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IMPACT ASSESSMENT

Strengthening of the EU Cooperation on Health Technology Assessment (HTA)

Accompanying the document

**Proposal for a Regulation of the European Parliament and of the Council
on health technology assessment and amending Directive 2011/24/EU**

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STUDIES CONDUCTED TO SUPPORT THE IMPACT ASSESSMENT

Accessible online at: https://ec.europa.eu/health/technology_assessment/policy_en

Mapping of HTA National Organisations, Programmes and Processes in EU and Norway. 2017, Contract nr. 17010402/2016/734820, ISBN: 978-92-79-77080-7

Mapping of HTA Methodologies in EU and Norway. 2017, DG SANTE Contract nr. 17010402/2016/736040, ISBN: 978-92-79-77074-6

Study on Impact Analysis of Policy Options for Strengthened EU Cooperation on HTA. 2017. Sogeti, Austrian Public Health Institute, London School of Economics. (CHAFEA/2016/Health/16), ISBN: 978-92-79-73966-8

ABBREVIATIONS

CHAFEA	Consumers, Health, Agriculture and Food Executive Agency
ED	Early dialogue
EFPIA	European Federation of Pharmaceutical Industries and Associations
EMA	European Medicines Agency
EUnetHTA	European Network for Health Technology Assessment
EURORDIS	Rare Diseases Europe
GÖG	Austrian Public Health Institute / Gesundheit Österreich Forschungs- und Planungs GmbH
HTA	Health Technology Assessment
ICT	Information and Communication Technology
IVD	In Vitro Diagnostics
JA	Joint Action
LSE	London School of Economics
OECD	Organisation for Economic Co-operation and Development
POP	EUnetHTA Planned and Ongoing Projects database
RCT	Randomised controlled clinical trials
REA	Relative Effectiveness Assessment
SEED	Shaping European Early Dialogues for health technologies
SMEs	Small and Medium Enterprises
WHO	World Health Organization

GLOSSARY¹

Term or acronym	Meaning or definition
Additional data generation	Refers to the generation of additional clinical evidence in the course of an HTA process and includes all studies and provision of data in addition to the clinical studies carried out for the purpose of obtaining marketing authorisation.
Appraisal	Refers to the drawing of conclusions on added value on the basis of the scientific evidence presented in the HTA report, in order to inform pricing and reimbursement decisions.
Clinical Trials	Clinical trials as defined in Regulation (EU) 536/2014
Clinical assessment	See 'REA' below
Domains	Refer to the areas of assessments covered by the HTA Core Model®. Four are clinical domains (i.e. health problem and current use of technology; description and technical characteristics of the technology; safety; clinical effectiveness) and five are non-clinical (cost and economic evaluation; ethical analysis; organisational aspects; patient and social aspects; legal aspects). (EUnetHTA)
Early dialogue (see also 'Parallel scientific advice/early dialogue' below)	An early dialogue allows input from HTA bodies on the development of the health technology. It focuses on development strategies and not on pre-evaluation of data. The advice is prospective in nature (advice on on-going trials is out of scope). Early dialogues can be requested during the initial clinical development phase of the technology. For pharmaceuticals, it should ideally be requested at the end of the phase II to discuss the content of the planned Phase III i.e. planned confirmatory trial(s) and the economic rationale. The objective of an early dialogue is to reduce the risk of inadequate data when products are presented for evaluation with the aim of reimbursement by national health insurance. (SEED project)
EUnetHTA	The European Network for Health Technology Assessment is a Joint Action, co-funded by the Health Programme of the European Commission (DG SANTE) and other participating actors. It gathers mainly national and regional HTA bodies and also organisations using HTA to support decision making. Its scope of activities is on scientific and technical issues. (See Annex VI for more details on EUnetHTA's activities)
EUnetHTA joint work	Activities in which countries and/or organisations work together in order to prepare shared products or agreed outcomes. These may include, for example, literature reviews, structured information for

¹ The purpose of this glossary is to provide the reader with better understanding of the terms used in this IA. It should in no way prejudice the terminology defined in the legal proposal.

	rapid or full HTAs, early dialogues or scientific advice on R&D planning and study design. Joint work aims at supporting Member States in providing objective, reliable, timely, transparent, comparable and transferable information and enables an effective exchange of this information. (HTA Network)
Economic assessment	The comparative analysis of the costs and consequences of two or more possible options. Depending on whether the consequences are expressed as monetary, physical or qualitative variables, the analysis may be a cost-benefit, cost-effectiveness or cost-utility analysis. (HTA Glossary.net)
Efficacy	The extent to which an intervention does more good than harm under ideal circumstances, e.g. in a controlled clinical trial. (High Level Pharmaceutical Forum, 2005 – 2008. Final Report)
Effectiveness	The extent to which an intervention does more good than harm when provided under the usual circumstances of health care practice. (High Level Pharmaceutical Forum, 2005 – 2008. Final Report)
Emerging health technology	A (new) health technology that has not yet been adopted within the healthcare system. Note: pharmaceuticals in the Phase II or III clinical trial, or pre-launch stage; medical devices are in the pre-marketing stage.
Full HTA	A health technology assessment covering not only the clinical domains (i.e. REA), but also other non-clinical domains: cost and economic analysis, ethical analysis, organisational aspects, patient and social aspects, as well as legal considerations.
Health technologies	Health technologies refer to a pharmaceutical, a medical technology or medical and surgical/radiation procedures as well as measures for disease prevention, diagnosis or treatment used in healthcare (Directive 2011/24/EU).
Health technology assessment (HTA)	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. (EUnetHTA)
HTA Core Model	The HTA Core Model is a methodological framework for collaborative production and sharing of HTA information. It consists of three main components: <ul style="list-style-type: none"> • The HTA ontology contains an extensive list of generic questions that can be asked in an HTA. The ontology also identifies relations between the questions • Methodological guidance helps researchers in finding answers to the questions defined by the ontology. It recommends the use of already existing, generally recognised guidance and guidelines along with other methodological recommendations and requires transparency on the methods used when applying the HTA Core Model

	<ul style="list-style-type: none"> • A common reporting structure for presenting findings in a standardised "question-answer pair" format <p>The Guiding Principles on the HTA Core Model Use provides the basic principles on the Model's utilisation in various settings (EUnetHTA).</p>
HTA methodologies	Should be understood as scientific and technical methodologies applied by HTA institutions or groups of HTA researchers in the collection, analysis and synthesis of evidence and information on health technologies and their use in healthcare to inform decision making.
HTA Network	It is a voluntary Network set up under Article 15 of Directive 2011/24. It gathers mainly Ministries of Health or competent authorities responsible for HTA, appointed by Member States. Its scope of activities is on strategic issues. The HTA Network works in synergy and complementarity with the Joint Action(s) EUnetHTA, which provides to the Network the technical and scientific expertise to foster EU cooperation on HTA.
Horizon scanning	The systematic identification of health technologies that are new, emerging or becoming obsolete and that have the potential to effect health, health services and/or society. (HTA Glossary.net)
Joint actions	Are collaborative projects specific to the Health Programme aiming to develop / share / refine / test tools, methods and approaches to specific issues or activities, and engage in capacity building in key areas of interest for the Member States and countries participating to the Programme. They are co-financed by the European Commission and authorities of the Member States. This type of project was introduced during the 2nd Health Programme (2008-2013) and continues under the current one (2014-2020).
Joint output	In this Impact Assessment, the term "Joint output" is used as an umbrella term to cover any result of joint work in the context of the EU cooperation. In particular it includes: (1) "Technology Specific Reports" produced through cooperation (Joint Early Dialogues, Joint Rapid Relative Effectiveness Assessments, Joint Full Health Technology Assessments); (2) "Common tools and procedures" essential for the cooperation, including IT tools enabling exchanges and data gathering (methodologies (e.g. EUnetHTA Core Model and Standard Operating Procedures/SOP), horizon Scanning, submission templates and templates for other key documents, training materials and other capacity building activities).
Joint reports	"Joint reports" refer to REA and/or full HTA reports carried out jointly by Member States HTA bodies according to jointly agreed HTA methodologies and procedures.
Market launch	Occurs for medicinal products after a market authorisation has been granted (either at EU level or national level) and, for medical technologies (i.e. medical devices, in vitro diagnostics), once the CE marking is in place. It normally happens at Member State-level following the conclusion of pricing and reimbursement negotiations or when these are at an advanced stage. Market launch can subsequently

	occur in other Member States.
Medical Technologies	Medical devices and in vitro diagnostics as defined by Regulation (EU) 2017/745 and Regulation (EU) 2017/746 respectively
Multiple Technology Assessments (MTA)	Multiple Technology Assessments are assessments which cover more than one technology, or one technology for more than one indication (cf. NICE technology appraisal guidance)
National uptake	<p>"National uptake" means that the joint output is used in national decision making process (i.e. in the same way as an output carried out at national level) and the joint activity is not duplicated (i.e. re-done) by HTA bodies at national/regional level.</p> <p>Currently the term is mainly used in the context of EUnetHTA output (i.e. joint assessments, submission templates, guidelines, POP Database, HTA Core Model®, etc.) where it refers to the general implementation of a joint output in a local/national HTA setting.</p>
Other health technologies	Other health technologies refer to interventions that typically involve the use of pharmaceuticals, medical devices or diagnostics, but are characterised by additional layers of complexity (e.g. use of one or more technologies in the context of a medical procedure, or a vaccination or screening programme).
Parallel scientific advice/early dialogue (see also 'early dialogue' above)	<p>It refers to the parallel/simultaneous scientific advice given by regulators and HTA bodies to medicine developers on the appropriate tests and studies to be carried out during the development of a new medicine. It started as a pilot project in 2010 by the EMA.</p> <p>As of July 2017 EMA offers consultations in parallel with EUnetHTA in order to allow medicine developers to obtain feedback from regulators and HTA bodies on their evidence-generation plans to support decision-making on marketing authorisation and reimbursement of new medicines at the same time.</p>
Priority setting	The assignment of an order of priority based on explicit or implicit criteria for selection of health technologies for assessment. (HTA Glossary.net)
Planned and Ongoing Projects (POP) Database	The POP database was set up by the EUnetHTA Joint Action and allows HTA agencies to share information with each other on planned and on-going projects conducted at the individual agency. The aim of the database is to reduce duplication and facilitate collaboration among HTA agencies.
Relative Effectiveness	Relative effectiveness can be defined as the extent to which an intervention does more good than harm compared to one or more intervention alternatives for achieving the desired results when provided under the usual circumstances of health care practice (High Level Pharmaceutical Forum 2005-2008, European Commission DG Enterprise & Industry and DG Health & Consumers)
Rapid Relative Effectiveness	The Rapid Relative Effectiveness Assessment (REA) covers and is limited to the clinical domains and measures the medical/therapeutic

Assessment (REA)	added value of a technology. It is also called clinical assessment.
SEED	"Shaping European Early Dialogues for health technologies" was a project running from 2013 to 2015, financed by the European Commission for conducting pilots on early dialogues with health technology developers (pharmaceuticals and medical devices) by participating HTA bodies. The work was carried out based on experience from and in synergy with the EUnetHTA Joint Action 2. In total, eleven early dialogues were carried out are planned with an aim to conduct 7 on medicinal products and 3 on medical devices.
Single Technology Assessment (STA)	Single Technology Assessment is an assessment of a single technology for a single indication (NICE technology appraisal guidance)

1. Introduction

1.1. Context

The rapidly evolving health technology² market provides important opportunities to improve public health by delivering better outcomes for patients and society as a whole. The health technology market is also a key driver of economic growth and innovation in the Union. Pharmaceuticals and medical technologies³ are two large sectors of the Union's health technology market, contributing significantly and steadily to growth and job creation, even in years of slower economic development. (For more information on these sectors, see Annex V).

At the same time, in the EU, the total (public and private) health care expenditure amounts to around EUR 1 300 billion per annum⁴ (including EUR 220 billion for pharmaceuticals⁵ and EUR 110 billion for medical technologies).⁶ Health care expenditure thus accounts on average for approximately 10% of EU GDP.⁷ This expenditure is likely to increase in the coming years, given *inter alia* Europe's ageing population, the increase of chronic diseases, and the expected introduction of complex new technologies.^{8,9} Simultaneously, Member States are increasingly confronted with budgetary constraints which will require them to further improve the efficiency of their health care systems in order to ensure the maximum benefit for individual patients and public health in general.¹⁰

In order to address the above mentioned challenges and opportunities and to balance various interests, health technology assessment (HTA) has become an increasingly important tool used to assist Member States in creating and maintaining sustainable health care systems and to stimulate innovation that delivers better outcomes for patients¹¹ and cooperation is ongoing at EU level.

This Impact Assessment has aimed to investigate opportunities for strengthening EU cooperation on HTA, building on its achievements and addressing its shortcomings.

² See section 1.2 for further details on the scope of health technologies.

³ For the purpose of this Impact Assessment, the term medical technologies comprises medical devices and in vitro diagnostics as defined by Regulation (EU) 2017/745 and Regulation (EU) 2017/746 respectively (see Annex V for further details).

⁴ Eurostat - expenditure of providers of health care using data from 2012 or latest data entry for all Member States available. The figure is complemented by WHO Health data for the following countries: IE, IT, MT and UK (ECB annual exchange rate).

⁵ Eurostat data, see DG GROW SWP 2014. Pharmaceutical industry: A Strategic Sector for the European Economy.

⁶ Communication on Safe, effective and innovative medical devices and in vitro diagnostic medical devices for the benefit of patients, consumers and healthcare professionals. COM(2012) 540 final. World Bank, EDMA, Espicom and Eucomed calculations.

⁷ European Commission. European Semester Thematic Fiche: Health and Health systems, 2015.

⁸ DG ECFIN. The 2015 Ageing report, 2015. and DG ECFIN- EPC 2016. Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability, Institutional Paper 37. 7 October 2016

⁹ OECD. 2015. Pharmaceutical expenditure and policies: past trends and future challenges.

¹⁰ DG ECFIN. Cost-containment policies in public pharmaceutical spending in the EU, 2012.

¹¹ Council conclusions on strengthening the balance in the pharmaceutical systems in the EU and its Member States (2016/C 269/06).

1.2. What is HTA?

In this Impact Assessment report, HTA is defined as *"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"*.¹² The term "health technology" is to be understood in a broad sense comprising pharmaceuticals, medical technologies (medical devices and in vitro diagnostics)¹³ and other technology-based tools for disease prevention, diagnosis or treatment used in healthcare.¹⁴

HTA is thus an evidence-based process that independently and objectively assesses a (new or existing) technology and compares it to other/existing ones. A HTA can cover different aspects (domains) ranging from clinical domains (e.g. safety, clinical effectiveness) to non-clinical domains (e.g. economic, ethical, organisational etc.) (see Figure 1). Broadly speaking two types of assessments can be distinguished: (1) the Rapid **Relative Effectiveness Assessment (REA)**¹⁵ which covers the clinical domains and evaluates the medical/therapeutic added value of a technology; and (2) the **full HTA**, which also includes other domains (e.g. cost-effectiveness).

Whilst clinical assessments (REA) are often based on global evidence (e.g. global clinical trials in the case of pharmaceuticals), full HTA assessments include domains that are more sensitive to national/regional contexts.

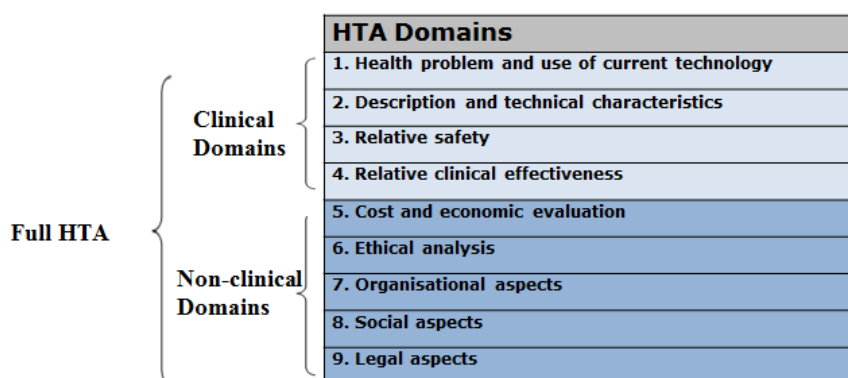


Figure 1. HTA domains (based on EUnetHTA HTA Core Model)

¹² EUnetHTA Joint Action definition.

¹³ Medical devices and in vitro diagnostics as defined by Regulation (EU) 2017/745 and Regulation (EU) 2017/746 respectively

¹⁴ This includes more complex health interventions that involve the use of pharmaceuticals, medical devices or diagnostics (e.g. in the context of a medical procedure, or a vaccination or screening programme).

¹⁵ The generally accepted term is Relative Effectiveness Assessment. If REA is done at the time of marketing authorisation, it is usually based on efficacy data from clinical trials. For re-assessments, the availability of data on effectiveness is more frequent. Efficacy: is the extent to which an intervention does more good than harm under ideal circumstances. Effectiveness is the extent to which an intervention does more good than harm when provided under the usual circumstances of health care practice (High Level Pharmaceutical Forum, 2005 – 2008. Final Report).

1.3. The role of HTA

Before new health technologies are placed on the market, they are evaluated for their quality, safety and efficacy (marketing authorisation of pharmaceuticals) or safety and performance (CE marking of medical devices). While HTA builds on the evidence used for these assessments, it focuses specifically on the potential benefits of a new health technology in comparison to the existing standard of care in the health system. The box below discusses the differences between marketing authorisation and HTA in more detail, including the added value of HTA. Market access pathways for health technologies and relevant EU legislation are described in detail in Annex V.

Differences between marketing authorisation and the clinical part of HTA (example of pharmaceuticals)

Marketing authorisation and HTA have different remits and answer different questions, even if they base their answers on some common evidence (e.g. pivotal clinical trials, typically phase III trials).

Marketing authorisation assesses the quality, safety and efficacy of an individual product. A marketing authorisation is granted if a new product has a positive benefit-risk ratio in the sense that it is efficacious and its safety profile is acceptable. It is not within the remit of the marketing authorisation to determine the existing standard of care and to conduct a comparative assessment of the new product against alternative products reflecting the standard of care. By contrast, the clinical part of HTA (REA) assesses the added clinical value of a product, i.e. its relative effectiveness and relative safety compared to one or more existing products (or other health interventions) reflecting the standard of care. HTA therefore reviews and uses a broader evidence base than the assessment for marketing authorisation: First of all, the evidence base on existing products/interventions needs to be reviewed in order to determine the current standard of care. Subsequent steps of the HTA process analyse in how far the pivotal clinical trials submitted for marketing authorisation purposes cover the full spectrum of the standard of care. Frequently, these trials include one comparator, while the standard of care includes more than one alternative pharmaceutical/intervention. HTA will therefore review additional studies on other relevant pharmaceuticals/interventions and consider whether and how this additional evidence can be assessed (e.g. via indirect comparisons or network meta-analysis approaches).

Moreover, HTA aims to understand relative effectiveness under the conditions of usual clinical practice (rather than under the ideal conditions of a controlled trial). Therefore, relevant data sources for the clinical part of HTA go beyond the initial pivotal clinical trials and also include observational (“real world”) data from clinical practice (e.g. disease-specific patient registries, health data recorded by health services and insurances). When HTA is conducted around the time of or shortly after marketing authorisation, some limited effectiveness data may already be available (e.g. from early access schemes in some EU Member States, or from another jurisdiction such as the U.S. where the product was licensed earlier). Even if relative effectiveness data from clinical practice are not yet available, HTA may use modelling approaches to predict relative effectiveness based on efficacy data from pivotal trials. At later points in time (HTA re-assessments), relative effectiveness assessments can typically draw on increasing sources and amounts of data from clinical practice.

Finally, the clinical part of HTA differs from the assessment for marketing authorisation in the way that patient subgroups are considered and analysed. HTA aims to consider all patient subgroups that are relevant for clinical practice (whether or not they may have been included and analysed in the pivotal clinical trials for marketing authorisation purposes). To this end, HTA first considers whether the existing standard of care differs for different patient subgroups within a particular therapeutic indication. HTA then assesses whether and how the added value of the new pharmaceutical differs by patient subgroup.

It is also important to underline that HTA does not comprise pricing and reimbursement decisions. However, HTA can substantially contribute to the **sustainability of health systems**¹⁶ by providing scientific evidence/input for national decision-making on pricing and reimbursement.¹⁷ The link between HTA and the decision on pricing and reimbursement is currently more pronounced in the case of pharmaceuticals than for medical technologies (medical devices and in vitro diagnostics) and other health technologies (e.g. complex interventions). For pharmaceuticals, pricing and reimbursement decisions are typically taken at national/central level at times of market launch (or shortly thereafter), whereas for medical and other health technologies such decisions are often taken in a more decentralised manner, e.g. through local (hospital level) decisions or procurement processes, with more limited input from HTA reports.¹⁸ However, there is a growing trend towards applying HTA to support decision-making also for medical technologies and other health technologies, including the development of HTA methods and processes adapted to the specificities of these technologies.^{19,20}

Figure 2 shows a schematic overview of the HTA step in the market access pathways for pharmaceuticals and medical technologies. For further details, see Annex V.

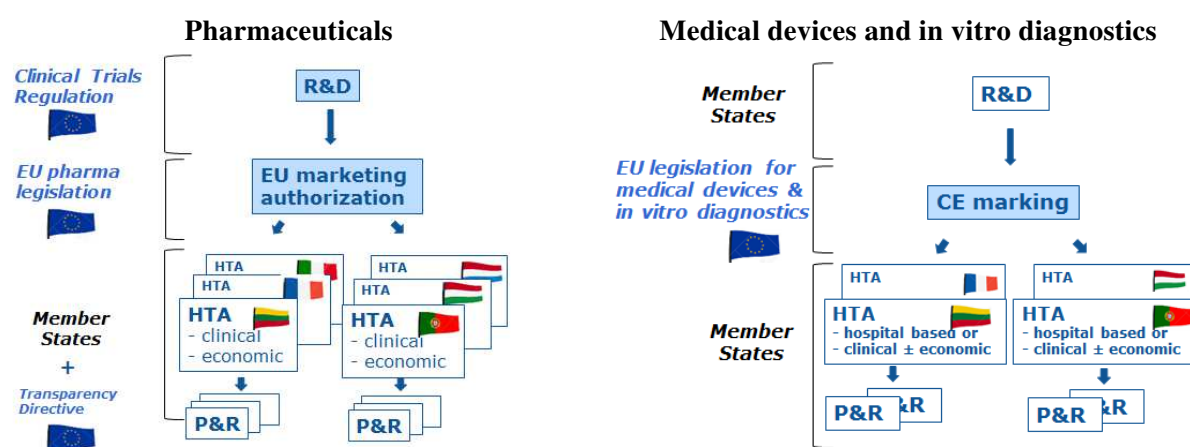


Figure 2. HTA in the context of market access pathways for pharmaceuticals and medical technologies²¹

It should also be noted that in addition to informing national/local pricing and reimbursement decision, HTA supports the development of evidence-based clinical guidelines (for diagnosis

¹⁶ [European Commission \(DG ECFIN- EPC\), Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability – Volume 1, Institutional Paper 037 | October 2016.](#)

¹⁷ A distinction also needs to be made between health technology “assessment” and “appraisal”. Assessment is defined as compilation and critical evaluation of the available scientific evidence on all or selected domains, whereas appraisal means that conclusions are drawn on the basis of the assessment results which are used to support national or regional decision-making, typically on pricing and reimbursement. The scientific process of assessment demonstrates potential for convergence and EU cooperation, whereas appraisals are not in line with the explanation above.

¹⁸ See Annex V. Health Technology Sectors

¹⁹ Tarricone R., Torbica A., Drummond M. and MedtecHTA Project Group: Key Recommendations from the MedtecHTA Project. Health Econ. 2017 Feb; 26, Suppl 1:145-152.

²⁰ Lysdahl KB., Mozygemba K., Burns J., Brönneke JB., Chilcott JB., Ward S., Hofmann B.. Comprehensive assessment of complex technologies: Integrating various aspects in health technology assessment. Int J Technol Assess Health Care. 2017 Aug 7:1-7.

²¹ R&D: Research and development. P&R: pricing and reimbursement.

and treatment of patients in particular therapeutic areas) and thus promotes evidence-based healthcare. Finally, HTA is applied to both new technologies coming to the market and to technologies which have been in use in healthcare for some time, i.e. it informs (dis)investment decisions for new and existing health technologies. HTA thus helps to prioritise health technologies with high added value and to de-prioritise technologies with no or limited additional benefits (lower prices, disinvestment, and discontinued use). In summary, HTA can facilitate evidence-based decision-making and efficient allocation of resources in healthcare, ultimately supporting the optimisation of national healthcare systems.

Some individual studies offer a certain level of insight on the potential role of HTA in terms of economic benefits.^{22,23,24} A recent study from the UK,²⁵ focusing on 10 HTAs reached the conclusion that a potential benefit of approximately GBP 3.0 billion/year could be achieved in the UK if the recommendations from HTA reports were fully followed. Another study from Austria found that for medical technologies in hospitals, HTA led to more reasonable investments and saved several million euros at the level of a single hospital association.²⁶ In the lower income countries, HTA is particularly important as these Member States have more limited financial resources and the health status of their populations also tends to be lower.²⁷

A well-functioning HTA system also **improves business predictability** for industry and creates and maintains a stimulus for innovation.^{28,29} A predictable HTA system which rewards innovations with added value for patients can influence longer-term R&D investment decisions by industry and thus play an important role in incentivising **innovation for the benefit of patients**. In particular, it can help to steer industry resources towards the development of products that address unmet medical needs and significantly improve health outcomes for patients.³⁰

HTA can also contribute to greater transparency and has the potential to improve the **involvement of key stakeholders**, such as patients and health professionals. Patients' input is

²² Schumacher I, Zechmeister I: Assessing the impact of health technology assessment on the Austrian healthcare system. *Int J Technol Assess Health Care* 2013, 29:84–91.

²³ Ognyanova, D, Zentner, A, and Busse, R. Pharmaceutical reform 2010 in Germany: striking a balance between innovation and affordability. *Eurohealth* (Lond). 2011; 17: 11–13

²⁴ Rosen, M. and S. Werko (2014). "Does health technology assessment affect policy-making and clinical practice in Sweden?" *International Journal of Technology Assessment in Health Care* 30(3): 265-272.

²⁵ Guthrie S, Hafner M, Bienkowska-Gibbs T and Wooding S, Returns on research funded under the NIHR. Health Technology Assessment (HTA) Programme: Economic analysis and case studies. RAND Report RR-666-DH, 2015. Estimated using assuming that recommendations of 10 HTA reports were followed in the UK during the course of 1 year. Figure report the potential net-benefit including possible savings and health gains in terms of QALYS using a value of £20,000 per QALY.

²⁶ Schumacher I, Zechmeister I: Assessing the impact of health technology assessment on the Austrian healthcare system. *Int J Technol Assess Health Care* 2013, 29:84–91.

²⁷ Kaló, Z., Gheorghe, A., Huic, M., Csanádi, M., and Kristensen, F. B. (2016) HTA Implementation Roadmap in Central and Eastern European Countries. *Health Econ.*, 25: 179–192.

²⁸ Kanavos, P., Manning M., Taylor D., Schurer W., Checch K., (2010): Implementing value-based pricing for pharmaceuticals in the UK. London

²⁹ OECD (2004): Increasing value for money in health systems: the quest for efficiency. In: *Towards High-Performing Health systems*.

³⁰ Rovira, J. et al, (2015) Health technology assessment and the Incentives to Innovation in the life Cycle of a Health technology. In. *Health Technology Assessment and Health Policy Today: A Multifaceted View of their Unstable Crossroads*.

particularly relevant for assessing which treatment options improve their health-related quality of life.³¹

In the Open Public Consultation carried out by the Commission addressed to citizens, the majority of the respondents (98%) indicated that they consider HTA useful for decision making (see Annex II).

1.4. State of play

1.4.1. HTA in the Member States

In the last 20 years, all Member States have started to introduce HTA processes at national or regional level (i.e. with 51 HTA bodies established in 26 Member States).³² There are national legal frameworks for HTA in place in 26 Member States and Norway; some Member States are only at the initial phase of establishing HTA systems and/or have dedicated only limited resources to HTA. Whilst there is some convergence in national HTA systems there are also significant discrepancies. A summary of these discrepancies is set out below. For further information see Annexes VIII, IX and X.³³

(a) Main differences in the procedural framework

1) The national HTA systems differ in the **scope of health technologies** that are being assessed. Whilst the majority of Member States and Norway report national HTA activity for *pharmaceuticals*, two Member States have no such activities, but are in the process of developing their national HTA systems. 20 Member States and Norway indicate having an HTA system for *medical devices* (with five of these countries stating that it has not been formalised yet). 17 Member States and Norway indicate that they have an HTA system for *other technologies*, whilst the remaining countries do not carry out such assessments.

2) National HTA organisations also differ in terms of **tasks** allocated. The main role of most HTA organisations is to *carry out assessments and provide recommendations for decision making* (i.e. pricing and reimbursement decisions). In addition to this main role, some HTA bodies develop quality standards (12 Member States and Norway) and/or clinical guidelines (14 Member States and Norway), perform horizon scanning³⁴ (10 Member States and Norway), manage registries (11 Member States and Norway), or offer early dialogues/scientific advice to health technologies developers (12 Member States and Norway).

3) Concerning the **resources available** in the national HTA organisations, the study mapping on HTA processes across the EU reveals that there are significant differences between MS. In particular, the number of **staff** ranges from no human resources being dedicated to HTA

³¹ Patient Involvement in Health Technology Assessment in Europe. Results of the European Patients' Forum Survey. 2013.

³² Mapping of HTA national organisations, programmes and processes in EU and Norway. 2017. Contract nr. 17010402/2016/734820, ISBN: 978-92-79-77080-7.

³³ A short summary of such differences is also found in the ECP-ECFIN report on ageing. Getting more value for money: the example of Health Technology Assessment (HTA). p. 100.

³⁴ Horizon scanning refers to the systematic identification of emerging technologies that could have significant effects on health care, and which might be considered for health technology assessment (WHO definition).

activities (one Member State), to departments with less than 10 full-time equivalents (FTEs) (seven Member States), to countries with more than 100 FTEs (four Member States) with a maximum of 600 FTEs (one Member State). The available expertise of the core staff also varies between HTA organisations.^{35 36} As regards **financing**, HTA organisations from 26 EU Member States and Norway³⁷ are public bodies, most of them being financed from public money (annual budget allocated from governments). A combination of budget and service fees directly received from industry is reported by five Member States. The data provided by 26 HTA bodies show that the annual budget allocated to HTA varies from no specific budget (one Member State) or Member States with up to EUR 100 000 (four Member States) to Member States with more than EUR 1 million (nine Member States and Norway), with a maximum of EUR 70 million (one Member State). It has to be noted that the cost of one HTA report varies considerably. In the survey conducted by the GÖG-LSE study³⁸, the cost of an HTA (single technology assessment) reported by HTA bodies ranged from EUR 4 000 to EUR 135 000. This reflects differences in the resources available to different HTA bodies, but also factors such as the scope and depth of the assessment (e.g. how much an HTA body invests into conducting its own analysis to evaluate and contextualise the evidence generated by industry)³⁹.

4) In many Member States, HTA bodies consider a **dossier submitted by industry** in their assessments. For *pharmaceuticals*, 20 Member States reported that they carry out a review of an industry submission of evidence. The extent of this review varies among HTA bodies and can cover aspects such as missing evidence, errors in submitted evidence, internal and external validity, as well as additional evidence analyses produced by the HTA body itself (e.g. based on the scientific literature or clinical study registers). For *medical technologies* only 9 out of 21 Member States reported that they review industry submissions, i.e. a greater proportion of Member States carry out their own standalone assessments.⁴⁰

³⁵ Gulacsi, L., Rotar A., Niewada, M., Loblova O., Rencz F., Petrova G., Boncz I., Klazinga, N.S. Health technology assessment in Poland, the Czech Republic, Hungary, Romania and Bulgaria. Eur J Health Econ (2014) 15 (Suppl 1):S13–S25

³⁶ WHO, 2015 Global Survey on Health Technology Assessment by National Authorities - Main findings

³⁷ Information from two Member States, Greece and Cyprus, which are currently in the process of setting up their national HTA systems is not available.

³⁸ Study on impact analysis of policy options for strengthened EU cooperation on HTA. 2017. Sogeti, Austrian Public Health Institute, London School of Economics. CHAFEA/2016/Health/16. ISBN: 978-92-79-73966-8.

The GÖG-LSE Study is the main study supporting the Impact Assessment process by collecting evidence and providing an in-depth analysis on the potential impacts of identified policy options for cooperation of the European Commission (including the baseline scenario), and providing the relevant literature on HTA, with a specific focus on the European Union. The study was carried out by a consortium consisting of Gesundheit Österreich Forschungs- und Planungsgesellschaft (Austria), London School of Economics - LSE Health (UK) and SOGETI (Luxembourg). For establishing the baseline scenario, a relevant sample of health technologies which included 20 pharmaceuticals, 15 medical devices and 5 “other technologies” (including complex health interventions) was analysed (i.e. HTA-process per type of technology and Member State, costs incurred by technology developers/industry and HTA bodies per technology, influence of the legislative framework on technology developers). The analysis of the impacts included a survey concerning the opinions of industry, public administrations and other stakeholders on the potential economic and social impacts of the identified policy options, complemented by focus groups, interviews and findings from literature review. A description of the implementation mechanisms and an estimation of their costs were also provided. The study has been peer-reviewed by leading experts in the field.

³⁹ EUnetHTA WP7 draft report and study "Mapping of HTA national organisations, programmes and processes in EU Member States and Norway"

⁴⁰ EUnetHTA WP7 draft report

5) As regards the **type of assessments**, all Member States carry out single technology assessments (STA) (i.e. an assessment of a single technology compared with the standard of care) and 13 Member States perform multiple technology assessments (MTA) (e.g. an assessment of several technologies in use for a particular clinical indication).⁴¹ For *pharmaceuticals* most of the Member States apply a single technology assessment (STA). Six Member States and Norway indicate performing both STAs and MTAs. For *medical technologies*, seven Member States and Norway indicate carrying out STAs and MTAs, whilst only six Member States report carrying out only STAs for medical devices.

6) The **number of assessments** produced varies considerably between countries. The mapping study of HTA procedures across Europe showed that the number of assessments carried out by HTA bodies (single technology assessments of pharmaceuticals, medical and other health technologies) ranged from about 5 HTA per year to up to 390 HTA per year. For pharmaceuticals, some HTA bodies assess all new products (including generics, biosimilars) and all licence extensions (including minor variations) of existing products. However, given current national working practices, pharmaceutical topics that are most likely to be assessed by many Member States across the EU are products with new active substances requiring central marketing authorisation and major licence extensions of existing products.⁴² For medical devices, the number of assessments performed annually is lower than for pharmaceuticals across all EU countries.⁴³ Innovative medical technologies with potentials to transform the organisation of care (“transformative technologies”) and medical technologies subject to the scrutiny mechanism⁴⁴ are most likely to be covered in national assessments.

7) According to a survey of HTA bodies, the **time needed to complete** a health technology assessment process (single technology assessment, from topic selection/identification to delivery of HTA results) ranges from a few weeks to more than a year.⁴⁵ For pharmaceutical assessments based on industry submissions, the time from industry submission to completion of the review ranges from less than 10 days to up to 200 days across HTA bodies, although the majority of HTA bodies complete their review within 2-3 months.⁴⁶ In general the timeframes for the assessment of medical technologies are longer than those for pharmaceuticals across Member States.⁴⁷

⁴¹ For example, the assessment of a particular anti-cancer drug for the treatment of a specific type of cancer falls into the category of STAs. The assessment of several anti-cancer drugs available for the treatment of a specific type of cancer represents a MTA.

⁴² Recent EMA annual reports give an idea of the number of new active substances and new therapeutic indications for existing products licensed per year. For example, in 2015, 39 new active substances and 54 extensions reflecting a new therapeutic indication of an existing product were licensed. The number of medical devices receiving CE marking in 2015 is estimated to be around 4,500 (2015, MedTech Europe data)

⁴³ Study "Mapping of HTA national organisations, programmes and processes in EU Member States and Norway".

⁴⁴ Mechanism for scrutiny of conformity assessments of certain class III and class IIb devices (as defined in Regulation (EU) 2017/745, Article 55) and Mechanism for scrutiny of conformity assessments of class D devices (as defined in Regulation (EU) 2017/746, Article 50)

⁴⁵ Study "Mapping of HTA national organisations, programmes and processes in EU Member States and Norway". Note that HTA bodies in some MS produce assessments which do not inform pricing and reimbursement decisions (but are rather e.g. clinical guidelines).

⁴⁶ EUnetHTA WP7 draft report (unpublished)

⁴⁷ EUnetHTA WP7 draft report and study "Mapping of HTA national organisations, programmes and processes in EU Member States and Norway"

8) There are also differences across EU Member States in the **starting point** of the HTA process. Figure 3 illustrates HTA timelines for pharmaceuticals in different EU Member States compared with the EU marketing authorisation timeline (EMA process)⁴⁸.

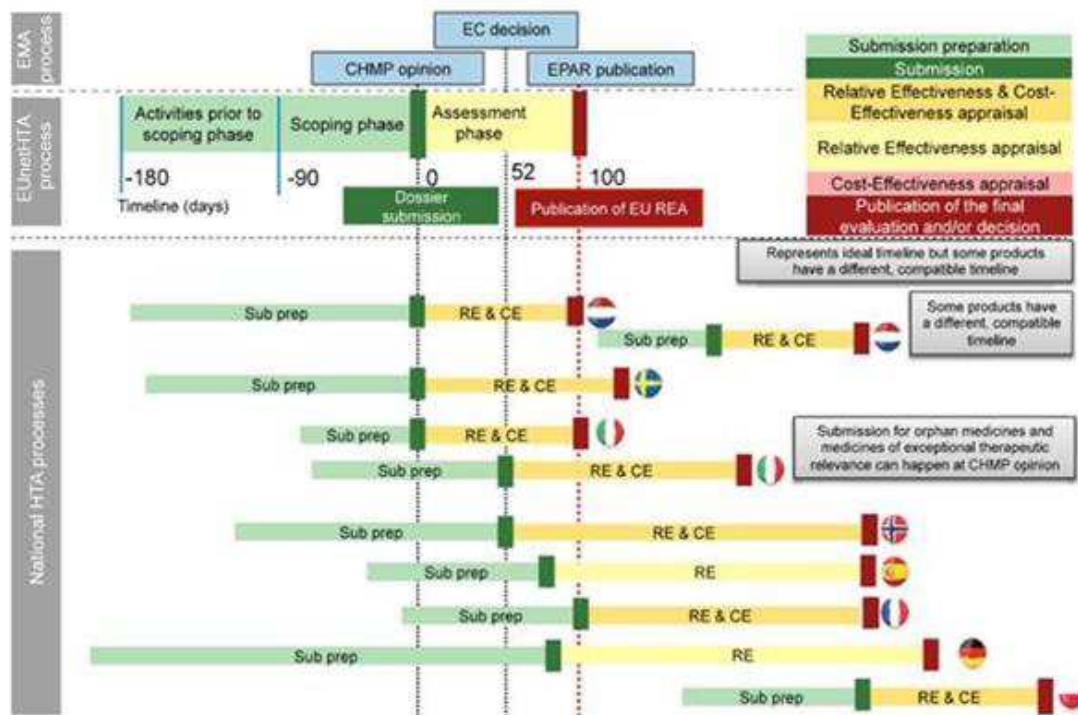


Figure 3. Stylised comparison between EUnetHTA and several national HTA timelines (EFPIA/CRA Study)

The figure shows that depending on the Member State, HTA reports can be published after or at the time of the last step of the marketing authorisation, while the HTA preparatory process can already start in parallel⁴⁹. However, in reality, HTA often takes place later, because HTA submissions by industry are typically not initiated simultaneously or at the earliest possible dates in all countries.

9) Another important aspect refers to **stakeholders' involvement** (patients, healthcare providers, payers, etc.) throughout the HTA process which varies from country to country (for further details, see Mapping study on HTA processes). It should be noted that even within the Member States indicating that they engage stakeholders, there are significant differences in the level of involvement, with stakeholders being consulted in one or more or all of the steps of their HTA processes. In general for pharmaceutical assessments stakeholder involvement is greatest towards the end of the assessment process when the assessment is reviewed and advice/decision is made. For medical technologies there is greater stakeholder involvement in the earlier stages (e.g. scoping, production of the assessment) than for pharmaceuticals, and less involvement in the advice and decision making steps.

⁴⁸ Note that the majority of new innovative medicines are authorised at EU level, via the centralised procedure.

For further details on the market access pathway for pharmaceutical, see Annex V.

⁴⁹ EFPIA/Charles River Associates. 2017. Assessing the wider benefits of the EU's proposal on strengthening cooperation on health technology assessment from the industry perspective.

(b) Main differences in methodologies

There are also divergences in the methodologies used by different HTA bodies when assessing the evidence produced by technology developers.⁵⁰ For example, HTA bodies can take different methodological approaches when assessing the acceptability of particular types of studies and study design issues such as the comparator used, endpoints measured, the type of patients enrolled and the duration of the study.

1) The choice of a **comparator**⁵¹ is decisive in any health technology assessment. A recent study mapping HTA methodologies in EU Member States and Norway⁵² showed that there are commonalities but also differences in the criteria used for choosing a comparator. For example, when assessing pharmaceuticals:

- 25 HTA bodies consider both whether the comparator reflects current healthcare practice and whether its use is supported by evidence on its efficacy and safety, while 7 HTA bodies consider only healthcare practice and 4 only the evidence base.

- 27 HTA bodies accept different technologies (i.e. also medical technologies and other technologies) as possible comparators in a pharmaceuticals assessment, whilst 10 HTA bodies compare pharmaceuticals only to other pharmaceuticals.

- 6 HTA bodies do not accept indirect comparisons⁵³, whilst a large majority (i.e. 40 HTA bodies) accepts such comparisons.

The process for choosing the comparator may also differ, for example the extent to which proposals by the manufacturer or input from medical societies/healthcare professional organisations are considered.

A similarly heterogeneous picture can be described for the selection of the comparator when assessing medical and other technologies. In this regard, 20 HTA bodies reported using as a comparator a technology likely to be replaced by the assessed technology if proven inferior but also the comparator supported by evidence of its efficacy and safety profile. Six HTA bodies reported using only the first type of comparator, whilst 4 other HTA bodies stated using only the second one. Two HTA bodies informed that other criteria area also used when choosing the comparator for assessing these categories of health technologies⁵².

However, there is scope for cooperation; in the GÖG-LSE case studies, in 68% of the cases, the comparator included was the same across HTA bodies. Moreover, it should also be

⁵⁰ References: Mapping study methods, GÖG-LSE study, Nicod 2017 (Eur J Health Econ), Nicod 2016 (International Journal of Technology Assessment in Health Care), Akehurst 2016 (Value in Health), Kleijnen 2016 (Annals of Oncology)

⁵¹ In the context of relative effectiveness assessment, a comparator is a health care intervention with which a pharmaceutical is compared in order to establish if it has an added therapeutic benefit (in terms of clinical effectiveness and/or safety). Such a comparator could be another pharmaceutical, a medical device, a procedure or psychological approach, surgery or, if appropriate, providing advice, for example advice on diet or smoking, any combination of these, or “watchful waiting” (no intervention).

⁵² Mapping of HTA methodologies in the EU and Norway. 2017. DG SANTE Contract nr. 17010402/2016/736040. ISBN: 978-92-79-77074-6.

⁵³ The need for indirect comparisons arises when comparing treatments A and B, but the only available evidence comes from studies comparing A with C and B with C. By using a common comparator, in this case treatment C, it is possible to generate an indirect comparison with treatments A and B. For a variety of reasons, placebo-controlled trials are commonly conducted in preference to head-to-head trials giving rise to the need for indirect comparisons (EUnetHTA guidelines for comparators and comparisons).

highlighted that, as noted in the study mapping HTA methodologies, HTA is closely linked to the broader field of evidence-based medicine (EBM). Many developments in EBM are already taking place at European level (e.g. development of evidence-based clinical guidelines by European-level medical/scientific societies) or international level⁵⁴. HTA bodies will thus be increasingly able to draw on European-level or even international guidance when considering the evidence-based standard of care.

2) Furthermore, HTA bodies have different methodological approaches with regard to certain **health outcomes and outcome measures**. For example, a minority of HTA bodies does not accept surrogate endpoints⁵⁵ (one HTA body), composite endpoints⁵⁶ (nine HTA bodies) or patient-reported outcomes (e.g. questionnaires on health-related quality of life) (10 HTA bodies).⁴⁴

3) Another important difference in methodology relates to the **type of evidence/studies accepted by HTA bodies**. Whilst the gold standard for all HTA bodies is randomised controlled clinical trials (RCTs) and a small minority of HTA bodies (4) accept only RCTs, the large majority of HTA bodies accept also other types of studies (e.g. observational studies)⁴⁴.

Case studies conducted in the context of the GÖG-LSE Study confirmed the differences but also highlighted a tendency towards common methods in assessing products, which shows the scope for cooperation. In particular the primary clinical trials considered were generally the same type.^{57, 58, 59}

The diversity of approaches related to HTA methodology in the EU Member States is confirmed by the input to the public consultation from both pharmaceutical and medical technologies industry and described in section 2.

Regional cooperation on HTA

While this Impact assessment is being prepared some groups of countries have started to develop stronger regional cooperation. Typically, this type of cooperation brings together neighbouring Member States with similar socioeconomic situation, with the overall objective of addressing the challenge of ensuring access to innovative technologies through possible joint economic assessments, joint price negotiations and joint procurement. The

⁵⁴ Examples include the work of Cochrane (<http://www.cochrane.org/>) and the Guidelines International)

⁵⁵ In clinical trials, a surrogate endpoint (or marker) is a measure of effect of a specific treatment that may correlate with a real clinical endpoint but does not necessarily have a guaranteed relationship. For example, the serum cholesterol concentration may be considered a **surrogate endpoint** when assessing pharmaceuticals aiming to prevent complications of cardiovascular disease. However, only about 10% of those with serum cholesterol concentration above the reference range are going to have a stroke or heart attack. Therefore more relevant clinical endpoints could be the number of nonfatal myocardial infarction or stroke cases.

⁵⁶ **Composite or combined endpoints** are defined as the combination of component (singleton) endpoints, each of which has clinical significance in its own right. For example, a heart attack study may combine in a single endpoint the number of patients who present with at least one clinical endpoint, either chest pain or myocardial infarction, or death. The alternative would be to conduct RCTs with distinct clinical endpoints such as death and nonfatal acute myocardial infarction (AMI).

