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Deliverable 1: Situational analysis of Romanian HTA

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Table of contents

Acknowledgements	iii
List of abbreviations	iv
Introduction	6
1 Approach to the project	7
2 Background – Why HTA?	8
2.1 Priority setting and health technology assessment	8
2.2 The importance of process and key principles for success	9
2.3 Defining methods and standards, and the importance of a ‘Reference Case’	15
2.4 An initial framework for institutionalising HTA in Romania	17
3 Landscape analysis of HTA in Romania	21
3.1 Regulations governing HTA in Romania	21
3.2 The current HTA process	21
3.3 Key actors	23
3.4 Gaps and challenges	27
4. Conclusions	30
5. Next steps	32
5.1 A consultative process with MoH oversight	32
5.2 Finalising Deliverable 1	32
5.3 Preparing for Phase 2	32
Annex A: List of meetings conducted during Phase 1	34
Annex B: List of key documents reviewed	35
Annex C: Summary of consultations and meetings	36

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List of abbreviations

AIFA	<i>Agenzia Italiana del Farmaco</i> (Italian Medicines Agency)
AOTMiT	<i>Agenja Oceny Technologii Medycznych i Taryfikacji</i> , (Health Technology Assessment and Tariffs Agency, Poland)
ATC	Anatomical, therapeutic, chemical classification
BIA	Budget impact assessment
CNAS	<i>Casei Nationale de Asigurări de Sănătate</i> (see also National Health Insurance House, NHIH)
COI	Conflict of interest
CVC	'Cost-volume' contract
CVRC	'Cost-volume-result' contract
DDD	Defined Daily Dose
DRG	Diagnosis-Related Group
EBM	Evidence based medicine
EMA	European Medicines Agency
EU	European Union
EUnetHTA	European Network for Health Technology Assessment
GDP	Gross Domestic Product
HITAP	Health Intervention & Technology Assessment Program (<i>Thailand</i>)
iDSI	International Decision Support Initiative
IETS	<i>Instituto de Evaluacion Tecnologia en Salud</i> (Institute for technology Evaluation in Health, <i>Colombia</i>)
IMF	International Monetary Fund
INN	International Non-proprietary Name
IQWiQ	<i>Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen</i> (Institute for Quality and Efficiency in Health Care, <i>Germany</i>)
KPI	Key Performance Indicators
LMICs	low- and middle-income countries
MAH	Marketing Authorization Holder
MoH	Ministry of Health, Romania
NAMMD	<i>Agentia Nationala a Medicamentului si a Dispozitivelor Medicale</i> (also NAMMD), the National Agency for Medicines & Medical Devices)
NAQMH	National Authority for Quality Management in Healthcare
NHIH	National Health Insurance House, Romania (see also CNAS)
NHP	National Health Programme
NHS	National Health Service (UK)
NICE	National Institute for Health & Care Excellence (<i>UK</i>)
NIPH	National Institute of Public Health
NIS	National Institute of Statistics
NSPHMPD	National School of Public Health, Management & Professional Development

OECD	Organisation for Economic Co-operation & Development
OOP	Out of pocket
OTC	Over the counter (non-prescription)
PBAC	Pharmaceutical Benefits Advisory Committee (<i>Australia</i>)
PMU	Project Management Unit
PPP	Purchasing Power Parity
RC	Reference Case
RoDRG	Romanian Diagnosis Related Group
RON	New Romanian Lei
RSA	Risk-sharing arrangement
SES	Socio-economic status
SIUI	<i>Sistemul Informatic Unic Integrat</i> (Unique Integrated Information System)
UHC	Universal health coverage
USD	US Dollars
VAT	Value Added Tax
WHO	World Health Organization

Introduction

This report represents the first deliverable of the project *Technical Assistance for institution building of Health Technology Assessment structure, including training for the National Agency for Medicines and Medical Devices*, being undertaken in Romania by a consortium comprising Oxford Policy Management UK (OPM), Imperial College London and Management Sciences for Health (US).

The objective of this project is to support the Ministry of Health (MoH) in developing Health Technology Assessment (HTA) capability in Romania. Particular emphasis is to be placed on designing an effective institutional framework, developing and applying sound HTA methodologies, and establishing robust processes that enable the application of HTA to support evidence-informed policy decision-making across the healthcare sector.

The report presents the background and rationale for the project, outlines the project aims, and provides a detailed account of the activities and findings of the first visit of the Project Team in January 2017, culminating in a situational analysis of HTA in Romania at the present time. It is structured as follows:

- Section 1 presents the consultants' approach to the project;
- Section 2 provides important context, by addressing the key question: '*Why HTA?*';
- Section 3 provides a landscape analysis of HTA in Romania, describing the current regulatory framework and the key actors, and identifies relevant gaps and important challenges.
- Section 4 presents the consultants' conclusions, based on the findings of Phase 1.
- Section 5 presents 'next steps' for the subsequent phases of the project.

1 Approach to the project

In our technical proposal we described our approach to supporting the MoH in four areas:

- (i) developing an institutional framework for HTA in Romania;
- (ii) developing (or adapting) HTA methodologies;
- (iii) capacity building among key national stakeholders in HTA; and
- (iv) linking HTA with policy making.

In this first phase, building on previous reviews and analyses of the Romanian HTA context,¹ we proposed

- examining the HTA institutional framework in Romania as stipulated in legislation enacted in 2014-2015, with particular emphasis on how the framework works in practice, and whether it achieves the broader HTA-related policy objectives;
- conducting meetings and consultations with key actors involved in the existing HTA universe to elicit their views on the advantages, disadvantages and gaps in the future HTA landscape;
- reviewing relevant internal documents and HTA reports to evaluate the extent to which the process of formulating HTA recommendations is aligned with the corresponding legislation;
- examining the current and potential roles of key actors in the HTA process, together with the assessment of professional networking and capacity building needs;
- reviewing whether the current arrangements contribute to the health spending efficiency objectives delineated in the National Health Strategy 2014-2020;
- building on the experience of HTA agencies worldwide (but particularly those in Central and Eastern Europe) and the extensive experience of the International Decision Support Initiative (iDSI) partnership² led by NICE International (now Global Health & Development, Imperial College) in HTA development in low- and middle-income countries (LMICs), identify strategic issues in developing the HTA institutional processes in Romania.

¹ NICE International (2012). *Technical Assistance in Reviewing the Content and Listing Processes for the Romanian Basic Package of Health Services and Technologies*

² Launched in November 2013, the International Decision Support Initiative (iDSI) has as its objective to be a “sustainable, adaptable, international mechanism to provide policymakers (at sub-national, national, regional and international levels) with coordinated support in priority-setting as a means to Universal Health Coverage (UHC)”. A key objective of iDSI is to support the development globally of procedurally fair and technically robust, evidence-to-policy decision frameworks in health that are context relevant.

2 Background – Why HTA?

2.1 Priority setting and health technology assessment

It is axiomatic that resources are always limited in healthcare, and that choices are inevitable. In domains other than health care, market forces will ordinarily drive *what* is produced, *how* it is produced, and *who* gets what is produced. This can be very efficient, but because of well-recognised market ‘failures’, healthcare is not usually delivered under ‘ordinary’ market conditions. Indeed, where there is a commitment to make access to health services unrelated to ability to pay, as part of a strategy of ‘universal health coverage’, healthcare is highly regulated and relies on public finance. The size of the funding pool will clearly have an impact on the range of subsidised services that can be made available within a health system. However, because there will always be limits to the available funds, priority setting - the task of determining the priority to be assigned to a service or individual patient at a given point in time - is unavoidable. The issue is thus not one of whether priority setting is needed, but rather, of how it should be undertaken.³

Health technology assessment (HTA) is defined as the systematic evaluation of properties, effects, and/or impacts of health technology, where health technology refers to the application of organized knowledge and skills not only in the form of medicines, vaccines, devices, and procedures, but also systems and methods developed to solve health problems, improve standards of care, and enhance quality of life.⁴ HTA is a multidisciplinary process to evaluate the social, economic, organizational and ethical issues of health interventions or health technologies.⁵ In conjunction with the development of HTA-informed clinical practice guidelines, HTA is valuable in supporting the effective prioritisation of health services, in the design of health benefit plans, and in improving the quality of care.

A number of key factors have been identified as critical to the effective use of HTA and related evidence-based products in policy decision-making.⁶ These include the application of rigorous and transparent processes, mechanisms for effective stakeholder engagement, and clarity in how evidence-based insights and recommendations are used to inform policy and implemented in practice. Implementation strategies for evidence-informed products such as HTA findings and clinical guidelines will necessarily involve multiple elements. This will include, for example, having effective mechanisms to inspect and audit providers against agreed standards (informed by evidence of clinical and cost-effectiveness). In that context, it is possible to conceptualise HTA as a component of a broader, coherent strategy to improve clinical practice and by extension, health outcomes (see Figure 1). Indeed, for HTA to be effective as part of such a strategy, institutional coordination is critical to ensuring that evidence-based outputs address key policy priorities and inform context relevant solutions.

