals and organisational and supportive procedures.

[1] http://ec.europa.eu/smart-regulation/roadmaps/docs/2016_sante_144_health_technology_assessments_en.pdf
[2] https://ec.europa.eu/health/technology_assessment/eu_cooperation_en
[3] http://www.eu-patient.eu/Members/Weekly-Mailing/hta--public-consultation-on-strengthening-eu-cooperation-on-health-technology-assessment/
[4] A network, established to create an effective and sustainable network for health technology assessment (HTA) across Europe that could develop and implement practical tools to provide reliable, timely, transparent and transferable information to contribute to HTAs in members states. For more information see: http://www.eunethta.eu/
[5] http://www.eunethta.eu/faq/Category%201-0#t287n73

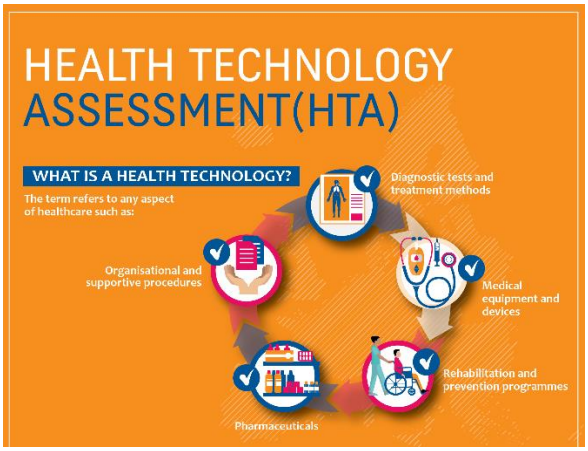

Figure 1 EPF factsheet on HTA

3. What is Health Technology Assessment?

Health Technology Assessment looks at the short and long-term implications and consequences of using a health technology[6]. A widely used definition of HTA is the one conceived by the Joint Action EUnetHTA (European Network for Health Technology Assessment) which states that[7]:

> ***Health technology assessment (HTA)*** *is a multidisciplinary process that summarises information about the medical, social, economic and ethical issues related to the use of a health technology in a systematic, transparent, unbiased, robust manner. Its aim is to inform the formulation of safe, effective, health policies that are patient focused and seek to achieve best value.*
> *Despite its policy goals, HTA must always be firmly rooted in research and the scientific method. (EUnetHTA)*

The use of HTA in healthcare systems has become common in the recent years, but its use dates to the '80s when the Swedish Council on Technology Assessment in Heath Care (SBU) was founded (1987) as a government agency. In 1992 the Spanish Basque Countries established an HTA body called OSTEBA (Basque Office for Health Technology Assessment) under the responsibility of the regional government[8].

Since then, many more European countries have established these bodies, where some were created under governmental control, and others as independent bodies.

[6] Health Equality Europe, *Understanding Health Technology Assessment,* July 2008. http://img.eurordis.org/newsletter/pdf/nov-2010/58-1%20HEE%20Guide%20To%20HTA%20for%20Patients%20English.pdf
[7] http://www.eunethta.eu/faq/Category%201-0#t287n73
[8] http://www.advance-hta.eu/PDF/MexicoWorkshop/Presentations/13-HTA-in-Spain.pdf

3.1 WHY IS HTA SO PREVALENT?

The cost of healthcare expenditure has increased due to the ageing population, that, by definition, has a higher chance of falling sick and living with a chronic condition[9]. Moreover, scientific medical research has advanced and brought to the market[10] highly innovative technologies that have the potential to improve the health status of patients.

HTA has become prevalent because it is seen as the gatekeeper in decisions about which health technologies should be reimbursed, and for which target population they should be made available.

3.2 PHARMACEUTICALS: HTA IN THE PATHWAY BETWEEN REGULATORY DECISIONS AND PRICING AND REIMBURSEMENT

In practice, as shown in the figure below, HTA assessments take place in the phase following EU marketing authorisation, when a pharmaceutical product is authorised to enter the market and the pricing and reimbursement decisions are made (P&R).