⁵⁷ GÖG-LSE Study, Section 7.1.9

⁵⁸ Tarricone R, Torbica A, Drummond M, Schreyögg J. Assessment of medical devices: challenges and solutions. *Health Economics* 2017; (S1):1-152.

⁵⁹ Tarricone R, Boscolo P.R, Armeni P. What type of clinical evidence is needed to assess health technologies? *European Respiratory Review*, 2016;25:259-265

BENELUXA⁶⁰, la Valletta cooperation⁶¹, the Nordic countries and the Visegrad cooperation are examples of such regional cooperation recently set up (the first one about 18 months ago, the most recent formalised its terms of references only a few weeks ago). The objectives of the regional cooperation are different from the EU cooperation on HTA, which excludes pricing and reimbursement. However, the tools and procedures developed by EUnetHTA are being used to perform joint assessments. To date only BeNeLuxA has produced few Joint assessments and La Valletta is in the process of identifying the technologies to assess in the coming months.

Regional initiatives are also referred to in section(s) 5.2.1 and 6.1.1.

1.4.2. HTA at EU level

At EU level, the value of HTA and the fact that joint work could facilitate the implementation of HTA processes and reduce redundancies regarding the assessment of technologies has been recognised. Already in the 1980s, the Health Services Research Committee of the European Commission began to assign contracts for economic appraisals and mechanisms for the regulation of expensive health technologies in different countries. Between 1993 and 2002 three projects were funded by the European Commission to support collaboration on HTA between Member States. In 2004, the European Commission and Council of Ministers requested the establishment of a sustainable European network on HTA. This was initiated in 2005 when a group of 35 organisations started the EUnetHTA project, which explored possibilities and key challenges for an enhanced transnational collaboration for the following years.

Since then, to support cooperation between HTA bodies, the European Commission has made substantial investments. Two Joint Actions (EUnetHTA JA) have been carried out together with a number of projects⁶²: (1) EUnetHTA 1 from 2010-2012 (budget EUR 6 million) and (2) EUnetHTA 2 from 2012-2015 (budget EUR 9.5 million). A third Joint Action (EUnetHTA 3 - budget EUR 20 million) was launched in June 2016 and runs until 2020. Participation in the Joint Actions has been very high and the latest Joint Action has more than 80 members from all Member States and a number of observers from Member States, Norway and Switzerland⁶³

The primary objective of the Joint Actions is scientific and technical cooperation, more precisely to develop common methodologies, piloted and produce joint REA and full HTA reports, and to develop common ICT tools. The Joint Action partners also piloted so called early dialogues (i.e. a mechanism via which HTA bodies provide scientific advice to health technology developers on the design of clinical trials – typically phase III or pivotal trials - with a view to encouraging the generation of evidence that better meets the needs of HTA

⁶⁰ BeNeLuxA is an initiative started by Belgium and the Netherlands (2015), later joined by Luxembourg and Austria (2016). This group of countries intends to collaborate more closely across a range of areas: health technology assessment; horizon scanning; exchange of information on pharmaceutical markets; prices and disease-specific cross-border registries; and pricing and reimbursement, including joint negotiation.

⁶¹ [Round table meeting for European Health Ministers and Heads of pharmaceutical companies \(Malta, 9 May 2017\)](#)

⁶² Public Health Programme: EUR-ASSES 1994-1997; ECHTA/ECHAI 1999-2001; EUnetHTA 2006-2008. Research Programme: AdHopHTA; INTEGRATE-HTA; MedtechHTA; Advance HTA.

⁶³ Switzerland is an affiliated partner.

agencies). All these activities in which HTA bodies prepare shared products/agreed outcomes are referred to as “joint output”⁶⁴.

More precisely, EUnetHTA 1 and 2:

- developed the HTA Core Model as a methodological framework for assessments, databases for exchanging information (e.g. Planned and On-going Projects (POP) database allowing for sharing of information on planned and on-going assessments in the Member States) and
- delivered a number of outputs, including 13 clinical assessments/REAs (7 on pharmaceutical and 6 on non-pharmaceutical technologies such as medical devices), 5 Full HTA reports, 11 Early dialogues, 14 methodological guidelines, as well as common evidence submission templates for pharmaceuticals and medical devices.

The ongoing Joint Action EUnetHTA 3 has planned to scale up the joint outputs, and aims to deliver by the end of 2020 approximately 80 joint assessments and up to 35 early dialogues. However, as the Joint Action 3 has so far only produced a small number of assessments, it is currently uncertain if project will be able to deliver the target number of 80 joint assessments.

In addition, the importance of HTA cooperation at EU level is emphasised in Directive 2011/24/EU on the application of patients’ rights in cross-border healthcare, which states that *‘cooperation in the evaluation of new health technologies can support Member States through economies of scale and avoid duplication of effort, and provide a better evidence base for optimal use of new technologies to ensure safe, high-quality and efficient healthcare’*.⁶⁵ To further strengthen the technical cooperation between HTA bodies, the Directive provides for the establishment of a network connecting national authorities or bodies responsible for HTA (HTA Network). Such a Network was set up in 2013 to provide strategic guidance and policy orientation for the scientific and technical cooperation.^{66,67} While participation in the Network is voluntary, all Member States have applied for membership and participate. The HTA Network develops policy papers⁶⁸ and discusses areas of potential collaboration⁶⁹, which are then implemented by the Joint Action, in accordance with its work plan.

The current cooperation model described above, in particular the Joint Actions as an instrument to implement cooperation on HTA at scientific and technical level, is meant to develop/share/refine/test tools, methods and approaches for specific issues or activities and involve a degree of capacity-building⁷⁰. In this respect the EUnetHTA Joint Actions have been successful, as outlined by the Mid-term evaluation of the Public Health programme⁷¹.

Their usefulness has mainly been associated with an increased level of trust between HTA bodies and stakeholders involved; increased knowledge of working procedures and

⁶⁴ Or joint work in some EUnetHTA and HTA Network documents

⁶⁵ Cross-border Healthcare Directive 2011/24/EU, RECITAL 58

⁶⁶ Cross-border Healthcare Directive 2011/24/EU, Article 15.

⁶⁷ Commission Implementing Decision of 26 June 2013 providing the rules for the establishment, management and transparent functioning of the Network of national authorities or bodies responsible for health technology assessment

⁶⁸ [HTA Network. Strategy for EU Cooperation on Health Technology Assessment. 2014](#)

⁶⁹ HTA Network Reflection Paper on “Synergies Between Regulatory and HTA Issues on Pharmaceuticals. 2016.

⁷⁰ Extract from the evaluation report on the second Public health programme

⁷¹ It should be noted that Joint Action EUnetHTA have not be subject to a specific evaluation in the context of the Report, but only used as an example of growing interest in a specific policy area.

methodologies in Member States and capacity building and sharing of best practices (see report on the public consultation).

On the other hand, the current cooperation model has demonstrated important shortcomings including:

- **Delays.** The current Joint Action has started with significant delays, due to a complex and long negotiation process between the high number of beneficiaries and the funding Agency. The process from the evaluation to the signature of the contract lasted nearly one year. The late start was further aggravated by implementation challenges due to non-delivery by certain beneficiaries and/or misunderstandings between beneficiaries of the task(s) at stake. One important example is the delay in securing an efficient and reliable IT infrastructure which would enable the cooperation to function.
- **Changes in Human Resources.** During and after the negotiation process some beneficiaries which had agreed to take up important responsibilities and had been allocated corresponding resources, have undergone reorganisations leading to changes in priorities. This has caused dramatic decrease in the expertise and human resources which were expected to be available from that beneficiary. While funding was available to recruit the necessary staff, changes in priorities of the beneficiary organisation prevented the recruitment. To date, after more than 12 months from the start of the Joint Action, organisations leading key workplaces have not yet a full team with the relevant expertise in place, with important consequences on the progress of the activities.
- **High number of beneficiaries and heterogeneous profile/roles in national HTA activities.** In the Joint Action model the Member States appoint organisations which have an interest in the subject of the Action. Due to the high interest which cooperation on HTA has generated in the EU the EUnetHTA Joint Action included at its start 79 beneficiaries and at the time this report is written the number increased to 82. The large number also implies very heterogeneous profiles between the beneficiaries, ranging from national HTA bodies with a statutory function in informing decision makers for pricing and reimbursement decisions, to HTA bodies which has a remit oriented toward development of clinical guidelines, to regional HTA agencies, and also academic institutions with an interest in HTA but with no (official) role in the national HTA/decision-making process. The high number of beneficiaries and their heterogeneous profile and role in the decision-making process in the respective countries increases significantly overheads to the coordinating agency, leading to inefficiencies in the use of resources and creates challenges in identifying relevant tasks for the appropriate profiles.
- **Uncertain delivery.** To produce a high quality and useful joint assessments the involvement of technology developers has proven to be extremely important. Under the current cooperation model such involvement is often seen as an add-on activity for technology developers, which have to prepare submissions for national HTA assessments and for joint assessments carried out under the Joint Action. This situation is likely to persist as long as the uptake by national HTA bodies of Joint Assessments is not happening to the desired extent. Both in Joint Action 2 and Joint Action 3, the Commission in cooperation with the Joint Action secretariat and relevant trade associations had to organise activities to trigger interest and commitment from technology developers to submit technologies for Joint Assessments. While the activities were successful, the engagement is not certain as it will depend on the ability

of the Joint Action to secure uptake of joint assessments in national processes. This situation brings an additional element of uncertainty to the ability of the Joint Action to meet the planned target(s) within the necessary timeline.

- **Inconsistency of quality and timely delivery.** The examples outlined above result in very uneven progress in the activities of the Joint Action, which in turn affects the ability to deliver both in terms of time and quality of the output. The Joint Action is highly dependent on the organisation responsible for the delivery of the task and even on the technology developer whose technology is being assessed. While this issue can be handled in an action which aims at developing and testing a proof of concept, it is not acceptable when the objective is to timely deliver high quality output to be used in national decision-making processes.

1.5. Political context

In recent years, **many key players have called for reinforced EU cooperation** in the area of HTA. As regards **Member States**, a clear orientation was contained in the “Strategy for EU Cooperation on HTA”⁷², which was adopted by the Member States representatives in the HTA Network in October 2014. In this document, the HTA Network called upon the Commission to explore how to secure support for the joint work in the long-term. Moreover, the **Council**, in its conclusions on “Innovation for the benefits of patients”⁷³ adopted in December 2014, acknowledged the key role of HTA and called on the Commission to continue to support sustainable cooperation. Furthermore, in the Council conclusions on “Personalised medicines for patients” of December 2015⁷⁴, the Member States and the Commission were invited to reinforce HTA methodologies applicable to personalised medicine. The Council conclusions on “Strengthening the balance in the pharmaceutical systems” in June 2016⁷⁵ confirmed again that Member States see a clear added value of EU HTA cooperation. The joint report of DG ECFIN and the Economic Policy Committee calls for further developing European cooperation on HTA.⁷⁶

The European Parliament has also asked for a reinforcement of HTA cooperation at EU level. In its joint motion for a resolution on the Commission Work Programme 2016, the Parliament called for "*a step forward towards a common European Health Technology Assessment*"⁷⁷. Moreover, in its resolution of 2 March 2017 on EU options for improving access to medicines⁷⁸, the Parliament calls on the Commission to "propose legislation on a European system for health technology assessment as soon as possible, to harmonise

⁷² [HTA Network. Strategy for EU Cooperation on Health Technology Assessment. 2014](#)

⁷³ Council conclusions on innovation for the benefit of patients (2014/C 438/06) .

⁷⁴ Council conclusions on Personalised medicine for patients (2015/C 421/03),

⁷⁵ Council conclusions on strengthening the balance in the pharmaceutical systems in the EU and its Member States (2016/C 269/06)

⁷⁶ DG ECFIN- EPC 2016. Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability, Institutional Paper 37. 7 October 2016

⁷⁷ European Parliament resolution on the Commission Work Programme for 2016 (2015/2729(RSP)

⁷⁸ European Parliament resolution of 2 March 2017 on EU options for improving access to medicines (2016/2057(INI)

transparent HTA criteria in order to assess the added therapeutic value of medicines". The Parliament has also commissioned a study on HTA, highlighting its interest in the subject.⁷⁹

The **Commission** has on several occasions referred to HTA, including as a key part of supporting other important Commission/EU initiatives. For example, the Commission Communication on effective, resilient and accessible health systems⁸⁰ suggested HTA as one way to build resilience. In a recent Staff Working Document, the lack of “*binding mechanisms for mutual recognition of joint assessments*” was identified as one of the major shortcomings of the current HTA system.⁸¹ The Staff Working Document “Better Regulation for innovation driven investment at EU level” pointed out that the fragmentation of HTA systems in the EU is currently “*very high*” and that the rise of personalised medicine⁸² will accelerate the concerns of fragmentation.⁸³ The recent Commission Communication “*Upgrading the Single Market: more opportunities for people and business*” contained a commitment that the Commission will introduce an initiative on HTA with a view to improving the functioning of the Single Market of health technologies, in particular in order to avoid duplication of efforts for Member States and industry.⁸⁴

Stakeholder views

A thorough stakeholder consultation has been carried out in the context of this Impact Assessment in order to collect stakeholders’ views on EU cooperation on HTA beyond 2020 (see synopsis report, Annex II).

The usefulness of EU cooperation on HTA was underlined by the input provided by stakeholders in response to the public consultation. Most of the contributors (69%) consider EU cooperation on HTA useful or to some extent useful, with most benefit seen by public administrations, payers and academia (100%) and less benefits typically seen by the medical technologies industry (for more information, see Annex II). The most cited benefits of the EU cooperation on HTA were the opportunity to share knowledge and best practices, contribute to HTA capacity building in the Member States, contribute to building trust between participating organisations and increase awareness (Figure 4).

⁷⁹ Van Wilder, P. (Vrije Universiteit Brussel and SMART&BI), Mabilia V. (Milieu Ltd.), Kuipers Cavaco Y. (Milieu Ltd.) and McGuinn J. (Milieu Ltd.), "Towards a Harmonised EU Assessment of the Added Therapeutic Value of Medicines", Report commissioned by the Committee of Environment, Public Health and Food Safety at the European Parliament, 2015.

⁸⁰ Commission Communication "On effective, accessible and resilient health systems", COM (2014) 215 final

⁸¹ Commission Staff Working Document, "A Single Market Strategy for Europe – Analysis and Evidence", SWD(2015) 202 final

⁸² Personalised medicine refers to a medical model using characterisation of individuals' phenotypes and genotypes (e.g. molecular profiling, medical imaging, lifestyle data) for tailoring the right therapeutic strategy for the right person at the right time, and/or to determine the predisposition to disease and/or to deliver timely and targeted prevention (see Council conclusions on personalised medicine for patients, 2015/C 421/03).

⁸³ Commission Staff Working Document "Better Regulation for innovation driven investment at EU level" SWD (2015) 298 final.

⁸⁴ Commission Communication “Upgrading the Single Market: more opportunities for people and business” (COM (2015) 550 final).

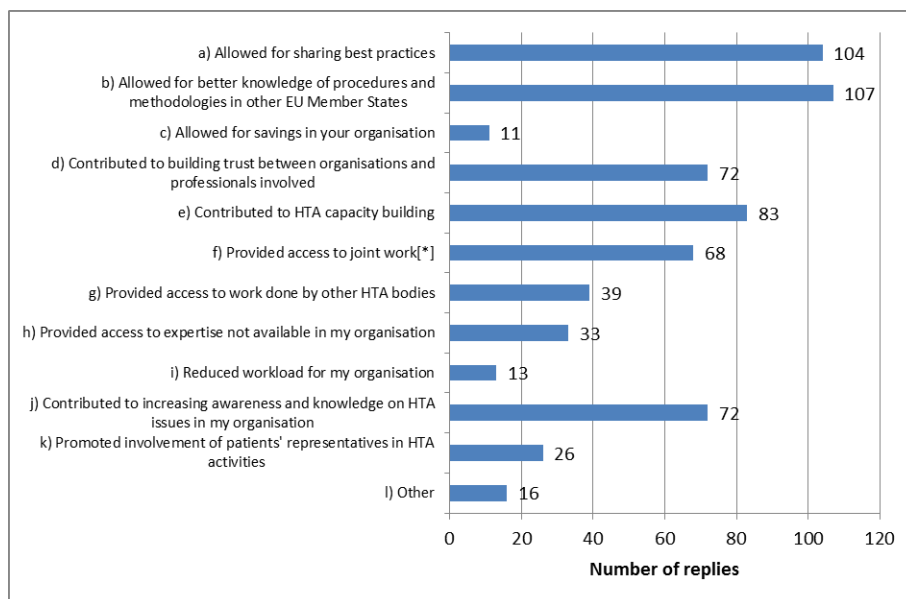


Figure 4. Benefits of EU cooperation on HTA as reported by the contributors to the public consultation (Total number of replies = 186)

In general, Member States' public authorities are in favour of continuing EU cooperation on HTA beyond 2020. Some Member States have indicated a preference for voluntary cooperation, while others support a system with mandatory elements. Most contributors highlighted that in case of a mandatory framework, uptake of joint work should be limited to clinical matters, whereas assessment of non-clinical domains (e.g. economic, ethical) should be carried out individually or jointly by interested Member States on a voluntary basis. The idea of a phase-in approach was also raised by some contributors.

1.6. International outlook

There is a growing world-wide recognition of the significant benefits of HTA.⁸⁵ The World Health Organization (WHO) suggested that a global cooperation of HTA bodies would seem useful, in particular on the clinical domains⁸⁶ and the World Bank supports the development of national HTA programmes around the globe. A recent OECD report⁸⁷ assesses the state of play and gives recommendations for the use of HTA. The International Monetary Fund also promotes the development of national HTA systems.⁸⁸ A number of countries outside the EU have developed well established HTA systems. The Canadian example of centralisation or the regular review of the HTA system in Australia, are interesting examples (see Annex VII). It is also interesting to note the setting up of networks between HTA bodies in other parts of the world, following the model of EUnetHTA⁸⁹.

⁸⁵ Ciani O, Wilcher B, Blankart CR, et al. Health Technology Assessment of Medical Devices: A Survey of Non-European Union Agencies. *International Journal of Technology Assessment in Health Care*. 2015;31(3):154-165.

⁸⁶ WHO resolution on Health intervention and technology assessment in support of universal health coverage.

⁸⁷ OECD (2017), *New Health Technologies: Managing Access, Value and Sustainability*, OECD Publishing, Paris.

⁸⁸ Examples include the Memoranda of Understanding for Greece, Portugal, Cyprus or Romania.

⁸⁹ Regional Network for HTA for the Americas RedETSA.

2. Problem definition

While HTA is considered a valuable tool for ensuring sustainability of health systems and stimulating innovation and cooperation at EU level, evidence shows that a series of shortcomings affect the exploitation of the benefits for Member States and economic operators, with subsequent negative consequences also for EU patients and healthcare professionals.

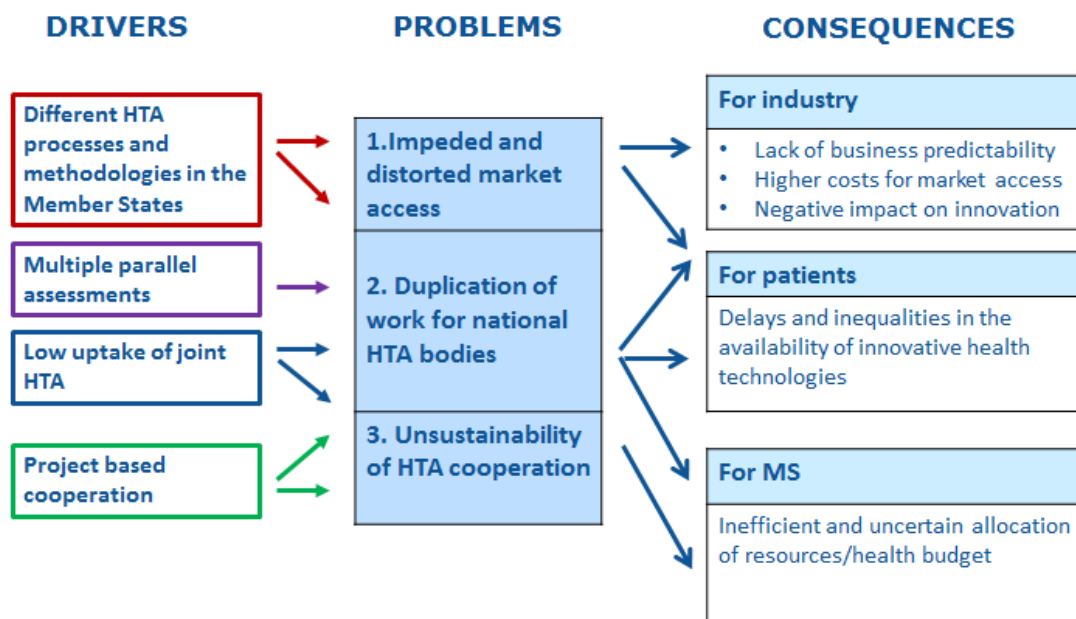


Figure 5. Main problems, their drivers and consequences

Problem 1. Impeded and distorted market access

The **different national processes and methodologies of national and regional HTA bodies** illustrated in section 1.4.1 (and Annex V) mean that economic operators who want to introduce a health technology in multiple Member States are confronted with various data requests. This in turn contributes to an impeded and distorted market access, leading to lack of business predictability, higher costs, and in the long run negative effects on innovation. Differences in national processes and methodologies also lead to differences in how evidence is considered in assessments and to potentially different HTA conclusions, which can contribute to delays and inequalities in patient access to technologies⁹⁰.

The differences in HTA processes and their effects were underlined by various stakeholders in the public consultation. The most significant impact was reported by representatives of the pharmaceutical industry who pointed out that this diversity constitutes a hurdle for companies, as they have to **adapt to multiple and various national requirements** (e.g. regarding the starting moment of the assessment, data requirements, length of the procedures, scope of HTA and type of assessment carried out). With regard to differences in HTA methodologies,

⁹⁰ Valzania C, Torbica A, Tarricone R, Leyva F, Boriani G. Implant rates of cardiac implantable electrical devices in Europe: a systematic literature review. Health Policy 2016;120(1):1-15

representatives of the pharmaceutical industry emphasised (among others) differences with respect to the acceptability of particular comparators, endpoints and data other than randomised clinical trials, which contribute to the **lack of business predictability due to different outcomes of national HTA clinical reports**⁹¹.

Duplication of assessments also **increases costs for industry**, which needs to prepare dossiers for multiple national systems with potentially different data requirements. Requirements for additional evidence are a key cost component, with potential delays/risks in market access. Costs related to additional evidence requirements are particularly high if they necessitate carrying out new trials.⁹² The GÖG-LSE study provides an indication of current costs for industry related to the meeting current national HTA requirements (see text box below).

Current costs for industry related to the preparation of national HTA dossiers

On the basis of the figures reported in the survey carried out by the GÖG-LSE study⁹³, the costs for industry related to national pharmaceutical HTA processes are summarised in the table below.

<u>Industry</u>	<u>Estimated costs</u>
National REA and Full HTA	<ul style="list-style-type: none"> Pharmaceuticals: EUR 73 000 - EUR 1 700 000/submission (Average EUR 695 500) Medical technologies: EUR 1 000 – EUR 3 400 000/submission (Average EUR 410 358)
National Early Dialogues	<ul style="list-style-type: none"> Pharmaceuticals EUR 55 750 000 and 0.7 FTE/national procedure Medical technologies: limited use
Additional evidence generation requested by Member States HTA Bodies	<ul style="list-style-type: none"> Pharmaceuticals: EUR 50 000 - EUR 20 000 000 depending on the type of evidence required (85% of the respondents reported such costs) Medical technologies: EUR 17 000 - EUR 12 800 000 depending on the type of evidence required (35% of the respondents reported such cost)

The survey carried out by the GÖG-LSE Study indicates that earmarking the costs for one single assessment is difficult as manufacturers prepare a global value dossier for each product, which is usually the main source of input for their HTA departments/teams. Moreover, certain costs can pertain also to the regulatory (e.g. related to evidence) or pricing and reimbursement processes (e.g. in-country staff costs).

HTA costs are particularly relevant for SMEs as they typically do not have structures or resources dedicated to HTA, or the in-country capacities needed to adapt to multiple national requirements and formats. In the open public consultation carried out by the Commission, a higher proportion of SMEs indicated that differences among EU Member States regarding HTA procedures and/or methodologies contributed to high costs/expenses for their organisation. In the dedicated SME consultation, 75% of pharmaceutical and 71% of medical technologies companies indicated that differences among EU

⁹¹ Nicod E, Why do health technology assessment coverage recommendations for the same drugs differ across settings? Applying a mixed methods framework to systematically compare orphan drug decisions in four European countries. Eur J Health Econ. 2017 Jul;18(6):715-730.

⁹² Martin L, Hutchens M, Radnoy A, How much do clinical trials cost?, Nature Reviews Drug Discovery, 16, 381–382 (2017). Note that this study estimated the average cost of a phase III clinical trial at USD 21.4 million.

⁹³ The GÖG-LSE survey asked respondents to (1) indicate their current HTA related costs and (2) express their expectations regarding the impacts in a number of areas of the 5 policy options described in the Inception Impact Assessment on strengthening EU cooperation on HTA. These areas cover economic and social aspects and are defined by Better Regulation Guidelines of the European Commission; for each area, the study defined specific indicators. 120 stakeholders of the medical technologies industry, 20 stakeholders of the pharmaceutical industry and 37 stakeholders representing public administration and other organisations (total 177) participated.

Member States regarding HTA procedures and/or methodologies may contribute to high costs/expenses for their organisation. The same figure was 44% for non-SMEs in the public consultation, confirming the expectation that differences are more difficult to handle by SMEs.

With regard to additional data generation, it should be noted that it is mainly the requirements of the largest markets that companies take into account when designing clinical trials or generating additional evidence.

In their input to the online public consultation it was highlighted that while most of the larger pharmaceutical companies resort to national affiliates to engage with national authorities and ensure adequate preparation of the documentation requested by HTA bodies, **smaller companies with limited resources** may face difficulties in putting in place such a mechanism, which could create a discriminatory environment and discrepancies in the speed of market access. This situation is confirmed by a recent report from EuropaBio showing that SMEs have limited experience in working with HTA bodies and may not have staff dedicated to HTA work. According to EuropaBio, this has led to some products getting marketing authorisation but not being recommended by the HTA bodies because the data was not sufficient to establish the required added clinical and/or economic value.⁹⁴

The variety of HTA processes and methodologies is also reflected in the **HTA spending by industry**. For example, the HTA spending by the *pharmaceutical sector* ranges from EUR 73 000 and EUR 1 700 000 per HTA submission⁹⁵ (depending also on the type of assessment). Extra evidence generation is responsible for additional expenditure (between EUR 50 000 and EUR 20 000 000/submission), with 85% of companies reporting such costs.⁹⁶ Furthermore, the pharmaceutical sector actively engages in early dialogues with HTA bodies (69% of responses) with an average cost of EUR 55 750 per case, but which have the potential to alleviate costs in the next phases of development/approval/access to market. With regards to the *medical technology industry*, HTA submission dossiers range from EUR 1 000 to EUR 3 400 000⁹⁷. Additional evidence generation in the context of a HTA submission dossier had a range of EUR 17 000 - EUR 12 800 000, with 37% of companies reporting such costs⁹⁸. Early dialogues are not a routine procedure in the sector.⁹⁹ While the costs related to HTA submissions may not always be significant (seen in the context of overall industry spending) it is important to note that the parallel submissions and assessments by national HTA bodies, entail a significant risk of divergent outcomes in different Member States, which has a **negative impact on business predictability**. Insufficiently predictable, fragmented and

⁹⁴ [Deerfield Institute - EuropaBio Report on regulatory and HTA scientific advice for small and medium enterprises, 2015.](#)

⁹⁵ These values represent a sum of average costs per HTA submission per company as reported to the GÖG-LSE survey. Companies reported staff costs, consultant costs, in-house model costs, external model costs, and other costs. Section 7.1.12.

⁹⁶ Other calculations confirm this range: the Ecorys report on European Cooperation on Health Technology Assessment: Economic and governance analysis of the establishment of a permanent secretariat, (2013) estimates the total costs for industry at 200.000 €. These cost figures do not capture the full costs, as they only refer to the human resources needed to prepare the submission dossiers (for industry)

⁹⁷ These values represent a sum of average costs per HTA submission per company (comprising staff costs, consultant costs, in-house model cost, external model costs, and other costs) through the survey carried out by the GÖG-LSE Study.

⁹⁸ It should be noted that obligations for additional evidence generation for medical technology is much less frequent than for pharmaceuticals, due to the different regulatory process.

⁹⁹ GÖG-LSE Study Section 7.1.12

delayed market access is therefore the most important shortcoming resulting from the HTA fragmentation across the EU (see impact estimate in chapter 6.4.1.1).

As confirmed in interviews and focus groups with pharmaceutical industry representatives, poor business predictability and high fragmentation of HTA systems across Europe constitute **barriers to investment by industry in development programmes for innovative technologies**.¹⁰⁰

Finally, as described in section 1.4.1 (and GÖG-LSE Study Section 7.1.7 and 7.1.14) the high variability in the timing (in terms of both the starting point and the duration) of assessments contributes to **differences in the availability of health technologies for EU patients**.¹⁰¹ Moreover, divergences in the conclusions of HTA reports on added value, which are due to different approaches taken by HTA bodies as described above, contribute to differences in availability of medicines to EU patients¹⁰². As illustrated by Table 1 for a sample of cancer drugs, there are common trends but also discrepancies in the conclusions reached by different HTA bodies on the same product. The observed divergences between HTA bodies are due to differences in the clinical part of HTA (REA) and/or the economic part of HTA. In several examples, divergences in HTA conclusions were influenced by how different HTA bodies assessed effects seen for particular clinical endpoints (when assessing the new drug against the same comparator). The authors note the potential for European consensus-building on these clinical aspects, which may be informed by ongoing scientific initiatives of European/international medical societies. Other case studies for other pharmaceutical products and therapeutic areas show similar results, confirming both current HTA divergences but also the potential for improved scientific consensus-building on the clinical part of HTA^{103,104}.

¹⁰⁰ GÖG-LSE Study, Section 7.1.13

¹⁰¹ GÖG-LSE Study, Mapping HTA procedures, Akehurst 2016 (Value in Health)

¹⁰² References: Impacts study, Nicod 2017 (Eur J Health Econ), Nicod 2016 (International Journal of Technology Assessment in Health Care), Akehurst 2016 (Value in Health), Kleijnen 2016 (Annals of Oncology)

¹⁰³ Impacts study, Nicod 2017 (Eur J Health Econ), Nicod 2016 (International Journal of Technology Assessment in Health Care), Akehurst 2016 (Value in Health)

¹⁰⁴ Spinner DS, Birt J, Walter JW, Bowman L, Mauskopf J, Drummond MF, Copley-Merriman C, Do different clinical evidence bases lead to discordant health-technology assessment decisions? An in-depth case series across three jurisdictions, Clinicoecon Outcomes Res. 2013; 5: 69–85.

Abbreviated indication	Brand name (generic)	HTA recommendation					
		GEMANY	THE NETHERLANDS	FRANCE	ENGLAND/WALES	SCOTLAND	POLAND
Bone metastases from solid tumours	1. Denosumab	Not assessed	Equal benefit	Added benefit Equal benefit	Positive	Not assessed	Negative
Breast cancer	2. Eribulin	Equal benefit Equal benefit	Added benefit	Added benefit	Negative	Negative	Negative
	3. Pertuzumab	Added benefit	Not assessed	Added benefit	Not assessed	Negative	Positive
Colorectal cancer	4. Afibercept	Added benefit	Not assessed	Equal benefit	Negative	Negative	Positive
Gastric cancer	5. Tegafur / gimeracil / oteracil	Not assessed	Lesser benefit	Lesser benefit	Not assessed	Positive	Negative
Melanoma	6. Ipilimumab	Added benefit	Added benefit	Added benefit	Positive	Negative	Positive
	7. Vemurafenib	Added benefit	Added benefit	Added benefit	Positive	Negative	Positive
	8. Dabrafenib	Equal benefit	Not assessed	Equal benefit	Positive	Positive	Positive
Non-small-cell lung cancer	9. Afatinib	Added benefit	Not assessed	Equal benefit	Positive	Positive	Positive
		Added benefit					
		Lesser benefit					
	10. Crizotinib	Equal benefit	Not assessed	Added benefit	Negative	Negative	Negative
Prostate cancer	11. Cabazitaxel	Added benefit	Added benefit	Added benefit	Negative	Negative	Negative
		Added benefit					
	12. Enzalutamide	Added benefit Added benefit	Not assessed	Added benefit	Positive	Positive	Positive
	13. Abiraterone	Added benefit	Equal benefit	Added benefit	Positive	Negative	Positive
Renal-cell carcinoma	14. Axitinib	Added benefit	Not assessed	Added benefit	Positive	Negative	Positive

Table 1. Conclusions of HTA reports across a sample of cancer drugs¹⁰⁵

For *medical technologies*, the case studies conducted by the GÖG-LSE study indicate an overall lower number of assessments produced by HTA bodies across Europe than for pharmaceuticals (see Table 2). However, the case studies also showed several examples where different HTA bodies reached divergent conclusions on the same medical technology due to differences in the clinical and/or economic parts of their assessments (see GÖG-LSE study for further details¹⁰⁶). Increased HTA activities in Member States on medical technologies (see problem 2) have the potential to increase further the number of parallel assessments on the same technologies. Considering the different national processes and methodologies, this is likely to lead to increased divergence across the EU and thus fragmentation of the market.

The considerations above are confirmed by the overall input received from the online public consultation. According to the respondents, the main consequences of the differences in HTA processes and methodologies across the EU are the diverging outcomes of HTA reports which may **affect patients' access to new technologies** (e.g. delays, restricted access) (81% of contributions), followed by **duplication of work for both HTA bodies and industry** (54%), **decrease in business predictability** (53%), higher costs for the actors (38%) and **negative effect on innovation** (37%)(Figure 6). Further details on the public consultation, including results by stakeholder group, are presented in Annex II.

¹⁰⁵ Figure courtesy of W. Goettsch (Presentation to EHFG 2016). Based on data published in "Relative effectiveness assessments of oncology medicines for pricing and reimbursement decisions in European countries.", Kleijnen S, Lipska I, Leonardo Alves T, Meijboom K, Elsada A, Vervölgyi V, D'Andon A, Timoney A, Leufkens HG, de Boer A, Goettsch WG. Ann Oncol (2016) 27 (9): 1768-1775 (see Supplementary Table 4 to the publication for further details on comparators and clinical endpoints considered).

¹⁰⁶ GÖG-LSE Study (Table 26 and Annexes to the study)

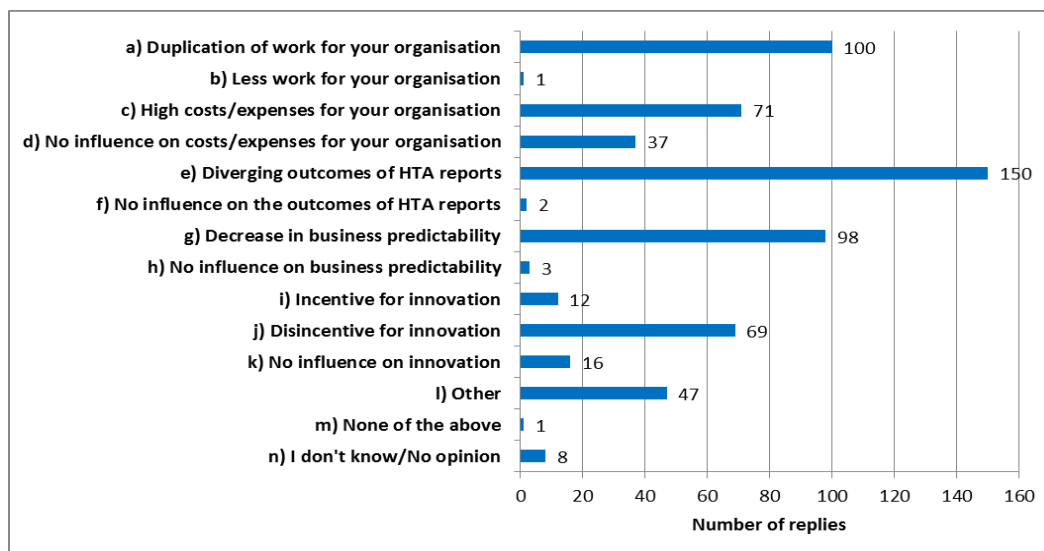


Figure 6. Consequences of differences in HTA process and methodologies across the EU as identified by public administrations, organisations and associations responding to the online public consultation (Total number of replies = 186)

Problem 2. Duplication of work for national HTA bodies

The duplication of work refers to assessments of the same technology being conducted in parallel or within a similar time frame by HTA bodies in different Member States. The text box below illustrates current costs for HTA bodies related to the production of REAs at national level, as reported by the GÖG-LSE study.

Current costs for HTA bodies related to the production of REAs at national level

According to the figures reported in the survey carried out by the GÖG-LSE study, costs for HTA bodies range from an average of EUR 35 000 for a REA produced mainly by an HTA body and EUR 20 000 per REA produced by industry and reviewed by an HTA body to EUR 95 000 for a full HTA produced by an HTA body and EUR 40 000 for the cases in which the full HTA is produced by industry and reviewed by HTA body. Further research and benchmarking of these figures with additional HTA bodies not included in the survey indicate that these costs may be underestimated. This means that the duplications expected to continue under this scenario would have an impact on the spending/budget of Member States and public administrations

In addition, the current low uptake of joint REA undertaken by the EUnetHTA results in duplication and incurs **additional work and costs**. The duplication may be associated with different outcomes/conclusions (depending on the type of assessment and applied methodology), which negatively **affects business predictability** and contributes to **delays and inequalities in patient access**.

The GÖG-LSE Study¹⁰⁷ found that in a sample of 20 *pharmaceuticals*, 8-15 HTA reports were conducted by different Member States for each individual product.¹⁰⁸ This indicates that

¹⁰⁷ Section 7.1.2

¹⁰⁸ The study aimed to build a representative sample; however in order to have sufficient data for analysis, one of the criteria for inclusion for a pharmaceutical was to have been assessed by at least 5 MS between 2012-2016. Therefore the result cannot be generalised to conclude that all pharmaceuticals undergo on average X HTA

there is a group of pharmaceuticals (typically innovative, centrally authorised, approximately 40 new molecules/year) where there is a significant duplication of work for HTA bodies and industry. At the same time, the report concludes that not all Member States have adequate capacities to produce HTAs on all relevant products.

Although a lower number of Member States assess *medical and other technologies* than pharmaceuticals¹⁰⁹ (Table 2) there is still considerable duplication of efforts also in these sectors; albeit to a more limited extent than in the case of pharmaceuticals (3-8 reports per technology in the sample).^{110 111 112}

processes, but it can be concluded that there is a group of pharmaceuticals (typically innovative, centrally authorised) where there is an important duplication of HTA.

¹⁰⁹ Study "Mapping of HTA national organisations, programmes and processes in EU Member States and Norway": 23 MS indicated assessing pharmaceuticals, 20 MS for medical technologies and 17 MS for other technologies. Moreover while all 23 MS conducting pharmaceuticals use it for pricing and reimbursement decision, only 19 do so for medical devices and 9 for other technologies.

¹¹⁰ Section 7.1.2 Just as in the case of pharmaceuticals, having sufficient number of HTA reports was a criterion for selection. Therefore it should not be concluded that this figure is representative for all medical technologies but that there is a group of medical technologies where important duplications take place.

¹¹¹ Tarricone R, Callea G, Ogorevc M, Prevolnik Rupel V. Improving the methods for the economic evaluation of medical devices. *Health Economics* 2017;26(Suppl S1):70-92

¹¹² Rummel, P, Hawlik, K, Wild, C. Health Technology Assessments on Medical Devices in Europe. Final Report. LBI-HTA Rapid Assessment Nr. 12; 2016. Vienna: Ludwig Boltzmann Institute for Health Technology Assessment.

Pharmaceuticals Included	TOTAL ASSESSED	Medical Devices Included	TOTAL ASSESSED	Other Technologies Included	TOTAL ASSESSED
Abiraterone	13	Endovascular stents	6	HPV Vaccination	8
Acidinium Bromidium	12	Home haemodialysis device	5	Colorectal Cancer Screening	10
Alemtuzumab	12	Transcatheter implantable devices	6	Pneumococcal Vaccination	4
Apremilast	10	Balloon Eustachian Tuboplasty	4	Rotavirus Vaccination	3
Ataluren	10	Oscillometric blood pressure monitor	4	Cervical cancer screening	6
Canagliflozin	14	High intensity focused ultrasound (HIFU)	8	average	6,2
Dapagliflozin	13	Self-monitoring coagulometers	7		
Defibrotide	8	Positron emission tomography (PET)	6		
Ivacaftor	11	Cochlear implants	8		
Mirabegron	10	Left ventricular assist devices	6		
Nivolumab	12	LASER KTP	8		
Nintedanib	13	Gene expression profiling diagnostics	7		
Ocriplasmin	11	Nucleic acid amplification tests (NAATs)	3		
Ofatumumab	12	Duodenal-jejunal bypass sleeve	7		
Omalizumab	10	In-vitro fertilisation (IVF)	5		
Pasireotide	8	average	6		
Ramucirumab	14				
Rilpivirine	10				
Riociguat	12				
Sofosbuvir	15				
average	11,5				

Table 2. Number of assessments carried out by HTA bodies in the Member States reflecting duplication of assessments - case studies

In the public consultation, MedTech Europe argued that the duplication of efforts is not so prominent for medical technologies. However, recent publications have shown increasing duplication of assessments also for medical technologies.^{113, 114} This is in line with current trends for increased HTA activities on medical technologies in Member States (see box below).

¹¹³ Tarricone R, Callea G, Ogorevc M, Prevolnik Rupel V. Improving the methods for the economic evaluation of medical devices. Health Economics 2017;26(Suppl S1):70-92.

¹¹⁴ Hawlik K, Rummel P, Wild C, Analysis of duplication and timing of health technology assessments of medical devices in Europe, International Journal of Technology Assessment in Health Care (accepted for publication in October 2017)

Examples of Member States confirming the growing trend towards applying HTA to support decision-making for medical technologies

Spain. The HTA Spanish Network (which includes the regional HTA agencies of seven autonomous regions and representatives from the regional health-care administrations of the remaining regions) is fully operational since few years and relies on regional HTA agencies to perform and coordinate HTA work with a focus on medical technologies. The network has been instrumental to increase the evidence-based information available to local health authorities to take decision on access. It has contributed to build capacity, increase consistency and quality of HTA within Spain and avoid duplication of assessments on medical technologies¹¹⁵.

Italy. A recently adopted "national programme for HTA on medical technologies" is the response to the growing need of HTA for medical technologies in Italy. The programme has established a Steering Committee, coordinated by the Ministry of Health and gathering key national agencies and the regional HTA bodies which have expertise and perform HTA and foresees an active engagement of stakeholders' organisations. The final objective of the Programme, similarly to the one of the Spanish HTA Network, is to increase the availability of HTA for medical technologies, to provide guidance to decision makers, increase consistency and avoid duplication of assessments for better use of resources¹¹⁶.

United Kingdom. While the National Institute for Health and Care Excellence/NICE has traditionally focused on pharmaceuticals, in the last years it established a dedicated programme for assessments of medical technologies¹¹⁷.

The issue of duplication was confirmed by the input received in response to the public consultation, where 57% of all respondents and 53% of participating public administrations indicated that differences in HTA processes and methodologies also resulted in duplication of work for their organisation.

Differences in methodologies and procedures are considered significant obstacles for EU cooperation on HTA, **limiting also the possibility of pooling resources** and of a full benefit from the potential efficiency gains at EU level¹¹⁸.

The **uptake of joint EU outputs** (i.e. joint tools – EUnetHTA Core Model, guidelines, joint early dialogues, joint REA, joint full HTA) **at national level has remained low**. Despite the fact that a joint European report was prepared, most Member States still performed assessments of the same technology. The low uptake of joint reports was confirmed by the evaluation report of EUnetHTA Joint Action 2. Looking at the 11 joint assessments carried out under this second Joint Action, on average each European assessment was used in the EU Member States 6.4 times: twice related to direct decision-making; 3.3 times for cross-checking evidence or as a source of information; 0.7 times related to the category 'other' and for 0.4 times no data was indicated.¹¹⁹

¹¹⁵ L. Sanpietro-Colon, J. Martin Eds, Hospital-Based Health Technology Assessment. The Next Frontier for Health Technology Assessment. Springer International Publishing 2016, pg.78

¹¹⁶ http://www.salute.gov.it/portale/temi/p2_6.jsp?id=1202&area=dispositivi-medici&menu=tecnologie

¹¹⁷ HTA National Programme for medical technologies - Strategy Document 19 September 2017

<https://www.nice.org.uk/about/what-we-do/our-programmes/nice-guidance/nice-medical-technologies-guidance>

¹¹⁸ Kleijnen S, Toenders W, de Groot F, Huic M, George E, Wieseler B, Pavlovic M, Bucsics A, Siviero PD, van der Graaff M, Rdzany R, Kristensen FB, Goettsch W. European collaboration on relative effectiveness assessments: What is needed to be successful? Health Policy. 2015 May;119(5):569-76.

¹¹⁹ <http://www.eunetha.eu/national-uptake>

The low uptake of joint outputs is confirmed by the HTA GÖG-LSE Study which points out that most national HTA bodies, despite taking part in the joint assessments, did not adequately make use of the resulting output.

Barriers to uptake have been analysed in several documents, including the HTA Network reflection paper on “Reuse of Joint Work in National HTA Activities”¹²⁰, a survey carried out by EUnetHTA Joint Action 2¹²¹ a study commissioned by EFPIA¹²², and publications in peer-reviewed journals^{118, 123, 124}. Barriers to uptake were also discussed by national organisations in their replies to the public consultation.