³ Chalkidou K, Glassman A, Marten R. et al. Priority-setting for achieving universal health coverage. *Bulletin of the World Health Organization* 2016;94:462-467

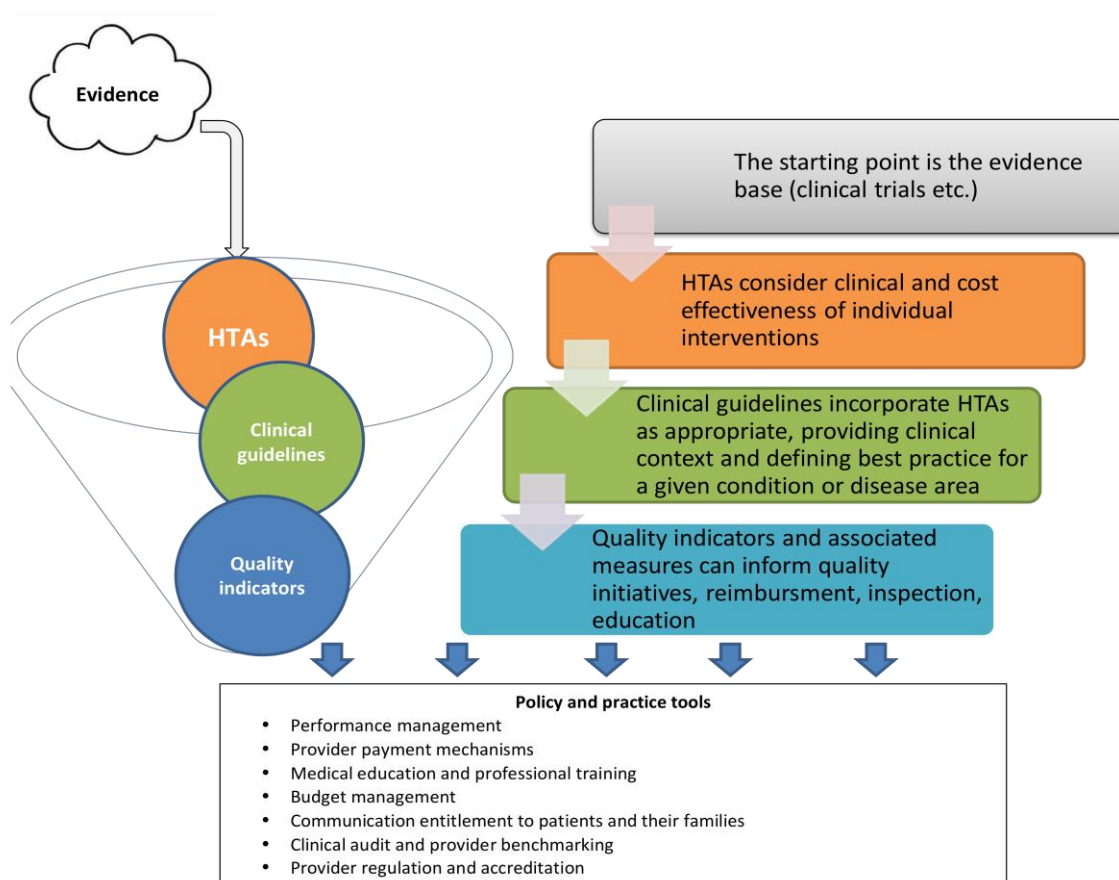
⁴ Adapted from: WHO. Technology, Health. At: http://www.who.int/topics/technology_medical/en

⁵ WHO. HTA Definitions. At: <http://www.who.int/health-technology-assessment/about/Defining/en/>

⁶ Glassman A et al. Priority-setting institutions in health: recommendations from a center for global development working group. *Global Heart*. 2012;7(1):13-34

Finally, it is important to recognise that HTA - and indeed priority setting more generally - is not simply a narrow technical exercise, but one that involves the mobilisation of a wide range of skills and capabilities among stakeholders, well beyond the technical capacity needed to undertake economic evaluations. Institutionalising HTA will involve developing a strategy to enhance capacity in this broad sense, employing a range of methods, including both formal and informal training, networking and engagement, and support through collaboration on specific projects (through, for example, partnerships with other countries).

Figure 1: Translation of evidence into policy and practice



The Politics of Priority Setting in Health: A Political Economy Perspective. CGD Working Paper 414. Washington, DC: Center for Global Development.

2.2 The importance of process and key principles for success

It should be apparent that any processes that simply generate 'evidence' of what 'works' and represents 'good value for money' will be inadequate. For a variety of reasons, ostensibly 'correct' choices, even those supported by a strong evidence base, are not always made or implemented. Moreover, research suggests that it is sometimes 'rational' for policy-makers

to make decisions that are actually contrary to the broader interests of the population.⁷ This underscores the importance of developing robust, principle-driven processes that reflect the constraints within which HTA methods can be introduced and institutionalised so that trade-offs are made explicit and decisions can be both challenged and defended effectively.

In this report we highlight the importance of institution building in HTA. Importantly, however, institution building or institutionalising HTA does not mean, nor does it require the creation of a discrete HTA agency or ‘bricks and mortar’ entity. Rather, we emphasize the role of establishing accepted processes, norms and rules; of developing and supporting a corpus of critical skills, experience and knowledge; and of building and nurturing effective working relationships between relevant policy-makers and academic/research institutions.

For example, in **Australia** the federal government operates a network of HTA mechanisms and processes, with inter-dependent relationships but discrete functions that address different policy needs. Effective HTA processes are seen as crucial to supporting sustainable management of subsidised health technologies; consistent application of evidence across HTA mechanisms is considered important in ensuring stakeholder confidence in the HTA framework, by creating clarity in how these mechanisms are applied and their outcomes.⁸ The oldest of these mechanisms is the responsibility of the *Pharmaceutical Benefits Advisory Committee* (PBAC), a statutory independent expert committee that considers evidence and makes recommendations on the listing of new medicines on the national reimbursement formulary. In Australia no new medicine may be listed for public subsidy unless it has first been recommended by the PBAC, which is required to take into account comparative clinical effectiveness and comparative cost-effectiveness of any new drug relative to the therapy most likely to be replaced in practice.⁹ Importantly, limited availability of skills and expertise within Government over the last two decades has led to the establishment of networks of contracted academic groups that work closely with Department of Health staff, and within well-defined processes for the evaluation of evidence. While physically separate these contracted groups may be thought of as logically contiguous – as an extension of the resources of the PBAC’s secretariat within the Department of Health. Another committee, the *Medical Services Advisory Committee* (MSAC) appraises new medical services proposed for public funding, and provides advice to Government on whether a medical service should be publicly funded (and if so, under what circumstances) based assessing its comparative safety, clinical effectiveness, cost-effectiveness, and total cost, using the best available evidence. MSAC also operates with the support of a network of contracted academic centres. Additional HTA mechanisms exist to evaluate and advise government on other health care interventions, but while the various mechanisms operate (and interact) within a well-defined framework there is no dedicated, umbrella HTA agency.

By contrast, many countries have chosen to establish dedicated HTA agencies, although their individual remits, funding, and links to policy-making vary according to context. The

⁷ Hauck K, Smith P. (2015) *The Politics of Priority Setting in Health: A Political Economy Perspective*. CGD Working Paper 414. Washington, DC: Center for Global Development.

⁸ Department of Health, Australia. *About Health Technology Assessment*. At: <http://www.health.gov.au/internet/hta/publishing.nsf/Content/about-1>

⁹ Lopert R. *Evidence-Based Decision-Making Within Australia's Pharmaceutical Benefits Scheme*. (New York: The Commonwealth Fund, 2009).

past 25 years has seen agencies established in, for example, the **UK, Germany, Sweden** and the **Netherlands**. Similar developments have also taken place in Eastern Europe and some LMICs, perhaps most notably among them, **Thailand's Health Intervention & Technology Assessment Program (HITAP)**, a semi-autonomous research unit under aegis of Thailand's Ministry of Public Health. HITAP was established in 2007 as a non-profit organization, responsible for appraising a wide range of health technologies and programs, including medicines, medical devices, interventions, individual and community health promotion and disease prevention, as well as social health policy.¹⁰

In **Poland**, the Health Technology Assessment Agency was established in 2005, becoming the Health Technology Assessment and Tariffs Agency (*Agenja Oceny Technologii Medycznych i Taryfikacji*, AOTMiT) in 2015, taking on additional functions. This independent government agency was created as an advisory body to the Minister of Health (as final decision maker), and considers both drug and non-drug interventions, undertaking assessments and providing opinions to the minister. The Minister cannot include a technology for public subsidy without a positive recommendation from AOTMiT, although, a positive recommendation does not mean that minister must accept the technology for public financing.¹¹

Broadly speaking, HTA includes components of assessment – generating or collating existing evidence about the likely costs and effects of a technology or service, essentially a scientific endeavour – and ‘decision-making’ – the analysis and interpretation of the evidence in the context of the decision problem. During the decision-making phase (also known as appraisal¹²), the evidence or knowledge collated or generated during the assessment is evaluated and interpreted by a multidisciplinary team, applying rigorous analytical techniques and informed by additional social and scientific values. This appraisal process should lead to a recommendation or decision that subsequently informs a policy decision or approach. Importantly, these activities may be undertaken by one entity, or shared among several.

Figure 2 shows how the **UK's National Institute of Health & Care Excellence (NICE)** interacts with other institutions to translate evidence into policy recommendations for the UK's National Health Service (NHS). Established in 1999 with an initial remit focused on treatment, particularly around individual health technologies and clinical guidelines, *NICE* is responsible for gathering and synthesising relevant evidence and turning it into direct guidance for the NHS. As seen in Figure 2, as part of its health technology appraisal process, *NICE* relies on external organisations to generate the evidence needed for its deliberations - mainly academic entities but also manufacturers and sponsors of the technologies under appraisal.

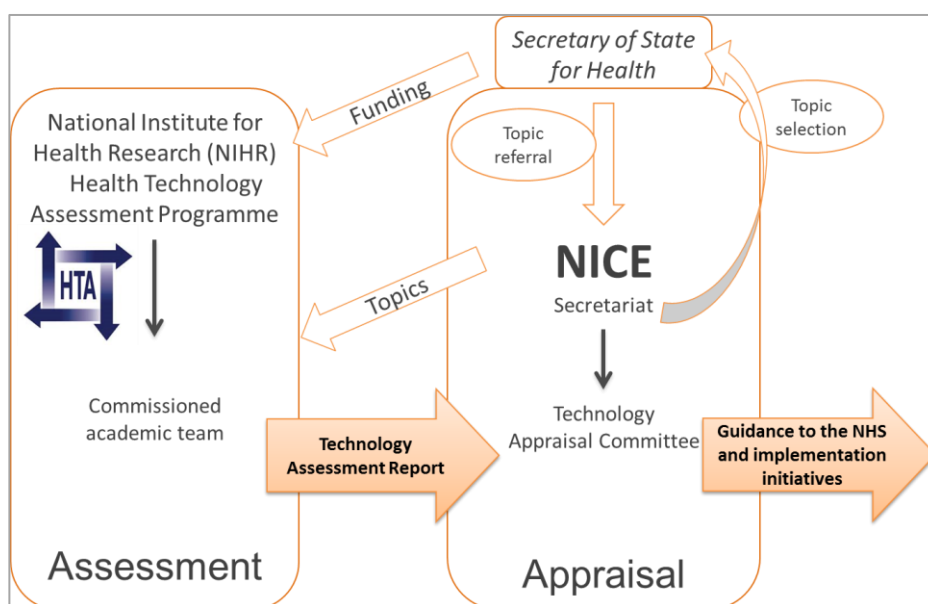
¹⁰ The Health Intervention and Technology Assessment Program (HITAP). At: <http://www.hitap.net/en/>

¹¹ Dittrich R, Asifiri E. *Adopting Health Technology Assessment: A report on the socio-cultural, political, and legal influences on health technology assessment adoption using England and Wales, Japan, Poland and Thailand as case studies*. iDSI working paper (October 2016). At: <http://www.idsihealth.org/wp-content/uploads/2016/11/Final-6-2016-HTA-Adoption-Dittrich-Asifiri-Updated-Frameworks.pdf>

¹² Kristensen FB, Nielsen CP, Chase D, Lampe K et al. *What is health technology assessment?* Chapter 3 in: *Health Technology Assessment and Health Policy-Making in Europe – Current status, challenges and potential*. (World Health Organization, on behalf of the European Observatory on Health Systems and Policies, 2008).