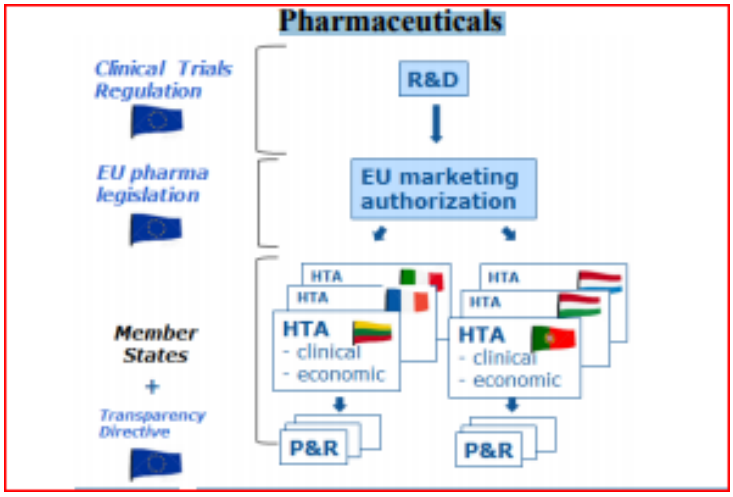

Figure 2 Market access pathways for pharmaceuticals, in Impact Assessment, Strengthening of the EU Cooperation on Health Technology Assessment (HTA)

At national level (see section 4.2) there may be variations to the pathway depending on the procedures applied and the actors involved[11]. For example, the two main components of an HTA - assessment and appraisal - may be conducted by one body or two separate ones. The latter is the case for Germany for example, where the assessment (or evaluation) is carried out by IQWIG (Institute for Quality and Efficiency in Health Care), while the appraisal and decision-making component is carried

[9] DG ECFIN. The 2015 Ageing report, 2015.
[10] OECD. 2015. Pharmaceutical expenditure and policies: past trends and future challenges.
[11] https://www.ispor.org/research_pdfs/52/pdffiles/PHP176.pdf

out by GBA (Gemeinsamer Bundesausschuss). The separation of assessment tasks from appraisal and decision-making is intended to ensure objective and unbiased decisions even though the two components are highly interrelated.

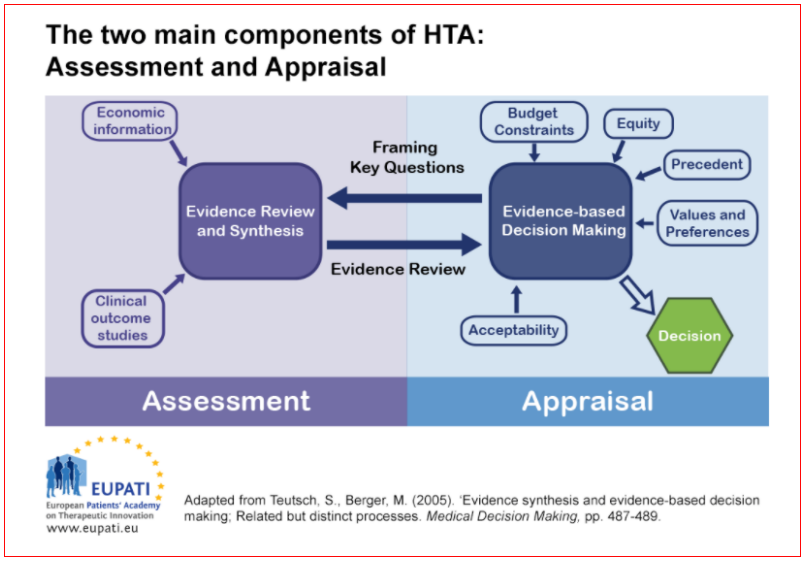

Figure 3 Distinction between Assessment and Appraisal, in EUPATI[12]