Across the above-mentioned sources, the following main hurdles to uptake were identified:

- *Legal uncertainty*: Uncertainty around the status/relevance of the joint outputs in the context of national HTA frameworks constitutes a major reason for the current low uptake. As discussed in section 1.4.1., there are national legal/procedural frameworks for HTA in place in 26 Member States (also see Annexes VIII and IX for further details). As part of these national frameworks, the preparation and uptake of e.g. national clinical assessments is regulated at national level. While there is some diversity due to the different legal systems, in general, key provisions related to the roles and responsibilities of the HTA bodies and the HTA assessments are outlined in national law, while further details are elaborated in administrative provisions (e.g. in procedural rules). By contrast, the legal status of joint outputs stemming from the EUnetHTA Joint Action and their relevance for national HTA processes is not defined, making difficult for national decision makers to adapt their national legal framework to joint outputs.
- *Concerns around timeliness*: The timely availability of the joint output (e.g. joint REA report) for national decision making process has been underlined as another important limitation leading to low uptake. While in national HTA systems, timelines are enforced as defined in respective legal/procedural HTA frameworks, the EUnetHTA Joint Actions have so far not been able to ensure timeliness of joint outputs (e.g. joint REA reports) to meet Member States needs and feed into national decision-making processes.
- *Concerns around quality*: As was highlighted in the public consultation, Member States will only use a joint REA report if it is of high quality. Some respondents in the public consultation considered that the first reports prepared under the first two EUnetHTA Joint Actions were of sub-optimal quality. While national HTA systems have established standard operating procedures (SOP) and dedicated quality assurance mechanisms for national work, it has so far not been possible to ensure comparable procedural and quality standards for the production of joint work under the EUnetHTA Joint Actions. Furthermore, there continue to be a number of methodological differences between HTA

¹²⁰ HTA Network. 2015. [Reflection paper on “Reuse of Joint Work in National HTA Activities”](#).

¹²¹ EUnetHTA JA2. WP3 DELIVERABLE Report on evaluation of project completion including assessment of impact on secondary users of HTA information p. 23.

¹²² Charles Rivers Associates. 2017. [EU REA – A discussion of barriers for adoption and possible actions to overcome them Main findings](#).

¹²³ Lo Scalzo A, Vicari N, Corio M, Perrini MR, Jefferson T, Gillespie F, Cerbo M. Collaborative models for the joint production of core health technology assessments: negative and positive aspects for the joint work of different European agencies. *Int J Technol Assess Health Care*. 2014 Nov;30(5):536-43.

¹²⁴ Vondeling H, Sandvei M. Is the planned and ongoing project (POP) database a suitable tool to reduce duplication in the process of assessing new health technologies in the European Union? Preliminary experience in the context of the EUnetHTA Joint Action Project Framework (2010-2012). *Int J Technol Assess Health Care*. 2014 Nov;30(5):504-7.

bodies (described in detail in section 1.4.1). Some HTA bodies have therefore expressed concerns that joint work may not be fully in line with their national methodologies (as defined in national legal/procedural frameworks and methods papers), impeding national uptake.

- *Topic prioritisation for joint work:* The relevance of the topics selected for joint work (in particular for joint REAs) to national work plans and priorities is another important element to ensure national uptake. A number of Member States have noted that there have been insufficient mechanisms for topic prioritisation in the EUnetHTA Joint Actions so far. Some topics may have been relevant to the authors or other partners involved in particular Joint Action work packages, but have not met the needs and priorities of all HTA bodies.
- *Other issues:* Language barriers have been identified as a hurdle to uptake of joint outputs. In some HTA systems, use of the national language (e.g. in national HTA reports or early dialogues) is currently defined by legal/procedural frameworks. Some HTA bodies also noted that they would need to adapt their current human resources, to have staff with the right profile (e.g. language skills) for facilitating uptake of joint outputs. Moreover, a number of HTA bodies expressed the need for more training related to joint outputs (e.g. on the process and methods underlying the production of joint REAs), in order to facilitate incorporation in national work.

While the points above refer to specific elements hindering the uptake of joint work, all of them are related to the first point on the legal uncertainty of the status of joint outputs. The current cooperation model via the Joint Action EUnetHTA is trying to address some of the challenges outlined above on an ad hoc basis to improve uptake. For example, with support from the European Commission and EMA, arrangements have been put in place to facilitate contacts between CHMP¹²⁵ rapporteurs of the dossier for marketing authorisations (once finalised) and authors of the Joint REA to allow an early start of the joint REA work which could facilitate more timely availability of the joint assessment report. Criteria for selection of authors and co-authors are also being developed by the Joint Action to contribute to secure quality output; quality management procedures are being developed and stricter commitment requirements are being explored to engage national HTA bodies in delivering what was promised. However, from the input received so far in the context of EUnetHTA and the HTA Network discussions, it is clear that as long as the issue of the legal status of joint outputs is not resolved, it is very challenging for national HTA bodies to ensure uptake of joint output in a systematic and continuous manner.

In addition to the above, it should also be noted that low uptake **decreases the readiness of industry to submit new technologies** for a joint assessment. The preparation of a submission file costs financial and human resources. Such investments are not worthwhile and will not be done if the joint assessments have no relevance for national procedures. The current model of cooperation mainly relies on industry voluntary submission of joint assessments. Without the certainty that such assessments will be used for national decision making (i.e. uptake) the willingness of industry to continue submission for joint assessments is expected to decrease. Also from industry's perspective the key problems with the joint reports are the same as those referred to above, i.e. inappropriate timing, insufficient assurance of consistent quality and lack of uptake in national/regional decision-making. In addition, from the medical

¹²⁵ The Committee for Medicinal Products for Human Use (CHMP) is the European Medicines Agency's (EMA) committee responsible for human medicines.

technologies perspective, not sufficiently addressing the specificities of the sector is also seen as a problem.

Duplication of efforts and low uptake contribute to **increased work and costs for HTA bodies and to sub-optimal use of their resources**, as they repeat identical/similar assessments. By contrast, current experience suggests that sharing the work can lower the costs for HTA bodies significantly (in one case where only two agencies agreed to cooperate on clinical guidelines they were able to save 30% respectively).¹²⁶ However, if joint assessments are not taken up, they can actually add an additional layer of duplication, as an HTA body may end up working both on a joint assessment and a national assessment for the same technology.

To conclude, the current duplication and low uptake imply that investments into the cooperation both in terms of **resources from the EU budget and the human resources from the Member States are not used optimally**.

The example of EU pharmaceutical legislation

The issue of duplication of national efforts was an important aspect triggering the development of the pharmaceutical legislation and the set-up of the European Medicines Agency (EMA) as illustrated in the box below. While it should be noted that the scope and technical content of HTA differs from marketing authorisation of pharmaceuticals, the set-up of EMA provides a useful example of how scientific and technical cooperation can be organised at European level and of the type of benefits it can lead to.

The development of the pharmaceutical legislation and the setup of the European Medicines Agency (EMA)

Despite considerable efforts at harmonisation, at the beginning of the 1990s the European pharmaceutical market remained more fragmented, along Member State boundaries, than any other market for consumer products, as the granting of marketing authorisations were entirely in the hands of Member States.

In November 1990, the Commission proposed to Council and Parliament a major overhaul of the European authorisation system for medicinal products, including the introduction of a 'centralised' EU authorisation procedure for technologically advanced medicinal products and a 'decentralised procedure', operated by the Member States with EU arbitration if needed, for all other products. To support the operation of the new system, the Commission proposed setting up a 'European Medicines Evaluation Agency' (EMEA) – later renamed EMA.

EMA was set up in 1995 to harmonise the work of existing national medicine regulatory bodies.

The centralised procedure was a success, as it effectively allowed access to the entire EU market in little over a year, closely matching the review time of the Food and Drug Administration of the USA. Previously, it had taken on average six years for a new medicine to be authorised in a significant number of Member States. In turn, despite a slow start, the decentralised procedure proved to be a real alternative to the centralised procedure.

EMA has a 20+ year track record of ensuring efficacy and safety of human and veterinary medicines across Europe, and promoting research and innovation in the development of medicines.

¹²⁶ GÖG-LSE Study. Annex: HTA Bodies Focus group minutes

EMA's success is based on cooperation within the European medicines regulatory network – a unique partnership between the European Commission, the medicines regulatory authorities in the European Economic Area countries, and EMA. Working together has encouraged the exchange of knowledge, ideas and best practices, in order to ensure the highest standards in medicines regulation. This works because EU legislation requires that each Member State operates to the same rules and requirements regarding the authorisation and monitoring of medicines. By working closely together, Member States reduce duplication, share the workload and ensure the efficient and effective regulation of medicines across the EU. Today, seven EMA scientific committees and more than 30 working parties provide scientific expertise for the regulation of medicines by drawing on a pool of several thousand European scientific experts from the network.

Problem 3. Unsustainability of HTA cooperation

The current EU cooperation on HTA is project-based. This means its funding needs to be secured and re-negotiated in every financial cycle and there is no guarantee for continuing activities in the long term. During the initiation and closing of such a large project (the Joint Action 3 involves 81 participants and benefits from an EU contribution of approximately EUR 16 000 000) substantial time and resources are spent on organisational issues. For instance, more than one year after the launch of Joint Action 3, there are still positions to be filled in key work packages and in the coordinating institution. This has resulted in drops of joint outputs linked to project cycles (Figure 7) as well as in inefficiencies (e.g. development of a new IT system for every new project).¹²⁷ The evaluation of EUnetHTA Joint Action 2 also highlights that finalising a project and starting a new one at the same time stretched the resources of the participating organisations and caused delays.¹²⁸

¹²⁷ <http://www.eunetha.eu/joint-assessments>

¹²⁸ EUnetHTA JA2. Report on evaluation of project completion including assessment of impact on secondary users of HTA information. 2016 p. 39.

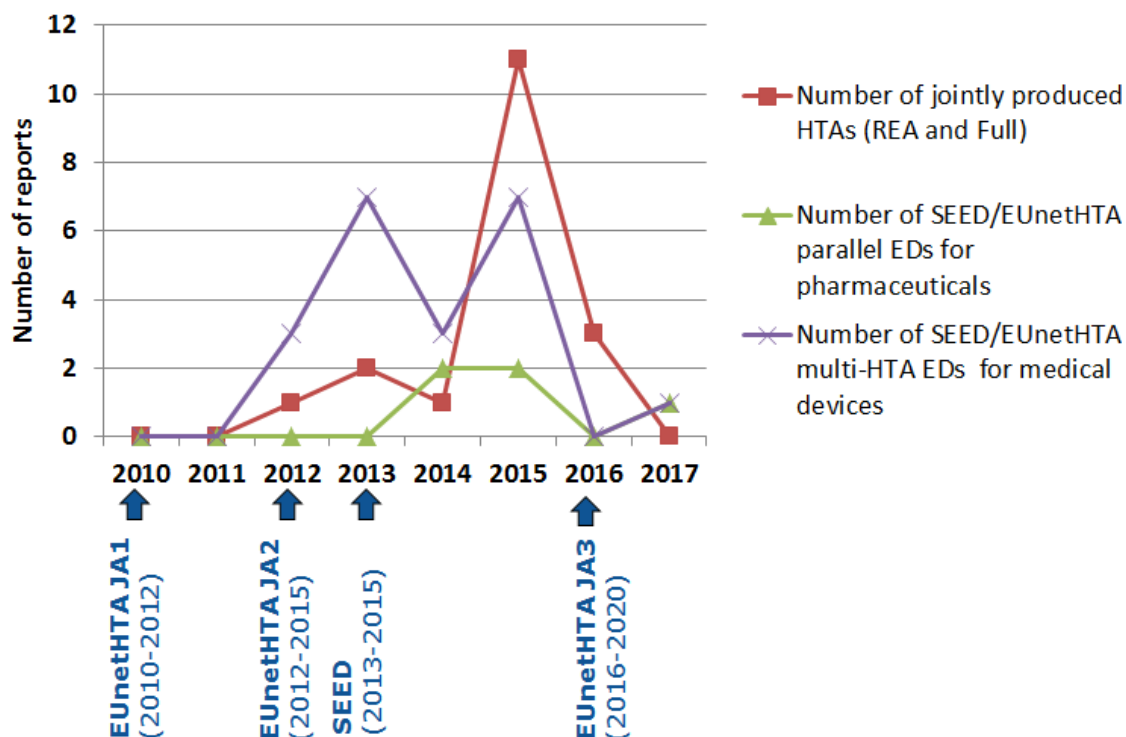


Figure 7. EUnetHTA Joint Action outputs¹²⁹

The need for sustainability was highlighted by many of the contributors to the public consultation. Among the limitations of the current model of cooperation most cited by public administrations were: the lack of flexibility of the framework for EU-funded projects which require high efforts for the preparation of a proposal, difficulties to put in place a sustainable IT platform (including IT tools) for the use of all participants and access of joint work, delays in performing joint work which affected the availability of joint reports, insufficient commitment from all partners to use the output, uncertainties about the quality of joint work, insufficient coordination and agreement on topic selection, lack of knowledge on the impact on decision-making and the limited participation of some categories of stakeholders such as health professionals and patients.

Organisations representing stakeholders other than HTA bodies (e.g. academia, patients and consumers representatives) expressed concerns related to the limited duration in time and the lack of a sustainable funding mechanism of the current EU cooperation on HTA.

The following case study illustrates the problems described this section.

A case study for metastatic cancer treatment

The pharmaceutical received marketing authorisation in mid-2011. HTA was performed on the same product by 12 HTA bodies in 11 countries, resulting in considerable duplication of work for both HTA bodies and industry. The timeframe of the reports is between 2011 and 2016, indicating the differences of the time of market access.

¹²⁹ Own calculation <http://www.eunetha.eu/joint-assessments> and SEED project final report 2017.

There are commonalities but also important methodological differences in the clinical assessment (REA) regarding the comparator and the evidence used. In all HTA reports, the primary evidence stemmed from the same randomised, double-blind clinical trial. Three agencies used indirect comparison to assess the pharmaceutical against another comparator; four others considered another phase III study, an observational study or referred directly to the marketing authorisation report; one agency also considered another comparator. A number of social value judgements (e.g. end of life criteria or advantages related to the method of administration) were identified in the report; in some countries they were considered in a systemic, in others in a less standardised manner. Half of the agencies considered the treatment important because of unmet medical needs. Three pointed out its innovativeness. Nonetheless, the fact that the treatment improves the quality of life of patients was an important consideration in all HTA reports. Patients were involved in varying degrees in the processes.

Following the HTA process, most of the countries reimbursed the pharmaceutical with criteria, in the rest with no criteria. It should be noted that in one country the product was rejected due to its cost-effectiveness; the decision was eventually reversed due to a reduced price. During this period the product was available on a case-by case basis through a special fund, which gives a good example of the complexity of the relationship between HTA and access. In the majority of the countries confidential pricing or a risk sharing pricing agreement is in place, which often requires the collection of real world evidence.

3. Why should the EU act?

Article 114 of the Treaty on the Functioning of the European Union (TFEU) allows for the adoption of measures for the approximation of the provisions laid down by law, regulation or administrative action in the Member States, provided they are necessary for the establishment or functioning of the internal market, whilst at the same time ensuring a high level of public health protection. Article 168(4) provides for the adoption of measures setting high standards of quality and safety for medicinal products and devices for medical use. Article 168(1) TFEU states that a high level of human health protection shall be ensured in the definition and implementation of all Union policies and activities.

Most health technologies are products which benefit from the free movement of goods within the internal market. Despite this, a number of obstacles to their free movement have been outlined in section 2 of this report. The procedural and methodological differences, along with the considerable duplication of HTA across the EU Member States, have a significant negative impact on when and where health technologies reach the market, thus reducing business predictability for companies, particularly SMEs. This, in turn, contributes to differences in patient access to innovative health technologies. These divergences and duplication also result in considerable additional costs for HTA bodies and industry alike.

The aims of this initiative cannot be achieved sufficiently without strengthened cooperation at EU level. As described in section 2, the diversity and multitude of approaches to HTA across the Member States means that, due to their scale and effect, only action at Union level can eliminate the obstacles described. Without action at EU level it is unlikely that national rules on how HTAs are carried out would be harmonised and thus the current fragmentation of the single market would persist.

While the on-going cooperation, namely the Joint Actions and the HTA Network, has illustrated benefits of EU cooperation, in terms of establishing the professional network, the tools and methodologies for cooperation and piloting joint reports, the current cooperation model has not contributed to the removal of the fragmentation of the national systems and the duplication of efforts. Without an EU initiative, it is unlikely long-term cooperation on HTA between Member States would be significantly strengthened through bilateral or regional cross-border initiatives. There are clear additional costs for HTA bodies and industry from carrying out HTA on the same health technology in multiple Member States. By carrying out a HTA only once at EU-level, economies of scale, greater business predictability, increased quality and consistency of HTA and improved transparency for patients would be achieved in the long run.

This impact assessment report has identified a division between the HTA domains (the clinical domains) which lend themselves to a common assessment at EU-level and those (the non-clinical domains) which have more country-specific elements. By making this distinction, this initiative will maximise the EU added value while at the same time ensuring an approach to HTA assessment that is proportionate and in keeping with the principle of subsidiarity by leaving Member States to continue carrying out the parts of HTA better achieved at national level.

The report has also underlined the differences between the pharmaceutical and the medical technologies sectors, not only in relation to the different market access path, but also in relation to the role HTA plays in the two sectors and the lower level of duplication/parallel processes compared with pharmaceuticals. In order to ensure a proportionate approach is taken, such differences are reflected in the design and comparison of the identified policy options along with the different categories of products within sectors (centrally authorised v. national authorisation etc) which are reflected in the product scopes considered in the various policy options. The proportionality of the initiative is further considered in the design and comparison of policy options, and the measures envisaged do not go beyond what is necessary to remove obstacles to the free movement of goods within the internal market.

Creating a system of HTA at EU-level would necessitate some financial and administrative costs for the Union and for EU Member States. Such costs also need to be considered in light of the current EU-level HTA cooperation and its lack of sustainability as outlined in section 2.

The principle of subsidiarity is furthered ensured in the initiative by fully respecting Article 168(7) TFEU which stipulates that the Union shall respect the responsibilities of Member States for the definition of their health policies and for the organisation and delivery of health services and medical care. In particular, Member States are responsible for decisions on pricing and reimbursement, which are not within the scope of this initiative.

4. Policy objectives

The general, specific and operational objectives of the initiative are listed below. Figure 8 provides an overview linking the objectives to the problems discussed in detail in section 2.

General objectives

The general objectives of the initiative are:

- Ensure a better functioning of the internal market
- Contribute to a high level of human health protection

Specific objectives

The specific objectives of the initiative are:

- Improve the availability of innovative health technologies for EU patients
- Ensure efficient use of resources and strengthen the quality of HTA across the EU
- Improve business predictability

Operational objectives

The operational objectives of the initiative are:

- Promote convergence in HTA tools, procedures and methodologies
- Reduce duplication of efforts for HTA bodies and industry
- Ensure the uptake of joint outputs in Member States
- Ensure the long-term sustainability of EU HTA cooperation

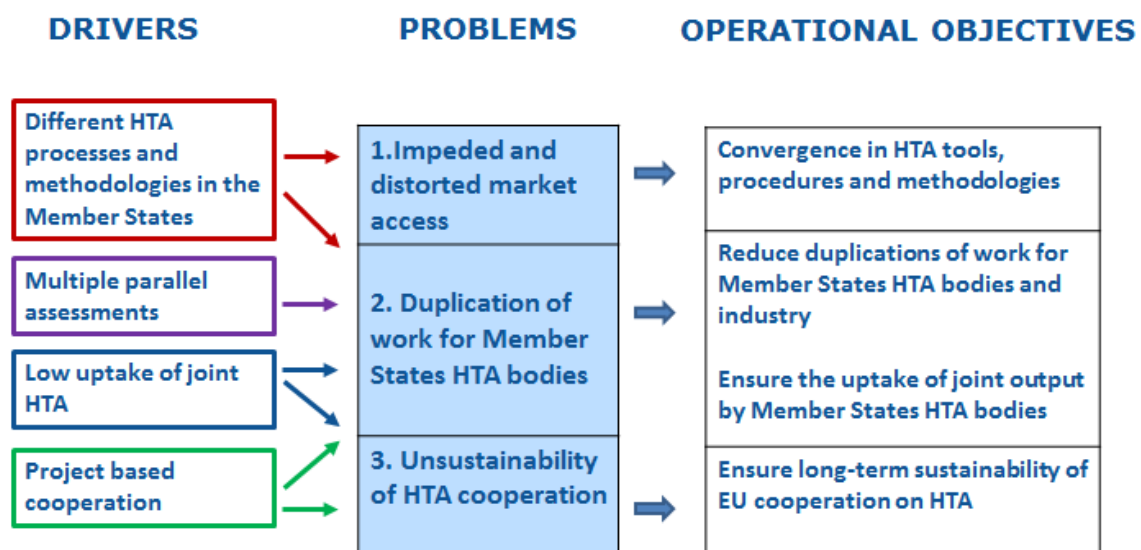


Figure 8. Intervention logic

5. Policy options

Based on identified shortcomings, experience with the current cooperation and comments from stakeholders, the following **key principles** were identified for constructing the policy options:

- The need to build on existing structures, activities and achievements and maintain a Member States driven approach;
- The need to address the specificities of the different sectors: pharmaceuticals, medical and other technologies;
- Ensure a high level of quality, transparency and independence (scientific and financial);
- Ensure the engagement of stakeholders, in particular patients, health care professionals and payers;
- Support the development of HTA capacities at national level.

A number of policy options (PO 1-5) were identified already in the Inception Impact Assessment¹³⁰. Of these, policy option 5 was discarded upfront (as discussed in section 5.1 below), while policy options 1-4 were further developed and are discussed in more detail in subsequent sections.

5.1. Discarded policy option

The inception impact assessment put forward a legislative option which includes joint full HTA reports ("option 5"), i.e. joint production of HTA reports which cover clinical and non-clinical (e.g. economic, organisational, ethical) HTA domains. This option was also included in the analysis of options conducted in the GÖG-LSE Study and in the public consultation.

However, it has become clear from the input received in the public consultation and other fora that such an option is not realistic. While there is broad agreement that voluntary cooperation on methodologies to develop full HTA reports would be useful to increase consistency and predictability of assessments, the development of EU legislation mandating joint full HTA reports at EU level would bring more challenges than benefits. This is mainly due to the fact that full HTA reports rely to a large extent on context-specific information (e.g. economic, organisational, ethical) in order to serve national decision-making. These issues have been highlighted by public authorities, experts as well as industry representatives. This implies that a joint full HTA report could not in practice at this point in time support improved governance or sustainability.

Option 5 as analysed in the GÖG-LSE study therefore raises concerns as regards its proportionality, Member States' responsibilities under Article 168(7) TFEU and its feasibility. This option is therefore discarded upfront and is not discussed further in subsequent sections of this Impact Assessment.

5.2. Key characteristics of the policy options

The different policy options for EU cooperation on HTA after 2020 are defined along several key characteristics focusing on:

(1) **Joint outputs**, (areas in which EU cooperation seems possible/useful) which could be included in the initiative:

Technology Specific Reports

- Early dialogues with health technology developers;
- Joint Relative Effectiveness Assessments (REA)¹³¹.

Common tools and procedures

- Methodologies to formulate the contents and design of assessments (e.g. EUnetHTA Core Model and Standard Operating Procedure/SOP);
- Horizon Scanning;

¹³⁰ Inception Impact Assessment on Strengthening of the EU cooperation on Health Technology Assessment (HTA), see http://ec.europa.eu/smart-regulation/roadmaps/docs/2016_sante_144_health_technology_assessments_en.pdf

¹³¹ REA can take place at the time of market launch, or later.

- Procedural framework (clarifying inter alia the rights, obligations and involvement of stakeholders, such as patients and health care professionals; transparency; independence etc.);
- Submission templates and templates for other key documents, including assessment reports and summaries;
- Database for horizon scanning, planned, ongoing and finalised early dialogues; planned, ongoing assessments and finalised assessments;
- IT tools for exchanging (confidential) information, for supporting the collection of Real World Data and for training and other capacity building activities.

The common tools and procedures should build on the work already undertaken in Union-funded actions on HTA, including EUnetHTA, Horizon 2020-funded actions. Preliminary results of regional initiatives such as the BeNeLuxA, and Valletta Declaration initiatives could also be taken into account. The distinctive characteristics of the different sectors (i.e. pharmaceuticals, medical devices and others) should be taken into account in the development of common tools and procedures.

(2) **Technologies** which could be covered by the initiative:

- Pharmaceuticals;
- Medical technologies (medical devices and in vitro diagnostics)¹³²;
- Other technologies (e.g. Screening or vaccination programmes, surgical procedures).

(3) **The choice of instrument** used to establish and maintain the cooperation, including:

- Voluntary cooperation of national bodies outside any EU agreement or framework (i.e. an intergovernmental approach relying exclusively on the resources and political commitments of Member States, as is the case in the BeNeLuxA or other similar initiatives);
- Contractual obligations between (some/all) Member States with possible co-financing by EU programme/funding but no dedicated legal framework (i.e. project based approach);
- Common legal framework (Regulation or Directive)

Also combinations of these instruments could be envisaged. For example, some outputs could be governed by a legal framework, while others could be produced on a voluntary basis.

(4) **The choice of governance structure** for the cooperation, including:

- Project-based secretariat: a coordinating secretariat is set up and run for the duration of a project by a Member State HTA body in agreement with the other participants of the consortium;
- Member State secretariat: a secretariat is established and hosted in a national/regional HTA body;

¹³² Medical devices and in vitro diagnostics as defined by Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices and Regulation (EU) 2017/746 of the European Parliament and of the Council of 5 April 2017 on in vitro diagnostic medical devices

- Central secretariat: a secretariat is established and hosted in the European Commission, an existing EU Agency or a new EU agency¹³³.

(5) The financing (i.e. possible sources of funding):

- EU funding, either through the Public Health Programme or another EU financial instrument¹³⁴;
- Funding by Member States participating in the cooperation, in cash and/or in kind;
- Funding of joint assessments through industry fees have also been considered, but has been discarded in the first phase of this initiative. This consideration is based on a proportionality assessment weighing the relatively limited size of the structure foreseen for cooperation against the burden of setting up a fee structure. It was also considered appropriate to evaluate the cooperation after a certain period of time based on experience gathered and assess, at that point in time, whether the introduction of a fee structure for joint assessments would be appropriate.

From these elements, four policy options have been constructed, based on input from Member States, stakeholders and experts through the various forms of consultation activities (for more details on consultation activities, see Annex II). The study supporting the Impact Assessment process has also further discussed and validated the proposed Policy Option (See GÖG-LSE study, Chapter 4).

The policy options were constructed according to their feasibility (e.g. mandatory uptake considered only for legislative options) as well as logical and coherent combinations of elements (see section 5.3. below). The governance structure is assessed separately in section 6.5.

5.3. Description of the policy options

5.3.1. Policy option 1 (Baseline scenario). No Joint Actions after 2020

Rationale

The baseline scenario supposes that after the current EUnetHTA Joint Action 3 will end in 2020 there would be no further Joint Action on this topic. The EU funding to support scientific and technical cooperation among Member States would be discontinued.¹³⁵

The choice of the baseline scenario is justified by the fact that although the Joint Actions have been successful in demonstrating a proof of concept, a continuation in the form of a fourth

¹³³ Two further possibilities were considered and disregarded: 1) a rotating MS Secretariat and 2) a fully centralised model where both the support function and scientific expertise are integrated. Both models were considered not feasible due to the limited support received in the public consultation and the limitations they would pose in terms of implementation (e.g. losing know-how for the rotational model, and the challenge in building and maintaining the necessary know-how in a fully centralised model) and acceptance (e.g. the link to national HTA processes is lost in case of a fully centralised model).

¹³⁴ For all policy options the source and the amount of funding are dependent on the negotiations of the Multiannual Financial Framework (within the European Commission and the other relevant EU institutions) and subject to renewal every budgeting period.

Joint Action is deemed to be both ineffective and unrealistic (see section 1.4.2 and section 2, problem 2). This was considered the most likely and most-evidence based baseline also in light of the indications from the Court of Auditors, which considers that this type of actions/projects is not supposed to be renewed too many times.

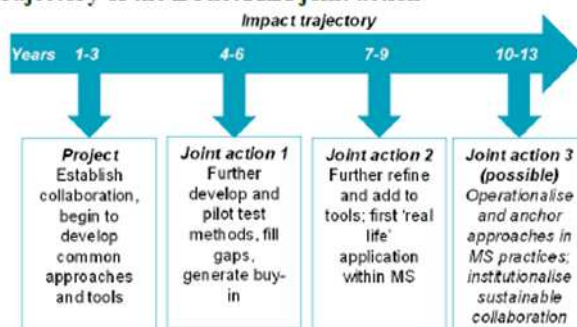
The Joint Actions have created the necessary trust to enable HTA bodies to work together, have developed common methodologies and tools and have demonstrated by pilots that joint outputs, including joint assessments can be done. This demonstration of "proof of concept" is in line with the purpose of Joint Actions (see box below for further information).

The role of Joint Actions as an EU funding instrument

Joint Actions are collaborative projects specific to the Health Programme aiming to develop / share / refine / test tools, methods and approaches to specific issues or activities, and engage in capacity building in key areas of interest for the Member States and countries participating to the Programme. They are co-financed by the European Commission and authorities of the Member States. This type of project was introduced during the 2nd Health Programme (2008-2013) and continued under the current one (2014-2020) to cover specific health-policy needs and aimed at supporting EU cooperation in the field of health with as many partners as possible from all countries participating in the Programme¹³⁶.

Joint actions are often started, after several years of cooperation between relevant stakeholders and participants are designated by Member States authorities, in a bid to secure political endorsement and optimise policy coordination. Joint Actions are grants, assigned through a non-competitive negotiated procedure (i.e. for each possible topic only one proposal for a Joint Action will be submitted), and they are an exception to the Financial Regulations. The Commission, in consultation with the relevant Member State Programme Committee defines the policy area and provides a general outline of the aim, the final objective and the budget of the Action. All Member States are invited to appoint the organisations they consider relevant for the Action and propose a detailed work plan, which the Commission is expected to accept. As emphasised also in the Commission's Ex-post Evaluation Report of the 2nd Health Programme 2008-2013¹³⁷, "joint actions build on previous achievements made possible through project grants started sometimes 10 or more years ago". EUnetHTA was singled out as an example where a third joint action even though possible, was not seen as an undisputable fact.

Impact trajectory of the EUnetHTA joint action



However, while constituting a good tool for testing and validating new ways of cooperation, the EUnetHTA Joint Actions have showed important shortcomings in terms of disruptions (regular renegotiations/reallocations of work packages, renewal of staff etc.), and difficulties

¹³⁶ http://ec.europa.eu/chafea/documents/health/ja-2017-guide-applicants_en.pdf

¹³⁷ https://ec.europa.eu/health/sites/health/files/programme/docs/ex-post_2nd-hp-2008-13_comm-swd.pdf

in ensuring consistent delivery of high quality, timely output and uptake (see sections 1.4.2 and 2, problem 2).

In addition, as described above the objective of a financing through Joint Actions is not to support permanent/long-term/recurrent actions. This was confirmed by the Court of Auditors in its Report on cross-border threats to health, stating that “...given their significant size, they (NB. Joint Actions) take more time to prepare and also require political backing and national co-funding. This means that, despite their potential for increasing the EU-wide take up of outputs produced with health programme funding, there cannot be too many subsequent joint actions in one policy area .”¹³⁸

In conclusion, Joint Actions are only intended to kick-start policy coordination between Member States and are not intended to run indefinitely and have proven to be not effective in feeding in to national decision making processes (see section 1.4.2)¹³⁹.

In view of the above, a fourth Joint Action is not considered a realistic and credible option to address the problems and achieve the objectives of the initiative.

Description

Under the baseline scenario (policy option 1), the European cooperation would be limited to the high-level strategic policy discussions within the HTA Network, which mainly consists of meetings between Ministries of Health and/or national HTA agencies to discuss policy developments which are relevant to HTA both a national and/or European level. However, without a continuous and sustainable support to coordinate and develop technical/scientific activities, including the developments of joint outputs, it is not expected that Member States will devote resources to continue the cooperation at EU level in a broader and more organised way. This will be particularly true for Member States with limited resources and less developed HTA systems, which will need to focus their resources on performing assessments or identify reports from other agencies and/or possible regional networks that can be adapted and used at national level.

No dedicated **governance** structure is foreseen under this policy option. Member States are relying on national **resources** as illustrated above (section 1.4.1). The trend of more Member States developing their own specific HTA systems (mostly in Central and Eastern Europe) is also expected to continue, with different procedural frameworks and methodologies, and variability in practices, procedures and methodologies.¹⁴⁰ The differences as regards good governance principles, e.g. transparency of the HTA processes, stakeholders' participation/involvement and quality control mechanisms would also continue to exist. HTA bodies would continue the trend of duplicating assessments of the same technology carried out in other Member States, in particular for pharmaceuticals. The capacity of HTA bodies to cover all relevant innovative technologies would remain limited: higher for the already well-established

¹³⁸ European Court of Auditors, Special Report Dealing with serious cross-border threats to health in the EU: important steps taken but more needs to be done, 2016
https://www.eca.europa.eu/Lists/ECADocuments/SR16_28/SR_HEALTH_EN.pdf

¹⁴⁰ EFPIA/ Charles River Associates. 2017. Assessing the wider benefits of the EU's proposal on strengthening cooperation on health technology assessment from the industry perspective.

HTA systems, while the others would have to continue to limit themselves to assessing only a lower number of technologies. Member States with limited resources would therefore not be able to fully benefit from HTA in their efforts to address challenges related to rising health care expenditures, evolving health technologies, ageing populations and increasing burden from chronic diseases^{141,142}. Pooling of resources and re-use of jointly developed HTA reports are not expected to a significant extent, as there would be no EU-wide mechanism and no specific resources dedicated to EU-wide activities by Member States. Adaptation of reports from other HTA bodies may continue, especially in Member States with limited HTA capacity, as this would be the main source to build capacity and know-how.

Without EU stable cooperation, joint early dialogues would be limited to HTA bodies participating to the parallel scientific advice procedure offered to developers by EMA. The achievements of the current Joint Action, such as the single platform put in place by EUnetHTA and EMA which ensures not only a coordinated advice from regulators, but also a coordinated opinion from several HTA bodies, would likely be jeopardised if the process is not sustained overtime.

Regional cooperation is expected to continue on a voluntary basis, in particular in relation to the production of some joint assessments to be used in possible joint price negotiations and procurements efforts. On the other hand, as different regional cooperation networks are developing across the EU, duplications between the regional networks are likely to occur, and divergences as regards processes and methodologies can be expected between these networks in addition to the continued national divergences. Moreover, as recent discussions around a potential joint horizon scanning activity in the context of the BeNeLuxA initiative have shown¹⁴³, there are significant challenges in identifying a suitable organisational, legal and financial framework to perform joint activities in a regional cooperation setting.

The HTA Network established under Directive 2011/24/EU is expected to continue to meet twice per year to share some high level national experiences.

5.3.2. Policy option 2. Project-based cooperation on HTA activities

This option foresees voluntary cooperation supported by EU funding organised in the form of project(s)¹⁴⁴ other than Joint Actions. The project(s) would be funded under the Health Programme or any other EU financing instruments (e.g. Horizon 2020).

The **instrument** to implement this option would be project(s) through competitive calls for proposals in line with the priorities/EU added value criteria identified by the Commission following lessons learnt from EUnetHTA and other projects/initiatives.

The calls would support the development of a defined number of joint outputs (e.g. joint assessments and/or early dialogues) in a given timeline. The selected project(s) is expected to last 36-48 months, during which it would need to deliver the planned output. To address the shortcoming of EUnetHTA, the eligibility criteria would be more specific and prescriptive than the ones which can be used for Joint Actions. For example, the call would specify the

¹⁴¹ OECD. 2015. Pharmaceutical expenditure and policies: past trends and future challenges.

¹⁴² [European Commission, DG ECFIN - EPC. \(2016\) Joint Report on Health Care and Long-Term Care Systems & Fiscal Sustainability. Brussels: Publication Office of the European Union, p. 1-13.](#)

¹⁴³ For more information on BeNeLuxA initiative, see <http://www.beneluxa.org/>.

¹⁴⁴ This could be done as one project, subsequent projects or multiple parallel projects. The assessment of PO2 in this report is based on the assumption of one project in line with the GÖG-LSE study.

minimum number of participants from different Member States to ensure a sufficient EU coverage, the maximum number from each Member States (e.g. two agencies per Member States) to ensure an efficient and manageable consortium. Their profile and role in the national decision-making process will also need to be well defined to ensure that the most relevant HTA Agencies are included and the necessary expertise participates. Conditionality clauses would also be included to encourage uptake of results (i.e. final payment would be subject to the level of uptake of the joint output).

To facilitate commitment from technology developers, their European trade associations could also be included in the project. Involvement of patients, clinical societies and/or healthcare professional organisations would also be foreseen to increase participation of these stakeholders in the development of joint outputs.

Such a model differs from a Joint Action because it would be based on competitive calls which may result in more than one group (i.e. Consortia) of Member States competing with each other. The number of beneficiaries in the selected project will be lower and with a homogenous profile and role in the national decision-making process. Engaging in a competitive process with relatively high level of co-financing from beneficiaries (normally 50-40%) is expected to ensure a higher commitment to the objectives and outputs of the project than what is the case in a Joint Action, including the uptake of results.

The evaluation process and the subsequent negotiation with the winning Consortium is expected to result in a focused and defined work plan, which will be limited to the output for which cooperation has demonstrated a clear EU added value (e.g. focus on clinical aspects of the HTA process for joint REA). This is different from negotiations within Joint Actions typically focusing on solving administrative issues due to the complexity of the different legal status of the appointed beneficiaries and the Commission's limited possibilities to modify the proposed work plan.

A similar project-based model was tested for Early Dialogues through the project SEED (2012-2015). It could address some of the shortcomings identified in the Joint Action EUnetHTA (delays, high number and heterogeneous profile and number of participants, inconsistency of the quality and timely outputs).

The scope of the cooperation could cover **all categories of health technologies**: pharmaceuticals, medical technologies and other health technologies (see 5.1.2). For joint technology-specific reports (joint assessments and early dialogues) the activity would be limited to clinical domains. For other types of activities (cooperation on methodologies and procedures), the projects could cover also non-clinical domains (e.g. economic, organisational, ethical assessment). This approach would contribute to ensure best use of resources and focus on outputs which have demonstrated major EU added value.

No EU legal framework is foreseen under this policy option and the **governance** model would be a project secretariat managed by one of the beneficiaries of the winning consortium/consortia. It is expected that similarly to a Joint Action, a national HTA body would take up the coordination role and distribute and monitor tasks and responsibilities between partners to ensure the delivery of the agreed joint outputs. IT tools will be managed by the project throughout its duration. IT tools developed by EUnetHTA could be possibly reused and built upon, provided the winning consortium would have the right to exploit them.

The cooperation foreseen under this option could also continue to benefit from the HTA Network, which would be a platform to share practices of the different activities and would

become an important mechanism to ensure inclusiveness of the cooperation to Member States which may not be directly involved in the cooperation in the winning project(s).

This option foresees a top-down approach with the Commission in the lead, identifying priorities, launching the call for proposal, monitoring the projects and disseminating the results.

The **financing** of this option would rely on the EU budget and Member States' co-financing (normally by providing in kind contributions).

5.3.3. Policy option 3. Permanent cooperation on common tools, procedures and early dialogues

JOINT OUTPUTS	TECHNOLOGIES COVERED	INSTRUMENT	GOVERNANCE	FINANCING
<p>Technology specific reports</p> <ul style="list-style-type: none"> • Early dialogues with health technology developers <p>Common tools and procedures</p> <ul style="list-style-type: none"> • Methodologies • Horizon scanning • Procedural framework • Submission and other templates • Database • IT tools • Training and capacity building 	<ul style="list-style-type: none"> • Pharmaceuticals • Medical technologies • (Other technologies) <p>Early dialogues would be initiated by the industry.</p> <p>In case the number of requests exceeds the Member States capacity to respond to the requests, prioritisation criteria are needed (e.g. unmet medical; potential impact on patients, public health, or healthcare systems; significant cross-border dimension/major Union-wide added value)</p>	<p>Legislation</p> <p>Mandatory Uptake by HTA bodies of joint outputs</p>	<p>Permanent structure</p>	<p>EU budget + MS in kind contributions + Industry fees for early dialogues (depending on the governance structure chosen)</p>

Table 3. Overview of policy option 3.

In option 3, the **joint outputs** would cover early dialogues (the only technology specific reports under this option) and various common tools and procedures (listed in Table 3). As described in section 5.2, the common tools would be based on work already carried out by existing cooperation mechanisms and the specific characteristics of different health technologies (e.g. pharmaceuticals and medical technologies) would be taken into account when developing the common tools and procedures. The option foresees upwards harmonisation of a basic set of tools and procedures (see Table 3 and further details in section 5.2), to ensure a high level of quality throughout the EU. Common procedures will be aimed, in particular, at ensuring the involvement of patients and external expert (e.g. healthcare professionals) in the HTA process, avoiding conflicts of interest and ensuring transparency (e.g. via publication of joint outputs).

Option 3 would in principle cover **all types of health technologies**, subject to selection and prioritisation criteria in accordance with the needs of Member States.¹⁴⁵ It should also be

¹⁴⁵ In principle Member States will select and prioritise health technologies which shall undergo early dialogue based on given criteria.

noted that, as early dialogues would be initiated by the industry, it cannot be guaranteed that all technologies will benefit from them.

The **instrument** used to implement this option would be a (new) EU legislative framework which would ensure the mandatory uptake by HTA bodies of the common tools and procedures and of joint early dialogues. These tools, procedures and early dialogues would relate to the clinical aspects of HTA, thereby supporting the assessment at Member State level of the clinical domains of HTA (REA). Mandatory uptake of the common tools (e.g. methodologies, templates, IT tools) and common procedures (e.g. for stakeholder involvement) implies that Member States shall use these basic tools/procedures when conducting joint early dialogues and clinical HTA work at national level to ensure high quality and to facilitate cooperation and use of each other's assessments. The development of these common tools and procedures is expected to rely mainly on results of the Joint Actions EUnetHTA and to be further developed by experts nominated by national HTA bodies. Mandatory uptake of early dialogues means that Member States shall use the joint early dialogues in the same way that they would use a national early dialogue, i.e. they should not repeat at national level an early dialogue which has already been conducted jointly.

The **governance** of the cooperation under this option would be ensured by a central structure which could provide administrative, scientific and IT support to deliver joint outputs of a consistent high quality, in a transparent, independent and timely manner and with appropriate involvement/consultation of stakeholders. To deliver the joint output, the cooperation shall rely on HTA experts from Member States HTA bodies organised in dedicated committees/groups covering the outputs.

The **financing** of this option is expected to rely mainly on the EU budget and in kind contributions from Member States, which would be asked to provide expertise through their experts. For early dialogues, depending on the governance structure chosen, a fee from industry would cover the costs of the experts and the overheads needed to support the production of this specific joint output.¹⁴⁶

Article 15 of Directive 2011/24/EU would be deleted under this option as it would not be compatible with the legislative approach suggested above: the HTA Network foresees fully voluntary cooperation, the output of the cooperation have no legal status. While Art 15 would be deleted from Directive 2011/24/EC, the foreseen new Legal framework would maintain and further develop the objectives defined by the article, and add provisions to ensure their achievements, which is currently limited (see section 2). It will also re-introduce key elements already foreseen by the article such as the involvement of stakeholders in the cooperation and it will use similar working methods already applied such as the setting up of dedicated Member States experts' groups/subgroups to develop the specific outputs, it will further develop its good governance principles in a dedicate governance structure. In addition the new Legal framework would provide a more stable framework for granting aid to support the cooperation.

¹⁴⁶ Industry fees would only be possible if the tasks are carried out by an EU Agency.

5.3.4. Policy option 4. Permanent cooperation on common tools, procedures, early dialogues and joint REA

JOINT OUTPUTS	TECHNOLOGIES COVERED	INSTRUMENT	GOVERNANCE	FINANCING
<p>Technology specific reports</p> <ul style="list-style-type: none"> • Early dialogues with health technology developers • Relative Effectiveness Assessment (REA) <p>Common tools and procedures</p> <ul style="list-style-type: none"> • Methodologies • Horizon scanning • Procedural framework • Submission and other templates • Database • IT tools • Training and capacity building 	<ul style="list-style-type: none"> • Pharmaceuticals (centrally authorised pharmaceuticals + other pharmaceuticals prioritised by Member States) • Medical technologies (prioritised by Member States based on : <ul style="list-style-type: none"> - potential high risk (i.e. devices undergoing the EU scrutiny mechanism) or - potential impact on public health and health systems (e.g. addressing unmet medical need, potential to transform the organisation of care, high budget impact) • (Other technologies) 	<p>Legislation</p> <p>Mandatory Uptake by HTA bodies of joint outputs</p>	<p>Permanent structure</p>	<p>EU budget + MS in kind contributions + Industry fees for early dialogues (depending on the governance structure chosen)</p>

Table 4. Overview of policy option 4

Option 4 comprises the **joint outputs** included in option 3 (common tools/procedures and joint early dialogues, as described more detail in section 5.3.3) and in addition joint REAs (i.e. assessments of the clinical HTA domains).

For *pharmaceuticals*, the joint REAs would comprise centrally authorised pharmaceuticals and other pharmaceuticals prioritised by Member States due to their high value, high budget impact, or their impact on public health / addressing unmet medical needs.¹⁴⁷

For *medical technologies*, the scope for joint REAs comprises those that are prioritised by Member States based on their potential high risk (i.e. devices undergoing the EU scrutiny mechanism) or potential impact on public health and health systems (e.g. addressing unmet medical need, potential to transform the organisation of care, high budget impact).¹⁴⁸

The option also foresees a phase-in approach for joint REAs, i.e. a gradual introduction of the full product scope while the system is built up.

The **instrument** used to implement this option would be a (new) EU legislative framework which would not only ensure the mandatory uptake of the common tools and procedures, and joint early dialogues as in option 3, but also of joint REAs. Mandatory uptake of joint REAs implies that Member States would use the joint assessment reports in the same way as a national assessment report is used today and that the REA should not be repeated at national level. Member States would however continue to be free to assess other (non-clinical HTA)

¹⁴⁷ See GÖG-LSE study (Table 7, section 4.3 and annexes 3 and 4).

¹⁴⁸ See GÖG-LSE study (Table 7, section 4.3 and annexes 3 and 4).

domains at national or regional level and would continue to draw the overall conclusions on the basis of the (joint) clinical and (national) non-clinical assessment parts¹⁴⁹.