As HTA initiatives are implemented around the globe they differ in terms of their responsibilities and relationships to coverage decisions. Depending on their legislative underpinnings and available resources, HTA bodies may conduct technical assessment processes themselves, as undertaken by *HITAP* in Thailand and *IQWiG* in Germany, or appraise external submissions, as in the case of *PBAC* and *NICE*.

Figure 2: Example of assessment and appraisal functions in the UK NHS¹³



Adapted from Walley T (2007)¹³

Importantly, there is no single “correct” approach to the design and operation of an HTA framework. Decision-makers must contextualise the processes of HTA to their local settings, political contexts and decision problems. A key function of all these approaches, however, is their ability to enhance the legitimacy of decisions made. Credible processes for conducting HTA can help ensure that each selection, purchasing or funding decision is clearly linked to the assessed value of the relevant intervention or program. Processes that adhere to sound procedural principles, promote multi-stakeholder engagement, and engage expert advice based on independent consideration of available evidence, can help resolve conflicting interests and support sound and defensible decision-making. Open, consultative and independent processes:

- confer **legitimacy** because of their inclusive nature, and by doing so assist not only in rendering decisions more defensible, but also those who make them more accountable to stakeholders;
- improve the **quality and relevance** of the decisions as they draw on a wide range of sources of views and sources of information;
- protect against the influence of **vested interests** and the inherent and unavoidable biases of the participants in the evaluation and decision-making processes.

¹³ Walley T. Overview of Health technology assessment in England: assessment and appraisal. *Med J Aust* 2007;187(5):283-285.

The inevitably conflicting concerns and needs of different stakeholders mean that prioritisation decisions are likely to lead to controversy, even when the most robust methods are applied to the analysis of evidence. In every health system with finite resources some demands will inevitably go unmet. The question therefore is not whether prioritisation decisions can and should be made but *how they should be made*.

Individual *patients* and their families often expect to be able to access all potentially effective interventions, and *health care providers* similarly prefer to be able to offer as many treatment options as possible. *Suppliers* aim to maximise coverage of their products by public and private insurance *payers*, and prefer to cooperate with processes that are predictable and as timely as possible (see Table 1).

Table 1: Motivations and ambitions of different stakeholders

Stakeholder group	Motivation	Ambition/Goal
Patients and carers	Improvements in quality, length of life; a sense of entitlement and social solidarity	Access to treatment
Life sciences industries manufacturers; suppliers	Shareholder value, return on investment	Product sales
Health care providers	Duty of care, professional curiosity, esteem	Better outcomes (and sometimes, increased
Health system	Equity of resource allocation, good outcomes, cost control	Return on investment, expenditure control
Politicians	Result for constituents, consistent decision-making	Improved health
Media	Story, editorial line, insight	The 'story'
Academia	Methods development, influence	Publication, opportunity to influence policy and

Such tensions make legitimate processes even more important as a means of defending decisions arrived at by HTA processes. For example, NICE manages these tensions by setting out rules for engagement by multiple stakeholders, allowing interest groups to “have their say, [but not necessarily] have their way”.¹⁴ The NICE process for technology appraisal also includes mechanisms to allow stakeholders to seek formal appeal against the recommendations of its independent, multi-disciplinary committees. If disagreement persists, rules exist for stakeholders to launch a judicial review that applies to all public bodies including *NICE*, but the scope of any such review is limited to issues of process and is not a merits review.

¹⁴ The Lancet interview with Professor Michael Rawlins. At: <http://www.thelancet.com/pdfs/journals/lancet/PIIS0140673609607601.pdf>

One of the motivations for the establishment of **Colombia's** HTA body, the *Instituto de Evaluacion Tecnologia en Salud* (IETS), for example, was the frequent and costly use of the judicial system to dispute decisions regarding the provision of services within the public benefits package. These disputes stemmed partly from the fact that inclusion and exclusion decisions were taking place within an implicit decision-making framework, with no effective process for stakeholder consultation, and little or no use of evidence to inform those decisions.¹⁵

It is possible to articulate a set of key procedural principles that support good governance in HTA, as shown in Table 2. While the detail of the implementation of these principles will differ according to the context, adherence to them allows an HTA mechanism or institution to defend its decisions, even where those decisions are difficult or unpopular.

Table 2: Principles of good governance in HTA¹⁶

Principles	Examples of how bodies can adhere to these principles
Independence	Maintain arm's length from government, payers, industry, professional and patient groups; Strong and enforced conflict of interest policies
Transparency	Meetings open to the public (although this can be restricted to discussions of the evidence); All material germane to decisions placed online; Evaluation and decision criteria, and rationale for individual decisions made public
Consultation	Wide and genuine consultation with stakeholders; Willingness to remake decision in light of new evidence
Scientific basis	Strong, scientific methods and reliance on critically appraised evidence and information
Timeliness	Decisions made and published in reasonable timeframe
Consistency	The same technical and process rules applied consistently within any given priority-setting channel
Regular review	Regular updating of decisions and of methods, with review dates specified in final reports
Contestability	The decision-making process may be challenged, through legal avenues (process issues) or non-judicial appeal mechanisms (technical issues)

For NICE, following these principles has allowed it to build a global reputation; attract the support of high calibre academics, clinicians and policy-makers; and defend some controversial decisions in Parliament, the courts, across academia and in the media.

¹⁵ Vargas-Zea N et al. Colombian Health System on its Way to Improve Allocation Efficiency - Transition from a Health Sector Reform to the Settlement of an HTA Agency. *Value in Health Regional Issues* 2012;1(2):218-222

¹⁶ Adapted from Dummond MF, Stanford Schwartz J, Jonsson B et al. Key principles for the improved conduct of health technology assessments for resource allocation decisions. *International Journal of Technology Assessment in Health Care* 2008;24(3):244–258.

As can be seen from Table 2, it is important for any HTA institutional framework to be (and be seen to be) independent of any particular interests. This will be driven in part by the legislative framework underpinning the establishment and remit of the HTA, the policies guiding the recruitment of staff and involvement of expert advice, the articulation of a clear and unambiguous conflict of interest (COI) policy, and the consistent and transparent application of well-defined procedural and decision rules.

In terms of conflicts of interest, any policy should not only define what is considered to be a COI, but importantly should set out how any perceived or actual COIs should be *managed*. It may not be possible to run an effective HTA programme without involving some people with COIs, however the presence of a COI need not exclude an individual from the entire HTA process per se, but may mean that at critical points (eg. when recommendations are being drafted) the conflicted individual is excluded from the discussion. All interests should be transparently set out by the responsible HTA body and subject to public scrutiny.

Other key points to note relate to stakeholder engagement in HTAs to generate transparency and informed decision-making, specifically:

- Stakeholder consultations can inform not only choices around individual technologies (eg. whether to include a new drug into a benefits package), but can also have an important role in topic selection, and in decisions around whether to review previous decisions.
- Consultative multi-stakeholder processes can enhance the local relevance and impact of health technology and increase the accountability of those making investment decisions locally.
- Consultative multi-stakeholder processes can highlight data gaps and help drive future research.
- Consultation and transparency can generate controversy, but the alternatives (secrecy and opaque decision making) also create controversy, provoke accusations of bias, and make decisions challenging to defend.
- Open and consultative processes are being adopted by decision-makers around the world, offering greater transparency to key stakeholders such as patients, providers, and industry.

2.3 Defining methods and standards, and the importance of a 'Reference Case'

In addition to developing effective procedures for the conduct of HTA, a robust HTA framework should be able to demonstrate that its processes are supported by a credible and consistent set of methods and methodological standards. Thus a critical starting point for any HTA programme that seeks to inform policy is the definition of a set of methods considered by the 'decision-making' entity to be most appropriate for its objectives of determining the value of technologies and thereby guiding policy and by extension, investment and expenditure priorities. HTA is useful and informative only if appropriate methods are used, and the results reported with clarity and accuracy. If not done well, HTAs can be difficult to interpret and can lead to suboptimal or frankly erroneous decisions.

A key cornerstone of a robust set of methods is a **reference case (RC)**, which is a way of standardizing methods so that both the analytical approaches and presentation of results are more consistent. Not only can the use of a reference case improve the quality of assessments, but it can also enable the results of multiple assessments to be more easily understood and compared. Determining the relative importance of benefits and harms is challenging, but decision-making in health is also inherently value-laden, with individual and collective beliefs, needs and aspirations driving different perspectives about priorities in spending. Failing to recognise or consider these values will lead to priority-setting decisions that don't reflect societal preferences. **This means that for decision-makers to make the best possible decisions, they not only need sound evidence of the likely costs and benefits of their choices, but that evidence must also be filtered through a prism of societal values. A reference case not only describes expectations based on best practice on purely technical issues (such as the preferred approach to assessing uncertainty), but can also incorporate issues that are essentially value judgements (such as equity positions), and that are likely to be more context specific.**

In 1996 the *US Panel on Cost-Effectiveness in Health & Medicine* first proposed the use of a reference case as a means of improving the quality and comparability in the conduct and reporting of cost effectiveness analyses (CEAs).¹⁷ Seven years later the *World Health Organisation (WHO)* published a *Guide to Cost-Effectiveness Analysis*¹⁸, not only to improve the comparability of studies and facilitate consistency in decision-making, but also to increase their generalisability. The use of the RC approach by decision-makers was subsequently boosted by the adoption of a NICE RC in 2004 (and revised twice since then, the latest version produced in 2013).¹⁹ NICE's analyses and guidance inform resource allocation in the *British National Health Service*, particularly with regard to new technologies and services.