3.3 HTA ASSESSMENT

The Assessment component of an HTA consists of evidence-based analyses of factors such as clinical effectiveness and safety. EUnetHTA has produced an HTA Core Model®, a generic methodological framework for production and sharing of HTA information. The HTA Core Model® clearly outlines the distinction between a **Full HTA** and a **Rapid Relative Effectiveness Assessment (Rapid REA)**, the former comprises both clinical and non-clinical domains for the assessments, the latter looks only at the first 4 domains, the clinical ones. Both the Core Model® and the EC-led initiative on HTA cooperation at EU level have fostered the idea that the Rapid REA has a high potential for applicability at European level as it looks at evidence developed globally (e.g. clinical trials). On the contrary, a full HTA may capture nuances that are more specific to the national and regional contexts, such as social and legal aspects and cost and economic evaluation. Of course, the two approaches differ also in duration.

[12] https://www.eupati.eu/health-technology-assessment/hta-systems-in-europe/#Introduction

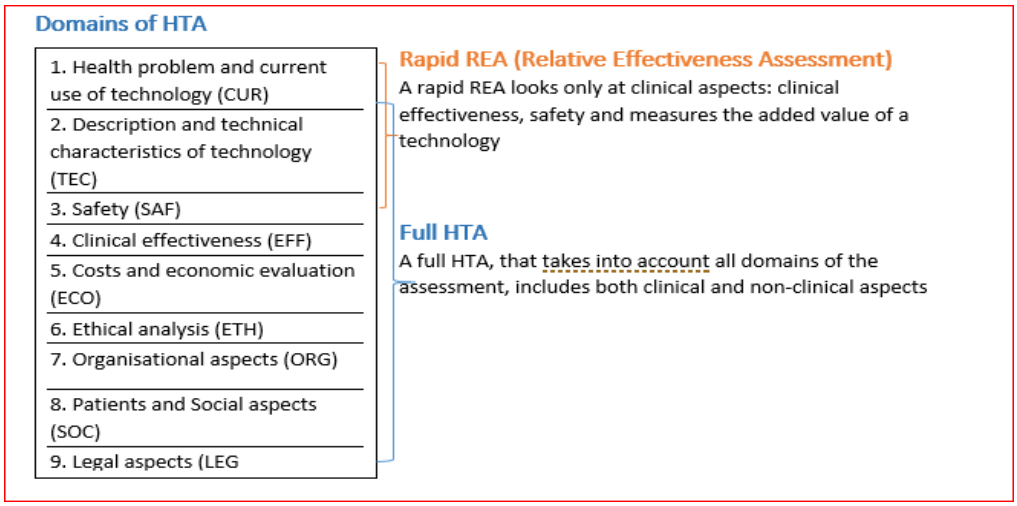

Figure 4 Domains of a full HTA and of a Rapid REA according to the HTA Core Model®

3.3.1 THE ROLE OF COMPARATORS

As the purpose of HTA is to assess the "added" therapeutic value of a health technology, the procedure requires the use of a comparator already available in clinical practice. The selection of comparators is of utmost importance as they provide information about the best available standards of care. One of the key identified differences in the methodologies for the selection of comparators, is whether the new technology may be compared to a technology belonging to a different category (e.g. pharmaceutical technology compared to a medical technology)[13].

3.3.2 CONSIDERATIONS ABOUT MEDICAL TECHNOLOGIES

With the term medical technologies (med-tech) we refer to the large family of medical devices, medical imaging, in vitro diagnostics, health information and communication technologies[14]

Assessments of medical technologies require a different approach to those applicable to pharmaceutical products.