The **governance structure** would be similar to option 3 but taking into consideration the extended scope in terms of joint outputs (joint REA). In this respect, Member States experts will be supported by a central secretariat providing administrative support (e.g. organisation of meetings, travel arrangements etc.), scientific/technical and IT support. A management board including representatives of Member States' HTA bodies would manage the overall governance and would meet regularly to discuss topic prioritisation, progress with outputs (e.g. quality, timeliness), provide guidance and steer the cooperation. The scientific-technical work of producing the joint outputs would be carried out by experts nominated by Member States' authorities.¹⁵⁰ For joint REAs, Member States' experts acting as author/rapporteur and co-author/co-rapporteur would carry out the clinical assessment of the application/dossier submitted by industry (complying with common tools and procedures as described in section 5.2) and prepare a joint assessment report. A committee/group including experts nominated by Member States would thereafter examine the draft and approve the joint report which would then be incorporated in national HTA processes (see more detailed explanations on mandatory uptake above).

The **financing** solution is the same as the one foreseen in option 3.

Article 15 of Directive 2011/24/EU would be deleted under this option as it would not be compatible with the legislative approach suggested. As under option 3, some key components would be maintained and further developed in the new legal framework.

Option 4 could be divided in two sub options:

- Option 4.1- an 'opt-in' system: For joint REA, such a system would allow Member States, without prejudice to the need to achieve the stated specific objectives and ensure legal feasibility, some flexibility to decide if / when to start participating in the EU-level system of joint REA depending on their individual situation in terms of needs of adjusting national law and practice etc. This decision to participate would be system-based (i.e. Member States would decide whether or not to participate in the system for all joint REA conducted at EU level) and not on a product-specific basis (i.e. Member States would not decide for each product submitted for joint REA whether to participate or not). Member States not participating in the joint REA system would still be obliged to use the common tools and procedures (option 3) when carrying out their own REA.
- Option 4.2: is essentially the same as option 4.1 with the difference that this option would be applicable to all Member States with no possibilities to opt in later or stay out.

¹⁴⁹ As discussed in sections 1.2, 1.4.1 and the Mapping study on HTA processes across the EU, all current national HTA processes include an assessment of clinical evidence (REA), but in addition may also assess various non-clinical domains (e.g. economic, organisation, ethical) on the same health technology.

¹⁵⁰ This would be similar to the model implemented by EMA for the central marketing authorisation procedure for medicinal products.

		Non-legislative		Legislative		
		PO 1	PO 2	PO 3	PO 4	
		No EU action after 2020 (baseline)	Project-based cooperation on HTA activities	Permanent cooperation on common tools, procedures and Early Dialogues	Permanent cooperation on common tools, procedures and Early Dialogues and REA	
					4.1 REA (MS opt-in)	4.2 REA (all MS)
Joint outputs	Common tools and procedures					
	Early dialogues					
	Joint REA					
	Joint Full HTA					
Technologies covered			Pharmaceuticals, medical and other technologies	Pharmaceuticals, medical and other technologies	Pharmaceuticals, medical and other technologies	
Governance		No EU support	Project based cooperation	Permanent structure	Permanent structure	Permanent structure
Financing		No EU support	EU+MS	EU+MS+fees from industry (for early dialogues depending on chosen governance model)		

Table 5. Overview of policy options

6. Impacts of the policy options

This chapter will identify and describe the expected impacts of the policy options 2, 3 and 4, compared to the baseline scenario (option 1) described in section 5.3.1. The following impacts have been identified as most relevant for the key stakeholders.

	Member States/Public Administrations	Patients/consumers	Industry (pharmaceutical and medical technologies)
Economic Impacts	<ul style="list-style-type: none"> - Costs - Efficient allocation of resources - Administrative burden - EU budget 		<ul style="list-style-type: none"> - Functioning of the internal market - Costs - Business predictability - Innovation, research and competitiveness - Administrative burden
Social/health impacts	<ul style="list-style-type: none"> - Governance, participation and good administration - Sustainability of health systems - Public health 	<ul style="list-style-type: none"> - Participation/involvement - Availability of innovative health technologies 	

Table 6. Summary of key impacts for stakeholders

The key challenge in assessing and quantifying the impacts has been the fact that HTA is an (often advisory) input for decision making; the access to health technologies and their prices are set by the national pricing and reimbursement decisions.¹⁵¹ Therefore, many impacts of the HTA cooperation, in particular on sustainability and public health are *indirect*. Quantitative assessments have been completed with qualitative assessments when necessary.

None of the options are likely to have considerable impact on the *overall* demand for health technologies. Therefore, no substantial changes in the production and distribution in the pharmaceutical and medical technologies sector are expected. As regards HTA-related employment, no major effects in HTA staffing in Member States HTA bodies are expected. Some efficiency gains for REA could be envisaged, but resources are likely to be shifted to increasing demands in assessing additional technologies, re-assessments etc. No impact on the overall employment in the sector is therefore expected¹³⁶. No impacts have been identified on trade¹⁵², on environment and on fundamental rights.

The common horizontal aspects of the governance system and financing are analysed in a dedicated section (6.5).

¹⁵¹ It should also be noted that there is a difference between the actual prices of pharmaceuticals paid by social insurances and the publicly available, official list prices. Actual prices tend to be lower due to arrangements between industry and payers. However, such discounts and rebates are typically strictly confidential and therefore the actual prices are not known. WHO. Background Paper 8.3 Pricing and Reimbursement Policies: Impacts on Innovation. 2013.

¹⁵² GÖG-LSE Study

The estimations of costs included in this Impact Assessment report were provided by the GÖG-LSE Study and took into account the following type of costs:

- costs for the implementation mechanism/governance (e.g. project-based, permanent structure; include costs of human resources, IT tools, travel, premises etc.). The personnel costs and costs resulting from Member States' expert committees were estimated based on the average salaries of EUnetHTA JA 3 partners (for project-based cooperation), and the Staff Regulation of Officials of the European Communities (for a permanent structure) and Commission expert fees;
- costs of the output production are based on the assumption that annual joint output will increase gradually from option 2 to 4, from 13 joint early dialogues (EDs) and 12 REAs in option 2 to 40 joint EDs and 65 joint REAs in option 4. The number of joint EDs was estimated taking into account the number of requests for scientific advice received by EMA per year, the number of requests received by EUnetHTA JA2 and 3 and the SEED project, as well as the average value of early dialogues performed at national level by the Member States offering this service to technology developers. The number of joint REAs was approximated based on the average number of centrally authorised medicinal products per year (approx. 40 new molecules) and the average number of assessments for medical technologies carried out at national level (taking into account that in some Member States assessments of certain medical technologies are also mandatory).

Policy option 2. Project-based cooperation on HTA activities

6.1.1. Economic impacts

Member States/Public administrations

Compared to the baseline scenario (described in section 5.3.1), a large part of the duplication of work is expected to persist under policy option 2. The problem of duplication of work for national HTA bodies (discussed in detail under section 2, problem 2) would largely remain, entailing continued significant costs for HTA bodies e.g. related to the production of REAs at national level (see section 2, problem 2, text box).

In particular, the legal uncertainty around the status/relevance of the joint outputs stemming from the project foreseen under this option is expected to remain. It cannot be expected that Member States will adapt their national HTA legal frameworks to ensure consistency/compatibility with uptake of joint work (e.g. changes to language requirements, formats, procedures) produced in the context of time-limited, voluntary EU-funded projects.

Even if contractual arrangements are foreseen under this option aimed to promote/require national uptake, it can be expected that HTA frameworks defined in national law or administrative provisions (e.g. the social code) would prevail over any contractual arrangements in the context of a project. As the GÖG-LSE study points out, while theoretically such contractual arrangements would be possible if parties agree, there is no effective possibility for the European Commission to enforce these obligations and as such address the issue¹⁵³.

¹⁵³ GÖG-LSE Study Section 4.3

In addition, a contractual obligation to promote/require national uptake may discourage participation in project(s), especially in those Member States where HTA process and procedures are well developed and defined in national law. These are normally the Member States which are less in need of EU cooperation to satisfy their national HTA obligations, and as such they may find the contractual constraints of the project not proportionate for the benefit they may gain.

Since there is no guarantee of uptake of joint outputs in national HTA systems, buy-in, commitment and resource investment by Member States into an EU project for production of joint outputs are also expected to remain limited. If uptake of joint outputs is not ensured, the joint work cannot be fully effective in terms of reducing duplication of efforts for HTA bodies and creating efficiency gains through joint work.

The duplication of work under option 2 will consist both in national HTA activities continuing in parallel and in addition to joint work stemming from the project. Such duplication is expected to result in additional **costs** and further negative impacts on the **efficient use of resources**.

In addition, the same considerations made for policy option 1 in relation to the potential impact of regional cooperations would apply also under this policy option. But contrary to the option 1, in option 2 regional cooperations may have a negative impact on ensuring efficient use of resources as they may add further to the duplication described above as Member States could be active in both regional and/or European cooperation efforts, as it is currently the case with EUnetHTA.

Nonetheless, compared with option 1, due to some requirements to improve the quality and consistency of the joint work that the option would put in place (e.g. strict conditions in the Terms of Reference of the project on requirements for number of participants, their role in national decision making and profile/expertise, see section 5.3.2), this option is expected to improve the situation compared to the baseline and facilitate to some extent the possibility to make use of each other's work.

Some efficiency gains in the allocation of resources could be foreseen and quantified. More specifically, option 2 is expected to provide modest cost savings compared to option 1 for HTA bodies resulting from the voluntary production and uptake of joint REAs and full HTAs, estimated at a total of EUR 383 000 (EUR 256 000 for pharmaceuticals and EUR 127 000 for medical technologies) per year.¹⁵⁴

This estimation is confirmed by the results of the survey on the expectations of HTA bodies, which indicate that the overall costs are expected to slightly decrease/remain stable for option 2. The additional workload caused by the joint work in addition to the national activities is expected to be partly offset by the gains of the cooperation.

¹⁵⁴ GÖG-LSE Study Section 7.2.3.2 While there are uncertainties in the cost calculation, the overall estimates confirm that the impact on costs is neutral/mildly positive for all options of continued HTA cooperation. Particular challenges include the high variation of HTA-related costs both from the HTA bodies' and industry's side; or the assumptions related to the uptake of joint reports. Moreover, a number of impacts could not be quantified, e.g. the reduction of national assessment due to better cooperation, alignment of methodology, and data availability; reduction of costs of evidence generation; reduction of costs due to a lower number of early dialogues. Sensitivity analysis was conducted.

It should be noted that in its estimate the GÖG-LSE study assumed that any new EU project would be of similar size as the EUnetHTA Joint Action (2016-2020). The requirements to limit the number and define the profile of participants foreseen under this option may further optimise cost savings due to a more homogenous, smaller and possibly more efficient Consortium.

The differences caused by HTA bodies developing their own practices, processes and methodologies independently as described under option 1 are expected to remain, but slightly decrease under option 2 due to the project-based cooperation at EU level.

This option is expected to have some negative impact on **administrative burden** resulting from the requirements related to the reporting obligations associated to EU co-funded projects.

Concerning the **governance system** and the **financing**, this option is expected to have an impact on the **EU budget** for running the project which is estimated at EUR 5 300 100¹⁵⁵.

Industry

Duplication of efforts for industry to comply with different Member States' requirements, i.e. for parallel assessments, early dialogues and additional evidence generation (as discussed in detail in section 2, problem 1), are expected to continue under policy option 2. However, a focused and efficient project-based cooperation, which has addressed some of the shortcomings of the current cooperation model, may reduce differences in approaches and facilitate some joint reports which may then be used in national decision-making processes. This persisting but slightly improved fragmentation of the **internal market** is in line with the pharmaceutical industry's own expectations as revealed by their replies to the survey carried out by the GÖG-LSE Study and the public consultation.

Regarding costs for the *pharmaceutical industry* under policy option 2 compared to the baseline scenario, modest savings were identified for the entire pharmaceutical sector across the EU compared with the estimates under the baseline scenario. The cost savings resulting from the production of joint REAs and full HTAs are estimated at EUR 3 700 000 per year compared with the baseline¹⁵⁶. This corresponds with the expectations of the pharmaceutical industry which indicated that option 2 could lead to a slight reduction of costs and administrative burden. On the other hand, in the public consultation and the EFPIA/CRA study it was highlighted that without mandatory uptake, the benefits of the joint work would not materialise for industry and therefore it would be more and more challenging to identify companies which would be willing to engage in voluntary submissions for Joint Assessments¹⁵⁷.

Business predictability is expected to remain low under policy option 2 and the benefits in terms of **innovation and competitiveness** would not materialise. This is well in line with the responses provided by the pharmaceutical industry to the public consultation stating that the current model of cooperation based on voluntary joint work, which has limited effect on the

¹⁵⁵ GÖG-LSE Study Section 7.2.3.2

¹⁵⁶ GÖG-LSE Study Section 7.2.3.2

¹⁵⁷ It should be noted that under a voluntary framework of cooperation, experience has demonstrated that for pharmaceuticals Joint assessments are most efficiently carried out with the active engagement of the Industry, which however also remain voluntary.

convergence of HTA processes and methodologies across EU, leads to low business predictability (93%) and discourages innovation (74%).

For the *medical technologies sector*, the economic impacts of option 2 would differ given that the current market access path is more diverse and the role of HTA in the process is substantially less developed than for pharmaceuticals.

Modest **cost** saving for the sector are expected compared to the baseline scenario related to the preparation and submission of joint REAs and full HTAs, estimated at EUR 92 000 per year. According to the results of the survey conducted by the GÖG-LSE Study, the medical technologies sector indicated that stable/slightly increased costs are expected under option 2 compared with the baseline scenario, but with efficiency gains in terms of administration.

The medical technologies sector, both the large companies and SMEs, perceives this option very positively. Industry representatives from this sector have expressed support for a voluntary, non-legislative system¹⁵⁸ and argued in favour of a process that is demand-driven by decision-makers responsible for the coverage and funding of health technologies. The medical technology industry also expects that option 2 would reduce fragmentation and increase predictability, competitiveness and innovation. However, such expectations have not been substantiated by any specific evidence and from our analysis of the past and current EU cooperation on HTA, such benefits are not expected, especially taking into account the issues identified in section 2.

Overall, commitment and resource investment by industry to an EU system for production of joint outputs are expected to remain limited, as there is no mandatory national uptake of joint outputs foreseen under this option, nor any obligation to industry to submit technologies for joint assessment. Continued low uptake by national HTA systems is expected to limit the impacts of this option on reduced duplication of efforts, increased efficiency gains and improved business predictability for industry. This option is therefore only expected to have limited positive impact on improving the functioning of the single market compared to the baseline.

6.1.2. Social impacts

Member States/Public administrations

As described above, joint reports such as early dialogues and joint REA would be done in the framework of a project. Considering that participation in the project is voluntary in combination with high requirements as regards profile role and number of participants and conditionality for uptake, it is likely that not all Member States will be able or willing to meet the conditions identified in the Terms of Reference/Call. This together with other hurdles to national uptake described above is expected to preserve the significant differences throughout the EU as regards the number of HTAs performed, e.g. only in some well-developed systems, HTA bodies would be able to assess all newly authorised medicines. Therefore, this policy option is expected to bring no or very limited benefits on **sustainability of the health systems** and **public health** in general.

In addition, the limitations in participants and their profile, which would be necessary for improving the likelihood of timely output of consistent quality in a project based cooperation,

¹⁵⁸ Public consultation, GÖG-LSE Study

is likely to negatively affect the inclusiveness of the option and as such not provide EU wide capacity building opportunities, which are particularly necessary in Member States with less developed HTA systems which are often the ones more in need of enhanced sustainability. The role of the HTA Network in disseminating the knowledge across the EU could mitigate this, but only to a limited extent.

The impact of the joint work is expected to be limited for **decision-making** by Member States due to the difficulties to enforce any contractual obligations. Also, the intermittent/disruptive nature of the cooperation based on a renewable project, is expected to have negative impact on **governance** as it would prevent planning and overall sustainability.

Since, as discussed above, uptake of joint outputs in national HTA systems cannot be ensured, this option is expected to have only limited impacts on strengthening evidence-based decision-making for the benefit of Member States health systems.

Patients

As regards **participation and good administration**, the stakeholders' involvement and transparency would slightly improve compared with option 1. The requirement which could be introduced in the call for proposals/terms of reference to include patient representatives in the project(s) to increase their involvement in the preparation of Joint outputs, while may be implemented correctly in Joint output, is unlikely to have significant impact on national practices. Stakeholder involvement, while valued by many HTA bodies, is seen as a major challenge to implement due to the resources needed. Current experience of patients and other stakeholders is that the Joint Actions did not sufficiently address the issue of patients' involvement in the joint HTA evaluations.¹⁵⁹ This is confirmed by the results of the survey carried out by the GÖG-LSE Study, showing that HTA bodies do not expect stakeholder involvement to increase.

The currently observed delays and divergences in the **availability of innovative new health technologies to patients** across Europe would likely remain unchanged under this policy option. As emphasised by patients in the public consultation, current differences in HTA methodologies/procedures contribute to diverging outcomes of HTA reports (83% of patient replies) and disincentives to innovation (58% of patient replies), with negative consequences for the availability to patients.

However, while the Option foresees a number of requirements to ensure more timely and consistent quality output (see description in policy option 2), it should be noted that there are important **risks and issues of feasibility** related to a project-based cooperation model as suggested under this policy option. The success of joint REA would continue to largely depend on the use of the report in national decision-making and the voluntary industry submission. Therefore, there would be no guarantees for fully realising these benefits.¹⁶⁰ As

¹⁵⁹ E.g. contribution to the public consultation by European Cancer Patient Coalition, European Organisation for Research and Treatment of Cancer (EORTC) Association Internationale de la Mutualité, European Social Insurance Platform

¹⁶⁰ While there are uncertainties in the cost calculation, the overall estimates confirm that the impact on costs is neutral/mildly positive for all options of continued HTA cooperation. Particular challenges include the high variation of HTA-related costs both from the HTA bodies' and industry's side; or the assumptions related to the uptake of joint reports. Moreover, a number of impacts could not be quantified, e.g. the reduction of national assessment due to better cooperation, alignment of methodology, and data availability; reduction of costs of

uptake of joint outputs in national HTA systems is not made mandatory under this option, the impacts of this option on strengthening evidence-based decision-making for the benefit of patients will remain limited.

As stated by EURORDIS in their contribution to the public consultation as long as *"work is voluntary for both HTA and industry, there is no virtuous cycle: industry may hesitate to participate in a joint assessment, HTA bodies may hesitate to participate as authors, other hesitate to use the HTA reports in parts or in totality, so convincing evidence that such joint work is useful to all is difficult to generate."*

6.2. Policy option 3. Permanent cooperation on common tools, procedures and early dialogues

6.2.1. Economic impacts

Member States/Public administrations

This option is expected to have a moderate positive impact for Member States/public administrations.

For HTA bodies, the overall **costs** are expected to slightly decrease due to the joint early dialogues which would largely replace national dialogues as well as the stronger convergence of processes and methodologies (including horizon scanning, IT tools etc.), which is expected to facilitate reuse of national HTA reports. Such reuse of national HTA reports can be particularly beneficial to Member States that have limited HTA resources. It may not primarily result in resource savings, but in an increase of quality.

This option may also enable further voluntary cooperation on joint outputs among Member States outside the framework (e.g. regional cooperation with participation of a limited number of Member States and on specific activities), which may also contribute to some cost savings and **more efficient use of resources** for those involved.

On the other hand, Member States would be faced with some **administrative costs/burden** to implement and adapt their systems to the common tools and procedures. This is a one-off cost/burden appearing at the start of the cooperation which is expected to affect all Member States but to different extent depending on the HTA rules/procedures in place at national level (as described in annexes VIII and IX). Member States with more detailed national rules will have to adapt more, but at the same time would benefit from already developed rules/policy at national level as regards quality, transparency, stakeholder involvement etc. Member States with a less developed system and legal framework will have to adopt new rules according to the proposed common rules and procedures. Considering that they have little in place this is not expected to be over demanding. In any case, these administrative costs are expected to be more than compensated by work-sharing arrangements, especially through the facilitated reuse of national HTA reports due to the common tools and procedures.

Impacts would differ across the EU depending on the current activities of the national HTA body. For instance, for smaller agencies which currently conduct only a limited number of HTA activities, cooperation could increase the scope of their activities.

evidence generation; reduction of costs due to a lower number of early dialogues. Sensitivity analysis was conducted.

It has to be noted that the main drivers of cost changes in policy option 3 are difficult to quantify due to the lack of data (e.g. on the number of national early dialogues conducted across Europe), as further explained in the GÖG-LSE study. In the survey and the focus group discussion, the conclusion was that stronger EU cooperation would lead to a cost decrease per product. Current experience suggests that sharing the work decreases the costs for national agencies significantly (in one case where only two agencies agreed to cooperate on clinical guidelines they were able to save 30% respectively).¹⁶¹

Public administrations' response to the public consultation confirmed the usefulness of the joint tools (responded very much (75%) or to some extent (25%) to their needs) and guidelines (responded very much (55%) or to some extent (37%) not at all (8%) to their needs).

Industry

Under option 3 the expected economic impacts and their magnitude differ for the pharmaceutical and medical technologies sectors.

Industry would face fewer differences when dealing with multiple national systems, as the tools and procedures (e.g. submission templates, data requirements, early dialogues) would be streamlined. This is expected to remove part of the current distortion on the **internal market** and facilitate more equal market access for health technologies throughout the EU.

For the *pharmaceutical industry*, the most important economic impact is related to the expected benefits in terms of **predictability**, leading to better **innovation and increased competitiveness**. The joint early dialogues would have an important positive impact on predictability in so far as they could optimise the selection and design of the clinical trials and reduce the risk of investing in costly trials that do not produce relevant acceptable data for all HTA bodies, i.e. improve value for money.

According to industry^{162,163}, early dialogues are very useful, improving transparency on evidence requirements and thereby also business predictability. It represents an opportunity for companies to receive a clear 'red light' message on certain aspects of medicine development and reduce risks associated with the development of the product. Therefore, this exercise can guide developers to invest their resources in viable developments from both regulatory and HTA perspectives. Carrying out joint early dialogues in a systematic way would remove the possibility of parallel national dialogues with conflicting messages for the developers, thus contributing to a more effective design and more efficient funding of clinical trials which would better meet the needs of HTA bodies as well as improved capacity to bring innovations to market and increased competitiveness.

The relevance of early dialogues and increased predictability are particularly relevant for SMEs¹⁶⁴. According to SME interviews conducted by the Deerfield Institute, SMEs confirm the potential of early dialogues and parallel scientific advice in reducing risks in the overall development of a health technology. The report also points out the particular relevance for SMEs creating the right clinical trial design from the beginning, due to the typically less

¹⁶¹ GÖG-LSE study, Annex 8

¹⁶² EFPIA/CRA Study

¹⁶³ GÖG-LSE Study, survey and interviews Section 7.1.13

¹⁶⁴ Deerfield Institute. 2015. EuropaBio survey on Regulatory and HTA advice for SMEs.

available funding. This is underlined by the fact that that more and more SMEs request parallel scientific advice with HTA. For example, in 2014 no such procedure was requested, whilst in 2016, 26 % of such advice was finalised for SMEs.¹⁶⁵

In addition, the total number of national early dialogues and the associated costs due to fees, are expected to decrease under this option. Nevertheless, the actual cost saving of this decrease is estimated to be low due to the limited number of early dialogues currently carried out and their costs compared to the overall investment on the product development.¹⁶⁶

Also, the alignment of procedures and tools foreseen under this policy option is expected to improve efficiencies for industry and reduce the costs of complying with multiple systems under the baseline scenario. These cost savings are relatively limited looking at the broader perspective and would materialise once the necessary adaptations to the common format have been made.

Regarding **administrative burden**, this policy option would not impose any mandatory obligation for industry. Early dialogues would be initiated by manufacturers and they would be voluntary. Streamlining tools and methodologies means that there is better alignment in the information that manufacturers need to provide in the national processes (i.e. reduced need to adapt to multiple national requirements) with some limited initial costs in order to adapt to the common format. The alignment is expected to be particularly beneficial for SMEs with limited resources and typically no national affiliates to engage with national authorities.

In the public consultation, over 90% of the respondents from the pharmaceutical industry (non-SMEs) considered joint tools, guidelines and early dialogues useful to very much respond to their needs. SMEs were also positive, around 75% responding that such joint work would respond to their needs.

The positive impacts described above may be more limited for the *medical technologies industry* due to the fact that HTA processes are less prevalent and in particular that early dialogues are much less frequent in this sector. Only 28% of the companies reported participating in early dialogues vs 70% of pharmaceutical companies, and even when participants responded yes, they clarified that their experience was limited to one procedure.

The *medical technologies industry* also indicated strong concerns that a legislative framework imposing mandatory uptake at EU level is expected to substantially increase their **costs** and administrative burden, which may have a strong negative impact on **predictability, innovation and competitiveness**. Medical technologies representatives interpreted policy options 3-5 as (leading to) legally mandating REA (or full HTA) at the time of market launch, and as such they felt that it would substantially increase HTA activities in Member States for medical technologies and fundamentally change the current business model, which is based largely on public procurement at local level. As clarified in the description of the policy options, option 3 is limited to cooperation on common tools, procedures and early dialogues and does not foresee Joint REA at market launch for any technology in the scope of the option. The statement that this option would fundamentally change the current business model of the sector is thus unfounded. In addition, it should be noted that, in any case, HTA is currently being developed and broadened at national level, including on medical technologies,

¹⁶⁵ European Medicines Agency. SME Office annual report 2016.

(see section 1.4.1) although in a divergent manner and that the joint early dialogues foreseen under policy option 3 would only take place at the initiative of industry. Therefore the concerns expressed by industry in this sector do not appear to be fully justified. This analysis is also supported by the fact that in the public consultation, most respondents from the medical technologies sector, both large companies and SMEs, considered that HTA tools somewhat respond to their needs; they considered guidelines most relevant, followed by joint tools and early dialogues. The responses from SMEs showed more variations.

However, it is understandable that, considering the recent changes to the Union legislation on medical technologies, which is still in the process of being implemented, the *medical technologies industry* is particularly sensitive to any further changes in processes which may have any impact on the predictability of the market access pathway, their well-established practices and business models. In this context it should be kept in mind that this initiative is envisaged post 2020.

6.2.2. Social impacts

Member States/Public administrations

For the HTA bodies, the joint horizon scanning, joint early dialogues and the reuse of their national assessments developed based on a common methodology mean that better evidence would be available for **national decision-making**. This is particularly relevant for smaller agencies or agencies that are still developing their capacities.

An increase in the consistency of the methods used to assess a technology through reliance on common tools and an expected increase in the relevance of the evidence generated via joint early dialogues would also have a positive impact on the **sustainability of health systems** and ultimately **public health**. This is particularly important in lower income Member States as the opportunity costs of making a 'bad' decision are higher.¹⁶⁷ This is well in line with the feedback received from research organisations (such as EORTC), and industry who have pointed out that harmonised clinical data requirements across European HTA agencies would lead to a stronger expression of the European data needs and thereby ensure that requirements of HTA bodies and decision-makers would be adequately reflected by drug developers in the design of the clinical trials.

On **governance and as far as good administration** is concerned, setting up a permanent structure to enable HTA bodies to cooperate on a continuous basis on agreed joint outputs, is also expected to contribute to building capacities in Member States, ensure and efficient use of the resources devoted to the cooperation and ultimately have a positive impact on the quality of the output.

Regarding the **risks and issues of feasibility**, option 3 has stronger guarantees for the implementation than option 2 due to the legal framework foreseeing the common tools and procedures. The political buy-in, particularly from Member States with well-developed HTA systems is a key success factor as they are the ones that might need to adapt their systems more, which entails upfront investment.

Patients

¹⁶⁷ Kaló, Z., Gheorghe, A., Huic, M., Csanádi, M., and Kristensen, F. B. (2016) HTA Implementation Roadmap in Central and Eastern European Countries. Health Econ., 25: 179–192.

The partial removal of the current market distortion envisaged above (see economic impact on industry) and the resulting improved market access for health technology products throughout the EU would mean an improved **availability of innovative health technologies** for patients. This option is also expected to improve patient **participation** to the HTA process and transparency.

As highlighted by patient organisations such as Eurordis and the European Patient Forum, early dialogues, if conducted with the involvement of the patients, not only improve transparency but also provide valuable input to the discussion with technology developers (e.g. on patient needs and preferences, relevance of particular health outcomes and quality of life). Patients should be aware of the plans to develop a new technology for their disease and have an opportunity to be part of the dialogue with the developers. Moreover, early dialogues can reduce futile clinical research, and maximise the chances that the end results of the development are relevant for HTA, which can then result in more timely decisions on patient access.¹⁶⁸ Joint early dialogues together with common templates and common processes would bring benefits in the 21 Member States currently without such a process, but also improve transparency and patient involvement in the Member States where early dialogues are currently conducted at national level. Patient organisations noted in the public consultation that joint early dialogues would be more efficient for them than participation in several national early dialogues, considering the time, financial resources and training needed for patient participation. Joint early dialogues at European level would also give Member States and patients more influence in steering R&D investment decisions by industry towards health technologies with added value for patients.

The use of common templates implies that elements of value for patients are also adopted in Member States where they are not currently captured; common processes can increase patient involvement and transparency. In particular, patient involvement would substantially improve in over half of the Member States as currently only 12 Member States indicated involving patients in the assessment process of pharmaceutical (11 for medical technologies).¹⁶⁹

6.3. Policy option 4. Permanent cooperation on common tools and procedures, early dialogues and joint REA

As explained in section 5.3.4., policy option 4 includes two sub-options:

- Option 4.1 allowing Member States to decide if and when to start applying the joint REA;
- Option 4.2 requiring all Member States to apply the joint REA.

Option 4.1 would have the advantage of allowing Member States to select the time at which they would wish to join the system which would ensure a strong political commitment and willingness to participate. HTA bodies and stakeholders would have time to adapt to the new system, thus minimising disruptions which are inevitable when moving from established national processes to a Union approach. At the same time, this option implies a risk that some

¹⁶⁸ EURORDIS public consultation contribution, , EPF position paper "Core Principles from the Patients' Perspective on the Value and Pricing of Innovative Medicines."

¹⁶⁹ [Patient Involvement in Health Technology Assessment in Europe. Results of the European Patients' Forum Survey. 2013.](#)

Member States would choose to stay out for a very long time, or permanently, which could have a significant adverse impact on the internal market, an outcome which would be in contradiction with the underlying objective of the measure as defined. Such a risk therefore raises concerns as regards its legal feasibility.

Considering, however, the high interest in cooperation in joint REA indicated by Member States in the public consultation and bilateral discussions as well as the wide interest from all Member States in the EUnetHTA Joint Action (2016-2020), it is expected that over time most Member States would join the system, but impacts would be spread over a longer period of time than under option 4.2. The opt-in approach in option 4.1 thus makes it difficult to predict which and how many Member States would benefit from the new system and in which time frame and raises the question as to whether the specific objectives of reducing duplication and increasing uptake of joint work could be fully met. On the other hand, option 4.2 would ensure full coverage within a shorter period of time.

As the impacts of these two sub-options are expected to be similar, they are assessed together. Differences are expected to be limited to the timing/moment when they occur and the coverage throughout the EU.

6.3.1. Economic impacts

Member States/Public administrations

In addition to the economic impacts described under option 3, option 4 is expected to have further positive impacts for Member States/public administrations, which are due to the joint production and mandatory uptake of joint REA foreseen under this option. The mandatory uptake foreseen under this option will be ensured by requiring Member States to use the joint REA in the national system in the same way as they are currently using a national REA and to report/notify their uptake to the Commission and to other Member States.

The **cost** savings related to the joint REA have been estimated at EUR 1 560 000 per year for HTA bodies for option 4.1 and EUR 2 670 000 for option 4.2. This is in line with the results of the focus group meeting with public administrations, who agreed that a stronger EU cooperation would lead to a cost decrease per joint output (once the system is well established and running).¹⁷⁰ Moreover, a high quality joint REA is also expected to contribute to broader economic benefits for Member States which result from more efficient healthcare investments decisions. However, such broader economic benefits are more difficult to quantify.

In addition to the adaptation to common tools and procedures foreseen under option 3, Member States would be faced with some **administrative costs/burden** related to the national participation in the joint REA. In the first phase, this is expected to mainly affect those Member States with a more developed system as experts from those Member States are most likely to be selected as assessors/co-assessors for the joint REA (see section 7.3.2.1. of GÖG-LSE study). In these cases, the joint work will replace the national assessment and be used in the same way to inform national pricing and reimbursement decisions. As an additional benefit, national HTA bodies providing experts will be compensated for their work. Member States with less developed resources will mainly benefit from work carried out by

¹⁷⁰ Section 7.2.3.2 in contrast to this finding, the survey performed by GÖG-LSE Study, indicated a slight increase of costs. Such contradictory results were discussed in the focus group and could be explained by overheads and coordination costs at the beginning of the cooperation.

others in the initial phase until they have built up own expertise. In a longer term, the work sharing will be more equal and expertise developed across the EU. In addition, Member States will need to ensure the use of the joint REA, e.g. to align processes and notify uptake. In any case, these costs/burden are expected to be more than compensated by the long-term work-sharing arrangements foreseen under this option, i.e. on joint REA, early dialogues and common tools and procedures. The piloting of joint REAs under EUnetHTA has already indicated the potential for efficiency gains from work-sharing arrangements: e.g. in one case reported, a national HTA assessor was able to prepare a national REA in 5 days by adapting a EUnetHTA pilot joint REA, whereas preparation of a national REA from scratch usually takes 25 days in the respective HTA body¹⁷¹. It is expected that these efficiency gains would increase further in the more streamlined joint REA preparation foreseen under option 4. The efficiency gain estimated here is dependent on the selection of health technologies where joint assessment is of EU wide/common interest. This option may also foresee some additional administrative burden for Member States which have HTA provisions set out in national legislation; these are normally the ones with more developed HTA systems. However, such a burden, which is inevitable when moving from established national processes to a European approach, is likely to be compensated for by the benefits from work sharing agreements (cost savings, efficiency gains) as described above, in particularly for the Member States with more developed HTA systems, as they are the ones most likely to perform Joint Work, at least in an initial phase of the cooperation.

While there are efficiencies to be attained for HTA bodies, this option is not likely to lead to an overall reduction in **employment**, as existing staff would be able to engage in further HTA related activities (including economic assessments) that are relevant at national/regional level. As indicated in the survey carried out by the GÖG-LSE Study, participating HTA bodies even expect that the increase in output production and the mandatory uptake of REA would be accompanied by an increase in staff.

The extent and timing of these impacts would vary between sub option 4.1 and 4.2 in the sense that they would occur at a slower pace in option 4.1 with the risk of never reaching the full impact described, contrary to option 4.2. Option 4.1 would allow Member States to decide when, and even if, to join the system. However, a strict implementation of option 4.2 may not fully accommodate Member State requests for time to adapt their national HTA processes to the new EU system.

Industry

Both sub option 4.1 and 4.2 are expected to bring further positive economic impacts for the industry compared with option 3, in particular for the pharmaceutical sector.

For the *pharmaceutical industry*, the introduction of joint REA introduced under options 4.1 and 4.2 would greatly reduce parallel clinical assessments for pharmaceuticals, as joint REAs are produced jointly and taken up at national level, thereby contributing to improved timeliness and convergence of outcomes of national HTA assessments. This is expected to further reduce the current **internal market** distortion and improve market access for innovative health technologies. Whilst improved conditions for the functioning of the single market are expected under both policy options 4.1 and 4.2, it should be noted that considering the opt-in possibility under option 4.1 there is no guarantee under this option– in contrast to

¹⁷¹ Example from presentation by Wim Goettsch (CAPR Meeting, Malta, 2017)

option 4.2 – that the internal market distortion would be significantly reduced across all Member States.

The joint REA is also expected to result in **cost** savings estimated for policy option 4.1 at EUR 35 000 000 and for policy option 4.2 at EUR 64 000 000 annually for the sector.¹⁷² Scope for savings related to a joint REA was confirmed in the focus group meetings, where it has been estimated that a joint report could recover 20-25% of the local HTA costs if there is no requirement for translation/adaptation. Also, no fees are foreseen for the joint REAs. Costs of national submissions are also expected to slightly decrease due to aligned methodologies and tools (see option 3).

However, companies would still have to address national requirements not pertaining to the EU cooperation (i.e. provide information for the assessment of non-clinical HTA domains), as well as national reimbursement procedures; and there are costs related to the production of joint REA.¹⁷³ These potential savings for industry are minor if considered in the broader context of R&D for pharmaceuticals. The overall drug development per drug is estimated at EUR 1 926 000 000.¹⁷⁴ Overall, the pharmaceutical industry does not expect any significant changes in their current costs, as confirmed by both the HTA GÖG-LSE Study (baseline, interviews, study, focus group) and the EFPIA/CRA study. In their view, the benefits from this option would manifest themselves in other indicators (such as business predictability) rather than costs related to the production of HTA submissions (see below).

Industry	Estimated impacts
Joint REA	<ul style="list-style-type: none"> • Savings due to single Joint REA per product estimated at EUR 35 117 000 (option 4.1) and EUR 63 833 000 (option 4.2)¹⁷⁵ • Costs of national submissions can slightly decrease due to aligned methodologies and tools • Improved timeframe for market access for certain countries
Joint Early Dialogues	<ul style="list-style-type: none"> • Improved predictability, potentially very limited saving, one central process could replace more national processes (~ option 3)
Additional evidence generation following joint early dialogues	<ul style="list-style-type: none"> • Improved predictability, no cost change (~ option 3)

Table 7. Summary of economic impacts for pharmaceutical industry option 4 (source: GÖG-LSE Study)

A more important positive impact for the **pharmaceutical industry** relates to the timelines for market access. The CRA/EFPIA study found that within a sample of 16 countries, the availability of joint REA at the time of marketing authorisation can speed up market access in 12 of them from 2 to 6 weeks. The impacts of this 2-6 weeks of earlier access on a group of originator pharmaceuticals launched in Q2 2008 (see Annex VIII) was estimated. Results show that this (one-month) earlier access for innovative products launched in one quarter can mean EUR 130 315 010 additional revenue over 12 years; which is a 1 % increase. A similar

¹⁷² Estimations for 30 EDs, 40 REAs, without industry fees.

¹⁷³ Costs of joint REA for industry is estimated at EUR 140 000.

¹⁷⁴ DiMasi et al, Journal of Health Economics, January 2016

¹⁷⁵ GÖG-LSE Study. Cost estimations for 40 joint REAs for pharmaceuticals/year

gain can be expected for other innovative products launched. In the long run, this may reduce differences in access to market, improve the functioning of the internal market and have a positive impact on **business predictability, competitiveness and innovation**.¹⁷⁶ Accessing first markets quickly is particularly relevant for SMEs that depend on fast access to first revenues. Again, the uncertainty of full coverage and timeframe under sub option 4.1 needs to be taken into account compared with sub option 4.2.

It should be noted that, less heterogeneity among EU markets would not necessarily translate immediately into higher revenues since the negotiations on the pricing and reimbursement of pharmaceuticals will still take place and the overall public budget allocated to pharmaceuticals is not expected to increase.

Despite the efficiencies it is unlikely that in-country or central HTA-related human resources would be reduced, although it may be necessary to relocate staff to a central level, so no overall impact on **employment** is expected.¹⁷⁷

In the public consultation, the vast majority of *pharmaceutical industry* respondents considered joint REA very useful and indicated a preference for mandatory uptake. SMEs were slightly less positive, still over 75% considered joint REA very useful or useful.

By contrast, representatives of the *medical technologies industry* anticipate significant negative economic impacts if there is a legally mandated joint REA at the time for market launch. The representatives of this sector argue that a joint REA at time of launch would not support decision-making but would delay market access.¹⁷⁸ If HTA is mandatory at market launch, this would negatively affect innovators, the 'first movers', because they are obliged to generate comprehensive evidence. As innovations in medical technologies are incremental and do not receive the same patent protection as pharmaceuticals, the early followers can use the generated evidence and enjoy the benefits of quicker market access. Thus, a situation is created where the first mover has a considerable disadvantage, with a potential negative impact on **innovation**.¹⁷⁹

Moreover, due to the currently limited role of HTA before market access of medical technologies, the extent of current duplications (therefore the scope for efficiencies) is more limited than for pharmaceuticals. However as described in section 2 (problem 2), current trends for increased use of HTA for medical technologies may increase the scope for efficiency gains also on this sector. The **cost** calculation estimated little potential for savings for the *medical technologies industry* due to reduction of duplication: EUR 3 000 000 (option 4.1) and EUR 7 000 000 (option 4.2) annually for the sector. It is unlikely that in the first years of collaboration the number of joint assessments would reach 25 so even this modest saving would be reduced. Similarly to the pharmaceutical sector, these costs are not significant compared with the size of the sector.

It should be noted that the GÖG-LSE study team concluded in the context of its overall study findings that some of the anticipated negative impacts expressed by *medical technologies industry* representatives seem to be overestimated, which may reflect the lower level of actual

¹⁷⁶ GÖG-LSE Study. Section 7.2.3.2.

¹⁷⁷ GÖG-LSE Study Survey, focus group interviews Annex VI-VII.

¹⁷⁸ [Online Public consultation report. Strengthening of the EU cooperation on Health Technology Assessment.](#) 2017.

¹⁷⁹ GÖG-LSE Study Focus group interviews Annex VI-VII.

experience with HTA among respondents from the medical technologies industry compared with respondents from the pharmaceutical sector where HTA is already more established. Also, the medical technologies industry seems to challenge conducting HTA as such, not specifically joint EU assessments and as explained above (see also section 7.3.4.7 of the GÖG-LSE study), the mapping shows an increase of national HTA on medical technologies regardless of an EU initiative or not. Furthermore, the medical technologies industry statement mainly relates to concerns with mandatory HTA at market launch.

In addition, there are reasons to believe that, contrary to what is suggested by industry as referred to above, a joint REA on medical technologies can have benefits in terms of innovation as it may rationalise investment decisions for developers, clarify the EU-wide data needs, reduce uncertainties as regards procedures and ensure performance of health technologies.

6.3.2. Social impacts

Member States/Public administrations

Sub options 4.1 and 4.2 are expected to further strengthen the positive social impacts of option 3 for Member States/public administrations although the impacts are more certain and predictable under option 4.2 as under option 4.1 some Member States could choose to stay out in long term or permanently.

The availability of timely and good quality joint REAs means better evidence available for the national **decision-making, sustainability of health systems and ultimately public health**. Member States with less developed HTA systems and/or less capacities and stronger pressures on their health budget can particularly benefit from such evidence. Focusing the joint assessment and mandatory uptake on the clinical aspects will avoid duplication and ensure that the work is relevant for decision-makers, while at the same time not interfering with Member States' subsequent decisions on making available certain health technologies to patients or on pricing and reimbursement. The earlier market access referred to above (economic impact on industry) would also increase the positive impact on health.

It would also allow pooling of expertise, with potential specialisation of HTA bodies in certain therapeutic areas or types of health technologies, with a subsequent increase in the quality of joint outputs.

It is expected that joint REAs would provide a stronger evidence base for price negotiation with industry especially in Member States with less developed HTA systems.

In terms of **risks and issues of feasibility**, key factors for the success of this option are (1) the timely and good quality joint REA and (2) the uptake of the joint work - especially as some well-developed HTA systems would need to make necessary adaptations. These risks would need to be addressed through a well-developed implementation mechanism, the legal guarantees and the monitoring and evaluation.

Patients

The joint REA will further improve the **participation** of patients, transparency and **availability of innovative health technologies** compared with option 3.

Patient involvement in joint REA can enhance the quality and relevance of the HTA report by improving the understanding of the impact of technologies in a real-life context (e.g. barriers

to complying with current therapy, side-effects etc.), providing input related to quality of life aspects and can lead to a higher accuracy in assessing the needs and preferences of patients.¹⁸⁰

Compared with the multiple parallel procedures for patient involvement in national assessments under option 3, joint REAs would improve streamlining of patient involvement by creating one procedure with the necessary dedicated resources. This is also expected to lead to efficiency gains for patient representatives (e.g. in terms of time and training needs, as already discussed in the context of joint early dialogues under option 3).

Regarding **availability of innovative health technologies** to EU patients, as explained in the economic impact section above, a high quality and timely joint REA has the potential to speed up assessment timelines and thereby reduce delays in the availability of innovative medicines. For patients, an accelerated access by 2-6 weeks can be important¹⁸¹, because in many diseases, earlier therapy is associated with better health outcomes. High quality and timely evidence on the added therapeutic value of a product provided by the joint REA can also contribute to promoting high quality and improved coherence of national full HTA reports.

Joint REAs would also facilitate the involvement in the HTA process and awareness of HTA results of other relevant stakeholders such as health professionals. From the perspective of the health professionals, a joint REA would facilitate their access to reliable, timely and objective information on medical technologies and support them in taking better informed decisions with their patients on the best treatment.¹⁸² Timely uptake of positive HTA results in evidence-based clinical treatment guidelines (which are often developed by scientific/learned societies at European level) can further contribute to facilitating patient access in clinical practice¹⁸³.

The public consultation showed strong support from patient organisations to not only use common tools and methodologies and perform joint early dialogues (see option 3), but to also carry out the joint REA as foreseen by option 4. 87% of respondents in the category "patient and consumers" noted that joint REAs would very much meet their needs, while the remaining respondents in this category replied that it would to some extent respond to their needs. Of note, some patient representatives even expressed support for a joint full HTA report, although they also recognised the inherent complexities in implementing such a joint full HTA.

6.4. Analysis of the governance structure and financing system

6.4.1. Description of the governance arrangements

As indicated in section 5, the following governance arrangements have been considered:

- Project secretariat
- Member State secretariat
- Central secretariat

¹⁸⁰ [Patient Involvement in Health Technology Assessment in Europe. Results of the European Patients' Forum Survey. 2013.](#)

¹⁸¹ EFPIA/CRA Study 2017

¹⁸² Standing Committee of European Doctors (CPME) public consultation

¹⁸³ Input from the European Society of Cardiology to the European Commission online public consultation

- established and hosted in a new EU Agency;
- established and hosted in an existing EU Agency;
- established and hosted in the European Commission.

No specific governance structure is foreseen for the baseline scenario and the project secretariat is suitable only for policy option 2. Policy options 3 and 4 could, theoretically, be supported by any of the remaining structures (a Member State secretariat or a central secretariat with different locations) although some of the governance structures are much more adequate than others as illustrated below.

Project secretariat

This type of secretariat refers to a governance/coordination structure responsible for managing the day-to-day operations of a project, making sure the participants respect their tasks and achieve their objective by agreed deadlines. A project consortium is chosen by the European Commission or an EU Executive Agency (depending on the funding instrument) following a call for tender /call for proposals and evaluation procedure.