More recently, the development of the *International Decision Support Initiative (iDSI) Reference Case* was commissioned by the *Bill & Melinda Gates Foundation (BMGF)*, to guide evaluations, and improve both the consistency and usefulness to decision makers of health technologies in low and middle-income countries (LMIC). It draws on previous insights from WHO, the US Panel on Cost Effectiveness in Health Care, and NICE. Comprising eleven key principles, each accompanied by methodological specifications and reporting standards, the iDSI Reference Case also serves as a means of identifying priorities for methods research, and can be used as a framework for capacity building and technical assistance in LMICs. The iDSI Reference Case seeks to articulate common principles for the generation of evidence, based on the normative assumption that a health policy decision maker seeks information to facilitate decisions that maximise benefits, with a focus on health outcomes. In this way the iDSI Reference Case does not assume that decision making in health is devoid of value judgements, but rather, enables decision makers to apply personal,

¹⁷ Gold M, Siegel J, Russell L, Weinstein M. *Cost-effectiveness in Health and Medicine*. (New York: Oxford University Press, 1996).

¹⁸ Tan-Torres Edejer T, ed. *WHO guide to cost-effectiveness analysis*.: World Health Organisation, 2003.

¹⁹ National Institute for Health & Care Excellence (NICE). *Guide to the methods of technology appraisal 2013: Ch 5 -The Reference Case*.

institutional or political value judgements with knowledge of the likely consequences, including the opportunity costs, of applying these.²⁰

For countries like Romania that are seeking to institutionalise HTA as a means to inform resource allocation decisions, developing a reference case is an important early step. This can be informed by the approach taken to the creation of the iDSI Reference Case, which takes a principle-based approach, and avoids specifying in detail every methodological aspect of the evaluation of a treatment or service.

2.4 An initial framework for institutionalising HTA in Romania

It was highlighted earlier there is no single “correct” approach to the design and operation of an HTA framework, although a set of general procedural and methodological principles can be articulated that would support standards of good governance and credible, evidence-informed decision making. In building a strategic roadmap for HTA development in Romania, it is additionally useful to consider those pre-disposing factors or characteristics that have led – or are likely to lead – to effective progress in using HTA in decision making in other countries, particularly in resource limited settings.

In order to identify countries in which iDSI direct practical support could have the greatest likelihood of success and possible impact, an analysis of “priority-setting readiness” was undertaken among a sample of 17 LMICs from three regions (Latin America and Caribbean, Sub-Saharan Africa, and South Asia and Asia Pacific).²¹ The authors developed a set of qualitative and quantitative indicators covering:

- political will;
- current position along the ‘universal health coverage (UHC) journey’;
- institutional and technical capacity;
- health system financing characteristics, and
- potential economies of scale in priority-setting.²²

Key characteristics of those countries considered most suitable for iDSI support included having high levels of commitment among policy makers, together with clearly identified and articulated needs for explicit priority-setting for UHC.

Factors that may support institutionalisation of explicit priority setting in LMICs were also recently explored in a policy brief co-authored by members of organisations belonging to

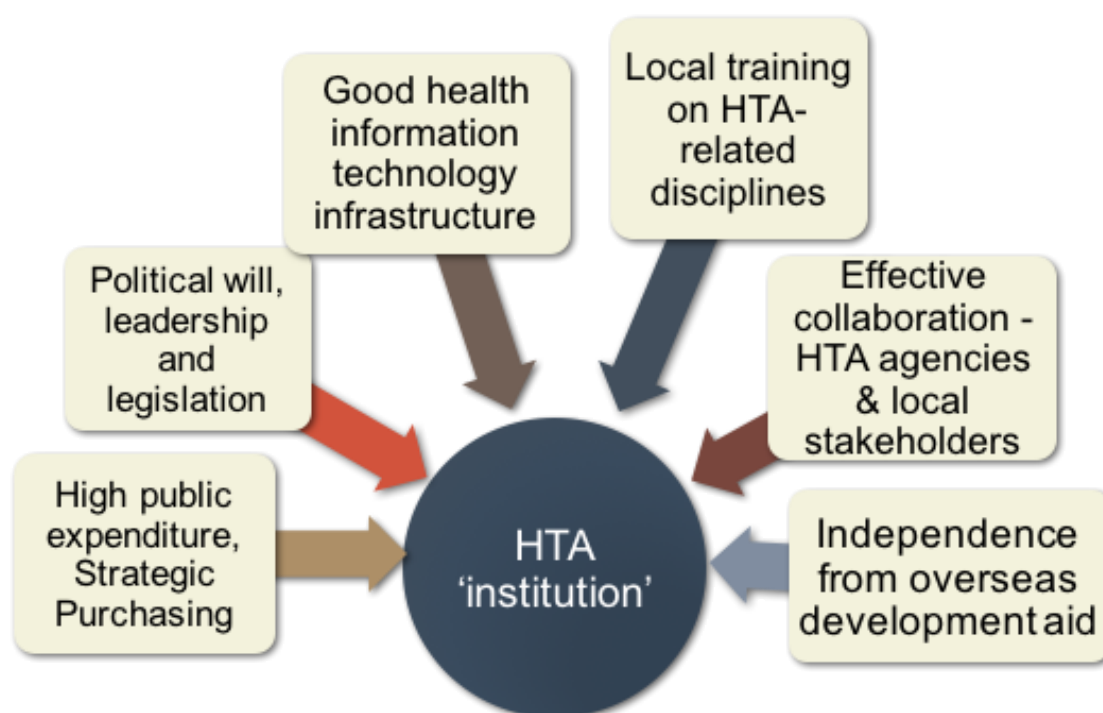
²⁰ Wilkinson T et al. The International Decision Support Initiative Reference Case for Economic Evaluation: An Aid to Thought. *Value in health* 2016;19:921- 928. At: [http://www.valueinhealthjournal.com/article/S1098-3015\(16\)30440-5/pdf](http://www.valueinhealthjournal.com/article/S1098-3015(16)30440-5/pdf)

²¹ Hernandez-Villafuerte K, Li R, Towse A, Chalkidou K. International Decision Support Initiative: Mapping of Priority-Setting in Health for 17 Low and Middle Countries Across Asia, Latin America and Africa (March 1, 2015). At: <https://ssrn.com/abstract=2634886>

²² This includes not only within country (internal economies of scale), but also outside the country (external economies of scale) where the latter refers to opportunities for other countries to adapt the priority setting methods and processes developed in the target setting.

HTAsiaLink, a regional HTA network (see Figure 3). Its recommendations (summarised in Table 3) are based on the experience of seven countries: China, Taiwan, Indonesia, the Republic of Korea, Malaysia, Thailand and Vietnam, each of which is at different stages in its HTA journey.

Figure 3:
Contextual factors frequently present where HTA capacity has been developed



Adapted from: Chootipongchaivat et al (2016)

The authors identify a number of factors conducive to HTA development and provide a practical step-by-step guide, including a checklist for monitoring the progress of HTA introduction and development.²³ Although the policy brief focuses on the use of HTA to inform coverage decisions under UHC, these recommendations are also applicable to HTA in general resource allocation.

Similar factors and issues apply to health systems within Central and Eastern Europe (CEE), although there are additional issues that are perhaps specific to post-communist societies.²⁴ A recent research project funded by the European Commission's Research Framework Programme (FP7) examined HTA capacity building needs in emerging settings that included CEE.²⁵ Barriers were identified in the application of HTA in these settings that highlighted the importance of having appropriate legislation setting out the role of HTA in decision making, developing a clear methodological and procedural approach to HTA in-country, and

²³ Chootipongchaivat S, Tritasavit N, Luz A, Teerawattananon Y, Tantivess S. *Policy Brief and Working Paper. Conducive Factors to the Development of Health Technology Assessment in Asia.* (Nonthaburi: HITAP;2016)

²⁴ Kaló Z, Gheorghe A, Huic M, Csanádi M, Kristensen FB. HTA Implementation Roadmap in Central and Eastern European Countries. *Health Economics.* 2016;25(Suppl 1):179-192

²⁵ Advance-HTA. See: <http://www.advance-hita.eu/wp6.php>

undertaking HTA activities in a transparent fashion. However, it has been reported that the key limitation to undertaking HTA in Central, Eastern and South-Eastern Europe, is the relatively poor level of skills and understanding of HTA among developers, and the inadequate budgets available for HTA.²⁶ In line with the report by Chootipongchaivat²³ human resource development and international collaboration are critical factors to support effective HTA institutionalisation in these settings.

Table 3. Recommendations for the development of HTA

<ol style="list-style-type: none">1. Human resource development within HTA research organizations as well as decision-making bodies and other relevant stakeholders <i>using</i> HTA.2. Development of core team or HTA entities committed to HTA who will coordinate HTA activities and gain the trust of partners3. Linking HTA to policy decision-making mechanisms including the pharmaceutical reimbursement list/essential drug lists, immunization programs, high-cost medical devices package, and public health programmes.4. Implementing HTA legislation to ensure sustainability through participation, transparency, and systematic application of HTA in the policy process rather than focusing on technical issues.5. International collaboration, especially in the formative stages, for financial and technical capacity building support and sustained international knowledge exchange across agencies in the longer term.
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Adapted from Chootipongchaivat et al (2016).

Based on the international evidence presented above, **Table 4** below summarises those areas that need to be explored in detail in creating a strategic roadmap for HTA institutionalisation in Romania. This framework will be further developed in Phase 2 of the current project.

Table 4:
Developing a strategic plan for HTA institutionalisation: an outline framework

Domains	Components
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²⁶ Olry de Labry Lima A, García Mochón L, Caro Martínez A, Martín Ruiz E, Espín Balbino J. Mapping capacity to conduct health technology assessment in Central, Eastern and South-Eastern Europe. *Croatian Medical Journal*. 2016;57(1):66-70

<p>Overarching goals and vision for HTA framework</p>	<ul style="list-style-type: none"> • Strategy and business plan • Services that will be provided (eg benefit package design) • Clients of the HTA institutionalised network • Links to policy-making • Future evolution, including capacity development and funding sustainability
<p>HTA organisational form</p>	<ul style="list-style-type: none"> • Location of HTA focal point (eg academic, government body/agency) • Working with others – networks and other stakeholder relationships • Building collaborations and networks
<p>Capacity needs and development</p>	<ul style="list-style-type: none"> • Human resources available • Technical and administrative staff • Recruitment sources • Attracting and retaining good staff, including continuous professional development • Outsourcing v growing in-house capacity
<p>Information systems / IT infrastructure</p>	<p>Availability of local/regional data (epidemiology/ burden of disease, resource use, costs, utilisation etc)</p>
<p>General procedural and technical approach</p>	<p>Setting process and methodological standards – source and rationale</p>

Adapted from: Chalkidou et al. Comparative effectiveness research and evidence-based health policy: experience from four countries. *Milbank Quarterly* 2009;87(2):339-67

3 Landscape analysis of HTA in Romania

The key component of Phase 1 of this project is the assessment of the current status of HTA in Romania – the context, available resources and expertise, and current applications, as well as the aspirations of policy makers and stakeholders. We begin with a review of the current regulatory framework.