The key difference, as shown in figures 4 and 5, is that following the research and development phase, pharmaceuticals get a marketing authorisation, while medical technologies get a CE marking to enter the market[15]. At EU level there is no agency, comparable to the European Medicines Agency, that

[13] Impact Assessment: Strengthening of the EU Cooperation on Health Technology Assessment, p.19 https://ec.europa.eu/health/sites/health/files/technology_assessment/docs/2018_ia_final_en.pdf

[14] V.Wurcel et al, Medical Technologies: Involving Patients in Development and Assessment, in Patient Involvement in Health Technology Assessment, Springer 2017

[15] For more information on the CE marking see: European Patients Forum, Medical devices briefing for patients: Patient safety in the new Regulation "All medical devices have to go through a conformity assessment procedure, based on essential requirements, to receive the CE mark compulsory to place a device on the EU

provides marketing authorisation to ensure safety and efficacy of medical devices; instead there are bodies that provide approval on the base of evidence on safety and performance[16]. The European legal framework for medical devices and in vitro diagnostics will become more binding and stringent in the coming years, as 2 new regulations on medical devices were adopted in April 2017 and entered into force in May 2017, replacing the previous legislation[17]. The new rules will only apply after a transitional period. Namely, 3 years after entry into force for the Regulation on medical devices (spring 2020) and 5 years after entry into force (spring 2022) for the Regulation on in vitro diagnostic medical device.

Other aspects to be considered are that medical devices and in vitro diagnostics are often produced by Small and Medium Enterprises (SMEs)[18] that have limited capacity to request and pay a fee for an HTA for their products. Another consideration to be taken into account, is that every year thousands of new medical technologies enter the market. From the evaluator perspective, this makes it very difficult to prioritise the technologies for assessment, being aware that it will be impossible to assess all of them.

The landscape is already quite complex when it comes to HTA; in the case of medical technologies, there is an additional level of complexity due to the fact that there is not necessarily a centralised body in charge of all of the assessments, as many technologies are directly subject to the so-called "Hospital-based HTA", a practice where the Health Manager may rely on HTA to make informed decision to invest in innovative medical technologies for their hospitals[19].

market. For higher-risk categories the procedure is carried out by notified bodies while for lower risk devices manufacturers are only required to produce technical documentations required. Notified bodies are independent bodies, accredited by authorities of Member States, to verify and certify the conformity of medical devices with the EU directives (or the new Regulation once it is in application). The authorities that accredit notified bodies are National Competent Authorities (also called competent authorities). In order to obtain the EU certification, all manufacturers must carry out a clinical evaluation to demonstrate the safety and the performance of the device. How the clinical evaluation is carried out also varies according to the device's risk category. One method, usually for the higher risk category devices is clinical investigations, which are the equivalent of clinical trials for medical devices: they ensure the product is tested before being placed on the market. Manufacturers (companies who develop the device and subsequently monitor its safety and quality), notified bodies (who assess and certify the device's safety and performance before it is placed on the market), and national competent authorities (who monitor safety of devices on the market and ensure notified bodies are complying with the law) are the key actors in the process to ensure devices provided to patients are safe" http://www.eu-patient.eu/globalassets/policy/medicaldevices/briefing-for-patients-on-patient-safety-in-the-new-medical-devices-regulation.pdf and https://ec.europa.eu/growth/sectors/medicaldevices/contacts

[16] See "European Parliament and Council of the European Union. Council Directive 90/ 385/EEC of 20 June 1990 on the Approximation of the Laws of Member States Relating to Active Implantable Medical Devices."; "European Parliament and Council of the European Union. Council Directive 93/42/EEC of 14 June 1993 Concerning Medical Devices."; "European Parliament and Council of the European Union. Council Directive 98/79/EC of 27 October 1998 on in Vitro Diagnostic Medical Devices

[17] https://ec.europa.eu/growth/sectors/medical-devices/regulatory-framework_en

[18] Figures provided by the European Commission show that 95% of the companies in the medical devices sector are SMEs https://ec.europa.eu/growth/sectors/medical-devices_en

[19] For more information please refer to the FP7 funded project AdHopHTA (Adopting Hospital Based Health Technology Assessment). http://www.adhophta.eu/