In EU-funded projects a project management and coordination work package is considered pivotal for achieving the project' objectives. Its aim is to establish the management structure. It includes the day-to-day management and the quality supervision of the project as well as reporting to the European Commission/Executive Agency. The main expected result is to ensure a smooth coordination of the different steps of the project so they are realised on time within the budget limits and according to the predefined objectives. Another expected result is the coordination with partners so they are properly involved and regularly updated on the implementation of the project.

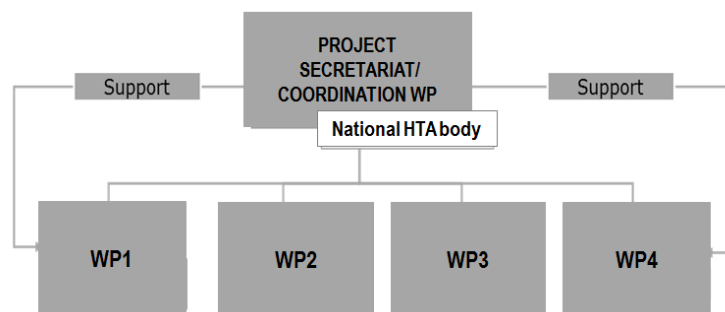


Figure 9. Coordination of an EU-funded project

Member State secretariat

The secretariat is set up, hosted and run by a national/regional HTA body in one Member State for an agreed duration.

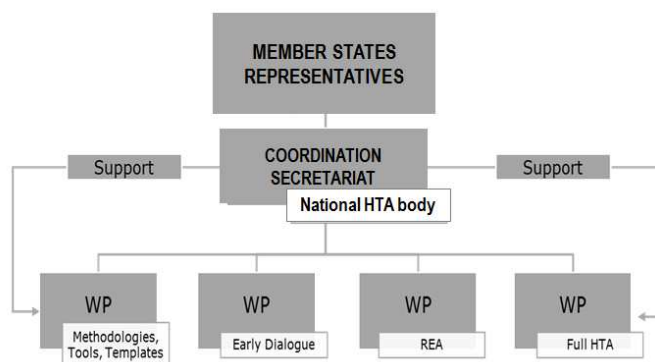


Figure 10 Diagram for the organisation of the Member States secretariat (based on GÖG-LSE study)

The Member State secretariat would be organised and have the following **tasks**:

1) Administrative support

- Organisation of meetings, travel arrangements and other administrative issues relevant to the overall coordination and to the operation of Member States representatives and Experts organised in working parties (WPs);
- Managing financial issues, especially important with regards to handling reimbursement of national experts and any other financial issues;
- Communication
- Providing support to the Member States representatives overseeing the overall EU cooperation on HTA.

2) Scientific/technical support

- Support the production of outputs (Standard Operating Procedures for identifying and organising the work of experts from national authorities in WPs; provide scientific/technical support to authors and co-authors of the joint outputs);
- Quality management (both from a scientific and editorial perspective);
- Liaison with stakeholders (patients, industry, health professionals, academia, payers etc.).

3) Provide IT support

- intranet, communication tools, database etc.

Central secretariat

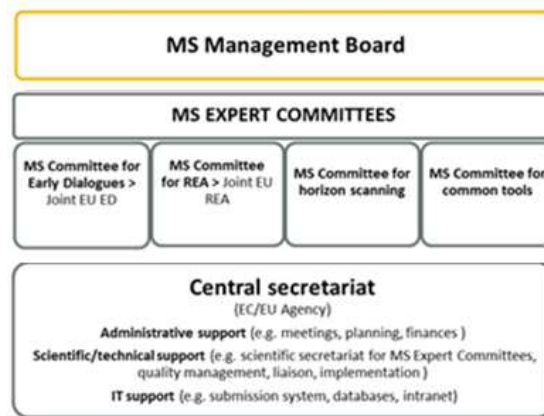


Figure 11. Diagram for the central secretariat (based on GÖG-LSE study)

Irrespective of its location in an EU agency or in the Commission, the **tasks** of this central secretariat would be similar to those of the Member State secretariat. Depending on the ambition of the policy option and foreseen outputs, it would include:

1) Administrative support

- Organisation of meetings, travel arrangements and other administrative issues relevant to the overall coordination and to the operation of the Management Board and Expert committees;
- Managing financial issues, especially important with regards to handling reimbursement of national experts, any industry fees (only possible if an agency), and legal aspects;
- Communication and
- Providing support to Management Board.

2) Scientific/technical support (scientific secretariat to output-producing HTA bodies and MS expert Committees)

- Support the production of output (Standard Operating Procedures for identifying and organising the work of experts from national authorities in Member States Expert Committees; provide scientific/technical support to authors and co-authors of the joint outputs);
- Quality management (both from a scientific and editorial perspective);
- Liaison with stakeholders (patients, industry, health professionals, academia, payers etc.);
- Provide support for national implementation (e.g. training).

3) Provide IT support

- Submission system, intranet, communication tools, database etc.

It has to be emphasised that the secretariat has no tasks related to the production of the different joint outputs, which is ensured by experts nominated by Member States HTA bodies organised in Committees.

As regards human resources, the staffing depends on the type and number of planned joint outputs, as shown below and thus also depends on the policy option chosen.

Central Secretariat (PO3)	<ul style="list-style-type: none"> • Central coordination management - Total 14 FTE <ul style="list-style-type: none"> - Head (1 FTE) - Administrative support (total 4 FTE)
----------------------------------	---

	<ul style="list-style-type: none"> ○ Head of administration (1 FTE) ○ Project Manager (1 FTE) ○ Administrative staff (2 FTE) - Scientific/technical support (total 6 FTE) <ul style="list-style-type: none"> ○ Head (1 FTE) ○ Scientific officers (2 FTE) ○ Methodology, guidelines, templates (2 FTE) ○ Administrative staff (1 FTE) - IT (total 3 FTE) <ul style="list-style-type: none"> ○ Internal support 1 (1 FTE) ○ Maintenance of tools and databases (2 FTE) ● Output production contracted to HTA bodies
Central Secretariat (PO4.2)	<ul style="list-style-type: none"> ● Central coordination management - Total 34,5 FTE <ul style="list-style-type: none"> - Head (1 FTE) - Administrative support (total 11 FTE) <ul style="list-style-type: none"> ○ Head of administration (1 FTE) ○ Project Manager (4 FTE) ○ Administrative (6 FTE) - Scientific/technical support (total 18,5 FTE) <ul style="list-style-type: none"> ○ Head (1 FTE) ○ Scientific officers (9,5 FTE) ○ Methodology, guidelines, templates (2,5 FTE) ○ Administrative (5,5 FTE) - IT support internal (4 FTE) <ul style="list-style-type: none"> ○ Internal support (1,5 FTE) ○ Maintenance of tools and databases (2,5 FTE) ● Output production contracted to HTA bodies

Table 9. Characteristics and staff of the central secretariat as estimated for policy options 3 and 4.2. (based on GÖG-LSE study, for 65 joint REA/year)

6.4.2. Feasibility and efficiency of the governance arrangements

In order to choose the most appropriate solution, the pros and cons of the above mentioned governance arrangements are described below, including their feasibility to support the various policy options assessed within this Impact Assessment.

Project secretariat

Pros:

- It is an adequate mechanism for running projects with defined objectives for a limited duration in time.
- Allows for flexibility, does not oblige Member States to commit for a long period of time.

Cons:

- Contractual obligations cannot guarantee uptake of the results/outputs because they do not supersede national legal provisions.
- Does not provide guarantees for full EU geographic coverage.
- Member States have limited influence in prioritisation of projects and determining scope.

Conclusions:

- *It is suitable only for option 2.*

Member State secretariat

Pros:

- It is close to national expertise and processes and can ensure a strong Member State driven approach.
- Staff from HTA bodies has experience with national HTA processes and the needs for national decision-making.

Cons:

- Uncertainties/challenges related to hosting (location, decision mechanism for the nomination of the hosting Member State).
- Uncertainties/challenges related to funding (recurrent contribution from EU budget).
- Uncertainties/challenges related to the possibility of collecting and redistributing fees from industry to other HTA bodies and to enforce and ensure uptake will persist.
- Risk to steer the cooperation towards the model of one Member State, which may not be suitable to all.
- It received low support from stakeholders in the public consultation (see Fig. 12).

Conclusions:

- *Particular challenges are related to the selection of the Member State hosting the secretariat, possible rotation, political acceptability and sustainability of financing.*
- *Would be difficult to reconcile with a legal framework as suggested in option 3 and especially option 4, therefore this governance structure was not considered in the following section assessing the costs.¹⁸⁴*

Central secretariat

a) Central secretariat established and hosted in a new EU Agency

Pros

- An EU agency for HTA would preserve independence of HTA bodies from other influences (e.g. regulatory, industry)
- Staff would be recruited in order to ensure expertise in all areas of HTA (i.e. EDs, REA, full HTA) and for all type of health technologies
- It would be a permanent structure, with no additional administrative burden related to renewal of the coordination structure, and allowing for a continuous production of joint outputs.

Cons

- Currently there are important political constraints not to create new EU agencies
- It requires a longer start-up phase and higher costs due to start-up costs and over heads (human resources, financial etc.)
- It requires a selection mechanism and a decision on location
- It would be less relevant if human resources and estimated output the agency would be very limited in size.

Conclusion:

¹⁸⁴ However, the costs were estimated in the GÖG-LSE study (section 7.2.)

- *Suitable for EU cooperation encompassing a broader number of activities for which no existing EU agency has appropriate expertise and a considerable size.*
- *Allows for collection of fees in case of services provided to industry (i.e. ED)*
- *Currently not a feasible governance arrangement due to important political constraints, therefore this governance structure was not considered in the following section assessing the costs.*¹⁸⁵

b) Central secretariat established and hosted in an existing EU Agency

The pros and cons of the two EU Agencies in the field of health (i.e. European Medicines Agency/EMA and European Centre for Disease Control/ECDC) are presented below.

EMA

Pros

- It is an established agency, so it would require less start-up costs
- It has experience running Member States' expert committees with a rapporteur-co-rapporteur system (similar to the current mechanism for carrying out joint assessment by EUnetHTA with author and co-author)
- It has already developed well established cooperation with HTA bodies and has already some capacity and expertise in the area of HTA for pharmaceuticals.
- It can collect industry fees and has a fee structure in place
- It received some support from public consultation, especially from patient organisations
- It could ensure synergies in the area of pharmaceuticals between regulatory and HTA issues
- Would ensure continuous production of joint outputs

Cons

- Some Member States expressed concerns or a clear opposition (because of perceived conflict of interest between authorisation and HTA processes)
- The medtech sector expressed opposition due to the lack of mandate, expertise and experience in the field of medical devices and IVDs
- Uncertainty over future location and future capacity
- Requires a change in mandate for carrying out tasks in the area of HTA

ECDC

Pros

- It is an established agency, so it would require less start-up costs
- In principle ECDC could collect industry fees, but has currently no fee structure set up

Cons

- Requires a change in mandate for carrying out tasks in the area of HTA
- Need to expand the agency's mandate with associated risks of lengthy discussions on its mandate or its further expansion.
- It would require to set up a structure for collecting fees from industry (e.g. for ED)

Conclusion:

¹⁸⁵ However, the costs were estimated in the GÖG-LSE study (section 7.2.)

- *Suitable for EU cooperation encompassing most types of joint outputs (i.e. common tools and methodologies, horizon scanning, ED, REA).*
- *Central functions are already in place.*
- *It allows for collection of fees in case of services provided to industry (i.e. ED).*
- *It would require changes in the mandate and staffing of both agencies.*
- *Concerns expressed by some key stakeholders*

c) Central secretariat established and hosted in the European Commission.

Pros

- It would avoid the debate on which agency should be more appropriate to take over the HTA tasks and the discussions related to the changes of its mandate
- It is an honest broker
- It has experience with running Member States expert Committees and scientific Committees (e.g. Scientific Committee on Health, Environmental and Emerging Risks/SCHEER, Scientific Committee on Consumer Safety/SCCS)
- Several DGs already employ staff with scientific profile¹⁸⁶ (e.g. DG JRC, SANTE, RTD, CNECT) and experts from Member States HTA bodies could be seconded for an agreed period of time.
- It has broad support from the public consultation (see Figure 12)
- It would have the necessary infrastructure to facilitate the cooperation in relatively short time.

Cons

- It cannot collect and redistribute fees from industry.

Conclusion:

- *Suitable for EU cooperation encompassing most types of joint outputs (i.e. common tools and methodologies, horizon scanning, ED, REA).*
- *It is a reasonable solution as long as human resources and estimated outputs are limited*

In addition to the pros and cons, **the contribution of the most feasible governance arrangements to the achievement of the operational objectives** is outlined below (table 10).

Operational objectives	Project Secretariat	Central Secretariat	
		EC	EU Agency
<ul style="list-style-type: none"> • Promote convergence in HTA tools, procedures and methodologies 	Possible, but with no guarantees	Yes	Yes
<ul style="list-style-type: none"> • Reduce duplication of efforts for HTA bodies and 	No	Yes	Yes

¹⁸⁶ Scientific profiles for both European Commission staff and national experts include: HTA assessors, pharmacists, pharmacologists, biologists, doctors, experts in biotechnology, engineers with expertise in the development of medical devices and in vitro diagnostics, statisticians, researchers in the field of health technologies.

industry			
• Ensure the uptake of joint outputs in Member States	No	Yes	Yes
• Ensure the long-term sustainability of EU HTA cooperation	No	Yes. But collection of fees from industry is not possible	Yes. Can contribute to the financial sustainability by collecting fees from industry.

Table 10. The contribution of the most feasible governance arrangements to the achievement of the operational objectives

6.4.3. Input from studies and stakeholders on the feasibility and efficiency of the governance arrangements

The study supporting the Impact Assessment carried out by GÖG and LSE concluded that a central permanent governance structure supported by legislative cooperation could overcome the current fragmentation of European HTA systems regarding both HTA processes and related outcomes. Support functions can be more readily centralised in a permanent cooperation model as compared to a temporary/short-term one. Such a secretariat is expected to increase the efficiency of processes and ensure greater consistency in outcomes. It would also enable national agencies and their experts to keep a primary focus on the scientific work and not on the administrative and coordination functions, which supports production of high quality joint outputs (e.g. organisation of meetings, interaction with experts from other countries and/or stakeholders etc.).

The majority of the stakeholders who contributed to the online public consultation expressed support for a stable, central secretariat.

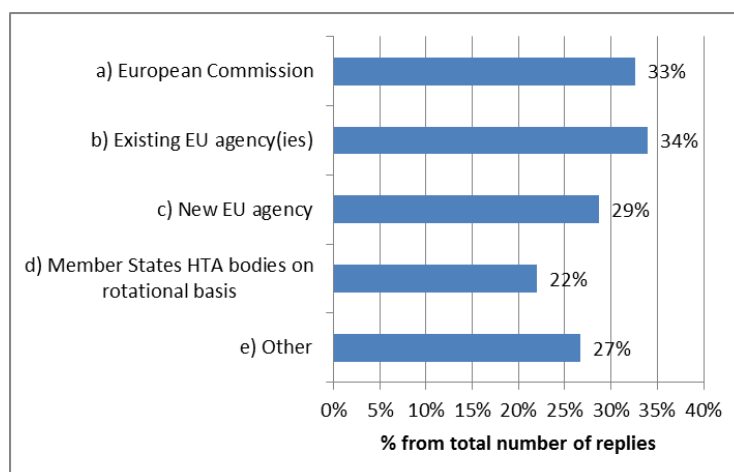


Figure 12. Analysis of the overall replies provided to the online public consultation regarding the governance mechanism of the future EU cooperation on HTA

In relation to the governance model, representatives of **public administrations** responding to the public consultation emphasised the importance of separating the regulatory and HTA functions and ensuring the independence of HTA agencies. Many respondents indicated that a structure/unit to support HTA at EU level could be seen as a practical solution, especially if EUnetHTA structures and tools (such as POP database, intranet) could be easily incorporated. While some respondents were against the creation of a new EU agency, others expressed their

preference for this governance mechanism which would better reflect the specific needs of the HTA sector, with competencies clearly and transparently defined.

Academia (e.g. EORTC) and *patients' representatives* (e.g. EURORDIS, EPF) advocated for a centralised HTA system, similar to the central marketing authorisation model involving EMA, in order to ensure harmonised assessment of new technologies, especially if it addresses the clinical assessment. This system should entail permanent administrative and technical staff interacting with standing committee(s) of Member States. The system should benefit from strong governance and appropriate resources, ensuring its independence and guaranteeing high scientific standards developed and agreed by Member States experts. The high-quality and transparency of the assessments should be maximal, and stakeholders including clinicians, patients and industry, should be involved through appropriate permanent mechanisms regulated by solid and well defined conflict of interest provisions, which are considered key for the successful implementation of any of the policy options. A centralised system was seen as the appropriate mechanism for ensuring adequate funding for patients' involvement (e.g. training activities, developing methods to obtain relevant patients' views, coordination activities, and contribution to guidelines development).

Representatives of pharma industry (e.g. EFPIA, EuropaBio, Leem - Les Entreprises du Medicament) emphasised that any secretarial/organisational support function should be based on high scientific standards, should receive appropriate resources, and joint scientific assessments should be carried out by committee(s) of Member States experts.

Representatives of the *medical technologies' industry* observed that setting up a new EU agency does not seem feasible and, while EMA is a good model for a successful agency in the field of pharmaceuticals, due to its limited/lack of expertise would be an inappropriate host for the EU cooperation on HTA on medical technologies. In this context, an existing structure within the European Commission was seen as a potential solution for providing support from a secretarial and organisational point of view.

6.4.4. Costs related to the governance arrangements

Irrespective of the governance arrangements, two types of costs were estimated and analysed. This section describes first the **running costs** followed by the description of the **costs directly related to the joint outputs**. The following section refers to costs when the system is fully operational.

Running costs

The key drivers of the running costs are the following:

- The scope and number/volume of joint outputs foreseen in the policy options. These costs would mainly be related to the services provided directly to experts drafting the joint reports (e.g. committees for early dialogues and/or Joint REAs);
- The geographical location of the secretariat. Depending on the price level of the location, the costs of the central secretariat can change by 30%, driven mainly by the cost of premises and the indexation of the salaries;
- The size of the secretariat; a smaller secretariat would typically have higher overheads;

Table 11 summarises the running costs per policy option(s) and implementation mechanism(s).¹⁸⁷

Type of Costs		Running costs per POs and implementation mechanism (Amount x1000 EUR)			
		PO2	PO3	PO4	
Policy options		PO2	PO3	PO4	
Implementation mechanisms		Project Secretariat*	EC secretariat	EC secretariat	Existing EU agency**
Staff		15 FTEs	14 FTEs	35.5 FTEs	35.5 FTEs
Estimated Joint outputs		13 ED 11-15 REA	40 ED	40 ED 65 REA	
Costs to setup a secretariat					
Start-up costs		N/R	N/R	N/R	N/R
Costs of Running a Secretariat (per year)					
Implementation Costs	IT	17	Cost depend to a large extent of the situation in the premises		
	Staff costs (Total costs)	785	1463.8	2,315.1	3,264.3
Running Costs	Travel costs	132.6	42.5	42.5	42.5
	Licenses (IT software, literature databases)	30	30	30	30
	Premises	192.5	231.3	406.4	573
	Management Board	1,118.60	205.3	308	308
	ED Committee	N/R	723.6	723.6	723.6
	REA Committee	N/R	N/R	2,197.8	2,197.8
Overhead for running costs (+15%)					
TOTAL Costs of Running a Secretariat		2,614.5	3101	6,926.9	8210

* Based on costs of EUnetHTA Joint Action 3

** Based on costs reported by the European Medicines Agency/EMA (the only agency in the field of health working with expert committees and collecting fees from industry) and taking into account the current location of the agency (with direct influence on costs of staff and premises).

Table 11. Summary of running costs¹⁸⁸. All costs are compared to the baseline scenario which entails only minor expenses from EU budget (i.e. financing on average of two meetings of the HTA Network per year – approximately EUR 120 000).

Cost of the joint outputs

The costs of the joint outputs range are presented in Table 12.

¹⁸⁷ Option 2 was not included in the tables summarising the costs, because it does not have an overall governance arrangement. A new EU Agency as potential governance arrangement was also discarded based on the political constraints mentioned in section 6.5.2.3.

¹⁸⁸ Adapted from tables 20, 52, 53 in the GÖG-LSE Study

Type of Costs	Costs of joint outputs per POs and implementation mechanism (Amount x1000 EUR)			
	PO2	PO3	PO4	
Implementation mechanisms	Project secretariat	EC secretariat	EC secretariat	Existing EU agency
Staff	15 FTEs	14 FTEs	35.5 FTEs	
Estimated Joint outputs	13 ED 11-15 REA	40 ED	40 ED 65 REA	
Costs of joint outputs				
Costs for Common tools, templates and methodologies (Maintenance)	210.0	Included in implementation mechanism		
Costs for Common tools, templates and methodologies (Development)	300.0	300.0	300.0	
Costs for Joint Early Dialogues	596.3	1,834.8	1,834.8	
Costs for Joint REA	1,598.3	N/R	6,821.6	
Total costs of joint outputs	2,704.6	2,134.8	8,956.4	

Table 12. Summary of joint outputs' costs per POs and implementation mechanism¹⁸⁹. All costs are compared to the baseline scenario which does not include EU budget earmarked for production of joint outputs (i.e. cost for joint outputs = 0).

These costs are presented separately from the running costs of the secretariat for two reasons:

- These costs depend on the number of joint outputs estimated to be carried out under each policy option and are therefore directly linked to the policy option;
- These costs correspond to a fully operational system, with a broad scope and a high number of joint outputs (i.e. ED, REA). In practice it is expected that these costs will not reach the values presented in the table from the beginning, but will gradually increase to the maximum foreseen in the calculation as the cooperation produces the foreseen number of joint products.

The costs of the joint outputs include also the remuneration of HTA bodies carrying out the joint work (i.e. joint REA, joint early dialogues) as authors, co-authors and reviewers. Fees from industry could be foreseen to cover part of these expenses (i.e. for early dialogues) depending on the governance structure chosen. However, the proportion and the mechanism of the industry fees should be carefully considered to prevent any conflicts of interest and guarantee the scientific independence of the work.¹⁹⁰

¹⁸⁹ Adapted from tables 20, 53 and 56 in the GÖG-LSE Study

¹⁹⁰ Fees for joint assessments are not foreseen in the first stage as it has been considered disproportionate to the relatively limited size of the structure envisaged. However, it is suggested to evaluate the situation after a certain period of time to consider if fees would be appropriate. A dedicated impact assessment and appropriate proposal would be foreseen to examine industry fees.

Overall costs

The overall costs (adding the running to the joint outputs' costs) are presented in Table 13 below.

Overall costs per POs and implementation mechanism (Amount x1000 EUR)				
	PO2	PO3	PO4	
Implementation mechanisms	Project secretariat	EC secretariat	EC secretariat	Existing EU agency
Staff	15 FTEs	14 FTEs	35.5 FTEs	
Estimated Joint outputs	13ED 11-15 REA	40 ED	40 ED 65 REA	
Type of costs				
Start-up costs	N/R	N/R	N/R	N/R
Costs running secretariat	2,614.5	3101	6,926.9	8210
Costs joint outputs	2,704.6	2,134.8	8,956.4	8,956.4
Total costs (Running + joint outputs)	5,319.10	5235.8	15,883.3	17166.4
Fees foreseen (100% of costs of EDs)	0	0	0	-1,834.80
Total costs by EU (/MS)	5,319.10	5235.8	15,883.3	15,331.60

Table 13. Summary of the overall costs per POs and implementation mechanism. All costs are compared to the baseline scenario which entails only minor expenses from EU budget (i.e. financing on average of two meetings of the HTA Network per year – approximately EUR 120 000), with no EU budget allocated for production of joint outputs (i.e. cost for joint outputs = 0).

7. Comparing policy options

The policy options presented above are compared against the criteria of **effectiveness** (the extent to which the option would achieve the objective), **efficiency** (balance between costs vs benefits) and **coherence** (with the overarching objectives of EU policies).

Effectiveness					Efficiency (benefit to cost)	Coherence - A deeper and fairer internal market - Support health systems - Foster research and innovation	Subsidiarity and Proportionality
General Objectives	Ensure better functioning of the internal market Contribute to a high level of human health protection						
Specific Objectives	Improve the availability of innovative health technologies for EU patients Improve business predictability Ensure efficient use of resources and strengthen the quality of HTA across the EU						
Operational Objectives	Promote convergence in HTA Procedures methodologies	Reduce duplication of efforts for HTA bodies Industry	Increase the uptake of joint output in MS	Ensure long term sustainability of EU HTA cooperation			
Policy Option 1 (baseline) No Joint Actions after 2020	--- Persisting or even increasing divergences.	--- Duplication of work, parallel national/regional processes	N/A No joint outputs	--- EU cooperation is limited to the high-level strategic policy discussions within HTA Network. No comprehensive scientific and technical EU cooperation is foreseen. If cooperation takes place, is expected between cluster of MS.	--- High costs (parallel systems) with no or limited benefit for both HTA bodies and industry.	--- Fragmented internal market. Low business predictability. No positive stimulus for innovation or EU competitiveness. No support to health care systems to address challenges.	-- MS cannot address current fragmentation at national level. The output of the national effort would not be proportionate to the investments.

	Effectiveness				Efficiency (benefit to cost)	Coherence - A deeper and fairer internal market - Support health systems - Foster research and innovation	Subsidiarity and Proportionality
<i>General Objectives</i>	Ensure better functioning of the internal market Contribute to a high level of human health protection						
<i>Specific Objectives</i>	Improve the availability of innovative health technologies for EU patients Improve business predictability Ensure efficient use of resources and strengthen the quality of HTA across the EU						
<i>Operational Objectives</i>	Promote convergence in HTA Procedures methodologies	Reduce duplication of efforts for HTA bodies Industry	Increase the uptake of joint output in MS	Ensure long term sustainability of EU HTA cooperation			
<i>Policy Option 2</i> <i>Project-based cooperation on HTA activities</i>	0 Some convergence on methodologies may appear but differences in assessment practices and their outcomes are expected to remain.	-- Some pooling of resources may appear but duplication of work due to parallel national/regional process is expected to continue.	-- Limited uptake of joint assessments expected to persist as no enforcement is foreseen.	-- No long term sustainability is ensured as the approach is project-based.	-- Limited benefits for patients, industry and health care systems due to the scattered approach to the cooperation and limited use of joint assessments at national level.	-- Fragmented internal market for health technologies persists. Business predictability is expected to remain low as well as the stimulus to innovation and competitiveness. Support to health care systems remains inefficient.	-- MS cannot fully address current fragmentation through a project-based approach. The necessary resources invested are not expected to be proportionate to the output.

	Effectiveness				Efficiency (benefit to cost)	Coherence - A deeper and fairer internal market - Support health systems - Foster research and innovation	Subsidiarity and Proportionality
<i>General Objectives</i>	<ul style="list-style-type: none"> • Ensure better functioning of the internal market • Contribute to a high level of human health protection 						
<i>Specific Objectives</i>	<ul style="list-style-type: none"> • Improve the availability of innovative health technologies for EU patients • Improve business predictability • Ensure efficient use of resources and strengthen the quality of HTA across the EU 						
<i>Operational Objectives</i>	Promote convergence in HTA Procedures methodologies	Reduce duplication of efforts for HTA bodies Industry	Increase the uptake of joint output in MS	Ensure long term sustainability of EU HTA cooperation			
<i>Policy Option 3</i> <i>Permanent cooperation on:</i> <i>→common tools</i> <i>→procedures</i> <i>→early dialogues</i>	+ Ensured convergence in terms of tools and procedures used by EU MS.	+ EU MS can benefit/rely on each other's assessments in an easier way due to the use of common tools and procedures. However, duplication of work due to parallel national/regional HTA is expected to remain	++ Mandatory uptake by HTA bodies of common tools, procedures and conclusions of joint early dialogues is ensured.	+++ Long term sustainability is ensured by the permanent structure and the stable funding from EU budget + MS kind contribution.	+ Patients are expected to benefit from some convergence in HTA methodology and also improved participation in the HTA process. For HTA bodies' better evidence is available and more efficient use of resources. For industry improved predictability. Slight costs savings expected.	+ Moderate positive performance concerning the contribution of this option to a fairer internal market of health technologies. and patients are expected to benefit from it. Business predictability is expected to improve Health care systems benefit from better quality evidence.	+ This option provides for a pooling of expertise and resources in the area of common tools, procedures and EU early dialogues, providing an EU added value to MS activities.

	Effectiveness				Efficiency (benefit to cost)	Coherence - A deeper and fairer internal market - Support health systems - Foster research and innovation	Subsidiarity and Proportionality
<i>General Objectives</i>	<ul style="list-style-type: none"> • Ensure better functioning of the internal market • Contribute to a high level of human health protection 						
<i>Specific Objectives</i>	<ul style="list-style-type: none"> • Improve the availability of innovative health technologies for EU patients • Improve business predictability • Ensure efficient use of resources and strengthen the quality of HTA across the EU 						
<i>Operational Objectives</i>	Promote convergence in HTA Procedures methodologies	Reduce duplication of efforts for HTA bodies Industry	Increase the uptake of joint output in MS	Ensure long term sustainability of EU HTA cooperation			
Policy Option 4.1 Permanent cooperation on: →common tools →methodologies →early dialogues →joint REA (MS opt-in)	++ Ensured convergence between the MS that <u>opt-in</u> . Lower risk of divergent outcomes, therefore business predictability increases and ultimately patients will benefit from the availability of HTA.	++ No duplication of work expected between the <u>participating MS</u> . However absence of duplication cannot be ensured if some EU MS do not join.	++ Mandatory uptake by HTA is ensured for <u>participating MS</u> but does not cover the MS not joining.	+++ Long term sustainability is ensured by the permanent structure and the stable funding from EU budget + MS in kind contribution.	++ Patients from participating EU MS are expected to benefit from an improved availability of innovative health technologies and also improved participation in the HTA process. For HTA bodies' better evidence is available and more efficient use of resources. For industry improved business predictability. Costs savings expected for the participating MS.	++ Moderate positive performance concerning the contribution of this option to a fairer internal market of health technologies depending on the number of EU MS participating and patients are expected to benefit from it. Business predictability is expected to improve according to the number of EU MS participating. Health care systems of EU MS participating benefit from better quality evidence and efficiency gains.	++ This option provides for a pooling of expertise and resources providing an EU added value to MS activities in the area of HTA. However the full potential of EU cooperation is exploited in a limited manner.

	Effectiveness				Efficiency (benefit to cost)	Coherence - A deeper and fairer internal market - Support health systems - Foster research and innovation	Subsidiarity and Proportionality
<i>General Objectives</i>	<ul style="list-style-type: none"> • Ensure better functioning of the internal market • Contribute to a high level of human health protection 						
<i>Specific Objectives</i>	<ul style="list-style-type: none"> • Improve the availability of innovative health technologies for EU patients • Improve business predictability • Ensure efficient use of resources and strengthen the quality of HTA across the EU 						
<i>Operational Objectives</i>	Promote convergence in HTA Procedures methodologies	Reduce duplication of efforts for HTA bodies Industry	Increase the uptake of joint output in MS	Ensure long term sustainability of EU HTA cooperation			
<i>Policy Option 4.2</i> <i>Permanent cooperation on:</i> <i>→common tools</i> <i>→methodologies</i> <i>→early dialogues</i> <i>→joint REA</i> <i>(all MS from the start)</i>	+++ Ensured convergence in HTA procedures and methodologies in all EU MS. No risk of divergent outcomes for the clinical assessment, therefore business predictability considerably improves and ultimately patients will benefit from the availability of HTA.	+++ No duplication of work. Efficient pooling of resources and expertise. Expected increase of quality of HTAs.	+++ Mandatory uptake by HTA bodies is ensured.	+++ Long term sustainability is ensured by the permanent structure and the stable funding from EU budget + MS in kind contribution + industry fees for early dialogues.	+++ EU Patients: improved availability of innovative health technologies and also improved participation in the HTA process. For HTA bodies: better evidence is available, efficient allocation and use of resources /expertise. For industry business predictability considerably improves. Costs savings are expected. Benefit to cost ratio is expected to be the most advantageous compared to the other options.	+++ Positive performance concerning the contribution of this option to a fairer and deeper internal market of health technologies and EU patients are expected to benefit from it. The identified obstacles impeding a well-functioning internal market are addressed. Business predictability is expected to improve. Health care systems of EU MS will benefit from better quality evidence and efficiency gains.	+++ This option provides for a pooling of expertise and resources providing an EU added value to MS activities in the area of HTA.

Table 14. Comparison of policy options

Legend:

Significant positive performance	+++
Positive performance	++
Moderate positive performance	+
Neutral	0
Moderate negative performance	-
Negative performance	--
Significant negative performance	---

PO	+	++	+++	0	-	--	---	n/a	Total
1						*	*****	*	-17
2				*		*****			-12
3	*****	*	*						+10
4.1		*****	*						+15
4.2			*****						+21
5								*****	

Table 15. Overall scoring (Stars indicate the number of positive and negative scores the option has received)

8. Preferred policy option

8.1. Description of the preferred option

As illustrated in section 7, option 4.2 receives the highest scores when comparing the other options. However, this option implies a certain risk considering the view of some Member States that they need adequate time to adapt to the system. This has been addressed by integrating elements from other policy options (in particular policy option 2 and 4.1) and allowing for some adjustments based on the assessment carried out in section 6 and comments received from stakeholders. Such adjustments are discussed in more detail below.

8.1.1. Joint outputs

The preferred option comprises all types of joint outputs related to clinical aspects of HTA, i.e. common tools/procedures, joint early dialogues and joint REAs (see option 4 and more detailed descriptions of the different types of outputs in sections 5.3.3 and 5.3.4).

8.1.2. Technology scope

Pharmaceuticals

The preferred option defines the scope of joint REAs as follows:

Pharmaceuticals undergoing the central marketing authorisation procedure which in addition meet one of the following criteria:

- new products containing new active substances
- existing products for which the marketing authorisation is extended to a new therapeutic indication

The timing of the procedure for joint REAs will be linked to that of the central marketing authorisation procedure (i.e. the joint REA will be available at the time of or shortly after marketing authorisation), ensuring timeliness for supporting Member States decision-making at the time of market launch. This approach is consistent with current HTA timelines in Member States, i.e. around or shortly after the time of marketing authorisation of pharmaceuticals (see section 1.4, Figure 3).

The scope takes into account the level of current duplication among Member States HTA bodies (which is most prominent around or shortly after marketing authorisation), the EU added value of a joint approach and stakeholder views (see sections 8.2 and 8.3). It also respects the different remits of marketing authorisation and HTA (see section 1.3, text box), while supporting synergies where possible (see section 8.2, coherence).

The preferred option will also allow for updates of joint REAs, i.e. re-assessments at a later point in time, if significant additional evidence becomes available (e.g. from post-authorisation studies).¹⁹¹

Medical technologies

The preferred option limits the scope of joint REAs as follows:

¹⁹¹ Note that such updates of joint REAs could also draw on increased availability of real-world data, as explained in more detail in section 1.3, text box.

Medical technologies in the highest risk classes¹⁹² and which in addition have been selected by Member States for a joint REA based on the following criteria:

- unmet medical need
- potential impact on patients, public health, or healthcare systems (e.g. burden of disease, budget impact, transformative technology)
- significant cross-border dimension/ Union wide added value (e.g. relevance to a large number of Member States)

Taking into account the more decentralised market access pathway for medical technologies, the timing of the joint REA will not be linked to the timing of the conformity assessment, i.e. it will not necessarily be at the time of market launch. Instead, Member States will define the most appropriate time point for a joint REA as part of the selection process mentioned above. Relevant considerations for the selection of an appropriate time point are expected to include market access of the technology in a significant number of Member States and availability of evidence for HTA purposes.

This limited scope for medical technologies takes into account the level of current duplication among Member States HTA bodies, the EU added value of a joint approach and stakeholder views and concerns (see sections 8.2 and 8.3).

Other technologies

For other technologies (i.e. pharmaceutical and medical technology products not covered by the above-described scope, or other health technologies), the legislative framework will include provisions for voluntary cooperation. Production and uptake of joint outputs related to these technologies would be fully voluntary, but Member States could benefit from the organisational framework (e.g. committee and secretariat structures) established by the legislation.¹⁹³

By leaving joint work on other technologies at a voluntary level, the preferred option incorporates elements of policy option 2 (voluntary cooperation between Member States and cooperation on a broader scope of technologies).

8.1.3. Instrument

Type of legal instrument

The preferred option envisages the adoption of a new Union legislative act that could take the form of a directive or regulation. In considering the most appropriate form of instrument, it is necessary to assess the nature of the harmonisation intended to be achieved by the proposed measure, the nature and extent of implementing measures that such harmonisation entails, including, in particular, the extent of discretion afforded to Member States in the choice and application of harmonised norms.

¹⁹² Mechanism for scrutiny of conformity assessments of certain class III and class IIb devices (as defined in Regulation (EU) 2017/745, Article 55) and Mechanism for scrutiny of conformity assessments of class D devices (as defined in Regulation (EU) 2017/746, Article 50)

¹⁹³ Note the provisions for voluntary cooperation in the new legislative framework would replace the existing voluntary cooperation on HTA as defined in Article 15 of the Cross-border Healthcare Directive 2011/24/EU, i.e. the respective Article 15 would be repealed.

In this context, it is notable that a key element of the preferred option is the establishment of procedures and structures for cooperation on joint REAs at Union level. While inevitably such a transition to a Union wide approach will require some adjustments to national rules, for example, as regards allowing for the use of joint REAs at national level as part of the overall HTA, that transition does not result in a need for significant implementing measures establishing those procedures and structures at national level.

The study mapping of HTA processes across the EU shows that 26 Member States currently have legal/procedural frameworks in place for HTA. Typically, key aspects related to the HTA bodies roles and responsibilities and the HTA assessments are outlined in national legislation, while much of the details e.g. on procedures are contained in the administrative provisions of Member States' HTA bodies (see sections 1.4.1 and Mapping study on HTA processes across the EU).

This suggests that a suitable adaptation period before the date of application of a regulation would be a more adequate and proportionate approach than the transposition needed for a directive, in ensuring uptake of joint REA and use of common tools.

Thus, in the light of the aims of the initiative, and the nature and level at which harmonisation intended to be achieved, it is considered that a regulation would be the most appropriate form of instrument for the proposed measure.

The new regulation foreseen under the preferred option will amend Directive 2011/24/EU, i.e. Article 15 will be deleted from the Directive. The HTA Network, which currently provides strategic guidance and policy orientation for the scientific-technical cooperation under EUnetHTA (see section 1.4.2), will be replaced by an HTA high-level group composed by experts from the Member States as part of the governance system defined in the new regulation (see section 8.1.4 for further details on governance). The new regulation will ensure that the good governance principle (including transparency and independence of expertise), which is referred to in Article 15 of Directive 2011/24/EU, is re-introduced in the new legislative framework. Current provisions for granting Union aid under Article 15 of Directive 2011/24/EU will also be replaced by provisions for Union funding under the new regulation foreseen by the preferred option (see section 8.1.4 for further details).

Ensuring mandatory uptake

The legislative framework foreseen by the preferred option will ensure the mandatory uptake of the common tools/procedures, joint early dialogues and joint REAs for pharmaceuticals and medical technologies that are within the scope as defined in section 8.1.2. Mandatory uptake of joint REAs implies that Member States shall not repeat the REA at national level. Member States shall use the joint REA in the same way as they would use a national clinical assessment, i.e. they shall incorporate it in their overall national HTA process. This means that Member States continue to be free to assess non-clinical HTA domains (e.g. economic, organisational, ethical) at national level and to draw conclusions on the overall added value of the technology.

Enforcement of mandatory uptake will be supported by a requirement on Member States to share with the Commission / other Member States the national HTA report which incorporates the joint REA carried out at EU level. This will be facilitated by IT tools developed as part of the common tools of the EU cooperation. Moreover, as for any EU legislation, the Commission may take the necessary action foreseen by the Treaty (e.g. infringement

proceedings), if informed of failure to comply with the mandatory uptake or any other requirement of the legislation foreseen by the preferred option.

Allowing time for adaptation and adequate safeguard provisions

The EU legislative framework foreseen by the preferred option will include provisions to ensure that Member States have adequate time to adapt their national HTA frameworks to the new EU system. This takes into account the diversity of HTA frameworks across the EU (see section 1.4.1 and Mapping study on HTA processes across the EU) and the views of public administrations in the public consultation (discussed further in section 8.3.). In particular, a deferred application from the date of entry into force will allow for the alignment of procedures and processes. After the date of application, a transitional period is foreseen during which Member States can delay their participation in joint REAs and joint early dialogues.

The legislative framework foreseen under the preferred option will also include a safeguard clause allowing a Member State to carry out a national REA in addition to a joint REA if this can be justified by a need to protect public health which is specific to that Member State.

Progressive implementation of joint work

The preferred option will include provisions for stepwise build-up of the new EU system for joint work during its first years until it becomes fully operational.

In particular, the product scope for *pharmaceuticals* foreseen by the preferred option (see section 8.1.2 and Annex XI) will be implemented in a progressive manner. This implies that all pharmaceuticals identified in the scope are expected to go through a joint REA once the system is fully operational. The numbers of e.g. joint REAs are expected to increase gradually during the first years of joint work under the new EU system, taking into account the capacities and priorities of Member States. Selection criteria (same as those used permanently for medical technologies, see section 8.1.2) will be listed in the proposed legislation and Member States will use these to agree which health technologies will be subject to joint work during the building-up phase.¹⁹⁴

For *medical technologies*, the system will remain based on a prioritisation mechanism to ensure that joint REA are only performed on medical technologies selected by Member States according to agreed criteria within a limited well identified scope (see section 8.1.2).

It should be noted that by allowing adequate time for adaptation and progressive implementation as discussed above, the preferred policy option combines elements of policy option 4.1 and 4.2 in an optimal way. It allows sufficient flexibility for Member States to adapt over a period of several years, while at the same time ensuring that all Member States join the new EU system. The need for both sufficient time to adapt and join the system was an important point which has been raised by several Member States in bilateral meetings when considering a mandatory uptake of the output.

¹⁹⁴ More details on the progressive implementation, including number of expected outputs (joint early dialogues, joint REA etc.) over the first years before the system becomes fully operational are set out in Annex XI.

8.1.4. Governance and financing

Governance

As shown in section 6.4. the analysis of the pros and cons of each possible governance arrangement together with their potential contribution to the achievement of the operational objectives of this initiative shows that at this stage the most feasible governance option is a central secretariat hosted by the European Commission. Compared to the other governance options, it offers a reasonable solution for an initial phase which requires a relatively limited number of human resources while providing a stable structure for the EU cooperation on HTA encompassing most types of joint outputs (i.e. common tools and methodologies, horizon scanning, early dialogue, REA). The main disadvantage indicated in section 6.4, i.e. the impossibility to collect and redistribute fees from industry, may be addressed in the future by a possible transfer of the secretariat to an EU Agency. In addition, the governance option of a European Commission secretariat received high support in the public consultation (see section 6.4.3).

On the basis of the analysis carried out (see section 6.5.), the most suitable governance arrangement for the preferred option is considered a central secretariat hosted by the European Commission, at least in an initial phase building up the cooperation.

As presented in section 5.3.4 and 6.5, the central secretariat will provide:

- administrative support (e.g. organisation of meetings, travel arrangements etc.),
- scientific/technical support (e.g. support for the technical meetings of the experts, preparation of the documentation, manage procedures for involving stakeholders, ensure quality management, support implementation of joint tools and procedures, etc.) and
- IT support (e.g. host and maintain the electronic submission system, the intranet and internet, the databases/repositories of joint and national HTA reports, etc.).

A high level group/management board including representatives of Member States' HTA bodies would manage the overall governance and would meet regularly to discuss the annual work programme, topic prioritisation, progress with outputs (e.g. quality, timeliness) and provide guidance and steer the cooperation.

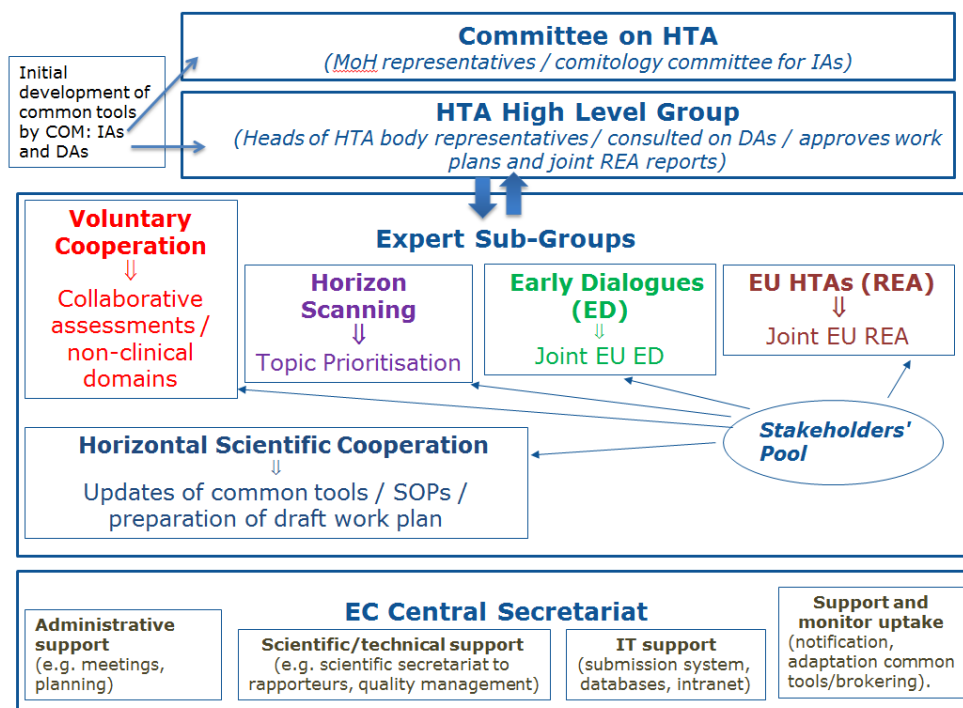


Figure 13. Diagram of the governance arrangement (i.e. EC Central secretariat) for the preferred option

The scientific-technical work of producing the joint outputs would be carried out by experts nominated by Member States' authorities organised in Committees/groups dedicated to the various types of joint work (e.g. for Joint REA, for joint early dialogues, for horizon scanning, for common tools and methodology etc.). For example, for the joint REAs, Member States' experts acting as author/rapporteur and co-author/co-rapporteur would carry out the clinical assessment of the application/dossier submitted by industry (complying with common tools and procedures as described in section 5.2) and prepare a draft opinion. The HTA High Level Group would thereafter examine the draft and approve the joint report which would then be used in national HTA processes (see more detailed explanations on mandatory uptake above).