3.1 Regulations governing HTA in Romania

The key piece of legislation governing the existing application of HTA in Romania is Ministerial Order 861/2014, which sets out the evaluation criteria and methods for the evaluation of medicines for inclusion of medicines in the reimbursement formulary. Other relevant laws and regulations are:

- a) Law 95/2006 on health reform;
- b) Government decision 720/2008 on the content of the drug formulary and medicines included in national health programmes;
- c) Order 3/1/2015 (Ministry of Health and NHIH) on *cost-volume* and *cost-volume-result* contracts;
- d) Emergency Ordinance 77/2011 on financial contributions from pharmaceutical companies (the “clawback” mechanism).

3.2 The current HTA process

The HTA process as currently applied to the selection of medicines for the reimbursement formulary is illustrated in **Figure 3**. The main components of the process are as follows:

- (i) The applicant, usually the Market Authorisation Holder (MAH),²⁷ submits an application to the HTA unit within the NAMMD.
- (ii) Within 10 days of the submission, NAMMD requests the approval of MoH specialty commissions on the choice of comparator in the submission. The commissions are obliged to send to NAMMD the approval regarding the selection of comparator within 10 days of the request date.
- (iii) Within 30 calendar days of the submission date the HTA unit within NAMMD evaluates the submission by analysing the submitted documents, and calculates therapy costs. It then sends the applicant an intermediary report, which includes a critical analysis of the submitted documentation, proposals for amendments (e.g. a change of comparator) and any requests for additional information, as applicable. Therapy costs are calculated by the NAMMD based on the following data: monthly therapy cost with minimum and maximum daily dose, monthly average therapy cost, total number of patients anticipated under the proposed the indication estimated to be treated annually and for the subsequent five years, and average duration of therapy per patient. NAMMD can request opinions and information from

²⁷ While the NAMMD can also initiate evaluations, there have been only three such instances to date.

MoH specialty commissions, NHIH and any institution sub-ordinated to or co-ordinated by the MoH.

- (iv) Each submission is scored according to criteria set out in the MO 861/2014 and a decision is made. The maximum score that can be awarded to a new molecule (a medicine not already included in the formulary) is 145.
- (v) The decision may be framed as a recommendation for a) inclusion on the formulary with unconditional reimbursement; b) inclusion with conditional reimbursement; c) non-inclusion or d) exclusion.
- (vi) The Agency is obliged to communicate its final evaluation decision to the applicant within 90 calendar days of the submission date.²⁸
- (vii) The MAH may contest the decision within 7 days of its publication. A contestation resolution committee is then established, comprising representatives from MoH, NHIH, NAMMD, associations of medicine manufacturers and patient associations (the last two observer status only, with no voting rights). The decisions of the contestation resolution committee are made within 15 working days by open vote and simple majority in a meeting in which representatives of the MAH participate. If the MAH disagrees with the decision, the only further recourse is to pursue judicial review, but this is only available for matters of process.
- (viii) Within 30 working days of any NAMMD decision regarding conditional inclusion in the formulary, the MAH submits a request to the NHIH declaring its readiness to begin contract negotiations. Additionally, the MAH submits a proposal that includes the estimated total cost of treatment for 12 months, and the basis for the clawback contribution. The request is analysed by a negotiation commission comprising seven members: two representatives from MoH, one from NAMMD and four from NHIH. The secretariat of the commission resides in the NHIH. The commission meets monthly (prior to the 10th of each month), reviews the requests received during the previous month against the prioritisation criteria in Emergency Ordinance 77/2011,²⁹ and issues a decision regarding the commencement of the contract negotiations.
- (ix) The outputs of the negotiation are³⁰:
 - the number of covered patients relative to the number of eligible patients;
 - the maximum quantity to be dispensed for a given presentation and dosage
 - identification of relevant diagnostic tests and prognostic monitoring, as appropriate; and

²⁸ MO 861/2014 specifies instances where this deadline can vary. For example, if there is no approved reference price for the medicine, the deadline is extended by another 90 days. Another example is when intermediary reports (see above) ask for supplementary information, in which case the 'clock' is stopped until the required information is produced by the MAH.

²⁹ In the following sequence: drugs for progressing illnesses without therapeutic alternative, drugs approved through emergency procedure by the European Medicines Agency, drugs corresponding to INNs for the specific treatment of diseases with major public health impact, as stipulated in Law 95/2006 and the National Health Strategy 2014-2020.

³⁰ Order 3/1/2015

- outcome indicators, as appropriate.
- (x) For cost-volume-result contracts, expert commissions are set up within the NHIH, one commission for each therapeutic area. These commissions provide advice to the negotiation commission regarding appropriate outcome indicators, and propose inclusion/exclusion criteria for individual patients. The expert commissions subsequently approve the inclusion of patients in treatment programmes and evaluate their corresponding outcome indicators, but this will cease from March 2017.
- (xi) Cost-volume and cost-volume-result contracts are monitored quarterly by comparing the contract indicators with the indicator values recorded in the health insurance information system.

The vast majority of appraisals are initiated by MAHs, however there have been three cases of appraisals initiated by the NAMMD. Since the introduction of the current 'scorecard' system in 2014, the HTA unit has undertaken appraisals of approximately 300 molecules, of which approximately 30% have received recommendations for unconditional reimbursement, 20% have been recommended for conditional reimbursement, and the remainder were rejected.

Around half the rejected applications are subject to appeal. New evidence is frequently introduced in the course of the appeal, often leading to a new evaluation of the product by the HTA unit.

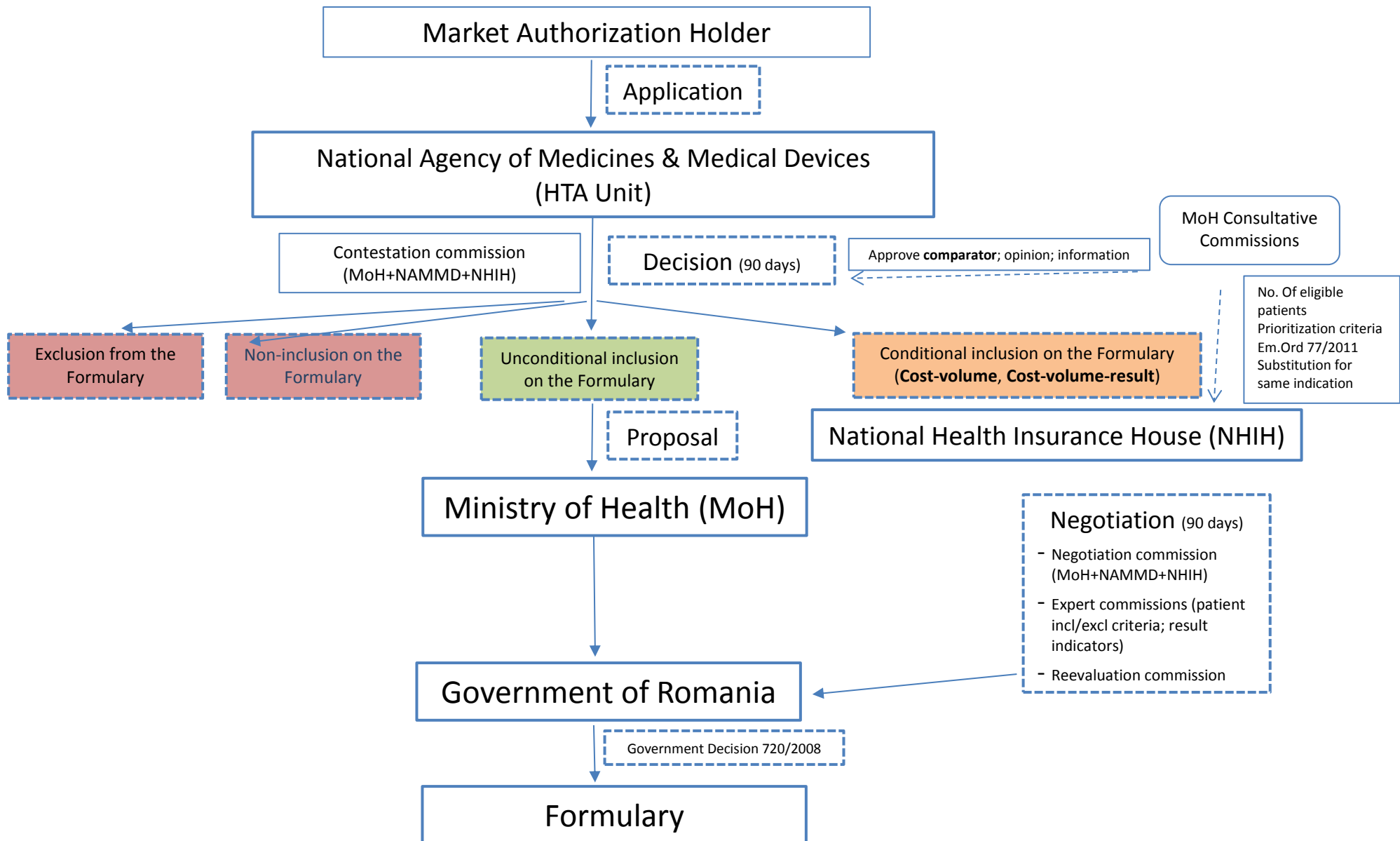
3.3 Key actors

Experience with HTA-related activities in Romania appears to be limited, and has been largely confined to research and spread across several institutions. The MoH has promulgated several iterations of national HTA guidelines and established an HTA Unit in 2013 that conducted evaluations of manufacturers' formulary listing submissions, in collaboration with the Ministry's clinical advisory commissions. However the limited expertise that previously existed within the MoH was lost with the transfer of the HTA unit to the NAMMD in 2014.³¹

As a result the NAMMD is currently the only public institution with a remit to undertake HTA, and with any capacity to do so. At present its remit is limited to evaluating applications for the inclusion of medicines in the reimbursement formulary, developing recommendations based on a scorecard system that relies largely on decision-making in other, selected jurisdictions, developing recommendations with support from the MoH's clinical specialty commissions. The unit currently has six staff: the director (a clinical pharmacologist by training), two physicians, one pharmacist, one statistician and one economist.