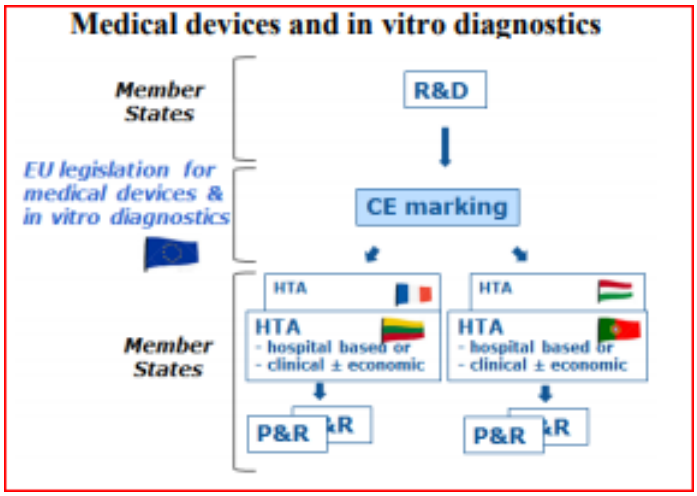

Figure 5 HTA of Medical Devices and in vitro diagnostics

3.3.3 PRIORITISATION CRITERIA

One of the dilemmas HTA may pose is the prioritisation of technologies as this may facilitate, deny or delay the reimbursement of health technologies from the National Health Systems. When other technologies with similar or comparable therapeutic value are available, there is less perceived need for a new innovative product, in contrast to the case where there is no health technology available to respond to unmet needs.

In light of this, some discussions around the prioritisation criteria have been launched to define the key elements to be addressed when prioritising a technology for assessment. The HTA Network Stakeholder Pool of Patients and Consumers[20] has initiated an internal debate that has resulted in a discussion paper on "Criteria for the Prioritisation of Technologies for Joint HTA" adopted in November 2017[21]. This document is aimed at informing potential European joint assessments in a post 2020 scenario, but it may also be relevant at national level.

The HTA Network Stakeholder Pool of Patients and Consumers suggests two separate sets of criteria, one for pharmaceuticals and one for non-pharmaceutical products, and separate considerations would apply to obsolete technologies.

[20] https://ec.europa.eu/health/sites/health/files/technology_assessment/docs/stakeholderpoollist_en.pdf
[21] While the full document is not public yet, its key concepts have been made public and shared at the HTA Network Meeting on 9 February 2018.
https://ec.europa.eu/health/sites/health/files/technology_assessment/docs/ev_20180209_co04_en.pdf

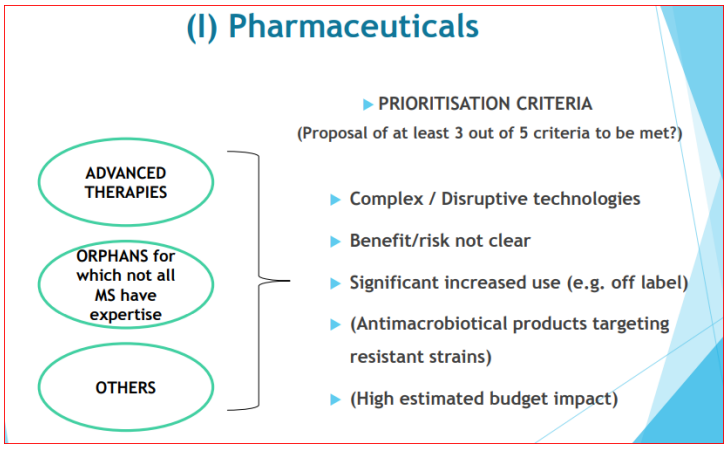

Figure 6 Prioritisation criteria for Pharmaceuticals

The proposed approach of Patients & Consumers representatives is that, depending on which category of pharmaceuticals they belong to (Advanced Therapies Medicinal Products- ATMP, Orphan Medicinal Products, other (no orphan no-ATMP), they should meet a minimum number of criteria out of five listed in figure 6, to be selected for prioritisation (two out of five criteria for ATMP and OMP and three for other pharmaceuticals). The criteria range from complex technologies, to those with unclear benefit/risk ratio and those with high estimated budget impact.