Financing

As regards financing, the costs of the secretariat should be supported from the EU budget. Approx. EUR 17 000 000 overall costs, of which EUR 8 000 000 running costs/year, and EUR 9 000 000 are costs of joint outputs/year. The remuneration of Member States HTA bodies carrying out the joint work as authors and co-authors is included in the costs of the joint outputs. Travel expenses for Member State experts contributing to the activities of the dedicated committees/working groups (e.g. for joint REA, for joint early dialogues) are also covered by the EU budget and are included in the running costs. An in-kind Member States contribution would be possible in the form of a) seconded national experts¹⁹⁵ from experienced HTA bodies who would also ensure the smooth transfer of the know-how

¹⁹⁵ Seconded national experts are national civil servants or persons employed in the public sector who are working temporarily for an EU Institution. They remain in the service of that employer throughout the period of secondment and receive a daily allowance from the European Commission in line with the provisions in the Staff Regulation.

developed by EUnetHTA to the central secretariat and the interoperability between the central secretariat and Member States HTA bodies and b) staff in national HTA bodies, who will contribute to the activities of the relevant committees/working groups (e.g. on joint REA, on joint early dialogues).

More detailed figures, including costs per year during the building-up phase are set out in Annex XI.¹⁹⁶

Review clause

The EU legislative framework foreseen by the preferred option will also include a review clause. This will enable a review of the new system once it has been fully operational for a sufficient period of time, e.g. in terms of the need for any changes to the financing and governance provisions, with a view to a possible transfer of the central secretariat to an appropriate EU body. This could include an evaluation of the need to introduce a fee-for-service system (e.g. industry fees to contribute to the cost of conducting joint REAs).

8.2. Justification of the preferred option

The preferred option is expected to provide for the best combination of effectiveness and efficiency, while ensuring proportionality, subsidiarity and coherence with related EU policies. It also considers the need to address potential risks and implementation challenges.

Effectiveness and efficiency

The EU legislative framework foreseen by the preferred option will ensure mandatory uptake of joint work (see section 8.1.3 for further details). It will provide legal clarity and certainty with regard to the legal status of joint outputs and enable and justify the necessary adaptations in national legal/procedural HTA frameworks. As discussed in more detail in section 2 (problem 2), uncertainty around the legal status of joint outputs in the context of existing national legal/procedural frameworks is a major reason for the low uptake under the current voluntary, project-based Joint Action EUnetHTA. As explained in sections 5.3.2 and 6.2, these hurdles could also not be sufficiently addressed by other forms of project-based cooperation (even if contractual arrangements to promote uptake were envisaged). An EU legislative framework which ensures mandatory uptake of joint work is therefore necessary to effectively address the current problem of low uptake.

In addition, the EU legislative framework will also address other factors that currently hinder uptake, in particular concerns around quality and timelines (discussed in more detail in section 2, problem 2). The EU legal framework will define and ensure, inter alia, governance and work-sharing mechanisms, high scientific standards of methodologies and assessments (e.g. via pooling of expertise, input by external experts and stakeholders, quality assurance mechanisms), and standardisation and timeliness of procedures for the production of joint outputs. This will enable Member States to perform clinical HTA work at consistently high quality and in a timely and efficient manner.

¹⁹⁶ The figures included in the Annex are estimates. The contribution from the EU budget post 2020 will be discussed within the framework of the preparation of the Commission's proposals for the next Multiannual Financial Framework (MFF) and will reflect the outcome of the negotiations on the MFF post 2020.

The preferred option will allow for the best possible achievement of the objectives of the initiative. In particular, the preferred option will ensure that all Member States participate in the new EU system, maximising the positive impacts of the initiative on the functioning of the internal market and public health across the EU. Mandatory uptake of common tools, procedures and high quality joint work on clinical aspects of HTA will promote evidence-based decision-making, contributing to improved availability of innovative health technologies to patients. The preferred option will also provide Member States with a sustainable framework for cooperation and enable them to use their HTA resources more efficiently. Industry will benefit from efficiency gains and from improved business predictability with regard to evidence requirements and HTA outcomes.

The preferred option is cost efficient in the sense that the costs are significantly outweighed by savings for Member States and industry, as a result of pooling of resources and avoiding duplications (see sections 6.4.1, 6.5 and 8.3).

Proportionality and subsidiarity

Ensuring mandatory uptake by an EU legislative framework as foreseen by the preferred option is proportionate in that it is an effective and necessary response to addressing the current problem of low uptake of joint work (see previous section on effectiveness).

The inclusion of a provision for mandatory uptake is deemed necessary, as without this obligation, there would be a high risk that the EU legislative framework foreseen by the preferred option could not fully deliver on the objectives of the initiative (see section 4). While improvements in quality assurance mechanisms and timeliness of procedures compared to the current project-based cooperation may encourage and facilitate spontaneous (voluntary) uptake by Member States, there would be no guarantee that all Member States would consistently take up the joint outputs. In fact, there would be a risk that some Member States may choose to decide on uptake of joint outputs (e.g. joint REAs) on a case by case basis, and possibly only once the joint output has been produced. Such an approach would run counter to the work-sharing, scientific consensus-building and decision-making mechanisms foreseen by the preferred option (see section 8.1.4 for further details on governance). If there is no obligation to take up the joint outputs, some Member States may not fully invest their capacities and resources into the scientific consensus-building on joint outputs at EU level. If some Member States continue to repeat jointly conducted work again at national level, the objectives of the initiative to ensure efficient use of resources (both for Member States and the EU) and reducing current duplication of efforts by HTA bodies would not be fully achieved. Moreover, the current problems of duplication of efforts for industry and lack of business predictability could not be fully addressed. Without mandatory uptake for Member States, manufacturers may be confronted with situations where after submission of a dossier for joint REA, they are requested by individual Member States to submit additional dossiers for national REAs (with possibly different requirements and outcomes). In fact, mandatory submission by industry for joint REAs (as foreseen by the preferred option) would be difficult to justify and could even be considered disproportionate, if uptake by Member States continued to be voluntary. Finally, without an obligation for mandatory uptake by Member States, the expected benefits of the initiative in terms of quality and efficiency gains and associated benefits for patients and public health may be unevenly distributed across the EU (depending on the extent to which individual Member States take up joint work). In conclusion, there would be a considerable risk that the initiative does not fully deliver on its core objectives of improving both the functioning of the single market and public health across the

EU. This is substantiated by the current legal framework for the cooperation provided by article 15 of Directive 24/2011/EU, which defines ambitious objectives but has not been able to achieve them.

The mandatory uptake foreseen by the preferred option is also proportionate in that it does not go beyond what is necessary to ensure that joint outputs (e.g. joint REAs) are incorporated into national HTA processes (see sections 8.1.3, 6.4.1, 5.3.3 and 5.3.4 for more detailed explanations on mandatory uptake).

Proportionality and subsidiarity are further ensured by focusing the joint work to clinical aspects of HTA, where EU cooperation can bring both quality and efficiency gains. The assessment of more context-specific HTA domains (e.g. economic, organisational, ethical) and decision-making on pricing and reimbursement remain at Member States level. Mandatory uptake of e.g. a joint REA will not interfere with the assessment at national level of non-clinical HTA domains. Moreover, mandatory uptake of a joint REA does not pre-empt the national appraisal process which will continue to conclude on the presence/absence or extent of added value (based on the scientific assessment of clinical evidence presented in the joint REA and any additional non-clinical assessments conducted at national level).

The preferred option is also proportionate in that it limits the scope of mandatory production and uptake of joint work to specific types of pharmaceuticals and medical technologies, and allows flexibility concerning the timing of joint REAs for medical technologies (see section 8.1.2). This takes into account the differences between technology sectors and their market access pathways (see section 1.3 and Annex V) and the EU added value of a joint approach also in terms of focusing on the type of products where current duplication of work among HTA bodies is most prominent (see section 2, problem 2). For other technologies, the preferred option facilitates further voluntary cooperation (see section 8.1.3).

Finally, the preferred option respects the principle of proportionality by allowing sufficient time for both Member States and industry to adapt to the new EU system (see section 8.1.3) and by providing adequate safeguard provisions allowing Member States to carry out national REAs in addition to joint REAs in duly justified circumstances related to the specific situation in those Member States.

Coherence

The identified option constitutes a coherent approach, well in line with the EU's overarching objectives, including a smooth functioning of the internal market, sustainable health systems and an ambitious research and innovation agenda. In addition to coherence with these EU policy objectives, the option is also coherent with and complementary to existing EU legislation related to pharmaceuticals and medical technologies¹⁹⁷. For example, there are opportunities for mutual information-sharing and better alignment of the timing of procedures between the joint REA and the centralised marketing authorisation for pharmaceuticals (see Figure 3)¹⁹⁸. Synergies are also expected between joint REAs for medical technologies and

¹⁹⁷ Relevant legislation includes Regulation (EC) No 726/2004, Regulation (EU) 536/2014, Regulation (EU) 2017/745 and Regulation (EU) 2017/746 (see section 1.3 and Annex V for further details)

¹⁹⁸ Note that the need for improved synergies, while respecting the different remits of marketing authorisation and HTA, has been recognised by Member States in the HTA Network Reflection Paper "Synergies between regulatory and HTA issues on pharmaceuticals" as well as by EUnetHTA and EMA in their joint "Report on the implementation of the EMA-EUnetHTA three-year work plan 2012-2015".

some of the provisions foreseen by the new EU Regulations for medical devices and *in vitro* diagnostics (e.g. strengthened rules on clinical evaluation and clinical investigation; EU-level expert panels for certain high-risk medical devices)¹⁹⁹. Moreover, the joint early dialogues foreseen under the preferred option will contribute to the objectives of related EU legislation on clinical trials to ensure that the evidence generated in clinical studies is robust and benefits patients and public health. The option could also provide useful input to and synergies with the Digital Single Market agenda by encouraging innovation and research of high-tech/digital medical products and by supporting the development of a European IT infrastructure supporting EU cooperation on HTA. The initiative is expected to play an important role in supporting innovation for the benefit of patients by influencing longer-term R&D investment decisions by industry (see section 1.3).

Addressing potential risks and unintended consequences

A potential risk to the implementation of the preferred option could be posed by challenges in achieving scientific consensus on joint outputs on clinical HTA aspects. As discussed in section 1.4.1, there are still divergences in the methodologies currently used by HTA bodies in their national clinical HTA work. However, EUnetHTA and other European projects (SEED project, EU-funded research projects) have already delivered the proof of concept that convergence in methodologies and production of joint outputs at European level is possible (e.g. common methodological guidelines, joint early dialogues and joint REAs produced by EUnetHTA, see section 1.4.2). The improved governance structure foreseen by the preferred option is expected to further facilitate consensus-building. In particular, it will ensure the involvement of all Member States, both in the selection/prioritisation of the technology undergoing a joint REA and in the preparation of outputs by technical staff and the final approval of joint outputs by high-level representatives (see section 8.1.4). Such a governance structure is expected to ensure that outputs are relevant and acceptable to all Member States. For example, there may be situations where a minority group of Member States would prefer a different comparator in a joint REA. Such needs can be accommodated by including analyses against several comparators in a joint REA (as has already been discussed in the context of EUnetHTA). Finally, consensus-building will be facilitated by limiting the content of the joint REA to a scientific analysis and discussion of the clinical effects observed for different health outcomes, in light of the available clinical evidence. HTA appraisals, i.e. conclusions on the presence/absence or extent of added value (e.g. therapeutic, economic, societal), will continue to remain at Member States level (see section 8.2, proportionality and subsidiarity).

Another potential risk to the production of joint work under the preferred option relates to the sharing of the work load among Member States. Particularly in the initial build-up phase of the new EU system, some Member States may hesitate to take a leading role (e.g. as lead authors of a joint REA) because of lack of experience with the new EU system. However, as the joint work under the preferred option will build on best practices among Member States HTA bodies and experiences with joint work under EUnetHTA, it is expected that HTA bodies will be able to quickly familiarise themselves with the new system. Within the Joint Actions agencies with experiences and capacities in HTA have been leading main work

¹⁹⁹ Wild C, Sauerland S, Schnell-Inderst P. Closing the gap between regulatory and HTA requirements for approval and reimbursement of high-risk medical devices in Europe, *Journal of Medical Device Regulation*, Volume 14 (4), 2017

packages and there is no reason to believe that they may change approach once the cooperation becomes more structured and permanent, rather the contrary. Moreover, as discussed in more detail in section 8.3, it is anticipated that Member States with advanced HTA systems will take on the leading role particularly in the first years of the new system. Member States with currently limited resources and capacities for HTA may initially primarily participate by providing input and comments during the drafting process of e.g. a joint REA. However, as confirmed by public authorities in the public consultation, joint work at EU level can be expected to result in increased capacity building on HTA over time, particularly for countries with more limited resources. It also provides opportunities for building capacities and developing a leading role in specific areas (e.g. particular therapeutic areas or types of technologies). The benefit of such a specialisation of expertise among HTA bodies has been recognised by Member States representatives in the HTA Network²⁰⁰. It should also be noted that such trends for specialisation have been observed among national regulatory authorities in the context of the EU marketing authorisation of pharmaceuticals. Finally, the preferred option will foresee dedicated administrative, scientific and financial support by the central secretariat (including special allowances for lead authors), to further encourage and incentivise active participation by all Member States in the production of joint work (see sections 8.1.4 and 8.3).

Provisions of the preferred option to address the above-mentioned challenges are further discussed in section 8.3.

8.3. Implications for Member States and other stakeholders

Member States

The production of joint outputs and their mandatory uptake foreseen by the preferred option will require some adjustments to the legal/procedural HTA frameworks currently in place in Member States. Individual Member States will be affected to different extents, depending on whether they already have established HTA systems and how detailed the provisions in their current legal/procedural frameworks are (see section 1.4.1 for further information on HTA systems and processes across the EU). However, allowing adequate time for adaptation of national frameworks and the progressive implementation of joint work during the first years of the new EU system (see section 8.1.3) will ensure sufficient time for all Member States to make the necessary adjustments.

With regard to resource implications for Member States, it is expected that any initial costs related to the above-mentioned adjustments to national HTA framework will be more than off-set by the efficiency gains from joint work (see sections 6.3.1 and 6.4.1). As explained in section 8.1.4, the preferred option foresees that most of the costs of producing joint work (support functions of the EU secretariat, travel of Member States experts to meetings, special allowances to remunerate Member States bodies carrying out the work as lead authors of joint outputs) will be covered from the EU budget. Member States may contribute in kind by: a) sending seconded national experts to support the EU secretariat function, and b) through staff of national/regional HTA bodies, who will contribute to the activities of the relevant committees/working groups (e.g. on joint REA or joint early dialogues, see section 8.1.4). As discussed in section 8.1.4., for each joint output, some Member States will assume a leading

²⁰⁰ [HTA Network. Reflection paper on "Reuse of joint work in national HTA activities". 2015](#)

role (e.g. author and co-author drafting a joint REA) while the other Member States have opportunities to review and comment, and the final output is then approved by all Member States.

It is expected that Member States with advanced HTA systems (significant institutional capacities, resources and expertise) will assume a larger part of the workload (e.g. by serving as lead authors in joint assessments), particularly in the first years. This would be similar to existing experiences with sharing of work load among national regulatory authorities in the context of the EU marketing authorisation of pharmaceuticals, where some Member States take a more prominent role in assuming the roles of main authors/rapporteurs²⁰¹. It would also be consistent with experience from the project-based EU cooperation on HTA (Joint Actions EUnetHTA, SEED project, research projects on HTA, see section 1.4.2), where participants from Member States with advanced HTA systems have been particularly active (e.g. serving as work package leaders). Under the preferred option, Member States with advanced HTA systems which assume a leading role in the joint work will also benefit from efficiency gains, as part of the REAs which they currently have to produce on their own at national level will be replaced by joint REAs with other Member States as lead authors. It should be noted that Member States with advanced HTA systems already routinely conduct national REAs for the technologies covered by the mandatory scope of the preferred option (as described in section 8.1.2) and some of them conduct national REAs for an even broader scope of technologies (see section 1.4.1). Member States with advanced HTA systems are therefore expected to have both the capacity and willingness to take a leading role in the production of joint work, in particular in the first years of the new EU system. In addition, the EU secretariat will provide compensation to Member States' bodies carrying out the joint outputs as lead authors in the form of special allowances (and will also cover the travel expenses of the other Member States experts attending the meetings of the relevant committees/working groups providing input to and approving the joint work, see section 8.1.4).

Member States with less advanced HTA systems and limited capacities, the efficiency gains from joint work will be even greater: While they are currently only able to perform HTA for a limited number of technologies due to resource constraints, joint REAs will enable them to take better informed decisions on larger number of technologies. Member States with limited resources could also benefit from efficiency gains through increased specialisation in an EU system for joint work. For example, they could build up capacity in specific areas (e.g. therapeutic indications, types of technologies) and over time assume an increasing role as lead author for e.g. joint REAs in these areas.²⁰² A well-defined product scope focusing on health technologies with EU added value and cross border relevance with appropriate selection/prioritization criteria will allow Member States to focus on joint work relevant for all.

In addition to the above-mentioned efficiency gains, Member States will also benefit from quality gains through joint work. As already discussed in section 8.2., the EU legislative framework foreseen by the preferred option will include common procedures such as quality assurance mechanisms, procedures for consulting external experts (e.g. in the development of methodologies or the production of joint REAs), and conflict of interest rules to ensure

²⁰¹ See EMA Annual Report 2016, Section on European medicines regulatory network

²⁰² Note that similar specialisation trends have been observed among national regulatory authorities in the context of the EU marketing authorisation of pharmaceuticals.

independence of expertise. These common procedures will build on current best practices among HTA bodies across the EU. Member States with less advanced HTA systems and limited resources will particularly benefit from the ensured high quality of joint outputs. But even Member States with advanced HTA systems are expected to benefit from further quality gains, by pooling their expertise and resources, and by drawing on the best available external expertise across Europe (e.g. specialists for particular therapeutic areas, including rare diseases, or experts on new and complex technologies).

The preferred option takes into account the views expressed by Member States representatives in the HTA Network and by public administrations in the public consultation. Member States have expressed their willingness, in principle, to take up joint work on clinical assessments (REA), provided that current hurdles such as the legal uncertainty around the status of joint outputs and concerns around quality assurance and timeliness are addressed. For example, the HTA Network (which includes representatives at policy level from all Member States, see section 1.4.2) has called for the strengthening of joint work (e.g. via improved quality assurance and process management), for addressing administrative/legal hurdles and for increasing the uptake of joint work in national activities.^{203,204} In the public consultation, public administrations also expressed support for the principle of uptake of joint work. In particular, the majority of public administrations expressed support for the notion that once institutions participate in joint work, uptake should be mandatory for them. With regard to participation in joint work, a number of public administrations stressed the need to allow time to build up the new EU system and to adapt national processes accordingly. The preferred option takes into account this need for time to adapt by foreseeing both a deferred application and a transitional period during which Member States may delay their participation in joint work (see section 8.1.3).

Moreover, the provisions foreseen by the preferred option for improved transparency (see sections 5.2, 5.3.3 and 5.3.4) are consistent with the general acknowledgement among Member States of the importance of the good governance principle. For example, the HTA Network has recognised that "cooperation is based on the principle of good governance, including: transparency, objectivity, independence of expertise, fairness of procedure and appropriate stakeholder involvement"²⁰³. Moreover, the HTA Network has supported specifically that "authorities responsible for HTA should aim at ensuring that HTAs are electronically accessible and understandable to stakeholders"²⁰³. The importance of transparency has also been highlighted by stakeholders in the public consultation (also see following section on patients and healthcare professionals).

The preferred option does not prevent Member States from continuing or initiating work at national or regional level as far as non-clinical domains are concerned, thus mutual support between EU cooperation, regional cooperation and national work can be envisaged.

Patients and healthcare professionals

The EU legislative framework foreseen by the preferred option will ensure adherence to common procedures for stakeholder involvement and transparency (see sections 5.2, 5.3.3 and 5.3.4), building on current best practices of HTA bodies across the EU. Considering that some HTA bodies currently do not involve patients and external experts such as healthcare

²⁰³ [HTA Network. Strategy for EU Cooperation on Health Technology Assessment. 2014](#)

²⁰⁴ [HTA Network. Reflection paper on "Reuse of joint work in national HTA activities". 2015](#)

professionals or involve them only to a limited extent (see section 1.4.1), the preferred option is expected to lead to significant improvements. For example, common procedures for patient involvement will ensure that patients can express their views and provide their disease-related experience when issues such as quality of life or importance of particular symptoms and side effects are discussed in the context of a REA.

Patients and healthcare professionals will also benefit from increased access to high-quality HTA reports. It should be noted that, as highlighted by the GÖG-LSE study, some HTA bodies currently do not publish their HTA reports. The preferred option will contribute to improving transparency in HTA across the EU, e.g. by ensuring publication of joint REAs and other joint outputs.

In addition to pooling the expertise of HTA bodies across the EU, the preferred option also foresees common procedures for ensuring input by external experts which can contribute up-to-date specialist knowledge (e.g. on complex therapeutic areas, new technologies, methods in clinical study design/analysis and evidence-based medicine) to the development of joint outputs such as joint REAs or common methodologies. This will lead to improved quality and more consistency in work on clinical aspects by HTA bodies across the EU. It is also in line with the responses received in the public consultation from scientific/medical societies and healthcare professional associations, who have expressed their willingness to become more involved and contribute their expertise to the EU cooperation. Finally, improved quality and consistency of work on clinical aspects of HTA across the EU will respond to the views expressed by patient organisations in the public consultation: While patients acknowledged that HTA bodies may reach different conclusions on non-clinical aspects of HTA (e.g. due to economic differences between countries), they also noted that it does not make sense to them that HTA bodies currently differ in their scientific assessments of the same clinical evidence in the context of the clinical part of HTA (see section 2, problem 1). Patient representatives have therefore called for this issue to be addressed by the EU cooperation.

Industry

As already discussed in detail in section 6.4.1., the *pharmaceutical industry* is expected to overall benefit from the preferred option, which is in line with views expressed by the industry representatives.

In the public consultation and the survey conducted by the GÖG-LSE study, representatives of the *medical technology industry* expressed a number of concerns (see section 6.4.1). In particular, they considered that their industry would be negatively affected if joint REAs were applied to the full range of medical technologies (rather than focusing on technologies with particular relevance to health systems across the EU) and if joint REAs were conducted at the time of market launch (causing potential delays to market access). By limiting the product scope of mandatory production and uptake of joint REAs and allowing flexibility with regard to time point of the assessment (see section 8.1.2.), the preferred option takes into account these concerns and at the same time ensures proportionality and EU added value (see section 8.2.).

In addition to the benefits already discussed, *SMEs* from both sectors are expected to benefit from the fact that no industry fees are foreseen under the preferred option. This is expected to increase participations of SMEs in early dialogues, which are particularly beneficial for smaller companies with limited HTA expertise in the medical technology sector.

Finally, industry representatives of both the pharmaceutical and the medical technologies sectors have expressed a need for sufficient time to adapt to the new EU system, which will be ensured by the preferred option (see section 8.1.3).

For further details on impacts of the preferred option on different stakeholders, see Annex III.

9. Monitoring and evaluation

Monitoring and evaluation of the specific objectives will have to use several means of data collection, as not all objectives are equally quantifiable and some monitoring may depend on a qualitative evaluation based for example on feedback from stakeholders obtained through a survey.

This section will mainly suggest possible indicators on how to measure the effectiveness of the preferred option in relation to the specific objectives stated in the impact assessment. As much as possible quantitative indicators will be considered but qualitative ones may also be used. As regards the implementation of the proposed legislation, data collection can be qualitative by gathering information on the legal and administrative measures taken by Member States to implement the legislation. Table 16 below illustrates different alternatives for monitoring the outputs and to assess further impacts of the preferred policy option using indicators on effectiveness.

Operational Objectives	Core indicators	Source of data	Target
1. Promote convergence in HTA tools, procedures and methodologies	<ul style="list-style-type: none"> Adjustment made by Member States to their legal/procedural HTA frameworks, to enable use of common tools, procedures, and methodologies and joint REA (qualitative) Use of methodologies and tools in MS HTA activities. (qualitative) 	<ul style="list-style-type: none"> Member State National Contact Points (NCP). Member State authorities 	All Member States within the foreseen application (and possible transitional) period.

2. Reduce duplication of efforts for HTA bodies and industry	<ul style="list-style-type: none"> • Number of joint REA for innovative pharmaceutical products (quantitative) • Number of national REA for innovative pharmaceutical products (quantitative) • Number of joint ED (quantitative) • Number of national ED (quantitative) • HTA reports used by other Member States in national/regional HTA activities (quantitative) • Number of FTE needed to produce a national full HTA report (quantitative) • Timeliness or joint REAs 	<ul style="list-style-type: none"> • Permanent secretariat of the EU cooperation. • Member State authorities • National Contact Points • Qualitative evaluation (e.g. comparison Member State report with EU assessment) 	<ul style="list-style-type: none"> • Initial target 65 REA • Long term target: joint REA on all pharmaceuticals receiving a positive recommendation by EMA • No duplication of joint REA. • No additional Member State REA (unless duly justified dependent on legislation). • Joint REAs for pharmaceuticals available at or shortly after the time of marketing authorisation
3. Ensure the uptake of joint output in Member States	<ul style="list-style-type: none"> • Number of joint REA used in MS HTA activities. (quantitative) • Use of methodologies and tools in MS HTA activities. (qualitative/quantitative) 	<ul style="list-style-type: none"> • Member State HTA authorities. • Secretariat of the EU cooperation • National Contact Points. 	<ul style="list-style-type: none"> • Full uptake of joint REA if MS decides to start assessment procedure on the same technology. • Comprehensive use of methodologies and tools provided by the EU cooperation in national HTA activities.
4. Ensure the long-term sustainability of EU HTA cooperation.	<ul style="list-style-type: none"> • Budget devoted to support EU cooperation • Production rate of the cooperation (number of joint outputs/year) 	<ul style="list-style-type: none"> • Legislation • Member State HTA authorities. 	Timeline to be indefinite (subject to review) to ensure sustainability.

Table 16. Suggested core indicators for monitoring

Effectiveness indicators of actions and outputs in relation to the specific objectives (illustrated in Table 16) will be part of the development of a broader monitoring programme, which will also include specific indicators related to efficiency and coherence with other policies (e.g. EU legislation on medicinal products and medical devices).

In addition to the monitoring programme, it is suggested that an evaluation will be carried out at later point in time (when the system has been fully operational for a sufficient period of time to enable a meaningful evaluation), to assess the wider impacts of the implementation of the preferred policy option. In particular, the evaluation will look at addressing the problems identified in the impact assessment. In addition, cost benefit analyses on the performance of the implementation mechanism should be performed as part of future evaluations. According

to the financial regulation, an evaluation will also be required, as the cost of the implementation mechanism is expected to be above the EUR 5 000 000 threshold.²⁰⁵

In summary, there are a number of quantitative indicators to assess the future cooperation, but assessment will also depend on qualitative data sources. Monitoring and evaluation of the wider impacts will require a number of qualitative tools such as desk research, surveys, focus groups and Delphi surveys to assess many of the potential impacts. However, as regards monetary costs of the cooperation, quantifiable data is expected to be available at a greater extent.

²⁰⁵ Financial Regulation Article 30 and Rules of Application article 18

Annexes

Annex I. Procedural Information

1. Identification.

The Directorate for Health and Food Safety (DG SANTE) is the lead DG on the initiative on Strengthening of EU cooperation on Health Technology Assessment.

The initiative is in the European Commission's Work Programme for 2017, in Annex I New Initiatives, under the heading A Deeper and Fairer Internal Market with a Strengthened Industrial Base. The initiative has received the validation in the Agenda Planning on the 15th September 2016 (reference 2016/SANTE/144) when the Inception Impact Assessment was published.

2. Organisation and timing

An Inter-Service Steering Group was set up and met on the 15th September 2016, 24th March, 6th June, 1st and 11th of September 2017. Next to the SG (Secretariat-General) and LS (Legal Service) the following Commission services took part in the ISSG: BUDG (Budget), GROW (Internal Market, Industry, Entrepreneurship and SMEs), RTD (Research and Innovation), CNECT (Communications Networks, Content and Technology), ECFIN (Economic and Financial Affairs), EMPL (Employment), TRADE (Trade), COMP (Competition) and the JRC (Joint Research Centre). The members of the Inter-Service Steering Group were regularly informed on the progress of the initiative and invited to relevant meetings.

In addition, there were close contacts with the European Medicines Agency and the Consumers, Health, Agriculture and Food Executive Agency (CHAFEA) on this file and related projects and studies.

3. Consultation of the RSB

The current initiative of DG SANTE was the first one to benefit from the new opportunity for an upstream meeting with the Regulatory Scrutiny Board. The meeting took place on the 7th December 2016.

A first version of this Impact Assessment Report was submitted to the RSB on the 27th of September 2017, the meeting took place on the 25th of October 2017 and the RSB written opinion was received on the 27th of October 2017.

The Board concluded that the draft report required further work and asked for a resubmission.

The Opinion of the Board acknowledged the efforts to conduct an analysis of Member States' structures, resources and processes in place for the development and use of HTAs. It also acknowledges the quality of the stakeholder consultation.

However it identified shortcomings that need to be addressed, concerning the following key aspects:

- (1) Justification of why considering the continuation of the current joint actions is unsustainable.

- (2) Justification of the choice of the baseline, and definition of the options.
- (3) Demonstration that the initiative is a proportionate and effective response to low HTA uptake.
- (4) Explanation of what the proposed measures would imply for Member States with regard to resources or adjustments to national regulatory frameworks and practices. Specify the measures to improve patients' and consumers' participation in HTAs.
- (5) Further analyse the preferred option and the delivery mechanisms of the initiative, including related resource implications.

DG SANTE carefully addressed all the comments received, including the technical ones submitted directly to the DG in order to improve the quality of the IA Report.

A second version of the Impact Assessment Report was submitted to the RSB on the 21th of November 2017 and the second RSB written opinion was received on the 4th of December 2017. The Opinion of the Board acknowledged the improvements to the previous version and issued a positive opinion, while noting a number of remaining adjustment requirements to be made by DG SANTE. DG SANTE carefully addressed the comments received in the final version of the Impact Assessment Report. An overview of the main adjustments made in response to the main considerations of the RSB is shown in the Table below.

RSB main considerations	Adjustments made in final version of IA report
1) The baseline is treated as an option and not as a comparator for the options.	The final version of the IA report ensures that policy options are consistently compared to the baseline scenario. This has also been clarified for figures related to governance and budget. Adjustments were made accordingly in sections 5.3.1 and 6.5.
2) The report provides indications that the mandatory uptake of joint work would be sufficient to address many of the current shortcomings. However, it does not convincingly demonstrate that it is necessary. It is not clear what the resulting amendments to the existing Directive are.	Further clarifications have been provided on the proportionality of the preferred option, elaborating why mandatory uptake of joint work is considered necessary (see section 8.2) and clarifying the issue of legal/procedural hurdles to uptake (sections 2 and 8.1). Moreover, the final version of the IA report clarifies that some of the principles referred to in the current Article 15 of Directive 2011/24/EU (e.g. good governance, transparency) will also be present in the new legislative framework proposed under the preferred option (sections 3 and 8.1).
3) The report provides insufficient indications of Member States' support for key aspects of the options.	Further details have been provided on expected Member States support for key aspects of the initiative, including acceptability of mandatory uptake of joint work, willingness and capability to take a leading role in an EU framework and support

	for transparency measures (section 8.3). The choice of a Commission-hosted secretariat is also further elaborated (section 8.1.4).
4) The revised report insufficiently discusses the uncertainties, risks, trade-offs and implementation challenges associated with the preferred option.	Risks and possible unintended consequences of the initiative have been further discussed, to better contextualise/qualify the expected benefits of the initiative (sections 8.2 and 8.3).

4. Evidence

The Impact Assessment has strongly built on the consultation and experience of Member States, through the two arms of the current HTA cooperation: the HTA Network and the EUnetHTA Joint Action 3 as well as dedicated bilateral meetings. Input from stakeholders was gathered through the Open Public Consultation, which was open between 21st October and 13th January. SMEs were targeted through the European Medicines Agency and DG GROW's Enterprise Europe Network. A number of bilateral meetings took place with stakeholders. For more information, see Annex 2 Synopsis Report.

5. External expertise

The Impact Assessment was supported by three studies:

- Study on impact analysis of policy options for Strengthened EU cooperation on HTA²⁰⁶, which was undertaken by SOGETI Luxembourg S.A., the Austrian Public Health Institute (GÖG) and the London School of Economics (LSE), referred to as GÖG-LSE study. The study provided an in depth analysis of (1) the role of HTA in the market access (baseline scenario), (2) the potential impacts of identified options; (3) systematic literature review on HTA, with a specific focus on Europe. The final report of the study is available (Annex X)
- Mapping of HTA national organisations, programmes and processes in EU Member States and Norway²⁰⁷ by Julia Chamova (Annex VIII)
- Mapping of HTA methodologies in EU Member States and Norway by Finn Borlum Kristensen²⁰⁸ (Annex IX)

In addition the draft deliverable from EUnetHTA Joint Action 3, Descriptive write up of HTA processes (Work Package 7 National Implementation deliverable - unpublished) was also used.

The main sources from the literature used are listed in the final report of the GÖG-LSE study (please see Annex X).

The following table summarises the surveys and questionnaires supporting the Impact Assessment on the future of the EU HTA cooperation.

²⁰⁶ CHAFEA Framework Contract 2016/Health/16

²⁰⁷ DG SANTE Contract 17010402/2016/734820

²⁰⁸ DG SANTE Contract 17010402/2016/736040

Surveys and questionnaires supporting the Impact Assessment on the future of the EU HTA cooperation

Name		By	Aim	Timing of survey	Target group
Public consultation		DG SANTE	To gather views and opinions related to the future of the EU cooperation on HTA, as proposed in the IIA. The results of this public consultation will feed into the impact assessment process	21/10/2016 -13/1/2017	All citizens and organisations. Patient organisations, public authorities, HTA bodies, payers, companies developing pharmaceuticals, medical devices and other technologies as well as associations representing stakeholders. SME outreach through EMA SME office.
SME panel		DG GROW/SANTE	A simplified and targeted version of the open public consultation for SMEs	20/12/2016 -20/1/2017	SMEs, outreach through the Enterprise Europe Network national contact points
Study on the Impacts of Policy Options	Survey on the Impacts of Policy Options	Austrian Public Health Institute (GÖG)	Gather data and evidence on the impacts of the policy options per stakeholder to support the Impact Assessment process of the EC	18/12/2016 - 22/12/2017	Two targeted surveys 1. Patient organisations, public authorities, HTA bodies, payers 2. Technology developers (industry)
	Case studies	London School of Economics (LSE)	Gather evidence to map the role of HTA in market access process through a selection of 40 technologies (20 pharma, 15 med tech, 5 other)	3/1/2017-31/1/2017	Selected technology developers (of the 40 technologies)
HTA process mapping study		Julia Chamova	Map the HTA processes in EU MS and EEA	6/2016-2/2017	HTA bodies of MS and EEA countries - survey distributed via EUNetHTA JA3 WP7
HTA methodology mapping study		Finn Børlum Kristensen	Map the HTA methodologies in EU MS and EEA	7/2016-2/2017	HTA bodies of MS and EEA countries - survey distributed via EUNetHTA JA3 WP7

Annex II. Stakeholder Consultation: Synopsis Report

1. Introduction

The synopsis report documents all the consultation activities accompanying the Impact Assessment on the initiative for strengthening EU cooperation on HTA.

The aim of the stakeholder consultation was to collect all stakeholders' views on the EU cooperation on HTA, encompassing their experience with the on-going cooperation mechanisms, their specific needs and their opinion on the proposed approaches described in the Inception Impact Assessment.

For reaching all interested stakeholders and in order to ensure a high quality and balanced input, a combination of consultation methods was used:

- The main channel to collect the opinions of stakeholders was the *open public consultation*. Besides the feedback received in response to the publication of the Inception Impact Assessment, DG SANTE launched a broad online public consultation to which all categories of stakeholders provided input. In addition, position statements from different organisations were received by email.

- *Bilateral meetings with interested stakeholder representatives* were organised to allow in-depth discussion on specific topics and the expression of non-organized interests.

- *Experts consultation* was carried out through the existing cooperation mechanisms, EUnetHTA Joint Action and the HTA Network. Since these are the stakeholders who are already participating in the cooperation and they will be the ones who continue cooperating after 2020, these meetings allowed to openly discuss the options proposed in the Inception Impact Assessment for the future EU cooperation in HTA.

- Presentations to *external events* were used to reach out to stakeholders, to explain the main elements of the initiative, to invite them to participate in the public consultation, and listen to their views and opinions.

A summary of all the above mentioned consultations is presented in the subsequent sections.

2. Open public stakeholder consultation

2.1. Feedback on the inception Impact Assessment

Following the publication of the Inception Impact Assessment on "Strengthening of the EU cooperation on Health Technology Assessment (HTA)" on 14 September 2016²⁰⁹ and up to now, the Commission received a number of 9 positions and statements. Three were submitted by national authorities, 4 by trade organisations, and 2 by industry²¹⁰.

Most of the contributions were supportive, highlighting the need for continuing efforts to facilitate EU cooperation on HTA, but also pointing out the challenges of the current

²⁰⁹ http://ec.europa.eu/smart-regulation/roadmaps/docs/2016_sante_144_health_technology_assessments_en.pdf

²¹⁰ https://ec.europa.eu/health/technology_assessment/consultations/cooperation_hta_en

collaboration for the national uptake of the joint work. It was acknowledged that neither option 1 nor 2 provide for appropriate means not only to preserve but also to further develop achievements to date, whilst an EU legislative framework could enable a permanent, systematic collaboration. In contrast, contributors emphasised that they are not supporting joint work on full HTA reports (proposed as option 5) which was seen as having direct impact on national pricing and reimbursement processes which are under Member States competence. One national authority expressed reservations about the legal base of the initiative, and reminded about the legal provisions in the Cross border Healthcare Directive which limit EU cooperation on HTA to voluntary cooperation.

On the other hand, contributors representing medical technologies' industry were more negative, calling for an in depth analysis of the medtech sector and expressing their concerns that the particularities of their sector would not be taken into account. They also questioned the potential added value of EU cooperation on HTA for medical technologies, arguing that decision making is often local and that currently HTA is rarely used on these types of health technologies. One of the contributors (i.e. manufacturer of medical devices) pointed out that depending on the existing regulations in different Member States, HTA might become a barrier to innovation and limit patient access to quality care. They were in favour of solutions based on improved voluntary cooperation among HTA bodies.

2.2. Online public consultation

2.2.1. Description of the questionnaires and of the respondents

The Commission launched an online public consultation which ran from 21 October 2016 until 13 January 2017²¹¹.

Due to the technical nature of health technology assessment, and in order to cover all interested stakeholders, the online public consultation was carried out via two questionnaires. One questionnaire was dedicated to citizens and was made available in all EU official languages. A second one, available only in English was directed to administrations (both public and private administrations with a public service obligation), economic stakeholders (in particular pharmaceutical and medical technologies²¹² industry), as well as associations and organisations representing stakeholders (e.g. patients and consumers, healthcare providers, payers²¹³, industry and service providers, academia and scientific societies). A simplified version of the questionnaire dedicated to administrations, associations and organisations, tailored for SMEs was circulated via the SME Network of DG GROW. This questionnaire was also made available in all EU official languages.

Citizens' consultation focused on their general awareness of HTA and national HTA systems, EU cooperation on HTA, as well as usefulness and need to access HTA information by patients, consumers and healthcare professionals. The *consultation of administrations,*

²¹¹ https://ec.europa.eu/health/technology_assessment/consultations/cooperation_hta_en

²¹² Medical technology, or medtech, encompasses a wide range of healthcare products and is used to diagnose, monitor or treat diseases or medical conditions affecting humans. In this report medical technologies refer to medical devices and in vitro diagnostics (IVD).

²¹³ For the purpose of this report, payers should be understood as insurance organisations or organisations acting on behalf of a public authority responsible for the payment of healthcare services.

economic stakeholders, associations and organisations was directed to get their opinions on the current state of play and EU cooperation on HTA, and on EU cooperation on HTA beyond 2020.

The online public consultation and the SME consultation gathered a total of 249 replies. Of these responses, 25% (63 submissions) were from individuals/citizens and the rest from administrations, economic stakeholders, associations or organisations ("non-individual respondents") (75%, 186 submissions). Of the 186 non-individual contributions, 36 replies were received in response to the questionnaire dedicated to SMEs distributed to the SME Network in DG GROW. The distribution of responses per Member State and type of organisation is shown below.

- *Profile of individual respondents*

As regards the geographical distribution of individual responses, contributions from citizens/individuals came from 21 EU Member States (62) and Switzerland (1). The highest number of replies came from citizens in Germany and Netherlands (8/MS), followed by Spain, France and Italy (6/MS), Portugal and United Kingdom (4/MS), Belgium and Sweden (3/MS) and Greece, Ireland and Poland (2/MS). Only one reply came from citizens in Austria, Bulgaria, Cyprus, Estonia, Finland, Malta, Romania and Slovakia.

Analysis of the information provided in relation to the level of education, work experience and sector of employment showed that the large majority of the individual respondents are well-educated, with expertise and work experience in either or both public and private sectors, in areas relevant for this consultation (e.g. healthcare sector, HTA sector, public administration, and health technologies 'industry). A large majority (78%) of the respondents also indicate knowing how their national HTA system is organised and being aware of the current EU cooperation on HTA (63%), confirming the contributors' interest and expertise in this field.

- *Profile of respondents to the questionnaire dedicated to administrations, economic stakeholders, associations and organisations*

Concerning the contributions to the questionnaire dedicated to administrations, economic stakeholders, associations and organisations, industry was the major contributor with 52 % of all replies, followed by public administration (14%), patients and consumers associations (13%) healthcare providers' organisations and scientific societies (13%) and payers (3%). More details concerning the profile of each category of respondents are presented below:

- Concerning input from industry, most of the contributions were submitted by SMEs (46%) followed by big commercial operators (27%), trade associations (26%) and consultancies (1%). Additionally, most of the companies contributing to the public consultation are European or international companies, active in more than one Member State or beyond the EU (64%). A similar number of contributions were received from both pharmaceutical and medical technologies' industry (32 and 35 contributions respectively).

- As regards public administrations, most of the contributions were provided by HTA bodies (10 replies), as well as organisations with multiple responsibilities (8), Ministries of Health (4), payers (1) and other national or regional organisations (3). Concerning the geographical distribution of responses from public administrations, contributions came from 15 EU Member States (Italy with 5 contributions, Germany, Finland and Spain with 3 contributions/Member State, Slovenia with 2 contributions, and Austria, Belgium, Czech

Republic, Croatia, France, Hungary, Ireland, Poland, Portugal and United Kingdom with 1 contribution per country) and Norway (1 contribution).

- Patients and consumers were represented by an equal number of national (12 organisations) and European patients' associations (12). Most of these associations (63%) acknowledged their interest for both pharmaceuticals and medical technologies. Additionally 4% of these organisations specified being interested in all health technologies.

- Healthcare providers were represented in the consultation by national associations (50%), followed by European (31%) and regional organisations (19%). Fifty per cent of the respondents in this category indicated representing hospitals and the rest provided input on behalf of doctors, community pharmacists, optometrists and public health trusts.

- Respondents from academia were mostly European organisations (63%), but also national and international ones (i.e. ISPOR).

- Payers were mostly represented by national associations (60%).

- The category "other" was selected by non-profit organisations promoting public health, information on pharmaceuticals and therapeutic and diagnostic strategies, improved access to medicines and their rational use, or the development of therapies in specific areas such as cancer or regenerative medicine.

The results of the online public consultation were published in May 2017²¹⁴ and a summary is included below.

2.2.2. Citizens opinions

Almost all individual respondents (98%) consider that it is useful to compare new health technologies with existing ones and assess whether they work better, equally well or worse, in order to provide guidance to decision makers. Citizens emphasised that patients should have access to the best possible treatment, with the least possible cost, with HTA supporting "rational decision making and control the health care budget". The usefulness of HTA as a tool supporting disinvestment of obsolete technologies, allowing for and better allocation of resources for truly innovative health technologies was also highlighted.

Almost all individual respondents confirmed the need to ensure key elements when carrying out assessments: 1) transparency of HTA processes, 2) independence from industry or other influences 3) appropriate expertise of the assessors, and last but not least 4) timely delivery of assessments for informed decision making.

As regards the possibility of performing joint EU clinical and economic assessments, 57% of the citizens indicated that national/regional HTA bodies should not perform clinical/medical assessments of the same health technologies in parallel, independently from each other. However, a similar percentage of the respondents (56%) were against carrying out EU joint economic assessments.

The survey also showed that most individuals believe that HTA information should be easily accessible to doctors to enable an informed decision when prescribing the treatment of their patients (95%) and also to patients (84%). The involvement of relevant stakeholders and representatives of the public (i.e. patients who can provide good understanding of the patients'

²¹⁴ https://ec.europa.eu/health/sites/health/files/technology_assessment/docs/20161020_frep_en.pdf

point of view, especially on topics such as unmet needs, quality of life data and patients' preferences) by HTA bodies when preparing and/or reviewing HTA reports was strongly advocated.

2.2.3. *Opinions from administrations, economic stakeholders, associations and organisations*

Firstly the questionnaire aimed to verify whether the issues identified in the Inception Impact Assessment are shared by stakeholders. In this respect, most of the respondents strongly agreed or agreed with the existence of differences in HTA processes and methodologies (80% confirmed the existence of different HTA methodologies for clinical assessments, 85% acknowledged the differences in HTA methodologies for economic assessments, and 91% agreed with the existence of differences in national HTA procedures).