³¹ The rationale given for moving the HTA unit into the NAMMD was to enable ready access to clinical (regulatory) trial data. The example of the Italian Medicines Agency (AIFA – *Agenzia Italiana del Farmaco*) was cited as the model for this (otherwise uncommon) arrangement.

Figure 3: The HTA process as currently applied to the selection of medicines for the Romanian reimbursement formulary



Beyond the MoH and NAMMD, the **National Institute of Public Health (NIPH)** has some limited experience, having joined the EUnetHTA³² project with NSPHMPD, but this represents only a small component of its activities. The interests of the institute are broad; analysing population health status and determinants; monitoring both communicable and non-communicable diseases, health information systems, environmental health assessments, and managing certain national registries are among its many day-to-day activities. NSPHMPD has been a member of two previous EUnetHTA joint action projects, and is now participating in a third one, however the activities mainly comprise translating and adapting EUnetHTA instrument(s) into Romanian; the School has limited capacity and its experience has been limited to research. It is not clear how the NIPH and NSPHMPD participation in EUnetHTA has supported the development of HTA in Romania, specifically in terms of its institutionalization and wider awareness raising, especially among policy makers. There are no formal links between NSPHMPD activities and the HTA unit within the NAMMD. Given the nature of the institution's sphere of interest, which focuses on hospital activity, there is rather more interest in developing expertise in, and undertaking HTA involving medical procedures, rather than medicines. The School is currently developing an HTA module as part of its 'life-long learning' course offerings.

At the **University of Medicine and Pharmacy 'Carol Davila'** in Bucharest the **Department of Public Health** teaches health economics and HTA concepts and methods to undergraduate medical students and in various postgraduate programmes, either as part of broader programs or as a dedicated short programme in HTA. For example, the masters programme in 'Operational research and interventions in social and medical services and public health management' includes 28 hours of lectures on HTA, while the health service management programme includes 20 hours. That said, although the department has been involved in numerous public health projects, and the university has a long-standing history of research work, with many academics also involved in the activities of the NIPH, the Department's expertise is more focused on research-oriented HTA rather than capacity building in practical applications of HTA in Romania. All traditional medical universities – University of Medicine and Pharmacy "Carol Davila" in Bucharest, University of Medicine and Pharmacy "Gr. T. Popa" in Iasi, University of Medicine and Pharmacy "Iuliu Hatieganu" in Cluj-Napoca, University of Medicine and Pharmacy "Victor Babes" in Timisoara, University of Medicine and Pharmacy in Craiova and University of Medicine and Pharmacy in Targu Mures – offer pharmacoconomics and health technology assessment elements as part of the residency curriculum in Clinical Pharmacy and Public Health and Management.

Other universities which offer health economics-related educational products include: University of Medicine and Pharmacy in Craiova (Faculty of Pharmacy, Pharmacoconomics Department) and Titu Maiorescu University in Bucharest (Faculty of Medicine, Pharmacology Department) offer undergraduate Pharmacoconomics modules; and Cluj School of Public

³² EUnetHTA (<http://www.eunetha.eu/about-us>) was established with the aim of being a sustainable network for HTA across Europe, facilitating information and knowledge exchange between HTA organisations and working towards supporting consistency in methods and processes. The initial EUnetHTA project (2006-2008), which focused on connecting public national health technology assessment (HTA) agencies, research institutions and health ministries and since led onto so-called 'Joint Actions' involving teams of partners engaged in specific areas of HTA methods and process. There have been three Joint Actions, the most recent (2016-2020) has the aim defining and implementing a sustainable model for the scientific and technical cooperation on HTA in Europe.

Health (part of Babes-Bolyai University in Cluj-Napoca) offers an elective master-level module in International Health Economics.

With respect to health sector data, the governance arrangements in Romania are quite complex. Several institutions collect and have jurisdiction over different types of data for different purposes. Specifically:

- **National Institute of Statistics (NIS):** the Department of Health Statistics is responsible for contributing to international reporting by the European Commission (*Eurostat*), and OECD (*Health at a Glance*), and for compiling the national health accounts. It collects data annually from health care providers on their capacity (e.g. bed numbers, personnel, available technologies), activity levels (e.g. number of surgical procedures, number of inpatient days) and elements of financing (e.g. budgets and expenditure). Providers report data by manually completing standardised questionnaires; however this is recognized as a limitation as the Department is actively trying to rely more and more on administrative data. Additionally, private health expenditure data are collected through household surveys and triangulated with information from the national accounts and the private sector. Data are often collected from providers in aggregated form that does not for example distinguish between types of surgical procedures or disaggregate by case-mix. There are only two full-time staff involved in health statistics, thus there is no capacity for auditing the data received from health care providers (other than conducting simple consistency checks and cross-referencing with Ministry of Finance expenditure data) or for conducting in-depth analyses (e.g. to explore the determinants of year-on-year variation in service utilisation).
- **National Institute of Public Health (NIPH):** The NIPH is subordinated to the MoH. It collects data relevant to communicable and non-communicable disease surveillance, as well as on the distribution and activity of family physicians and community health structures. Data are collected from District Public Health Authorities, which are representative bodies of the MoH. Most reporting is paper-based. NIPH also hosts the **Centre for Health Statistics**, which collects and reports data on the capacity, activity and expenditures of public hospitals. Similarly to the NIS, NIPH does not have detailed data on hospital activity e.g. case-mix data, which are reported by hospitals directly to the NHIH and National School of Public Health, Management & Professional Development.
- **National School of Public Health, Management & Professional Development (NSPHMPD):** NSPHMPD is an institution under the coordination of the MoH.³³ The School administers the Romanian Diagnosis-Related Group (RO-DRG) hospital activity system, including the DRG grouper software application. The School collects monthly activity data from all hospitals (public and private) reporting in the DRG system, including case-mix and detailed procedures/interventions at patient-level, performs a series of verifications and cleaning procedures to the data, then transfers the data to the National Health Insurance House for reimbursement purposes.

³³ Government Decision 144/2010, modified by Government Decision 154/2016

- **National Health Insurance House (NHIH):** NHIH is an autonomous public institution under the coordination of the MoH³⁴. All stakeholders agreed that NHIH is the repository of the most detailed activity data in the Romanian health sector, from all types of service providers, as it administers the Unique Integrated Information System (SIUI – *Sistemul Informatic Unic Integrat*). Data are used primarily for reimbursement purposes. There are no publicly available analyses on any other topics and there is little evidence that these data are used for health sector decision-making.

3.4 Gaps and challenges

Scale and scope

As previously noted, HTA has had a relatively short institutional history in Romania and is yet to be properly scaled up in terms of scope and rigour, or to be fully integrated and realise its potential role in supporting rational priority setting.

To date, institutional experience has been limited to HTA appraisal, i.e. evaluating HTA submissions from manufacturers. This has involved scoring HTA dossiers submitted for reimbursement by MAHs and formulating recommendations based on those scores. To date no public institution has had either the remit or capacity to undertake rigorous (as distinct from score-card based) evaluation or to undertake full *de novo* HTA in house.

Inadequate linkage to decision-making

As a corollary, the existing HTA processes (as stipulated in MO 861/2014) are siloed, without any formal linkages to pricing, clinical guideline development, much less broader policy decision making, for example evaluating priorities for public health programmes or optimising the basic benefits package.

With respect to pricing, properly implemented, the use of HTA facilitates the assessment of the value of a health technology or intervention, which can be used to determine limit formulary inclusion and applied to inform price negotiation (and any risk sharing arrangements), thereby indirectly moderating prices. International reference pricing cannot inform an accurate assessment of value for money in Romania; 'list' prices may be unrelated to actual transfer prices, and even where referenced prices reflect actual prices paid, the value for money represented by the product in the Romanian context cannot be inferred or assumed. Reliance on positive reimbursement decisions in countries with significantly higher per capita GDP cannot provide assurance that the funding and uptake of a new medicine in the Romanian reimbursement formulary does not in fact lead to the displacement of products of higher value to the health system. As such while the current arrangements are broadly *aligned* with the goals of the National Health Strategy 2014-2020 they fall well short of delivering on the key objective of ensuring the cost-effectiveness of interventions funded by public sources.

³⁴ Government Decision 972/2006, modified by Government Decision 503/2016

Moreover, there are no formal links between the use of HTA and the development of clinical guidelines or to quality or practice improvement. Most clinical guidelines in Romania are based on translations of European guidelines, which may prioritise the use of products that may not represent good value for money in Romania, may be unaffordable or may even be unavailable altogether. There are also no formal links between the current HTA processes and the national health programmes (NHPs), and from time to time this leads to paradoxes and inconsistencies. To date there have been cases where a) drugs were added to the national formulary for conditions/indications for which there were no eligible patients in the country; or b) despite the existence of an NHP based on established clinical need, no submissions from MAHs for the relevant products are submitted to the NAMMD. Overall, the potential of HTA to inform policy decision-making is under-recognised and under-utilised.

Limited collaboration

As note above there has been a tendency for both individuals and institutions involved or interested in the development and application of HTA to operate in siloes, with little evidence of inter-institutional engagement. While there are some precedents for large-scale collaborations in the Romanian health sector they are both limited and relatively recent. These include:

- the National Health Strategy 2014-2020 (launched 2014, the first document of its kind);
- the essential health benefits package (launched 2014 following an extensive revision of the *de facto* essential benefits package that had been available as the framework contract of service provision which the NHH would sign yearly with health service providers);
- the electronic patient record system (launched 2015); and
- the national health insurance card (launched 2015).

An important element of the future framework for institutionalisation of HTA will be establishing mechanisms for exchange and collaboration both within academe and between it and the public sector.

Capacity building and skill development

While there are several HTA, health economics and pharmacoeconomics courses available in Romania, much of the focus thus far has been research oriented. More applied HTA training has largely consisted of short courses (up to one week) delivered by foreign academics. Public health institutions have to date been oriented more towards health economic evaluation designed with broader application purposes, rather than specifically to support the practical implementation of HTA. There is limited scope within the MoH to commission or oversight HTA capacity building initiatives, and the current application of HTA within the NAMMD, using a simplified scorecard approach, is neither facilitating skill development, nor promoting the application of rigorous methods. A cohesive, fit-for-purpose capacity building programme, one that draws on and integrates existing national expertise to support HTA activities at national level, is lacking.