An interesting approach is also the one proposed for non-pharmaceutical technologies (namely medical technologies, surgeries etc.), where key are the safety of the device or procedure and their impact on organisational and financial aspects.

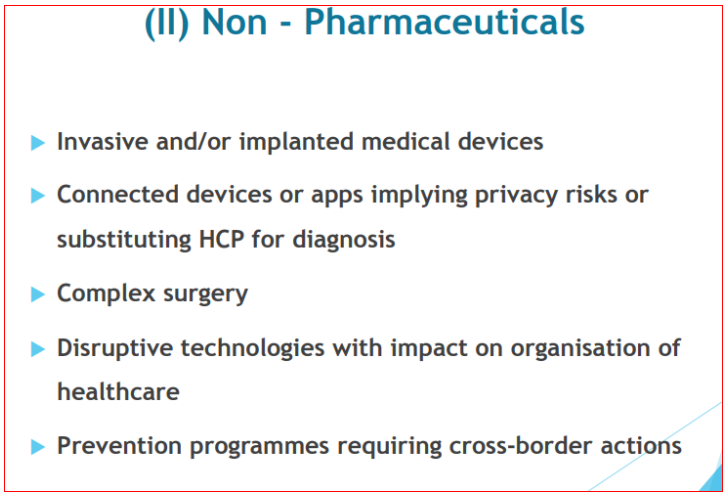

Figure 7 Criteria for the prioritisation of non-pharmaceuticals

Considering the high number of medical devices available on the market with no need for prescription, the Patients and Consumers group suggests also that this specific subgroup of devices might be subject to HTA.

The proposal of assessing obsolete technologies lays on the concept of reassessments and the idea that negative outcomes of the assessment may free resources for other more innovative and effective technologies to the benefit of patients and society at large. Some may argue that the use of comparators in the assessment already provides the possibility for a reassessment of existing technology, however, patient advocates would argue that the process of reassessment might be anticipated where there is evidence of ineffectiveness and negative impact on quality of life.

4. HTA in a multi-layered landscape

4.1 HTA AT EU LEVEL

While decision-making on HTA is a national competence, there is a widespread view that some aspects of HTA could be coordinated and managed at European level to avoid duplication of work, ensure uptake of assessments in Member States with less capacity in conducting HTA, and to exchange good practices by working with peers in other national contexts[22]. This is the rationale behind the European initiative EUnetHTA[23], started in 2006 as an EU financed project and continued in three rounds as a Joint Action (1-2010/2012; 2-2012/2015; 3-2016/2020) funded by the European Commission Health Programme, bringing together HTA bodies from the EU Member States. Over the years, EUnetHTA has produced many documents such as guidelines and tools, joint work on full HTAs, REAs and Early Dialogues, and more recently based on the experience gained through collaboration, has contributed to inform the legislative proposal on future collaboration on HTA at EU level. Even though EUnetHTA is conceived as a project with no binding rules and decisions, it has contributed to exercise, in a trusted environment, a higher level of collaboration among Member States in one of the most conflictual domains in healthcare systems. The legislative proposal, for which negotiations start in 2018, builds on this undertaking and integrates the lessons learnt on what can work in HTA at EU level and what is not feasible from a Member State perspective.

The whole process of the legislative proposal started in 2016 with the launch of an initiative on "Strengthening of the EU cooperation on Health Technology Assessment (HTA)" and the publication of the Inception Impact Assessment[24] outlining the state of play and potential future scenarios. The launch of this document was followed by a public consultation and further debates with stakeholders

[22] European Commission, Inception Impact Assessment , p.6 http://ec.europa.eu/smart-regulation/roadmaps/docs/2016_sante_144_health_technology_assessments_en.pdf
[23] http://www.eunethta.eu/activities
[24] European Commission, Inception Impact Assessment http://ec.europa.eu/smart-regulation/roadmaps/docs/2016_sante_144_health_technology_assessments_en.pdf

that all together led to the drafting of the proposal[25]. At the time of writing we are still at beginning of the legislative process but the European Commission has already provided a tentative timeline shown in figure 7.