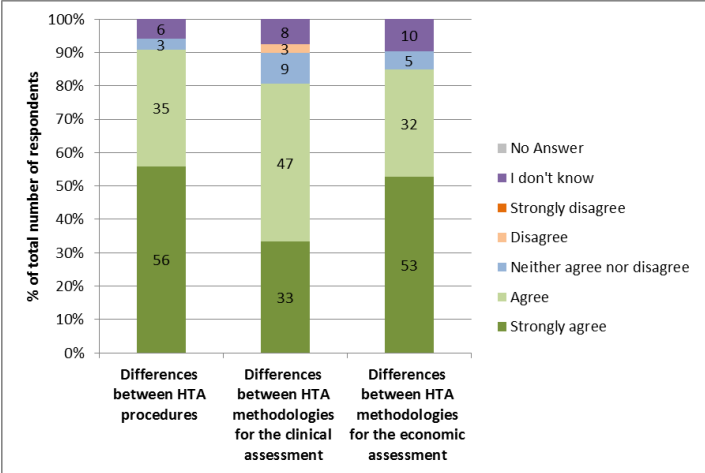


Fig. 1. Overview of the opinions expressed by administrations, organisations and associations on the existence of differences in HTA processes and methodologies across EU

Furthermore, the contributors to the public consultation confirmed that differences in HTA processes and methodologies across the EU translate into diverging outcomes of HTA reports which may affect patients' access to new technologies (e.g. delays, restricted access) (81% of contributions), duplication of work for both HTA bodies and industry (54%), decrease in business predictability (53%), higher costs for the actors (38%) and even affect innovation in a negative way (37%).

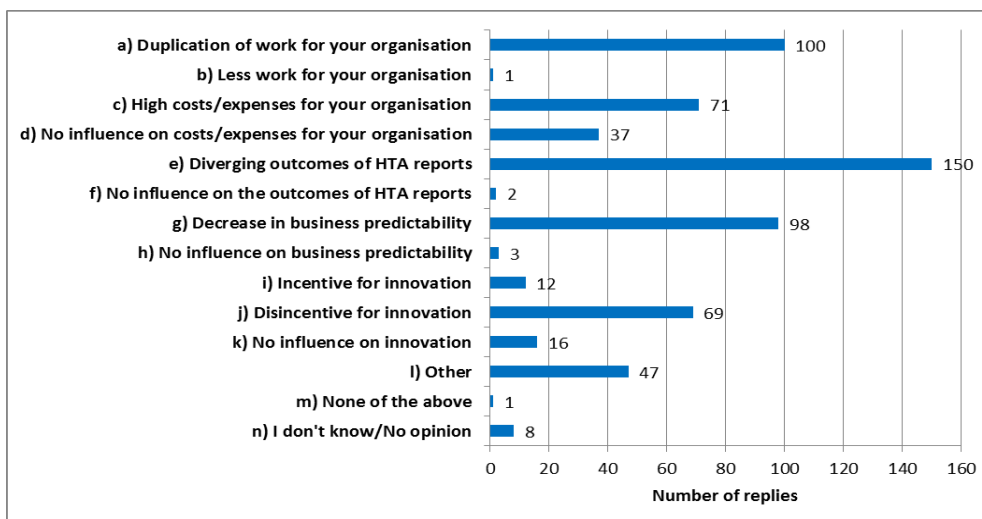


Fig. 2. Consequences of differences in HTA process and methodologies across EU as identified by public administrations, organisations and associations

As regards the current EU cooperation on HTA, the consultation showed that 32% of the respondents participated in EU-funded projects and joint actions and 47% of the contributors state that even though they did not directly participate, they were aware of EU cooperation on HTA. Whilst participation and awareness were relatively high among public administrations, payers, industry, healthcare providers and academia, it was very low for SMEs. From the respondents who confirmed their participation in or awareness of EU funded activities, 69% considered EU cooperation on HTA useful or to some extent useful, with most benefit seen by public administrations, payers and academia (100%) (Fig. 3). Among the most cited benefits of the EU cooperation on HTA are sharing knowledge and best practices among participating organisations, capacity building as well as increased trust between participants and increased awareness on HTA issues (Fig. 4).

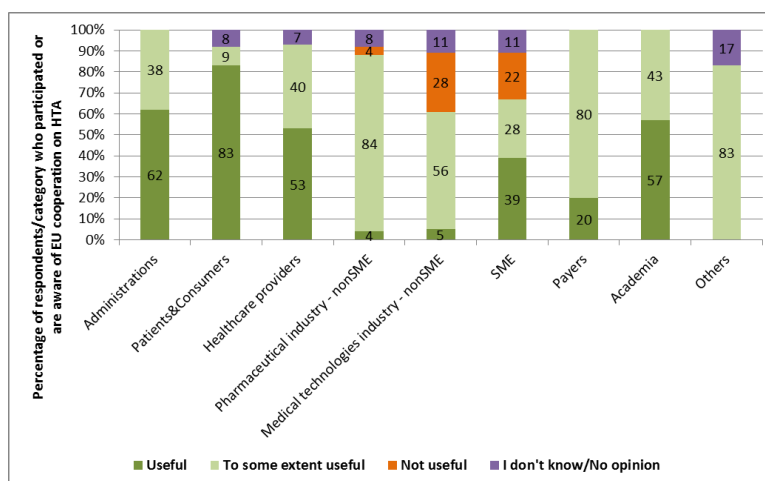


Fig.3. Usefulness of EU cooperation on HTA (i.e. EU-funded projects and joint actions) per category of respondents

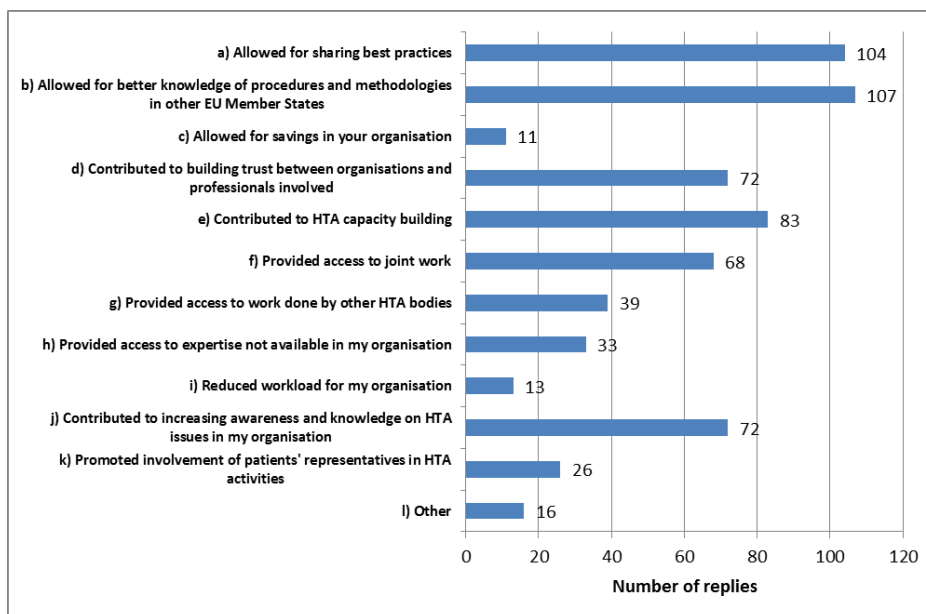


Fig.4. Benefits of the current EU cooperation on HTA as reported by public administrations, organisations and associations (Total number of replies = 157)

A negative opinion about the EU cooperation on HTA was reported by medical technologies industry, SMEs, and a minority of respondents from the pharmaceutical industry (Fig. 3).

The survey showed that despite participation and/or awareness, the uptake of joint work remained low, with significant variations in the estimations provided by different category of respondents. Overall, less than 11% of the respondents estimated that joint tools, EUnetHTA guidelines and joint early dialogues and joint reports (either REA or full HTA) were used to a great extent and up to 51% estimated they were used to a limited extent (Fig. 5).

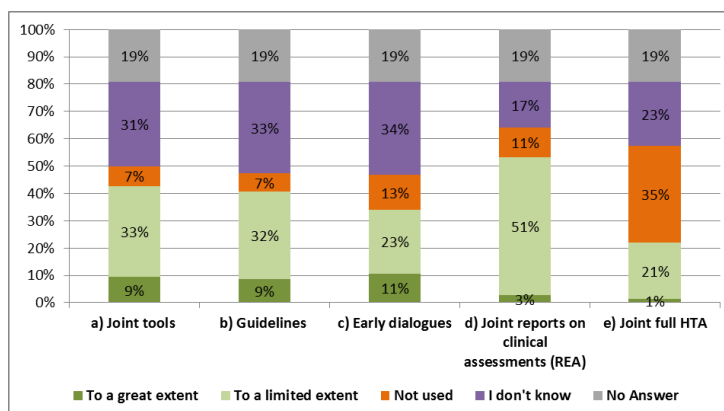


Fig. 5. Uptake of joint work from EU-funded projects and joint actions per type of joint activities – all categories of respondents (Total number of replies = 150)

With regard to the future EU cooperation on HTA, a large majority of the respondents (87%) consider that EU cooperation on HTA should continue beyond 2020 when EUnetHTA Joint Action 3 will end.

Concerning the *scope* of the future cooperation, a large majority of the respondents found useful and to some extent useful to continue EU cooperation on HTA in the field of pharmaceuticals (80%), but also in the areas of medical technologies (72%) and other technologies (54%) (Fig. 6).

As regards the *policy options*, the questionnaire outlined three options with focus on the type of participation (i.e. voluntary or mandatory) and uptake by participating Member States' HTA bodies (i.e. voluntary or mandatory). In this regard, the "voluntary participation with mandatory uptake option" was generally favoured, being at the same time the option with overall lowest opposition and the highest percentage of neutral opinions. In contrast the options voluntary participation with voluntary uptake and mandatory participation with mandatory uptake registered a significantly higher opposition (50% or more) and less support. (Fig. 7).

In relation to the potential *funding mechanisms* of the future EU cooperation on HTA, more than half of the respondents (53%) pointed towards a mix of contributions from EU budget, industry fees and Member States contributions (Fig. 8).

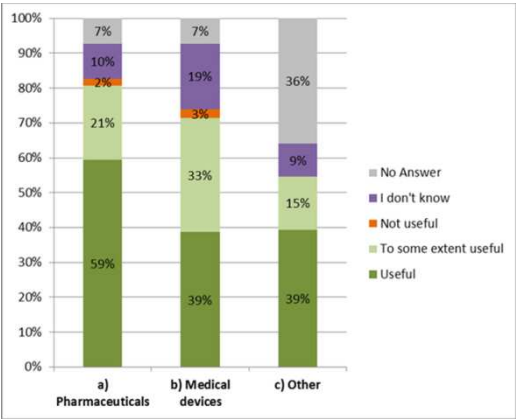


Fig. 6. Overview of the opinions regarding the scope of EU cooperation on HTA beyond 2020.

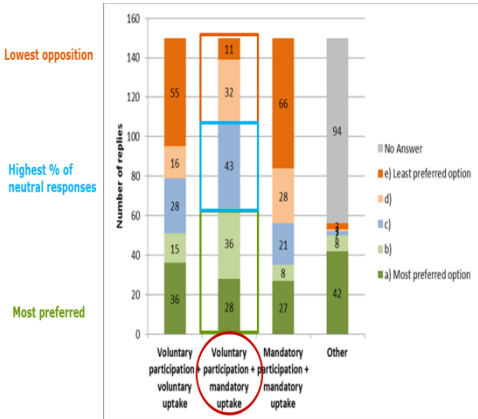


Fig.7. Overview of the opinions on the policy options for continuing EU cooperation on HTA

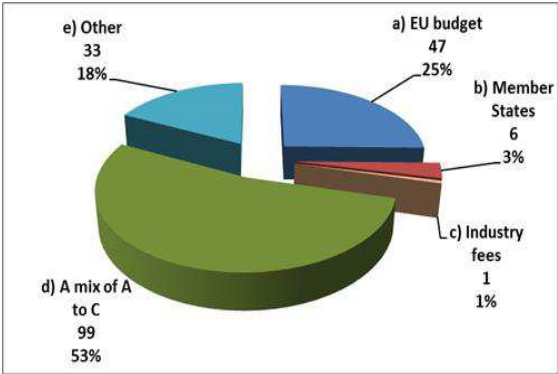


Fig. 8. Overview of the opinions on the funding mechanism of the future EU cooperation on HTA

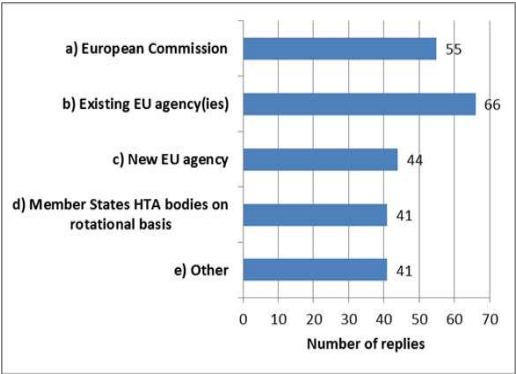


Fig.9. Overview of the opinions on the governance mechanism of the future EU cooperation on HTA

With respect to the *governance mechanism*, the consultation shows an overall preference towards an existing EU agency, followed by the European Commission. Respondents expressed similar preferences for a new EU agency, Member States HTA bodies on rotational basis and other mechanisms, most of them consisting of elements of the current voluntary cooperation and/or EMA-like models (Fig. 9).

Overall, the contributors to the online public consultation were positive in regards to the future of EU cooperation on HTA beyond 2020, pointing out to the outputs responding to

their needs and the benefits of harmonising the use of common tools, and of outputs such as early dialogues and clinical assessments/REA. It was highlighted that in the process of shaping the future EU cooperation on HTA, consideration should be given to the following issues: distinguish between assessment and appraisal (the latter being the responsibility of national health care services and local insurance bodies), clear separation between regulatory assessment (which informs decision on marketing authorisation) and HTA (that informs decisions on added value, use of technologies and reimbursement and pricing), step-wise approach as potential key success factor, appropriate selection and prioritisation, focus on selected technologies, clear and strong coordination/governance/secretarial support, extension of the scope of early dialogues to guidelines on technology development, and appropriate stakeholder involvement. Reduced duplication of efforts and costs, better allocation of resources and last, but not least, the contribution to a faster and more equitable access to new health technologies for EU patients were among the most quoted benefits. However some categories of stakeholders, including medtech industry, SMEs and some national authorities were mostly in favour of a voluntary cooperation.

3. Bilateral meetings with stakeholders

Commission services organised senior level meetings with 10 Member States' Ministries of Health and HTA bodies interested in receiving clarifications and providing an early input to the initiative. Bilateral meetings took place at the request of all interested stakeholders: payers (5 meetings), patients' and consumers' representatives (8 meetings), with healthcare providers and academia representatives (8 meetings), as well as with industry representatives and their trade associations (20 meetings)²¹⁵.

4. Experts Consultation

Following the publication of the Inception Impact Assessment, several meetings with Member States HTA experts were organised. Two closed sessions with Member States representatives to HTA Network took place on 10 November 2016²¹⁶ and 23 March 2017²¹⁷. In addition, brainstorming sessions with members of the EUnetHTA Executive Board were also organised in December 2016, March and May 2017. These discussions were open and constructive, and showed engagement by HTA Network members and EUnetHTA experts to contribute to the development of the policy initiative.

5. External events

The initiative was presented during several meetings such as the EUnetHTA Forum (Brussels, October 2016), the annual meeting of the International Society for Pharmacoeconomics and Outcomes Research/ISPOR (Vienna, October 2016), and the European Health Forum Gastein (Bad Gastein, September 2016), which allowed constructive discussions with stakeholders (i.e. HTA experts, healthcare professionals, public health specialists, patients representatives, industry representatives) and represented good opportunities for raising awareness about the Commission's online public consultation.

²¹⁵ Minutes available at https://ec.europa.eu/health/technology_assessment/events_en#anchor3

²¹⁶ https://ec.europa.eu/health/sites/health/files/technology_assessment/docs/ev_20161110_mi_en.pdf

²¹⁷ https://ec.europa.eu/health/sites/health/files/technology_assessment/docs/ev_20170329_mi_en.pdf

6. Conclusions

The consultation activities showed that there is broad support for the initiative and a high level of stakeholder interest in concrete implementation of a pragmatic solution, from which will benefit not only public authorities or industry but also patients and healthcare professionals.

A large majority of stakeholders emphasise that EU cooperation beyond 2020 is needed to ensure a constant exchange of information and knowledge between HTA institutions in Europe, to increase synergies between Member States, to streamline HTA methodologies, to increase transparency and evidence-based decision making, as well as business predictability. The possibility to access a larger number of HTA reports with less duplication of work and better allocation of resources by HTA bodies was highlighted. Patients' organisations, healthcare professionals and academia stress that EU cooperation can enhance access to added value and affordable technologies in a timely manner and in the long run can also lead to savings, improving resilience and contributing to the sustainability of health systems. Several stakeholders note that significant public resources have been invested in EU cooperation on HTA and all the results achieved so far should be capitalised to support sustainable healthcare systems and guarantee equitable access to technologies with added value to all patients in Europe.

While all representatives of public administrations are in favour of continuing EU cooperation on HTA beyond 2020, some indicate a preference for voluntary cooperation while others support a system with mandatory elements (i.e. legal framework for EU cooperation on HTA to streamline interoperability of HTA national systems). Most contributors highlight that in case of a mandatory system, uptake of joint work should be limited to clinical and technical matters, whereas assessment of non-clinical domains (e.g. economic, legal, ethical) should be carried out individually or jointly by interested Member States/HTA bodies on a voluntary basis. The idea of a phase-in approach was also raised.

Citizens, patients and consumers representatives, as well as healthcare providers and academia were extremely positive, with most of them in favour of a collaboration covering both clinical and economic assessments. They underline the need for involving patients and healthcare professionals in the HTA process, the need of transparency (e.g. summary of HTA reports publicly available, including criteria and rationale for evaluation), and last but not least the need to ensure independence of HTA bodies from industry and other interests.

As regards industry, pharmaceutical industry and their trade associations support the harmonisation of European relative efficacy assessments at time of launch, accompanied by an alignment at EU level of the evidence requirements between regulators, HTA bodies and payers. Many representatives of the pharmaceutical industry advocate for voluntary participation for both Member States and manufacturers until the process of joint work has proven itself, however with mandatory uptake of joint work. It was stressed that economic assessments should remain the responsibility of Member States. Medical technologies' operators and their trade associations reiterate the importance of taking into account the particularities of their sector and the need for a Member States-driven approach (i.e. timing and selection of technologies to be assessed should be decided by HTA bodies and not centrally at EU level). It was underlined that HTA should focus on products that are

innovative and address high unmet patient needs in disease areas where appropriate clinical and economic evidence has been or can be generated (e.g. transformative in-vitro diagnostics and medical devices).

These results are fully taken into account in the proposed preferred option presented in the Impact Assessment, particularly with regard to:

- subsidiarity (i.e. focus on joint early dialogues and joint clinical assessments, with economic assessments to be performed at national level), and
- proportionality (i.e. national uptake understood as implementation of joint work within national HTA processes, addressing the differences between the pharmaceuticals and the medical technologies sector in relation to the different market access path and the role HTA plays in the two sectors, progressive implementation of the product scope).

Annex III. Who is Affected by the Initiative

The aim of this annex is to set out the **practical implications of the preferred policy option** for the main stakeholders affected by it.

Who is affected?	How are they affected?
<p><u>Public administrations</u></p>	<p>Main positive outcomes include:</p> <ul style="list-style-type: none"> • Better evidence for national decision-makers (i.e. due to high quality and timely joint reports) to support sustainability of national health systems and foster public health. Member States with less HTA capabilities and higher pressure on their healthcare budgets will particularly benefit from such evidence. Furthermore, focusing joint reports on clinical data makes them relevant to all decision-makers, without affecting national competences on pricing and reimbursement decisions. • Cost savings and optimisation of resources. The foreseen work sharing is expected to result in cost savings for public administrations in the long run, also allowing for a better allocation of resources. • Pooling expertise and enhanced capacity to address more health technologies. HTA bodies in the EU will be able to specialise in different topics, rather than to keep a general profile of both their tasks and staff. Therefore, the existing staff is expected to specialise (e.g. orphan medicines, medical devices), developing complementary expertise which would ensure the desired high quality of joint REA reports. <p>The introduction of an EU system may be accompanied by an initial increase in costs (mainly human resources) related to the initial implementation of new procedures and methodologies at national level. However, this is expected to be compensated by the work-sharing arrangements and avoidance of duplication foreseen under the preferred policy option. Member States' HTA bodies carrying out the joint assessments as authors and co-authors would be remunerated for their work. The HTA bodies which will not be actively participating as authors and co-authors will benefit from the work produced by the EU system and could therefore save the relevant resources that they would have had to invest.</p> <p>This is expected to counterbalance the initial increased spending due to the adaptation to the new EU system.</p>
<p><u>Patients</u></p>	<ul style="list-style-type: none"> • An EU HTA system would provide for a framework for the involvement of patients in the HTA processes at national and EU level (i.e. common procedures for involving patients, financial support to cover participation of patients to the meeting of the expert Committees carrying out the joint work). • The publication of the joint assessment/REA reports will also increase the transparency in of decision-making in relation to the availability of health technologies and the consistency of the clinical HTA assessments across the EU as they will be based on common procedures and methodologies.

<p><u>Healthcare professional and providers</u></p>	<ul style="list-style-type: none"> • An EU HTA system would provide for a framework for their involvement in the HTA process (i.e. common procedures for involving healthcare professional and providers). • Additionally, the publication of the joint assessment/REA reports would facilitate access to reliable, timely and objective information on medical technologies allowing for better informed decisions on the best treatment for their patients.
<p><u>Pharmaceutical industry</u></p>	<p>The introduction of a joint REA with mandatory uptake will be accompanied by positive economic impacts for the pharmaceutical industry:</p> <ul style="list-style-type: none"> • Improved business predictability. A high quality and timely joint assessment report should reduce divergent decisions related to access on the market of new innovative technologies. • Potential positive impact on time to market. A high quality and timely joint assessment report has the potential to accelerate the next steps to be carried out at national level (i.e. appraisal, pricing and reimbursement). In this regard, quick first access to markets is particularly relevant for SMEs which depend on first access to first revenues. • It will reduce duplication of work through harmonisation of tools and methodologies and one submission for joint early dialogues/joint REA. • A more predictable HTA system has the potential to increase investments in R&D activities in Europe. <p>Regarding costs, in an initial phase the introduction of joint REA at the time of market authorisation is expected to lead to certain costs associated with the adaptation to the new EU system. However, the implementation of the product scope in a progressive manner during the first years of the new EU system is expected to allow a smoother transition to the new system.</p> <p>Additionally, while the duplication of certain tasks/requirements for the staff of pharmaceutical companies in EU Member States will be reduced, the costs associated with national pricing and reimbursement procedures will persist. Overall, according to the GÖG-LSE study the, the pharmaceutical industry does not expect any significant savings, but the gains in terms of business predictability are expected to overcome the costs related to the implementation of an EU system.</p>

<p><u>Medical technologies industry</u></p>	<p>Cost calculations estimate that reduction of duplications could lead to tangible savings for the medical devices industry.</p> <p>When representatives of this sector expressed the opinion that no positive economic impact if there is any obligatory REA at the time of CE marking, many assumed that HTA would become mandatory for all type of medical technologies at the time of market launch.</p> <p>It is important to highlight that the preferred option foresees joint REAs only for medical technologies which have undergone the scrutiny mechanism in the context of their conformity assessment and which in addition have been selected by Member States for a joint REA based on specific criteria (e.g. EU wide added value, potential impact of the technology on patients, public health and healthcare systems across the EU).</p> <p>Additionally, taking into account the more decentralised market access pathway for medical technologies, the timing of the joint REA will not be linked to the timing of the conformity assessment, i.e. it will not necessarily be at the time of market launch. This will avoid putting an additional burden on the manufacturers at market launch.</p> <p>Contrary to what is foreseen for pharmaceuticals, for which the product scope is expected to be fully covered over time (all pharmaceuticals identified in the scope are expected to go through a joint REA at the end of transitional arrangements), for medical technologies the system will remain based on a prioritisation mechanism to ensure that joint REA are only performed on medical technologies in which Member States identify that EU cooperation brings an added value.</p> <p>Overall, a predictable HTA system is expected to re-direct medtech industry resources towards development of and investment in products which would for instance address unmet medical needs and lead to the improvement of health outcomes for patients.</p>
<p><u>SMEs</u></p>	<p>In the area of pharmaceuticals SMEs are mostly engaged in the discovery phase of new molecules, and a very low number apply for central marketing authorisation and undergo HTA process. The number of applications for joint REA from SMEs is expected to be very low, and since no fees are foreseen for this type of joint outputs, the compliance costs are expected to be low. As regards joint early dialogues, no fees will be foreseen; therefore this should become a very advantageous service provided to SMEs developing products in the area of pharmaceuticals.</p> <p>A similar treatment would be applied for SMEs in the field of medical technologies (no fee in case of voluntary application for a joint early dialogues, no compliance fee in case of a joint REA). SMEs manufacturing medical technologies which will have to undergo the scrutiny mechanism in the context of their conformity assessment are expected to benefit from the improved convergence in procedures and methodologies and reduced duplications/parallel REA.</p>

Annex IV. Analytical Models

To support the analysis of the impact assessment three studies were contracted. Firstly, two smaller studies were launched: 1) Mapping of HTA national organisations, programmes and processes in EU and Norway²¹⁸, and 2) Mapping of HTA methodologies in EU and Norway²¹⁹. Thereafter, a study with a larger scope was launched with the following objectives:

- To collect data and evidence and provide an in-depth analysis of what would happen in the absence of further action at EU level including its impacts (baseline scenario);
- To collect data and evidence and provide analysis on the potential impacts of identified policy options for cooperation of the European Commission;
- To collect relevant literature on HTA, with a specific focus on the European Union, to understand the way how it is used across EU Member States (MS).

The study has been performed by a consortia consisting of SOGETI Luxembourg S.A., the Austrian Public Health Institute (GÖG) and the London School of Economics (LSE) (henceforth the GÖG-LSE study).

In the GÖG-LSE study, to establish the baseline scenario, a case study comprising a product sample of health technologies was analysed which included **20 pharmaceuticals, 15 medical devices and 5 “other technologies”** (including complex health interventions). The study team collected detailed information on the HTA-process each technology underwent in Member States. The case study also analysed the influence of the regulatory framework on technology developers. In addition, the costs of performing a HTA were identified for both, the technology developer and the HTA body through desk research and an online survey disseminated to all stakeholder groups, where mainly public administrations and health technology developers responded.

To analyse possible impacts of identified policy options of the European Commission, a survey was performed on the economic and social impacts of the identified policy options, complemented by focus groups, interviews and findings from literature review. The study investigated the following impacts, for which one or more indicators were defined:

The impacts investigated included economic (EC) and social health (SH) criteria:

²¹⁸ Mapping of HTA national organisations, programmes and processes in EU and Norway, 2017, DG SANTE Contract 17010402/2016/734820 (Annex VIII)

²¹⁹ Mapping of HTA methodologies in EU and Norway, 2017, DG SANTE Contract 17010402/2016/736040 (Annex IX)

EC1: Costs EC2: Administrative Burden EC3: Competitiveness of EU health technology sector EC4: Innovation and Research EC5: International Trade Innovation and Research EC6: Functioning of the internal market and competition EC7: Consumers and households EC8: Macroeconomic environment	SH1: Employment SH2: Governance, participation and good administration SH3: Access to social protection and health systems SH4: Sustainability of Health Systems SH5: Public Health
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*Environmental impacts were considered not to be relevant to the analysis at an early stage.

The study also provides a description of the implementation mechanisms and an estimation of the costs based on data gathered from desk research (including data from existing agencies), and responses in relation to the online survey.

Annex V: Health Technology Sectors

In this Impact Assessment, the term health technology is understood in a broad sense, comprising pharmaceuticals, medical technologies (medical devices and in vitro diagnostics)²²⁰ and other technology-based tools for disease prevention, diagnosis or treatment used in healthcare.

This annex provides a description of the pharmaceutical and the medical technologies sectors as the two key health technology sectors, by giving an overview of the size of each sector, the actors, products and regulatory framework. Both sectors are highly innovative and play an important role in the European growth and competitiveness. The pharmaceutical sector is characterised by stronger concentration of actors compared to the medical technologies, where 95% of the companies are small and medium enterprises (SMEs). The regulatory approval process and market access path (including pricing and reimbursement decision) for pharmaceuticals is more centralised. The medical technologies sector is more heterogeneous in terms of the products and the market access path. When a pharmaceutical arrives on the market after a lengthy, costly and risky research and development process it is protected by a patent. This is different for medical technologies, where a quick innovation cycle can be observed due to the rather short lifecycle of products (18-24 months). Last but not least, the Health Technology Assessment methodologies have been primarily developed for assessing pharmaceuticals; addressing the particular methodological challenges relevant to the medical technologies sector is still on-going.

A simplified diagram showing the HTA step within the lifecycle of pharmaceuticals and medical devices in the context of the EU legal framework is presented below. As illustrated below, HTA typically takes place following pharmaceutical market authorisation or CE marking under the medical devices legislation. Enhanced cooperation on HTA as suggested in this impact assessment is fully coherent with the legislation on clinical trials (Regulation (EU) 536/2014), pharmaceuticals (Regulation (EC) No 726/2004), medical devices and in vitro diagnostics (Regulations (EU) 2017/745 and 2017/746) and the Transparency Directive Council Directive 89/105/EEC).

²²⁰ Medical devices and in vitro diagnostics as defined by Regulation (EU) 2017/745 and Regulation (EU) 2017/746.

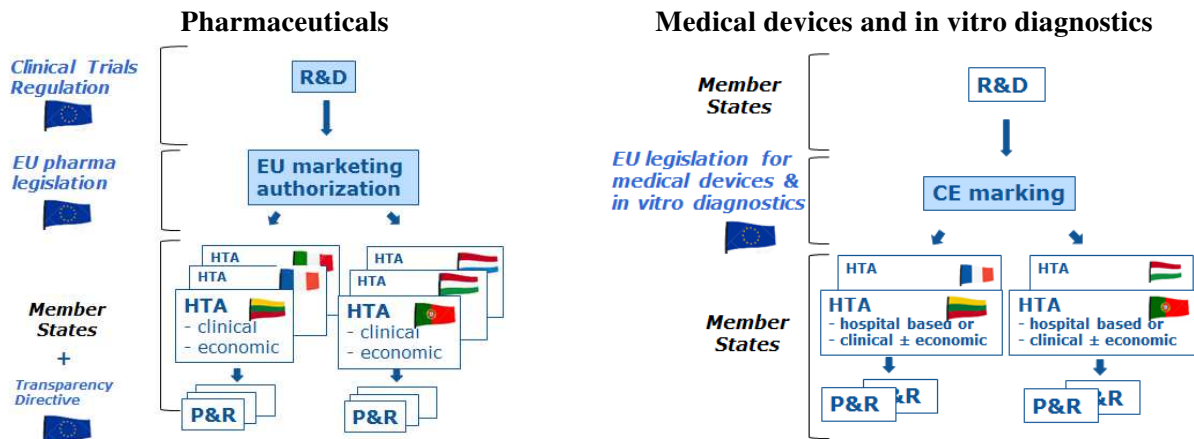


Figure 1. HTA step within the lifecycle of pharmaceuticals and medical devices

I. Pharmaceutical Industry

1. Sector overview

The pharmaceutical sector in the EU employs approximately 800,000 people. It is one of the industries with the highest labour productivity. The research and development investment is high in the sector, thus it plays an important role in the European competitiveness.²²¹

The pharmaceutical sector is characterized by a strong R&D activity and a high level of regulation. On the supply side, the market is divided between *originator companies*²²² and *generic manufacturers*. The life cycle of a drug can be divided into 3 phases:

- 1) From R&D to market launch
- 2) Time on market under patent protection
- 3) Expiration of patent and access to the market of the generic drug.

1.1. Actors

The following table shows the top 10 pharma companies in million EUR 2016.

COMPANY	REVENUE
Pfizer	\$ 43 112
Novartis	\$ 42 467
Roche	\$ 38 733
Merk&Co	\$ 35 244
Sanofi	\$ 34 896
Gilead Sciences	\$ 32 151
Johnson & Johnson	\$ 29 864
GlaxoSmithKline	\$27 051
AstraZeneca	\$23 264
Abbvie	\$ 22 724

²²¹ Pharmaceutical Industry: A Strategic Sector for the European Economy. SWD(2014) 216 final/2

²²² Companies active in research, development, production and marketing of products protected by patents.

1.2. Products²²³

All new medicines introduced into the market are the result of lengthy, costly and risky research and development (R&D) conducted by pharmaceutical companies:

- By the time a medicinal product reaches the market, an average of 12–13 years would have passed since the first synthesis of the new active substance;
- The cost of researching and developing a new chemical or biological entity is estimated at € 1 926 million (\$ 2 558 million in year 2013) in 2016 (DiMasi et al, *Journal of Health Economics*, January 2016);
- On average, only one to two of every 10 000 substances synthesised in laboratories will successfully pass all stages of development required to become a marketable medicine.

2. The Regulatory Framework

Medicinal products are (largely) regulated at EU-level throughout their lifecycle with the dual objectives of facilitating their free movement within the single market and ensuring a high level of public health protection. Directive 2001/83/EC and Regulation (EC) No 726/2004 are considered the core pieces of legislation covering the placing on the market, production, labelling, classification, distribution and advertising of medicinal products for human use. They are supplemented by a number of other Acts which focus on a particular step in the product lifecycle or on specific types of medicinal products. The regulatory framework for the main steps in this lifecycle is outlined below with a particular focus on marketing authorisation procedures due to their links with HTA.

2.1 Clinical Trials

Once the initial research phase on a prospective new medicine has been completed, such products need to undergo clinical trials, which are governed by Regulation (EU) 536/2014 (which replaces the former Directive 2001/20/EC). The clinical trials legislation lays down rules on the protection of patients, informed consent, the manufacturing and clinical practice of those medicines to be used in clinical trials, and the authorisation of trials and the information available on them. The regulation is designed to ensure a streamlined application procedure with defined deadlines. An EU clinical portal will provide for a single entry point for sponsors and a single contact point by Member States. When making an application a single set of documents will be needed and the applications will be assessed based on the new harmonised assessment procedure consisting of two parts – a joint assessment by all Member States concerned and a second part of separate assessments by those Member States. These new rules will become applicable once the new portal and database run by the European Medicines Agency are fully functional, which is expected in 2018.

²²³ EFPIA Key data 2016. Link: [the-pharmaceutical-industry-in-figures-2016.pdf](#)

2.2 Marketing Authorisation Procedures

According to the rules governing medicinal products in the EU, such products may only be placed on the market once a marketing authorisation has been issued, either by a Member State authority or at Union level. These authorisations are granted based on an assessment of the quality, safety and efficacy of the product in question and, in addition to a purely national authorisation limited to one Member State, can be issued through one of three distinct procedures:

1. Centralised procedure;
2. Mutual recognition procedure;
3. Decentralised procedure.

Whichever procedure is used the application is made using the Common Technical Document consisting of the information on quality, non-clinical data, and clinical data. In addition to these standard procedures it should be pointed out that special rules exist for the authorisation of medicinal products for paediatric use, orphan drugs, traditional and herbal medicinal products, and homeopathic medicinal products which provide for simplified rules for the authorisation of such products.

Centralised procedure

The majority of new innovative medicines in the EU are authorised via the centralised procedure. This procedure is governed by Regulation (EC) No 726/2004 and allows applicants to obtain a marketing authorisation that is valid throughout the EU. It is compulsory for medicinal products manufactured using biotechnological processes, for orphan medicinal products and for human products containing a new active substance which was not authorised in the EU before 20 May 2004 and which are intended for the treatment of AIDS, cancer, neurodegenerative disorder or diabetes. The centralised procedure is optional for any other products containing new active substances not authorised before 20 May 2004 or for products which constitute a significant therapeutic, scientific or technical innovation or for which a central authorisation is in the interests of patients or animal health at Union level.

When a company wishes to place on the market a medicinal product that is eligible for the centralised procedure, it sends an application directly to the European Medicines Agency, to be assessed by the Committee for Medicinal Products for Human Use (CHMP). The procedure results in a Commission Decision, which is valid in all EU Member States. Centrally authorised products may be marketed in all Member States. Full copies of the marketing authorisation application file are sent to a rapporteur and a co-rapporteur designated by the competent EMA scientific committee. They co-ordinate the EMA's assessment of the medicinal product and prepare draft reports. Once the draft reports are prepared, they are sent to the CHMP, whose comments or objections are communicated to the applicant. The rapporteur is therefore the privileged interlocutor of the applicant and continues to play this role, even after the marketing authorisation has been granted.

The rapporteur and co-rapporteur then assess the applicant's replies, submit them for discussion to the CHMP and, taking into account the conclusions of this debate, prepare a final assessment report. Once the evaluation is completed, the CHMP gives a favourable or unfavourable opinion as to whether to grant the authorisation. When the opinion is favourable,

it shall include the draft summary of the product's characteristics, the package leaflet and the texts proposed for the various packaging materials.

The time limit for the evaluation procedure is 210 days. The EMA then has fifteen days to forward its opinion to the Commission. This is the start of the second phase of the procedure: the **decision-making process**. The Agency sends to the Commission its opinion and assessment report, together with annexes containing:

- the summary of product characteristics (Annex 1);
- the particulars of the manufacturing authorisation holder responsible for batch release, the particulars of and the manufacturer of the biological active substance and the conditions of the marketing authorisation (Annex 2); and
- the labelling and the package leaflet (Annex 3).

During the decision-making process, the Commission services verify that the marketing authorisation complies with Union law. The Commission has fifteen days to prepare a draft decision. The medicinal product is assigned a Community registration number, which will be placed on its packaging if the marketing authorisation is granted.

The draft decision is then sent to the Standing Committee on Medicinal Products for Human Use. Member States have fifteen days to return their linguistic comments and 22 days for scientific and technical ones. This procedure is conducted in writing but if a duly justified objection is raised by one or more Member States, the committee holds a plenary meeting to discuss it. When the opinion is favourable, the draft decision is adopted via the [empowerment procedure](#). The Commission then notifies the Commission Decision to the marketing authorisation holder. The decision is then published in the [Community Register](#). Marketing authorisations are valid for five years. Applications for renewal must be made to the EMA at least six months before this five-year period expires.

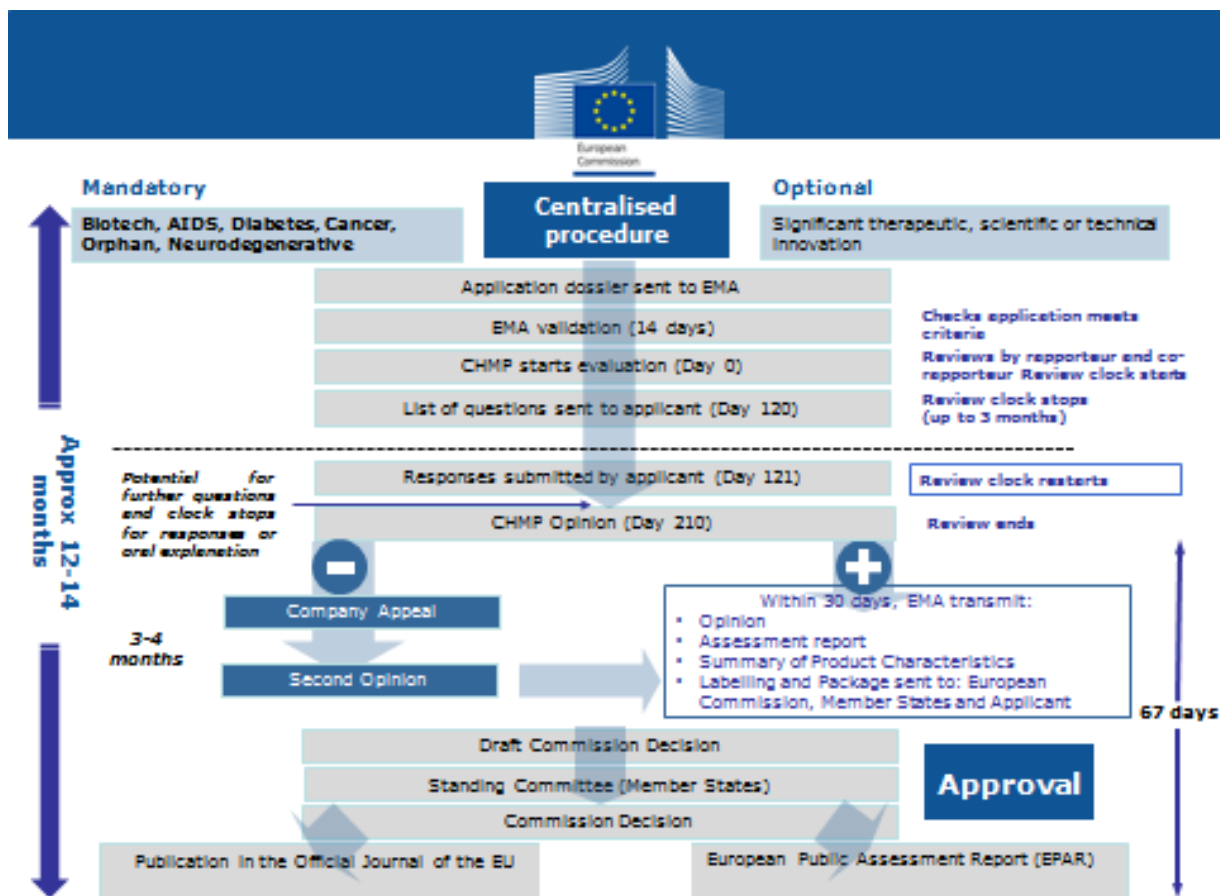


Fig. 2. Centralised procedure

Mutual recognition procedure

As laid down in Directive 2001/83/EC, the mutual recognition procedure is compulsory for all medicinal products to be marketed in a Member State other than that in which they were first authorised. Any national marketing authorisation granted by an EU Member State's national authority can be used to support an application for its mutual recognition by other Member States.

The mutual recognition procedure is based on the principle of the mutual recognition by EU Member States of their respective national marketing authorisations. An application for mutual recognition may be addressed to one or more Member States. The applications submitted must be identical and all Member States must be notified of them. As soon as one Member State decides to evaluate the medicinal product (at which point it becomes the "Reference Member State"), it notifies this decision to other Member States (which then become the "Concerned Member States"), to whom applications have also been submitted. Concerned Member States will then suspend their own evaluations, and await the Reference Member State's decision on the product.

This evaluation procedure undertaken by the Reference Member State may take up to 210 days, and ends with the granting of a marketing authorisation in that Member State. It can also occur that a marketing authorisation had already been granted by the Reference Member

State. In such a case, it shall update the existing assessment report in 90 days. As soon as the assessment is completed, copies of this report are sent to all Member States, together with the approved summary of product characteristics (SPC), labelling and package leaflet. The Concerned Member States then have 90 days to recognise the decision of the Reference Member State and the SPC, labelling and package leaflet as approved by it. National marketing authorisations shall be granted within 30 days after acknowledgement of the agreement.

Should any Member State refuse to recognise the original national authorisation, on the grounds of potential serious risk to public health, the issue will be referred to the coordination group. Within a timeframe of 60 days, Member States shall, within the coordination group, make all efforts to reach a consensus. In case this fails, the procedure is submitted to the appropriate EMA scientific committee (CHMP or CVMP, as appropriate), for arbitration. The opinion of the EMA Committee is then forwarded to the Commission, for the start of the decision making process (described below). As in the centralised procedure, this process entails consulting various Commission departments and the Standing Committee on Human Medicinal Products.

Decentralised procedure

Introduced by Regulation (EC) No 726/2004, the decentralised procedure is similar to the mutual recognition procedure in terms of procedural steps. The key difference is that there is no existing marketing authorisation in any Member State before an application is made. An identical application for marketing authorisation is submitted simultaneously to the competent authorities of the Reference Member State and of the Concerned Member States. At the end of the procedure, the draft assessment report, SPC, labelling and package leaflet, as proposed by the Reference Member State, are approved. The subsequent steps are identical to the mutual recognition procedure.

2.3 Manufacturing and distribution

Once a marketing authorisation has been granted, companies then require a manufacturing authorisation before medicinal products can be manufactured in the Union based on the rules laid down in Directive 2001/83/EC as well as the detailed rules on Good Manufacturing Practice (GMP) set out in Directive 2003/94/EC. Once a manufacturer has made an application, an inspection is carried out prior to the national competent authority issuing a GMP certificate. Applicants are assessed on the suitability of their premises, their technical equipment and control facilities, staff, and compliance with GMP including the use of active substances complying with GMP. A manufacturing authorisation is also necessary for companies importing medicinal products into the EU from third countries.

Distribution of medicinal products is governed by the rules on Good Distribution Practice (GDP). A distribution authorisation is necessary in order to distribute medicinal products. This allows either manufacturers to distribute products themselves or to sell products to those in possession of a distribution authorisation. In turn distribution authorisation holders can sell medicinal products to entities entitled by the MS to sell medicinal products to the public. The retail of medicinal products is regulated at Member State level.

2.4 Pharmacovigilance

Once medicinal products have been placed on the EU market pharmacovigilance is used to ensure that the safety of medicinal products is fully monitored and that action is taken to reduce the risks and increase the benefits of such products. The system requires data from healthcare professionals working with medicinal products to be collected, managed, and evaluated and decisions taken where necessary to protect public health. When granting a marketing authorisation, certain conditions may be made requiring the collection of further data post-authorisation, particularly on the efficacy of a product. Where safety issues do arise this can result in further action being taken including the suspension, withdrawal, revocation or non-renewal of the marketing authorisation. The basic rules and requirements for pharmacovigilance are laid down in directive 2001/83/EC and Regulation (EC) No 726.2004.

2.5 Market access

In most Member States, pricing and reimbursement decisions for pharmaceuticals are taken at national level at the time of market launch (or shortly thereafter). While pricing and reimbursement are a Member States competence, the Transparency Directive (Council Directive 89/105/EEC) defines procedural requirements to ensure the transparency of these processes for pharmaceuticals, including the setting of timeframes for decision-making.

It is important to note that HTA does not comprise pricing and reimbursement decisions. Rather, the role of HTA is to provide a scientific assessment to inform evidence-based decision-making on pricing and reimbursement. In line with this distinction, the principle of subsidiarity and Article 168(7) TFEU, decisions on pricing and reimbursement are not within the scope of the initiative analysed in this impact assessment. Nevertheless, strengthened EU cooperation on HTA can be considered coherent with the objectives of the Transparency Directive in terms of supporting timely and transparent decision-making by Member States²²⁴.