Data limitations

Each institution relevant to the health sector has jurisdiction over different key health sector datasets. For example, information on the distribution of health infrastructure and health workforce is collected annually by the National Institute of Statistics. Data on clinical activity at the service provider level is collected regularly by the NSPHM, which also administers the national clinical coding system (Romanian Diagnosis Related Group, RoDRG), which require substantial updating. Data on health budgets and reimbursement tariffs are held by NHIH. NAQMH collects information on compliance with health service quality standards. Finally, NAMMD holds information on the efficacy, effectiveness and safety of health technologies put forward for reimbursement. Key data on resource utilisation, epidemiology, and treatment patterns are either inadequate or unavailable.

Methods and processes

As noted above, the current scorecard approach, while arguably reproducible and objective, not only lacks rigour, fails to deliver one of the key benefits of HTA, the ability to assess opportunity cost and value for money. Moreover, some elements of the process appear counter intuitive, for example the requirement that the nominated comparator be limited to a comparator in the same drug class. In order to accurately reflect the decision problem and determine the opportunity costs of adopting a new therapy, it is important that it be compared with the therapy most likely to be replaced in practice, which may well be a drug in another class, or even a non -drug therapy,

In order to develop and implement evidence-based assessments a key element will be the development of a reference case to guide evaluation and facilitate consistency and comparability in decision making. The reference case should establish the essential evaluation principles and thereby guide important issues such as the selection of comparators.

Governance

In addition to the technical and methodological limitations identified in the current processes there are significant issues in governance arrangements that will need to be addressed in the HTA institutionalization process. The current processes are arguably reasonably effective in supporting transparency, consistency and timeliness, but are less so in their capacity to be inclusive and consult with stakeholders, to utilise rigorous scientific methods, or to regularly review and update decisions and methods. With respect to the elements of independence and contestability the picture is more nuanced. Clearly the processes cannot be said to be at 'arm's length' from government and payers, and while there is clear mechanism for contesting decisions the ability to introduce new evidence at the point of appeal represents a serious weakness. The appeal body should 'stand in the shoes' of the original decision-maker; that is, it should consider only the materials provided to support the original decision. The presentation of new evidence after an initial decision has been made should require the submission of a fresh application to the original decision-maker.

A key early step in developing the strategic framework for HTA institutionalisation will be to establish a comprehensive governance charter that will support rigorous, technically relevant, consultative, timely, and transparent decision-making processes.

4. Conclusions

Several of the basic building blocks needed to establish a systematic, consistent, and policy relevant HTA framework already exist in Romania. There is, however, significant scope, as well as pressing need, to develop and **expand both the infrastructure and application of HTA.**

Among the key challenges we observed are the **limited availability of both local expertise and data** to inform HTA processes (the latter being an issue which affects all health systems to a greater or lesser degree). We identified kernels of technical expertise within research institutes and academic settings, as well as the existence of certain datasets likely to be useful for HTA research and health system performance monitoring more generally. However key elements in the strategic approach to the institutionalization of HTA in Romania will be the establishment of mechanisms for the **collection and stewardship of data** necessary for effective HTA, and an overarching plan for **expanding and integrating both public sector and academic technical expertise.**

In addition, there is significant **fragmentation in the system** where available resources are not used optimally, and lack the coordination needed to serve particular policy objectives. While there is a degree of openness to developing a more coherent approach to HTA, one which would involve some form of overarching framework or entity and inter-institutional cooperation, existing incentives and structures favour more siloed activities. The development of an HTA institutional framework and essential capabilities (systems, processes, methodologies, data collections, tools and competences), envisioned in upcoming years, should be used to create a backbone from which to **stimulate greater inter-institutional collaboration**, with MoH leadership.

To date the application of HTA has focused on pharmaceutical reimbursement. This is not an unreasonable starting point, but it needs stressing that this represents a narrow conceptualisation of the potential scope and value of HTA in decision-making. Institutionalising HTA in Romania should involve a commitment to progress the development of mechanisms for the evaluation of non-drug interventions such as devices, diagnostics, procedures and co-dependent technologies, as well as for health promotion, screening and disease prevention activities, within a **coherent and consistent evaluative framework.**

That said, focusing on **improving the existing approach to pharmaceutical evaluation** framework will be an important first step. There are serious weaknesses in both the processes and methods currently employed by the HTA unit at the NAMMD; while the scorecard approach is objective, it is only indirectly and very weakly evidence-based, and cannot deliver a real assessment of **value for money**. As a result current processes cannot, and cannot be perceived to adequately support the objective of ensuring, much less improving efficiency in pharmaceutical expenditure.

Developing a suite of methods structured around a **framework of best practice principles and governance standards** for HTA (e.g. including developing an agreed, fit-for-purpose reference case for economic evaluation) should be pursued as a matter of priority. Such a framework would also serve as the template for developing capacity and expertise in broadening evaluation to non-drug interventions and programmes, and for linking HTA more effectively to policy decision-making across the broader health sector.

Drawing on our analysis so far and subject to ongoing needs assessment, we will **define a set of capacity building needs** for national experts spanning research interpretation and commissioning, as well as management and communication. We will also highlight **appropriate fora and networks** across Europe and beyond, as well as potential bilateral and multilateral country relationships/twinning arrangements with relevant institutions whose know-how and development stage are of relevance to the requirements of the HTA Romanian ecosystem.

5. Next steps

5.1 A consultative process with MoH oversight

As stated in our technical proposal, project activities will be based on a collaborative and inclusive consultative process, where possible eliciting and addressing the interests and needs of the large number of stakeholders with varying legal remits and roles in HTA development.

We are pleased to see that the MoH is a key partner in this process, hosting consultations and meetings with HTA actors. We will support by ensuring that HTA stakeholders are actively engaged in all phases of project implementation, to facilitate awareness, contribution and ownership of shared HTA development objectives.

We look forward to meeting with the State Secretary in charge of Pharmaceuticals & Medical Devices as soon as he/she is appointed, in order to introduce the project objectives, implementation stages, and obtain guidance on further steps.

In addition, we noted mixed reactions to the 2011 NICE report within the MoH. As many of the observations in that report are consistent with our more recent findings, in subsequent visits it will be important to gain a more in-depth understanding of those views, and particularly of those aspects of the report that were perceived less positively.

5.2 Finalising Deliverable 1

After the draft Inception report is submitted to the client at the end of Phase I, we will be pleased receive client feedback within 7 working days, as stipulated in the contract. The deliverable will then be finalised based on the comments of the Review Committee, and final version will be shared with the consulted stakeholders, once approved by the MoH. We will present the Inception report to the colleagues from the MoH and other HTA partners during our next mission in Phase 2.

5.3 Preparing for Phase 2

As foreshadowed outlined in our proposal and project plan, in the next phase we will develop our recommendations for “the institutional set up of an agency or a committee”. This will include:

- proposing a structure of the HTA entity/committee;
- estimating the funding required for its establishment, and developing an initial business plan;
- developing a legal framework for its establishment,
- defining key roles and job descriptions/ person specifications for these.

These tasks will require additional consultations and information not collected in Phase I (especially related to budgeting, staff job descriptions, applied HTA methodologies, etc.). We will send an indicative request for meetings to the MoH and PMU as early as possible, and look forward to their on-going support in this endeavour.

We will also seek for the MoH advice regarding the format of Deliverable 2, specifically, whether it should include one or several options regarding the form of the future HTA entity. Our view would be to present what we perceive as the plausible options early in Phase 2 in a face-to-face presentation (rather than a formal report), and seek the MoH's decision on the preferred option. This will allow us to focus our efforts efficiently on elaborating the details of the structure, funding modalities, business plan, and other elements for a single option and achieve a greater degree of detail than would otherwise be possible.

Phase 2 will begin in April 2017, with a visit proposed for mid-April, subject to MoH approval.

Annex A : List of meetings conducted during Phase 1

Organisation	Representatives
Ministry of Health	Dr Florian-Dorel Bodog, Minister of Health Mrs Corina Pop, Secretary of State Mr Rares Trisca, Secretary of State Mr Dan Dumitrescu, Secretary of State Dr Mihaela Bardos, Director of National Programmes Mr Petru Armean, Ministerial Adviser
Project Management Unit, MOH	Dr. Maria-Cristina Dinescu, World Bank PMU
National Institute of Statistics, NIS	Mrs Florina Radoi
National Agency for Medicines and Medical Devices, NAMMD	Dr Vlad Negulescu, Director, HTA Unit
National Health Insurance House (NHIH)	Mr Florin Lazariou
National School of Public Health & Management (NSPHM)	Dr Silvia Gabriela Scintee
National Institute for Public Health (NIPH)	Dr Alexandra Cucu (Environmental Health) Mr Cristian Calomfirescu (Health Statistics Centre) Dr Oana Curea
National Authority for Quality Management in Healthcare (NAQMH)	Dr Marius Filip, Head - Standards for Healthcare Services Unit Prof Sorin-Gabriel Ungureanu, Deputy Director-General
Department of Public Health, Medical University of Bucharest	Dr Florentina Furtunescu Dr Ileana Mardare
Public Health Association	Dr Bogdan Pana, President PHA
Individual HTA/EBM experts	Dr Silvia Florescu, NSPHM and independent consultant Dr Adrian Pana, independent consultant Dr Cristian Baicus, Colentina Hospital

Annex B : List of key documents reviewed

- *The National Health Strategy 2014-2020*
- *Law 95/2006* on healthcare reform, republished, as amended and supplemented
- *MS Order no. 861/2014* approving the criteria and methodology for evaluation of health technologies, the documentation to be submitted by applicants, the methodological tools used in the evaluation process on inclusion, expanding indications, non-inclusion or exclusion of drugs to / from the list of the common name for medicinal enjoyed insured with or without personal contribution, prescription in the system of health insurance, and common name for medicinal products are granted under national health programs and remedies, with amendments subsequent.
- *Emergency Ordinance no. 77/2011* on the establishment of contributions to fund health expenditure, as amended and supplemented.
- *MS-CNAS Order no. 03/01/2015* the model contract, the methodology of the negotiation, conclusion and monitoring of the implementation and performance of cost-volume / cost-volume-result contracts, as amended and supplemented.