Figure 8 Tentative timeline for the adoption and entry into force of the Regulation[26]

In view of building a permanent structure to ensure smooth cooperation, the European Commission has an important role to play in fostering the adoption of the regulation and maintaining administrative and coordination tasks related to the **HTA Network**, a high-level network of Member States representatives[27].

4.2 THE NATIONAL DIMENSION

Notwithstanding the initiative on HTA cooperation at EU level, the national dimension of HTA is still the most relevant one and this is probably due to a number of factors:

- Assessments inform decision-making on pricing and reimbursement of technologies, which is a national competence, and have a potential financial impact on the sustainability of healthcare systems;
- HTA is a highly technical process, where the quality of methodologies may differ from country to country;
- Overall there is high risk of lack of trust in peer HTA bodies;
- Significant differences on social, cultural and economic aspects, persist and may have an impact on the availability of technologies from country to country.

When discussing the differences in HTA systems, an important one is the degree of independence of the HTA authority or body. In some Member States, HTA analyses are conducted by independent bodies, in others, by government-led entities. Regarding the former, this may give freedom to prioritise topics but compromise the impact on the final decision, while a stronger linkage with government bodies reduces the opportunity to define the agenda per se, but increases the impact on

[25]Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on health technology assessment and amending Directive 2011/24/EU published on 31 January 2018. https://ec.europa.eu/health/sites/health/files/technology_assessment/docs/com2018_51final_en.pdf

[26] https://ec.europa.eu/health/sites/health/files/technology_assessment/docs/2018_factsheet_en.pdf

[27] The HTA Network was established in 2013 on the basis of the structure and legislative framework provided by Directive 2011/24 on the application of patients' rights in cross-border healthcare. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011L0024&from=EN

the policy process. This comes also with the perception that they might be more influenced by the interests of the decision makers[28].

Besides the degree of independence, there may be significant differences in how many and which entities are involved in the HTA process, which adds another level of complexity when trying to structure collaborative efforts at EU level.

One of the critical aspects from the perspective of the final user of health technologies, is that differences persist in the type of technologies assessed. Most of the HTA bodies do not assess the whole spectrum of health technologies (see section 2) but limit the scope of their work to pharmaceuticals and/or medical devices. Consequently, innovative technologies such as rehabilitation and prevention programmes and organisational procedures that could benefit patients and citizens are not considered for assessment simply because they fall outside of the spectrum.

4.3 THE ROLE OF REGIONAL CLUSTERS

The regional dimension has gained more and more weight in the recent past, creating a new potentially competitive dynamism with the European one. Regional clusters have emerged as voluntary forms of cooperation between Member States that share similar culture and socioeconomic status. The most advanced one is BENELUXA (it involves Belgium, the Netherlands, Luxembourg and Austria). The intent of this cluster is to conduct HTA joint assessment, horizon scanning, joint price negotiations and joint procurement, prices and disease-specific cross-border registries. The overall objective of BENELUXA is to "ensure sustainable access to innovative medicine at affordable cost to (their) patients"[29]. Other clusters are the Visegrad Group bringing together countries from Central Eastern Europe building on a pre-existing group, the Nordic countries and la Valletta cooperation. The latter was created in May 2017 by Cyprus, Greece, Ireland, Italy, Malta, Portugal, Romania and Spain with the aim to collaborate on horizon scanning, joint price negotiations and joint procurement, share information and best practices [30]. The key difference between these emerging clusters and the EU level collaboration, is that they also look at collaboration in pricing, an aspect that is not contemplated at EU level. This regional dimension, except for BENELUXA, is yet to produce results, to be able to make an analysis of its interaction with national and EU level.