II. Medical Technology Industry

1. Sector Overview

There are about 25 000 medical technology companies in Europe. About 95% of them are Small and Medium-sized Enterprises (SMEs). The market is estimated to employ about 575 000 people. Total sales amount to EUR 100 billion per year, of which 8 to 10% are invested in R&D activities²²⁵. On average, the European medical technology market has been growing by 4% per annum over the past seven years. Demand fell in 2009 due to the global economic crisis, resulting in a growth rate of only 1% in that year. The market recovered in 2010, but growth rates fell back in 2011²²⁶. The sector is expected to grow, given the technological

²²⁴ Note that this relates in particular to supporting decision-making on clinical aspects of HTA (compare policy option 3 and 4).

²²⁵ Medical devices, DG GROW https://ec.europa.eu/growth/sectors/medical-devices_en

²²⁶ WHO; G. Donahoe and G. King – Estimates of Medical Device Spending in the United States, F.S.A., M.A.A.A., AdvaMed, 2012

advancements and improvements in healthcare, combined with the steady increase in life expectancy rates over the last decades.

Two main underlying characteristics of the industry is - a high variety of products and a quick innovation cycle²²⁷. There are more than 500, 000 medical technologies currently available on the market. Additionally, on average, products have a lifecycle of between 18 and 24 months before an improved product enters the market, which is a strong driver for research and innovation.²²⁸

1.1. Actors

Most of the 25 000 medical technology companies in Europe are based in Germany, the UK, Italy, Switzerland, Spain and France²²⁹.

The following table shows the top 10 medical technology companies in 2015 in the world.

COMPANY ²³⁰	2015 REVENUE
1 Medtronic	\$28,833,000,000
2 Johnson & Johnson (medical device segment)	\$25,137,000,000
3 Philips Healthcare (Royal Philips Electronics)	\$19,817,952,415
4 GE Healthcare (General Electric)	\$17,639,000,000
5 Fresenius (medical care segment)	\$16,739,425,600
6 Siemens Healthineers (Siemens)	\$11,652,847,873
7 Cardinal Health (medical segment)	\$11,395,000,000
8 Becton, Dickinson (medical segment)	\$10,282,000,000
9 Baxter (medical products segment)	\$9,968,000,000
10 Stryker	\$9,946,000,000

1.2. Products

A distinct characteristic of the medical technology industry is the wide variety of products covered by it. There are more than 500,000 registered medical devices – from syringes, surgical kits and hip replacements, to pacemakers, in vitro diagnostic devices and radiotherapy units.

The rather high level of R&D activities in the field results in a constant flow of innovations in the sector. Accordingly, the highest number of patents filed to the European Patent Office (EPO) in 2015 came from the medical technology industry (7.8%) – more than the ones in

²²⁷ MedTech Europe. The European Medical Technology industry in figures. 2016

²²⁸ The European Medical Technology Industry – in figures 2016

²²⁹ Ibid.

²³⁰ Medical Design & Outsourcing annual look at the world's 100 largest medical technology companies 2016 - 2016 Top 100 Medical devices companies.pdf

digital and computer communication.²³¹The number of medical devices receiving CE marking in 2015 is estimated to be around 4,500.²³²

1.3 Classification of Products

The European classification depends on rules that involve the medical device's duration of body contact, invasive character, use of an energy source, effect on the central circulation or nervous system, diagnostic impact, or incorporation of a medicinal product.

The initial classification of medical devices in the EU is set out in Article IX of Council Directive 93/42/EEC. Essentially, they fall under four categories: non-invasive devices, invasive medical devices, active devices and, last, but not least, special rules, which include contraceptive, disinfectant, and radiological diagnostic medical devices). Additionally, medical devices are further segmented into classes. While there is a separate classification scheme for IVDs and implantable devices do not follow the same classification system as provided by the Medical Devices Directive, they are subject to similar requirements as Class III. There are three groups covering from low to high risk devices:

- Class I – Provided non-sterile or do not have a measuring function (low risk)
- Class I – Provided sterile and/or have a measuring function (low/medium risk)
- Class IIa (medium risk)
- Class IIb (medium/high risk)
- Class III (high risk)

2. Regulatory Framework

The existing regulatory framework for the medical devices dates back to the 1990s. The three Directives (Council Directive 90/385/EEC, Council Directive 93/42/EEC and Council Directive 98/79/EC) have been recently revised, as an array with issues with divergences in the interpretations and applications of the regulations, the technological progress, along with some incidents which involved malfunctions of medical devices highlighted the need for a review.

In April 2017, two legislative proposals on medical and in-vitro diagnostic Regulations were adopted, replacing the existing Directives. Firstly, it is Regulation (EU) 2017/745 on medical devices, amending Directive 2001/83/EC, Regulation (EC) No 178/2002 and Regulation (EC) No 1223/2009 and repealing Council Directives 90/385/EEC and 93/42/EEC. Secondly, it is Regulation (EU) 2017/746 on in vitro diagnostic medical devices repealing Directive 98/79/EC and Commission Decision 2010/227/EU.

The new regulation was designed to ensure a high level of consistency of health and safety protection for EU citizens using medical devices. Moreover, the legislation safeguards the free trade of products throughout the Union, and responds to the significant scientific and technological developments, which have occurred in the sector over the last two decades.

²³¹ MedTech Europe. The European Medical Technology industry in figures. 2016

²³² MedTech Europe. The European Medical Technology industry in figures. 2016

The new regulations include a number of improvements to modernise the existing regulatory system. These improvements include:

- Provision for a stricter ex-ante control for high-risk devices through a new pre-market scrutiny mechanism;
- A reinforcement of the criteria for designation and processes for oversight of Notified Bodies;
- inclusion of some aesthetic devices which, under the scope of these Regulations, present the same characteristics and risk profile as analogous medical devices;
- introduction of a new risk classification system for in vitro diagnostic medical devices;
- improved transparency is assured through the establishment of a comprehensive EU database on medical devices; along with this a device traceability system is also introduced based on Unique Device Identification;
- an "implant card" containing information about implanted medical devices for a patient;
- reinforcement of the rules on clinical evidence, including an EU-wide coordinated procedure for authorisation of multi-centre clinical investigations;
- strengthening of post-market surveillance requirements for manufacturers;
- last, but not least, an improved coordination mechanisms between EU countries in the fields of vigilance and market surveillance.

These new rules will only enter into force after three years for the Regulation on medical devices (spring 2020) and after five years for the Regulation on in vitro diagnostic medical devices (spring 2022).

2.1 Post-market surveillance

The enforcement of the harmonised legislation on medical devices is the responsibility of the relevant authorities in the Member States. They are expected to gather record and analyse relevant data on the quality, performance and safety of devices. The necessary conclusions need to be drawn, and any preventive and corrective actions have to be determined.

2.2 Market surveillance

The new regulations provide clearer rights and obligation of market surveillance authorities, along with clearer procedures for national provisional measures. Member States are anticipated to exchange mutual information and control.

2.3 Vigilance

The new regulations provide the establishment of an EU vigilance portal. Additionally, serious incidents are expected to be centrally reported. Following such cases, field safety corrective actions are expected to be taken. Moreover, trend reporting and enhanced coordination between authorities are expected to take place under the new regulations.

2.4 Market Access

The market access process presents a more heterogeneous picture for medical technologies, compared to the pharmaceutical products. Health Technology Assessments for medical technologies are currently carried out less frequently and on a smaller, less centralised scale (See *Fig. 3*). The pricing and reimbursement judgement is typically taken in a decentralised manner, through local (hospital level) decisions or procurement, with limited input from HTA reports developed on a national, or centralised, level. Public procurement (instead of a central decision on reimbursement) is often the final step of the market access path.

3. Other considerations

For medical technologies, a number of issues should be taken into account when considering HTA:

- Heterogeneity of the products, including multiple uses for the same device.
- Incremental innovation and a short lifecycle. The quick, incremental innovations, which can take place within 18-24 month on the medical technologies, may affect the efficacy and cost of the device.
- Learning curve of the device user (patient or health professional) means that the outcomes are less favourable during the period of training.
- Wider economic and organisational implications, such as required trainings, operational costs or savings due to shorter hospitalisation.
- Availability of evidence; randomised controlled trials can be more challenging to design, due to the learning curve, difficulties in blinding or randomisation.
- For IVDs, there are two further challenges. Firstly, the value of improved diagnosis cannot be separated from the value of the treatment determined by the diagnosis. Secondly, technologies may have multiple uses.^{233 234 235}

Such methodological challenges were pointed out in a number of submissions in the public consultation (e.g. COCIR, Siemens, etc.)

²³³ Rummel, P, Hawlik, K, Wild, C. Health Technology Assessments on Medical Devices in Europe. Final Report. LBI-HTA Rapid Assessment Nr. 12; 2016. Vienna: Ludwig Boltzmann Institute for Health Technology Assessment.

²³⁴ Drummond, M., Griffin, A. and Tarricone, R. (2009), Economic Evaluation for Devices and Drugs—Same or Different?, *Value in Health*, 12: 402–404.

²³⁵ MedTech and COCIR contributions to the open public consultation

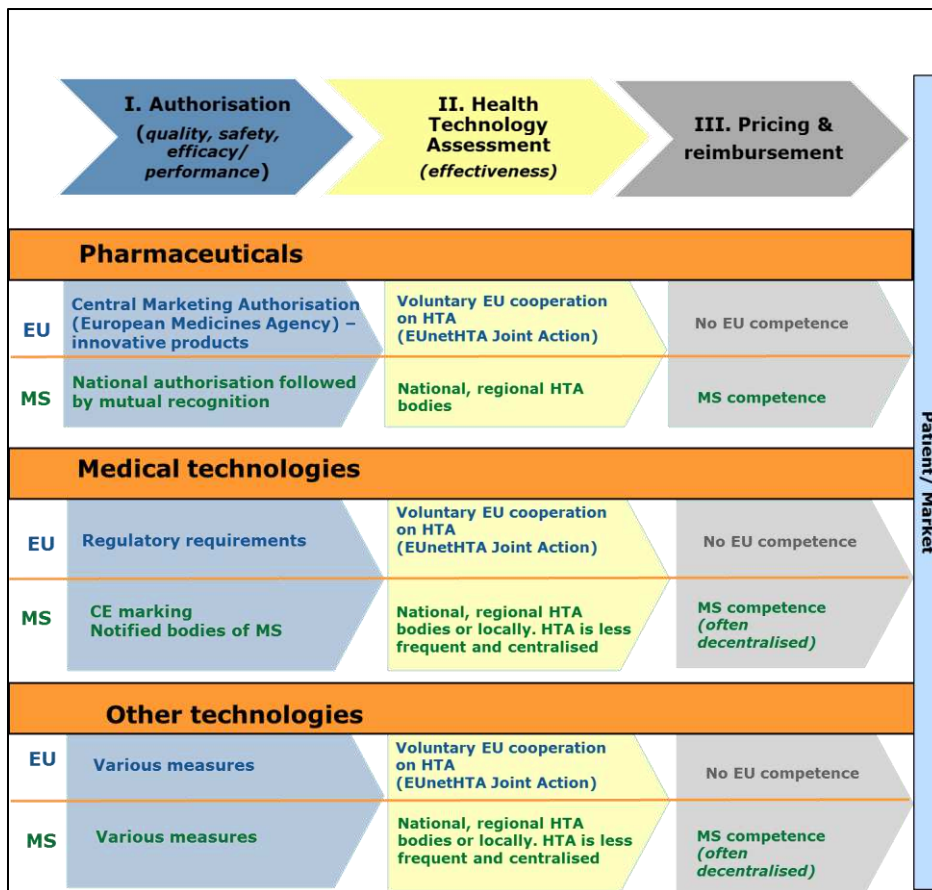


Figure 3. Schematic market access process of health technologies

Annex VI. European Cooperation on HTA

The EU Cooperation on Health Technology Assessment (HTA) has had a long history, from the first main steps in the beginning of the 1990's through different networking and coordination projects to the largest ever Joint Action funded by the Public Health Programme, the EUnetHTA Joint Action 3. To date, over EUR 50 million will have been invested in the EU cooperation jointly by Member States and the EU by 2020. This Annex summarises the main elements of the projects and cooperation conducted so far.

PUBLIC HEALTH PROGRAMME

- EUR-ASSESS (1994-1997)
- ECHTA-ECAHI (1999-2001)
- EUnetHTA project (2006-2008)
- EUnetHTA Joint Action 1 (2010-2012)
- EUnetHTA Joint Action 2 (2012-2015)
- EUnetHTA Joint Action 3 (2016-2020)

FP 7 RESEARCH PROGRAMME

- AdhoptHTA (7th Framework Programme)
- MedtechHTA (7th Framework Programme)
- Integrate-HTA (7th Framework Programme)
- Advance-HTA (7th Framework Programme)

INNOVATIVE MEDICINES INITIATIVE

- ADAPT SMART (Innovative Medicines Initiative)
- GET REAL (Innovative Medicines Initiative)

PUBLIC HEALTH PROGRAMME

EUR-ASSESS (1994-1997)

Between 1994 and 1997 the EUR-ASSESS project took place with the following aims: to improve methods of priority setting, to develop and formulate HTA methodologies, to ensure that effective dissemination strategies were being used throughout European agencies, and to improve decision making by stimulating wider use of technology assessments.

All the then 15 Member States and Switzerland took part in the project and it was concluded that there was a need to promote the field of HTA, improve its use and impact in decision making and that further EU cooperation was needed. One identified example of the need of further cooperation was duplication of effort; where it was exemplified that certain technologies could have up to 10 different assessments with limited coordination between different HTA agencies.

The European Collaboration for Assessment of Health Interventions-Health Technology Assessment (ECHTA/ ECAHI) (1999-2001)

Following the EUR-ASSESS, with the ECHTA/ECAHI (1999-2001) project, the ambition level increased further. The project assembled 6 different working groups on different aspects of HTA and possible ways of cooperation. The project had the following aims:

- To assess health promotion and disease prevention activities in terms of benefits, risks and economic, social and ethical implications as a complement to community health indicators.
- To develop systems for routine exchange of information between programmes on:
 - Emerging technology issues
 - Priorities for future evaluation
 - Conduct and timing of ongoing evaluations, including findings from evaluations.
- To identify possible joint assessments and to co-ordinate findings and existing resources within the community to support joint assessments.
- To develop and disseminate best practice in undertaking and reporting assessments. To identify needs for methodological development.
- To develop and co-ordinate education and support networks for individuals and organisations undertaking or using assessment of health interventions. To identify needs in the field and assist in the establishment of new provisions.
- To identify and share successful approaches to link findings of assessments, their contribution to health indicators and health care decision-making.

It was concluded that a more sustainable network was needed to support the EU cooperation on HTA and that project based solutions would not be adequate to proceed further. Therefore, there was a call for a permanent coordination secretariat funded by the European Commission with a caveat that it should respect the subsidiarity principle.

EUnetHTA project (2006-2008)

The project was led by the National Board of Health of Denmark, Danish Centre for HTA. The EUnetHTA network collaboration was initiated in 2006 with the EUnetHTA project to connect public national health technology assessment (HTA) agencies, research institutions and health ministries, enabling an affective exchange of information and support to policy decisions by Member States. The concept of the (paper based) HTA Core Model and the framework for producing and sharing structured HTA information were developed.

EUnetHTA Joint Action 1 (2010-2012)

The EUnetHTA Joint Action 1 (JA1) was led by Danish Health and Medicines Authority (DHMA) and involved 33 collaborating partners from 26 EU Member States, Norway and Croatia. The budget of JA1 was 6 million EUR. EUnetHTA JA1 built on the methods and tools developed by the earlier EUnetHTA project (2006-2008) and EUnetHTA Collaboration 2009. JA1 was a voluntary, time-limited initiative with a defined work plan.

The JA1 developed a background review and a HTA Core Model for rapid Relative Effectiveness Assessment of pharmaceuticals,. It also developed the POP (Planned and On-going Projects) database which in 2011 turned into an online tool. The JA also collaborated with EMA on the improvement of European Public Assessment Reports (EPARs), which are the full scientific assessment report published by EMA for every medicine granted a central marketing authorisation. The JA also signed a Memorandum of Understanding with INAHTA, the International Network of Agencies for Health Technology Assessment, which links 52 Member agencies working with HTA, in 29 countries.

EUnetHTA Joint Action 2 (2012-2015)

EUnetHTA Joint Action 2 (JA2) was led by the National Board of Health of Denmark, Danish Centre for HTA and involved 69 organisations in 31 countries across Europe. A total number of 49 government-appointed organisations from 28 EU Member States and Norway participated in the work. The budget of the JA2 was 9,5 million EUR.

The JA2 tested the tools and methodologies developed in the first EUnetHTA JAs through the cross-border HTA pilots. The aim was to generate evidence on the costs, quality and feasibility of European cooperation as applied to concrete assessment projects.

Through joint work the partners produced approximately 20 joint reports, including REA (focusing on the clinical/therapeutic added value) and Full HTA (including assessment of economic and organisational aspects). The cooperation also facilitated over 20 early dialogues between technology developers and HTA bodies, which help industry to design the studies in terms of regulatory and HTA requirements.

EUnetHTA Joint Action 3 (2016-2020)²³⁶

The EUnetHTA Joint Action 3 (JA3) with a budget of 20 million EUR is led by the Dutch National Healthcare Institute (ZIN). JA3 comprises around 80 HTA bodies from all Member States, Norway and Switzerland. The challenges have been the setup of a new coordinating office and the involvement of many new organisations (80 versus 69 in previous Joint Actions).

Under JA3 further progress is expected from the previous Joint Actions since the collaboration foresees 80 joint reports and 35 early dialogues by 2020. Increased uptake of the joint work at national level is also an important aim of the Joint Action. In addition, JA3 will also perform a revision of current guidelines, models, methodologies and other tools, as well as the development of new ones, with the aim of facilitating HTA collaboration at EU level beyond the end of the project in 2020.

FP 7 FRAMEWORK PROGRAMME (2007-2013)

Through the FP7 work programme (2007-2013) managed by DG RTD, several projects were launched focusing on developing methodologies, tools and guidelines on different topics related to HTA which started 2013 and were finalised in 2015. These were:

AdHopHTA – Adopting hospital-based Health Technology Assessment in Europe²³⁷

The project AdHopHTA aimed to bolster the use and impact of high-quality health technology assessment (HTA) in hospital settings. The ultimate goal was to facilitate the adoption of health technologies with proven value in hospitals and to keep costly pseudo-innovations without proven benefit at bay.

AdHopHTA findings and results have been collected in a “handbook for hospital-based HTA (HB-HTA)” that includes a set of guiding principles for good practices in HB-HTA units. The handbook has an accompanying toolkit to put it into practice. The project has developed as well a database of hospital-based HTA reports produced by the project partners.

²³⁶ <http://www.eunethta.eu/>

²³⁷ <http://www.adhophta.eu/>

INTEGRATE-HTA²³⁸

The INTEGRATE-HTA project developed conceptual and methodological guidance for a comprehensive, patient-centered, and integrated assessment of complex technologies. The assessment comprises effectiveness as well as economic, socio-cultural, ethical, and legal factors and takes into account patient-specific factors, context, and implementation issues. Its starting point is the perspective of the stakeholders involved, palliative care has been chosen as a case study.

MedtecHTA²³⁹

The general objective of MedtecHTA was to identify improvements of HTA methods by making evaluation of medical devices more comprehensive and by acknowledging complexities rising from their integration into clinical practice. The project aims at filling the gap on the current research debate on the challenges to the available methodological framework for HTA when applied to medical devices.

Advance HTA²⁴⁰

The objective of ADVANCE-HTA project was to contribute to the advancement of HTA by addressing areas of intense methodological debate (value for money, value assessment, quality of life measurement, rare and orphan diseases, HTA for selected medical devices, HTA in emerging settings). Ultimately, it aims to bring about improvement in HTA methods which can be taken further by competent authorities at national and supra-national levels towards a common understanding of choices in healthcare decision-making.

INNOVATIVE MEDICINES INITIATIVE (IMI)

The Innovative Medicines Initiative (IMI) is Europe's largest public-private partnership with a €2 billion budget funded equally between the European Commission and industry, aiming to improve the drug development process by supporting a more efficient discovery and development of better and safer medicines for patients. IMI is since 2015 undertaking two projects relevant to the EU cooperation on HTA.

GetReal²⁴¹

GetReal aims to show how robust new methods of Real World Evidence (RWE) collection and synthesis could be developed and considered for adoption earlier in pharmaceutical R&D and the healthcare decision making process. This will require companies, healthcare decision makers and other stakeholders to work together to generate a consensus on best practice in the use of RWE in regulatory and reimbursement decision-making.

It is expected that alternative evidence generating strategies will deliver more focused research in pharmaceutical research and development , and allow healthcare decision makers to be more certain when providing patients with access to new treatments. GetReal is carrying out work to develop intelligence, evidence, tools, techniques and training to realise the full potential of RWE.

²³⁸ <http://www.integrate-hta.eu/>

²³⁹ <http://www.medtechta.eu/wps/wcm/connect/site/medtechta/home>

²⁴⁰ <http://www.advance-hta.eu/>

²⁴¹ <http://www.imi-getreal.eu/>

Accelerated Development of Appropriate Patient Therapies (AdaptSMART)²⁴²

AdaptSMART aims to establish a platform for coordinating activities related to 'Medicines Adaptive Pathways to Patients' (MAPPs) and enable stakeholder dialogue in this field. The main aims of the project are the following:

- Identify the scientific challenges and opportunities related to the implementation of MAPPs and foster the aligned understanding of consortium members and their constituents.
- Support new IMI2 research and innovation actions by facilitating the inclusion of MAPPs enablers, tools and methodologies to address its challenges and opportunities.
- Conduct horizon scanning and research on key topics to produce actionable advice and recommendations for IMI and other stakeholders to further the broad implementation and adoption of MAPPs.
- Distribute findings, key discoveries and case studies from ongoing or completed MAPPs pilot projects, creating a MAPPs repository of knowledge and opportunities.

²⁴² <http://adaptsmart.eu/>

Annex VII: International Outlook

While Europe is generally considered a leading example in applying HTA in decision-making, it is interesting to note developments in other parts of the world.

Most developed and many developing countries are implementing HTA systems. Most OECD countries have national agencies responsible for HTA, although they have varying capacities, institutional settings, scope and mandates. In the majority of cases, HTA is used to inform coverage and pricing decisions. In this regard, when it comes to pharmaceuticals, HTA agencies only provide scientific assessment, while the particular government, third-party payers or joint associations of medical bodies make the final coverage and pricing decisions²⁴³.

Use of HTA to make coverage and pricing decisions for pharmaceuticals in OECD countries

	Countries
Systematically used to inform coverage decisions	Australia, Belgium, Canada, Chile, ¹ Finland, France, Hungary, Ireland, Israel, Italy, Korea, Luxembourg, Netherlands, New Zealand, Norway, Poland, Slovenia, Sweden, Switzerland
Used in some circumstances to inform coverage decisions	Austria, Denmark, Mexico, Portugal, Spain, United Kingdom
Used to help determine reimbursement level or price	France, Hungary, Ireland, Japan, New Zealand, Norway, Poland, Sweden

1. Only for products and services to be included in GES (i.e. explicit guarantees expected to be covered by all plans).
Source: Aaraaen et al. (2016).

Countries using HTA to make coverage decisions or to set reimbursement level or price for new medical devices

Type of technology	Use of HTA to make coverage decisions	Countries
Procedures	Systematically	Australia, Chile, ¹ France, Hungary, Israel, Korea, Netherlands, Poland, Slovenia
	In some circumstances	Austria, Belgium, Canada, Denmark, Finland, Ireland, Italy, Japan, Luxembourg, Mexico, New Zealand, Norway, Spain, Sweden, Switzerland, United Kingdom
	Determine reimbursement level or price	Israel
Devices	Systematically	Australia, Belgium, Chile, ¹ France, Hungary, Israel, Korea, Poland
	In some circumstances	Austria, Canada, Denmark, Estonia, Finland, Ireland, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, United Kingdom, United States
	Determine reimbursement level or price	France, Israel

1. Only for products and services to be included in GES ("Garantías Explícitas en Salud"), i.e. covered by all health plans (public and private).

Source: 2014 OECD Health Benefit Basket Questionnaire and 2012 OECD Health Systems Characteristics Survey.

HTA is often, yet not always used for medical technologies in OECD states. Depending on

²⁴³ Structural Policy Country Notes: Medium-term Policy Challenges; Southeast Asian Economic Outlook 2013, OECD <https://www.oecd.org/dev/49954247.pdf>

the type of medical devices, HTA is used to inform coverage decisions relative to either the medical device itself (e.g. implantable devices) or to diagnostic and therapeutic procedures using the device (e.g. imaging or surgery). According to a recent study, carried out by the OECD²⁴⁴, two-thirds of its member countries use HTA to make decisions on devices or interventions, whether systematically or in "some circumstances".

Looking at particular countries, **Canada** is one to offer a positive international example in the realm of HTA. The country, which has federal structure, consists of three territories and 10 provinces. Before the 2000s the HTA processes in Canada were decentralised – each jurisdiction was performing its own HTA. This led to significant discrepancies between the sheer numbers and types of drugs assessed in the different parts of the country. In an attempt to reduce the differences between the healthcare services Canadians were receiving based on where they lived, Canadian Agency for Drugs and Technologies in Health (CADTH) was set up^{245,246}. It is a national organisation, where federal, provincial and territorial healthcare assessments are made. Quebec is the only territory which does not participate in CADTH due to constitutional provisions. Consequently, Canada managed to reduce the divergences between the different provinces. In brief, the move towards harmonisation in Canada has met its objective to a large degree thanks to the establishment of the Canadian Agency for Drugs and Technologies in Health and by establishing common HTAs.

Australia has also a well-established HTA system comparable to the ones in place in several Member States, i.e. based on independent body providing recommendations to the pricing and reimbursement authority. The assessment of pharmaceutical and other technologies is conducted by a specialised agency, the Medical Services Advisory Committee, and, increasingly by insurers.²⁴⁷ It is interesting to note that also Australia regularly undertakes a review of its HTA system to reduce duplication and fragmentation of the processes which have been identified as having cost and time implications for economic stakeholders, patients and administrations.²⁴⁸

In **USA**, due to the very different nature of healthcare system, based mainly on many private payers providing care to its members, HTA is equally fragmented. Providers of care may perform directly or via academic institutions, evidence reviews or comparative analysis,

²⁴⁴ Structural Policy Country Notes: Medium-term Policy Challenges; Southeast Asian Economic Outlook 2013, OECD <https://www.oecd.org/dev/49954247.pdf>

²⁴⁵ CADTH website accessed 27 July 2017: <https://www.cadth.ca/about-cadth/who-we-are/history>

²⁴⁶ Science-Matrix, Evaluation of CADTH, December 2016 : <https://www.cadth.ca/sites/default/files/pdf/2016%20CADTH%20Evaluation.pdf>

²⁴⁷ Healy J, Sharman E, Lokuge B. Australia: Health system review. *Health Systems in Transition* 2006; 8(5): 1–158.

²⁴⁸ Australian Government-Productivity Commission (2015) Efficiency in Health. Available at: <http://www.pc.gov.au/research/completed/efficiency-health/efficiency-health.pdf>

however the systems is not really comparable with the ones in place in most of European countries²⁴⁹.

In **South Korea**, HTAs were first introduced in the 1990s within the National Health Insurance (NHI). Swiftly increasing expenditures for healthcare have been a challenge of the NHI, which considered health technology management as a cost controlling measure. Currently, the HTA process is governed by a governmental committee within the Ministry of Health, Welfare and Family Affairs (MIHWFA). It comprises of twenty members who technically supported by the HTA centre created within the National Health Insurance structure. The institutionalisation of HTA in South Korea has been driven mainly by the requirements of the NHI. It has manifested both strengths as well as weaknesses²⁵⁰. Most recently the South Korean government is establishing a new organization for HTA, independent from the NHI.

Another proof for the worldwide interest in HTA has been established by **international scientific societies**, such as ISPOR (International Society for Pharmaceutical and Outcomes Research) or HTAi (Health Technology Assessment international). They work to improve the quality of HTAs and their role in decision-making.

249 European Observatory on Health Systems and Policy (2013) United States of America. Health system review. Vol. 15 No. 3 2013. Available at: http://www.euro.who.int/_data/assets/pdf_file/0019/215155/HiT-United-States-of-America.pdf

250 Health Technology Assessment in South Korea, Chang-yup Kim (2009) International Journal of Technology Assessment in Health Care, 25:Supplement 1, 219-223 <https://www.cambridge.org/core/services/aop-cambridge-core/content/view/S0266462309090667>

Annex VIII. Earlier Market Access Calculations

One of the proposed policy options (PO 4) in the Inception Impact Assessment on Strengthening the EU cooperation on Health Technology Assessment foresees a EU 'joint REA' for all innovative pharmaceuticals, which is available at the time of the marketing authorisation by EMA. This joint REA has the potential to speed up the market access process for innovative pharmaceuticals. The extent of this time gains have been estimated at 2-6 weeks by the CRA/EFPIA study²⁵¹. The following calculation aims to estimate the monetary gains from the industry's perspective of this earlier access.

Methods:

The calculation was done for a cohort of pharmaceuticals that were launched in quarter 2 2008

The **total turnover at manufacturer price newly launched non-generic products** (13 pharmaceuticals) was extracted from IMS aggregated across all available countries (covering most of the EEA) and retail/hospital sectors for Q1 2008- Q3 2016 (column 'current revenues'). The cohort was defined as non-generic medicinal products for which no sales data were reported in the first quarter of 2008 and sales data were reported for all subsequent quarters. This cohort concerns 13 medicinal products (as distinguished in the data-set by their international product name). All 13 products are originator products (no biological products were present in this cohort).

The hypothetical revenues of a 1 month quicker market access was calculated (column '1 month quicker market access revenues') for the first 12 years following market launch. It can be assumed after 12 years the concerned product markets would be genericised. Revenues for the first 8.5 years (34 quarters) were directly taken from the IMS database. For the remaining 3.5 years (14 quarters) it was assumed revenues had plateaued at the observed level of the 34th quarter following market launch (available data confirm that revenues had stabilized after 7 years at an aggregate turnover of around EUR 400 million). Revenue flows were discounted to their 2008 quarter 1 value assuming an assumed (annual) 2% inflation rate. A sensitivity analysis with 1% discount rate gave similar results (0.97 % instead of 1.06%).

It was assumed that such an earlier HTA report does not affect the length of the subsequent steps (appraisal, pricing negotiations, etc.).

Results:

For the selected products launched in one quarter, the one month earlier access means **EUR 130.315.010** additional revenue over the 12 years; which is a **1 % increase**. A similar gain can be expected for all innovative products launched.

Calculations:

²⁵¹ EFPIA/ Charles River Associates, 2017, Assessing the wider benefits of the EU's proposal on strengthening cooperation on health technology assessment from the industry perspective

Year	Quarter	Current revenues	1 month quicker market access revenues
0	0	0	2.508.758
1	1	7.489.107	13.688.977
1	2	25.959.881	33.207.704
1	3	47.467.771	51.566.109
1	4	59.467.651	64.219.113
2	5	73.357.966	78.720.897
2	6	89.005.032	94.878.120
2	7	106.097.741	111.107.492
2	8	120.528.816	125.103.809
3	9	133.590.794	149.952.111
3	10	181.772.621	193.075.711
3	11	214.616.761	226.704.152
3	12	249.639.987	251.761.445
4	13	254.740.105	255.008.146
4	14	254.282.245	258.785.786
4	15	266.470.396	247.667.150
4	16	209.023.290	215.210.439
5	17	226.460.826	234.655.215
5	18	249.804.230	274.252.199
5	19	321.552.295	318.990.281
5	20	312.316.250	314.258.464
6	21	316.571.768	317.637.486
6	22	318.189.769	325.051.358
6	23	337.101.525	338.531.931
6	24	339.706.802	334.925.638
7	25	323.756.529	329.688.632
7	26	339.866.107	335.953.804
7	27	326.508.758	327.923.923
7	28	329.120.849	333.386.936
8	29	340.230.571	340.792.139
8	30	340.226.754	344.143.985
8	31	350.240.229	343.587.787
8	32	328.651.826	336.365.295
9	33	350.054.936	350.874.201
9	34	350.771.875	350.771.875
9	35	349.039.615	349.039.615
9	36	347.315.910	347.315.910
10	37	345.600.717	345.600.717
10	38	343.893.995	343.893.995
10	39	342.195.701	342.195.701
10	40	340.505.794	340.505.794
11	41	338.824.233	338.824.233
11	42	337.150.976	337.150.976
11	43	335.485.982	335.485.982
11	44	333.829.210	333.829.210
12	45	332.180.620	332.180.620
12	46	330.540.172	330.540.172
12	47	328.907.825	328.907.825
12	48	327.283.539	327.283.539
total		12.827.396.352	12.957.711.362
difference between current and earlier r			130.315.010
percentage			101,016%

Annex IX. Implementation Mechanisms and Policy Options

For the five policy options, the following five implementation mechanisms were considered.

- Project-based coordination
- Member States (MS) secretariat
- European Commission (EC) secretariat
- Existing EU agency
- New EU Agency

In one instance, for Policy Option 2 Project-based cooperation on HTA activities, only one implementation mechanism was suitable, the project-based cooperation.

For the policy options foreseeing a permanent mechanism (PO 3-5), more than one implementation mechanism is conceivable. Still even for these options, the implementation mechanisms are not freely interchangeable. For instance, more centralised production of the joint output requires more centralised structure. Also, policy options requiring the work 15-35 full time staff cannot be hosted by an independent agency. The following table shows the conceivable pairing of the implementation mechanism per policy option, based on input from Member States experts, stakeholder consultation, LSE-GOG study and experience with EUnetHTA Joint Actions.

Scoring table – Selection of governance mechanisms per policy option (based on input from MS experts, stakeholder consultation, LSE-GÖG study and experience with EUnetHTA Joint Actions)

	Project-based coordination	MS secretariat	EC secretariat	Existing EU agency	New EU Agency
PO2					
PO3					
PO4					
PO5					
<i>Observations</i>	<i>Suitable implementation mechanism for voluntary cooperation</i>	<i>Suitable for EU cooperation limited to some joint outputs, however with challenges related to the selection of the MS hosting the secretariat and sustainability of financing</i>	<i>Suitable for EU cooperation encompassing most types of joint outputs (i.e. common tools and methodologies, horizon scanning, ED, REA) especially in case of a phase-in approach</i>	<i>Suitable for EU cooperation encompassing most types of joint outputs (i.e. common tools and methodologies, horizon scanning, ED, REA)</i>	<i>Suitable for EU cooperation encompassing all type of joint outputs, including Full HTA, for which no existing EU agency has appropriate expertise</i>

Legend

Most adequate

Not adequate

For the sake of calculations and presentation of the findings, the study paired each policy option with one implementation mechanism.

Annex X. Costs of Joint Outputs and Overall Costs per Policy Option and Implementation Mechanisms

Table 1. Costs of joint outputs per POs and implementation mechanism (Amount in 1000 EUR)
(Adapted from tables 20, 53 and 56 in the GÖG-LSE Study)

Type of Costs	Costs of joint outputs per POs and implementation mechanism (Amount x1000 EUR)					
	PO2	PO3		PO4		
Implementation mechanisms	Project-based coordination	MS secretariat (cat 1 MS)	EC secretariat	EC secretariat	Existing EU agency	New EU Agency
Staff	15 FTEs	14 FTEs		35.5 FTEs		
Estimated Joint outputs	13 ED 11-15 REA	40 ED		40 ED 65 REA		
Uptake of joint outputs	voluntary	mandatory		mandatory		
Costs for Common tools, templates and methodologies (Maintenance)	210.0	Included in implementation mechanism				
Costs for Common tools, templates and methodologies (Development)	300.0	300.0		300.0		
Costs for Joint Early Dialogues	596.3	1,834.8		1,834.8		
Costs for Joint REA	1,598.3	N/R		6,821.6		
Costs for Joint full HTA	N/R	N/R		N/R		
Total costs of joint outputs	2,704.6	2,134.8		8,956.4		

Table 2. Overall costs per POs and implementation mechanism (Amount x1000 EUR) (Adapted from tables 20, 52, 53 and 56 in the GÖG-LSE Study)

Overall costs per POs and implementation mechanism (Amount x1000 EUR)						
	PO2	PO3		PO4		
Implementation mechanisms	Project-based coordination	MS secretariat (cat 1 MS)	EC secretariat	EC secretariat	Existing EU agency	New EU Agency
Staff	15 FTEs	14 FTEs		35.5 FTEs		
Estimated Joint outputs	13 ED 11-15 REA	40 ED		40 ED 65 REA		
Uptake of joint outputs	voluntary	mandatory		mandatory		
Type of costs						
Start-up costs	N/R	N/R	N/R	N/R	N/R	+ 5-10% of running costs in first years
Costs running secretariat	2,614.5	3,683	3,101	6,926.9	8,210	8,210
Costs joint outputs	2,704.6	2,134.8	2,134.8	8,956.4	8,956.4	8,956.4
Total costs (Running + joint outputs)	5,319.10	5817.8	5235.8	15,883.3	17,166.4	17,166.4
Fees foreseen (100% of costs of EDs, to be paid by industry)	-596.3	0	0	0	-1,834.80	-1,834.80
Total costs by EU	4,722.80	5817.8	5235.80	15,883.3	15,331.60	15,331.60

Annex XI. Implementation Tables for Preferred Policy Option

Table 1. ESTIMATED HR IMPACTS AND COSTS PER YEAR OF THE PREFERRED POLICY OPTION (EUR x1000) – Comparison of the preferred governance arrangement (EC Secretariat) with a secretariat run by an EU Agency

	Preferred option – FULLY OPERATIONAL	
Staff	35 FTEs	
Estimated Joint outputs	40 Joint early dialogues (ED) per year 65 Joint clinical assessments/REA per year	
	EC secretariat	Existing EU agency
<i>Start-up costs</i>	NA	NA
<i>Costs running secretariat (staff, premises, IT, expert meetings + overheads)</i>	7,000	8,200
<i>Costs joint outputs* (joint early dialogues, joint clinical assessments, joint horizon scanning)</i>	9,000	9,000
<i>Total costs (Running + joint outputs)</i>	16,000	17,200
<i>Fees foreseen (100% of costs of EDs, to be paid by industry)</i>	0	0
Total costs by EU	16,000	17,200



Most feasible in an initial phase

*The costs of joint outputs refers mainly to the remuneration of an author and a co-author HTA body from the Committees dedicated to carry out joint work (e.g. Committee for joint REA, Committee for joint early dialogues). In special situations more than 2 authors could be envisaged.

Table 2. Estimated staffing, workload and costs/year for the progressive implementation of the preferred policy option

Type of costs	EC Secretariat - YEARS 1-5				
	<i>% of costs from a fully operational system</i>				
YEARS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
FTEs (details in Table 3)	12 4 ADMIN/AST (EC) 8 SCIENTISTS/SPECIALISTS (Seconded national experts/EC staff with scientific profile)	15 4 ADMIN/AST (EC) 11 SCIENTISTS/SPECIALISTS (Seconded national experts/EC staff with scientific profile)	22 5 ADMIN/AST (EC) 17 SCIENTISTS/SPECIALISTS (Seconded national experts/EC staff with scientific profile)	30 8 ADMIN/AST (EC) 22 SCIENTISTS/SPECIALISTS (Seconded national experts/EC staff with scientific profile)	35 10 ADMIN/AST (EC) 25 SCIENTISTS/SPECIALISTS (Seconded national experts/EC staff with scientific profile)
Costs running secretariat (% from total running costs of a fully operational secretariat, million EUR)	30% 2.10	40% 2.80	60% 4.20	80% 5.60	100% 7.00
• Staff + premises	1.60	2.00	3.00	4.10	4.80
• Expert Committee	0.50	0.80	1.20	1.50	2.20
- CG meetings (nr meetings, million EUR)	2 0.12	3 0.18	4 0.24	4 0.24	4 0.24
- Joint Committee meetings (nr meetings, million EUR)	10 0.30	15 0.45	25 0.75	35 1.05	52 1.56
- WG meetings (nr meetings, million EUR)	8 0.08	17 0.17	21 0.21	21 0.21	40 0.40
Costs joint outputs*# (% from total costs of joint outputs of a fully operational secretariat, million EUR)	20% 1.80	30% 2.70	50% 4.50	70% 6.30	100% 9.00
• Joint early dialogues/ED (number, costs in million EUR)	10 ED 0.46	14 ED 0.64	20 ED 0.92	30 ED 1.38	40 ED 1.84
• Joint clinical assessments/REA (number, costs in million EUR)	10 REA 1.10	16 REA 1.82	30 REA 3.30	43 REA 4.73	65 REA 7.00

• <i>Joint horizon scanning, SOPs, guidelines (number, costs in million EUR)</i>	0.24	0.24	0.24	0.19	0.16
Total costs by EU (million EUR)	3.90	5.50	8.70	11.90	16.00

*Costs of joint outputs include the remuneration for the Member States bodies carrying out the joint work as authors and co-authors.

1 Coordination Group meeting = EUR 60,000

1 Joint Committee meeting = EUR 30,000

1 Working Group meeting = EUR 10,000

As regards scope, health technologies to be assessed will be prioritised from the already limited scope (i.e. **centrally authorised pharmaceuticals** – new active substances and extension of indication; **medical technologies** - technologies which have undergone the scrutiny mechanism in the context of their conformity assessment) according to agreed criteria (e.g. unmet medical needs; potential impact on patients, public health, or healthcare systems; significant cross-border dimension; major Union-wide added value).

Table 3. EC secretariat - Staff numbers and profiles for the progressive implementation of the preferred policy option

YEARS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
FTEs	12 4 ADMIN/AST (EC*) 8 SCIENTISTS/SPECIALISTS (Seconded national experts**/EC staff with scientific profile*)	15 4 ADMIN/AST (EC*) 11 SCIENTISTS/SPECIALISTS (Seconded national experts**/EC staff with scientific profile*)	22 5 ADMIN/AST (EC*) 17 SCIENTISTS/SPECIALISTS (Seconded national experts**/EC staff with scientific profile*)	30 8 ADMIN/AST (EC*) 22 SCIENTISTS/SPECIALISTS (Seconded national experts**/EC staff with scientific profile*)	35 10 ADMIN/AST (EC) 25 SCIENTISTS/SPECIALISTS (Seconded national experts**/EC staff with scientific profile*)
Profiles	Head (1 FTE) Administrative support (3 FTE) o Head of administration (1 FTE) o Project Manager (1 FTE) o Administrative staff (1 FTE) Scientific/technical support (5 FTE) o Head (1 FTE) o Scientific officers (2 FTE) o Methodology, guidelines, templates (1 FTE) o Administrative staff (1 FTE) IT support (3 FTE) o Internal support 1 (1	Head (1 FTE) Administrative support (4 FTE) o Head of administration (1 FTE) o Project Manager (1 FTE) o Administrative staff (2 FTE) Scientific/technical support (7 FTE) o Head (1 FTE) o Scientific officers (3 FTE) o Methodology, guidelines, templates (2FTE) o Administrative staff (1 FTE) IT support (3 FTE) o Internal support 1 (1	Head (1 FTE) Administrative support (6 FTE) o Head of administration (1 FTE) o Project Manager (2 FTE) o Administrative staff (3 FTE) Scientific/technical support (12 FTE) o Head (1 FTE) o Scientific officers (5 FTE) o Methodology, guidelines, templates (3 FTE) o Administrative staff (3 FTE) IT support (3 FTE) o Internal support 1 (1 FTE) o Maintenance of tools and	Head (1 FTE) Administrative support (8 FTE) o Head of administration (1 FTE) o Project Manager (3 FTE) o Administrative staff (4 FTE) Scientific/technical support (17 FTE) o Head (1 FTE) o Scientific officers (8 FTE) o Methodology, guidelines, templates (3 FTE) o Administrative staff (5 FTE) IT support (4 FTE) o Internal support 1 (2	Head (1 FTE) Administrative support (11 FTE) o Head of administration (1 FTE) o Project Manager (5 FTE) o Administrative staff (5 FTE) Scientific/technical support (19 FTE) o Head (1 FTE) o Scientific officers (10 FTE) o Methodology, guidelines, templates (3 FTE) o Administrative staff (5 FTE) IT support (4 FTE) o Internal support 1 (2

	FTE) ○ Maintenance of tools and databases (2 FTE)	FTE) ○ Maintenance of tools and databases (2 FTE)	databases (2 FTE)	FTE) ○ Maintenance of tools and databases (2 FTE)	FTE) ○ Maintenance of tools and databases (2 FTE)
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1FTE \cong EUR 138,000 (EUR 115,000 staff related costs + EUR 23,000 costs related to premises)

*Scientific profiles for both European Commission staff and national experts include: pharmacists, pharmacologists, biologists, medical doctors, experts in biotechnology, engineers with expertise in the development of medical devices and in vitro diagnostics, statisticians, legal experts, researchers in the field of health technologies.

As regards the European Commission, DG JRC, DG SANTE, DG RTD, DG CNECT have staff with appropriate scientific profiles.

**Seconded national experts are national civil servants or persons employed in the public sector who are working temporarily for an EU Institution. They remain in the service of that employer throughout the period of secondment and receive a daily allowance from the European Commission in line with the provisions in the Staff Regulation.

ESTIMATIONS

Data for the estimation of the running costs: Study on Impact Analysis of Policy Options for Strengthened EU Cooperation on HTA. 2017. Sogeti, Austrian Public Health Institute, London School of Economics. (CHAFFEA/2016/Health/16)

The running costs of an EU Agency are based on data from the European Medicines Agency (the only EU Agency in the field of health with experience in working with MS expert Committees and collecting industry fees). The running costs of a project based secretariat and Member States secretariat are based on the data from EUnetHTA Joint Action 2 and 3.

Data for the estimation of the outputs costs: Study on Impact Analysis of Policy Options for Strengthened EU Cooperation on HTA. 2017. Sogeti, Austrian Public Health Institute, London School of Economics. (CHAFFEA/2016/Health/16).

Estimated number of joint outputs: Study on Impact Analysis of Policy Options for Strengthened EU Cooperation on HTA. 2017. Sogeti, Austrian Public Health Institute, London School of Economics. (CHAFFEA/2016/Health/16). Based on needs identified by HTA bodies and the volume of ongoing activities carried out of EUnetHTA Joint Action 3.

Estimated progress of work in the first 5 years – estimation by DG SANTE based on the ongoing work of EUnetHTA and opinions expressed during bilateral meeting and public consultation by HTA bodies that a phased-in approach would allow a smooth transition for incorporating EU joint activities into the national processes.