Annex C: Summary of consultations and meetings

Director of the National Health Programmes, MoH (Dr Mihaela Bardos)

National health programmes (NHPs) are a financial mechanism to fund specific activities. There are two types of NHPs: public health programmes, administered by the MoH (eg. national vaccination programmes, TB, communicable diseases, HIV, transplant); and curative programmes, administered³⁵ by the NHIH (e.g. diabetes, cardiovascular disease). The HTA process applies only to programmes funded and administered by the NHIH.

The total number of programmes has remained constant over time, but there have been changes in which institution funds which programme eg. HIV and TB programmes used to be funded by the NHIH, but are now funded by the MoH. The policy document guiding the structure of the programmes is the National Health Strategy 2014-2020. The MoH's specialty commissions would have to make a case to increase the number of NHPs or make structural changes.

For vaccination, a national vaccination committee comprising clinical and public health experts meets on an ad-hoc basis to determine the vaccines to be included on the national vaccination schedule (compulsory and optional). The committee reviews evidence (including epidemiological data, European guidelines and budget impact) and formulates a recommendation to the MoH.

There is no formal link between the HTA process as regulated by MO 861/2014 and the NHPs, which leads to paradoxes and inconsistencies. Given that in practice only MAHs initiate submissions, there have been cases where a) drugs have been added to the national formulary for conditions/indications for which there were no eligible patients in the country; or b) a NHP exists based on need, but there no submissions are made by MAHs for products addressing those particular conditions/indications, thus hindering the implementation of the NHP.

In addition, there does not appear to be any connection between the HTA process and pricing. Legislation stipulates that pricing is based on external reference pricing drawing on prices in 12 other European countries. However, when HIV and TB programmes were transferred from the NHIH to MOH, the MoH organised national procurement and obtained better prices than the fixed reimbursement prices NHIH was offering previously. National procurement only applies to medicines distributed through hospital pharmacies. The oncology NHP is organised by NHIH, but MoH organises the national procurement of oncology medicines, which must be dispensed through a hospital pharmacy or through ambulatory services linked to a hospital.

³⁵ 'Administered' also means 'funded by' the respective institution, but there are also several exceptions i.e. programmes funded by the NHIH, but administered by the MoH. One example is the oncology programme, funded by NHIH but for which MoH organises national-level procurement.

Director of Health Technology Assessment Unit, NAMMD (Dr Vlad Negulescu)

The HTA unit was created in 2013, initially hosted in the MoH, and then moved to NAMMD in 2014. The argument for having the HTA unit in the NAMMD rests on easy access to expertise on clinical trial data. The example of the Italian Medicines Agency (AIFA – *Agenzia Italiana del Farmaco*) was cited as an inspiration for this (otherwise uncommon) arrangement.

The HTA unit officially has six staff: two doctors, one economist, one statistician, one pharmacist and one biologist. The vast majority of appraisals are initiated by MAHs, however there have been three cases of appraisals initiated by the NAMMD. Since the introduction of the scorecard system in 2014, the unit performed appraisals for 300 INNs, of which approximately 30% received unconditional reimbursements, 20% received conditional reimbursements and the rest (approx. 50%) were rejections. The outputs have been in line with clinical guidelines. There have been cases of re-submissions following rejections.

There is also a contestation committee comprising representatives from the NAMMD (departments other than the HTA unit, NHIH and MoH), which evaluates contestations to the HTA unit's recommendations. Approximately 2/3 of rejections are contested; noteworthy, the MAH can introduce new information at appeals, which usually leads to start a new evaluation. Of approximately 40 recommendations for conditional reimbursement, less than 10 cost-volume/cost-volume-efficacy contracts have been completed and signed by the NHIH with the MAH.

The methods they use state that the comparator needs to be a technology in the same class. If the technology under evaluation is the first in class, then some estimate of 'best supportive care' is used as a comparator. Budget impact analysis, a component of the scorecard system, is basic and relies on cost data provided by the NHIH.

Introducing a system of hidden price discounts, negotiated by the NHIH, would be preferable. This would allow maintaining higher public list price to avoid parallel exports.

The ideal capacity of the HTA unit would be approximately 20 staff to conduct appraisals for pharmaceuticals alone. The estimated corresponding capacity with the NHIH to 'absorb' this volume of recommendations would be about 100 staff.

The main interest in this project is to define an appropriate methodology that will be the basis of capacity development for his team but also set the framework for others to follow and source additional capacity (e.g. through academic units).

Pharmaceutical Department, National Health Insurance House (Mr Florin Lazaroiu)

Cost-volume and cost-volume-result contracts have been implemented since December 2015 e.g. response-based scheme for hepatitis drugs. The process is as follows:

- The HTA unit within NAMMD conducts the evaluation and formulates a recommendation for inclusion in the formulary. The recommendation can be 'unconditional reimbursement' or 'conditional reimbursement'.
- For 'conditional reimbursement' recommendations, a MoH commission estimates the number of eligible patients for the approved drug and for its indication(s), as well as the outcomes/indicators that should be monitored in the case of cost-volume-result. These data are then handed to NHIH. There are different MoH commissions for each disease category.
- NHIH compares the estimated budget impact to the available budget and negotiates the agreement with the MAH. The object of the negotiation is the number of eligible patients. If patient numbers exceed the estimates, the pharmaceutical company pays for the additional patients i.e. above the negotiated amount.
- An evaluation commission, specific to each disease, reviews patient eligibility for reimbursement on a case-by-case basis. This process takes some time e.g. about two months' delay from prescription to access.

For cost-volume contracts, there is a fixed overall expenditure over five years based on the estimated number of patients. Every three months the NHIH evaluates the budget impact of cost-volume and cost-volume-result contracts, which may lead to re-negotiations.

From March 1st 2017 the evaluation commissions will be abolished. The invoked reason is to "speed up access to treatment". The implication is that the prescribing physician will have the final authority on the treatment received by the patient, which will have to be reimbursed automatically. It is envisaged that the NHIH will have to organise some form of patient registries for monitoring the cost-volume /cost-volume-result contracts.

Regarding the contestation process for the HTA recommendations prior to formulary inclusion, the most common reason for contestation is when a recommendation is made not to include medicine on list (conditional coverage decisions seems to not generate many contestations). Pharmaceutical companies often don't supply a complete dossier to NAMMD, which often leads to lower scores and companies contest results, but also supply more data. Furthermore, reference prices (set by the MoH) may change during evaluation – leading to arguments about the validity of the analysis undertaken by the HTA unit.

Once on formulary there are additional contestation steps around calculated utilisation to inform clawback and contracts. Pharmaceutical companies usually do not trust NHIH data on drug utilisation, which can lead to challenging claw back decisions and sometimes legal proceedings.

National Authority for Management of Quality in Healthcare – Dr Marius Filip (Head of Standards for healthcare Services Unit) and Dr Sorin-Gabriel Ungureanu (Deputy Director General)

NAMQH is the health care providers' accreditation authority. The accreditation process in Romania started in 1996 with evaluator training, under guidance from United States agencies. It stopped in 1998 and restarted in 2009/2010 with a model informed by the French agency Haute Autorité de Santé. The first manual for hospital accreditation was produced and the first round of hospital accreditation based on these standards was completed in 2015.

The Authority has recently published the second edition of the accreditation standards, which have been rearranged to fit more closely with the realities of the hospital system. New indicators are being developed and the second round of accreditation is due to start soon. Patient safety is a key area of concern and the focus of the upcoming round of accreditation.

A key component of the Authority's mission is to disseminate within the health sector an understanding of the importance of quality and safety. In order to provide better care with existing resources, it's crucial to get providers to recognize they have problems. The first round of accreditation helped 'sensitise' the system and led to some practical improvements e.g. including refurbishment of facilities. Furthermore, the accreditation process has also influenced the practice of other inspection authorities in the health sector.

By law, hospitals have to be accredited in order to enter a contract with the NHIH. There are no other ties between accreditation and hospital financing. There is no intention to 'punish' hospitals and force them out of the system, which would generate even more problems.

Operationally, accreditation looks at whether hospitals are able to provide services in line with their category. Hospitals pay a fee to the Authority in order to be accredited, but the evaluation is conducted by contracted evaluations independent of the Authority. In principle, the entire activity of the hospital needs to be informed by protocols, but the Authority does not check the content or coherence of the protocols, only their existence.

Hospitals also devise their own indicators which can be investigated by the evaluators and the Authority. Experts are involved in defining indicators, which then undergo piloting and gather hospital and patient feedback.

The Authority sees the relationship with hospitals as a partnership. They work with hospitals together to solve problems. It's a two-way learning process: not only the providers learn, but the Authority also learns. The Authority has a liaison in each hospital i.e. a Quality and Management Control officer. Some hospitals have paid 'consultants' to help them with accreditation – sometimes they get things wrong.

The Authority is seeking ways for knowledge sharing that is relatively 'costless'. They organise dissemination conferences at local, regional, and national level.

Future aims of the authority: develop standards for the accreditation of ambulatory and primary care providers; follow-up patient experience post-discharge.

HTA experts from academia – Department of Public Health [Medical University of Bucharest] (Dr Florentina Furtunescu, Dr Ileana Tudoran); Public Health Association (Dr Bogdan Pana)

The Department of Public Health was founded 70 years ago. They teach courses on health economics and HTA to: undergraduate medical students; masters students on the health service management course (20h of lectures on HTA); postgraduate programmes for doctoral students. There is long tradition of working with MoH and the Institute of Public Health – the Department shares a building with the NIPH. There is a recently launched Public Health Research Centre. The Department has 10 people (senior and junior). Their HTA/health economics expertise is very focused on research, with applied work.

Several gaps are apparent in the Romanian health sector: getting evidence into policy making; understanding evidence-based medicine by clinicians, including senior clinicians who are opinion leaders and shape political decisions; organising and making use of data e.g. NHIH doesn't collect data on patient outcomes, only on expenditure; there are no reliable data on disease prevalence.

The Public Health Association wants to be recognised as a leader in evidence-based public health; also wants a national framework clarifying how HTA will be used. The Public Health Department is interested in expanding opportunities for research, including economic evaluations (there is potential scope of collaboration with the Academy of Economic Studies for econometrics expertise) and evaluating the impact of national programmes.

The view is that academic expertise needs to be involved in conducting HTAs because there is very limited capacity at the central level. There are doubts whether a HTA unit can be placed within MoH. Since the Ministry of Finance controls the funds available to the NHIH, it could be a source of potential support for HTA implementation

Clinical guidelines are not developed domestically, but are usually simply translations of international (European) guidelines, albeit with some adaptations directed by local professional organisations. Protocols are then derived from these guidelines.