5. Stakeholders' involvement in HTA

Stakeholders' involvement in HTA would require some in-depth reflection. HTA is often described as a multi-stakeholder approach. What makes it particularly challenging is the coexistence of divergent if not opposite interests among stakeholders.

[28]European Observatory on Health Systems and Policies, HEALTH TECHNOLOGY ASSESSMENT AND HEALTH POLICY-MAKING IN EUROPE: current status, challenges and potential, Observatory Studies n.14, 2008 http://www.euro.who.int/__data/assets/pdf_file/0003/90426/E91922.pdf

[29] http://www.beneluxa.org

[30] http://data.consilium.europa.eu/doc/document/ST-14574-2017-INIT/en/pdf

At EU level Stakeholder involvement has been somehow "institutionalised" following the example of the EUnetHTA Stakeholder Forum. A HTA Network Stakeholder Pool was created in March 2017 to represent the views of patients and consumers, healthcare professionals, payers and industry (pharmaceutical and med-tech)[31]. The involvement of stakeholders is on a voluntary basis and is aimed at facilitating an interaction with the HTA Network.

5.1 PATIENT INVOLVEMENT IN HTA AT EU LEVEL

Patient involvement in HTA is not a new concept to decision makers and other stakeholders, but probably this paradigm shift happens at a time when the broader concept of patient empowerment is spreading, acknowledging the idea that patients should be treated as equal partners. While dedicated groups at global level, such as the HTAi Patient and Citizen Interest Group work to promote patient involvement and to share best practices[32], at EU level this responsibility lies with the Patient and Consumer Stakeholder Group.

In 2017, building on existing literature, the Patient and Consumer Stakeholder Group has produced a discussion paper to inform the legislative proposal, by outlining the key principles of patient involvement in a future cooperative scenario[33].

The 8 principles are:

1) Inclusion
Patients and Consumers shall be Included in every level of decision-making for decisions that affect their lives
2) Legitimacy
Patients and Consumers shall be involved in the procedures with equal credibility as every other participant
3) Transparency-Visibility
Possibility to recognise when and how Patients and Consumers have taken part in the procedure
4) Publicity
Procedures and decisions should be clearly understandable, accessible and verifiable for the widest possible audience and opened to the widest participation
5) Relevance
The information on which the assessment is based, and the rationale of the decision must be able to justify the outcomes
6) Appeal/*Revisability*
There must be the possibility to appeal the decision, whether deemed necessary in view of the way that is implemented
7) Responsibility

[31] https://ec.europa.eu/health/sites/health/files/technology_assessment/docs/stakeholderpoollist_en.pdf
[32] https://www.htai.org/interest-groups/patient-and-citizen-involvement/
[33] Out of nine members of the group, 5 have adopted the paper in full, 2 have expressed divergencies and 2 have abstained. While the full document is not public yet, its key concepts have been made public and shared at the HTA Network Meeting on 9 February 2018.
https://ec.europa.eu/health/sites/health/files/technology_assessment/docs/ev_20180209_co04_en.pdf

Play by the rules

8) Enforceability

The procedure should assure that the prior conditions are met.

These key principles only provide the foundations for ensuring meaningful involvement in the HTA process. More technical nuances on the role of individual patients, patient advocates and patient organisations will be developed to inform different stages of the legislative proposal and ultimately its implementation.

6. Conclusions

This non-exhaustive document on HTA sheds some light on a complex topic, making it accessible to the patient community and larger public. The aim is to further develop it as a living document, able to collect and capture future developments in the sector of HTA. To date, it is very difficult to predict potential future developments, where EU cooperation on HTA might be strengthened or, on the contrary, challenged by these new regional clusters, and where Member States still have to declare their firm intention in taking a step forward and collaborating closely to make innovative and high-quality healthcare accessible to all European patients.

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