

Assessment element tables for HTA Core Model Application for Pharmaceuticals (2.0)

Contents

Assessment element tables for HTA Core Model Application for Pharmaceuticals (2.0)	1
1 Health Problem and Current Use of the Technology	1
2 Description and technical characteristics of technology.....	9
3 Safety.....	16
4 Clinical Effectiveness	21
5 Costs and economic evaluation.....	28
6 Ethical analysis.....	32
7 Organisational aspects	43
8 Social aspects.....	50

1 Health Problem and Current Use of the Technology

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
A0001	Utilisation	For which health conditions and for what purposes is the technology used?	All relevant conditions and populations should be included. This question is especially relevant when there are multiple potential target conditions and populations for which the technology is used, and multiple intended uses, both indicated and other. There may also be differing views about the appropriate use of the technology that it is essential to highlight. Describe the differences in the use of the	Critical	Complete	Yes	Sources: HTAs, guidelines, reviews, clinician consultation, developers/manufacturers. Method: A descriptive summary.			Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}

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			technology for the various indications and how it might act differently in different patient groups. Point out e.g. if certain populations should be excluded from using the technology, or if they require e.g. a different dosage. Certain technologies may be primarily indicated for second-line use but also used for first-line treatment.							
A0007	Target Population	What is the target population in this current assessment of the technology?	Relevant for all assessments: both safety and effectiveness depend largely on the subpopulation towards which the intervention is targeted. The technology may be used for all patients with the condition, or only those in the early stages, or at a specific severity level, or for those at moderate risk of having the condition. Personalised medicine divides the target population into even smaller units when targeting the intervention to specific subgroups based on e.g. genetic profile. Use the target population defined in the scope of the project, and consider adding further details and description of who defined the selected subgroups and why.	Critical	Partial	Yes	Sources: HTAs, guidelines, reviews, developers/manufacturers. Method: A descriptive summary.			Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}
A0002	Target Condition	What is the disease or health condition in the scope of this assessment?	Relevant for all assessments. Especially when effectiveness depends on the subtype, stage or severity of the disease. Use the target condition and ICD codes defined in the scope of the project and consider adding details such as: description of anatomical site, disease aetiology and pathophysiology, types of disease or classification according to origin, severity, stages, or risk level, and different manifestations of the condition. The following properties of the target condition are defined in separate assessment elements: risk factors (A0003), natural course (A0004), symptoms (A0005), and burden of disease including prevalence and incidence (A0006).	Critical	Complete	Yes	Sources: text books, HTAs, guidelines, epidemiological reviews or studies, WHO documents, disease registers. Method: A descriptive summary.			Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}

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A0003	Target Condition	What are the known risk factors for the disease or health condition?	Describing risk factors is especially important when they suggest possibilities for primary and secondary prevention. This information may affect the choice of comparator or the appraisal of the overall value of the technology under assessment. The risk factors for acquiring the condition, and the risk factors for relapses or worsening of the condition should be reported here, separately. The prevalence of the various risk factors might differ in different geographic areas and among different sub-populations.	Important	Partial	Yes	Sources: text books, HTAs, guidelines, epidemiological reviews or studies. Method: Systematic review is generally not required. A descriptive summary is sufficient.			Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}
A0004	Target Condition	What is the natural course of the disease or health condition?	This assessment element should provide information on the prognosis and course of the condition when untreated. This information is relevant for appraising the overall value of the technology. A technology targeted to cure a life-threatening condition has a different significance from a technology intended to alleviate the symptoms of self-limiting conditions. It may also guide the assessment of the predicted value or effectiveness of the technology, as technologies may work differently at different stages or severity grades of the disease, and there may be a relationship between earlier intervention and better prognosis. This element should also provide information on the time lag between the onset of disease and the symptoms or other findings that eventually trigger the need of diagnostics and care.	Critical	Complete	Yes	Sources: text books, HTAs, guidelines, epidemiological reviews or studies. Method: A descriptive summary.			Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}
A0005	Target Condition	What are the symptoms and burden of disease for the patient at different stages of the disease?	This issue is especially relevant when the patient or individual is expected to undergo a substantial change in pain, disability, psychosocial issues, or other determinants of quality of life. This element should describe the patient's relevant symptoms before intervention with the technology, their severity and whether they are persistent, intermittent, or undulating. Patients' perceptions	Critical	Complete	Yes	Sources: text books, HTAs, quality of life studies, qualitative patient perception studies. Method: A descriptive summary.			Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}

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			of the burden of the disease are not always in line with the clinical seriousness of the disease or its societal burden.							
A0006	Target Condition	What are the consequences of the disease or the health condition for the society (i.e. the burden of the disease)?	Prevalence and incidence of the disease that is prevented or treated by using the technology; disease-specific mortality and disability, life years lost., and/or disability-adjusted life years, quality of life, QALYs.	Critical	Partial	Yes	Sources: text books, HTAs, registries and national statistics, WHO incidence, mortality and survival databases. http://www.who.int/cancer/resources/incidence/en/ Method: A descriptive summary			Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}
A0009	Target Condition	What aspects of the consequences / burden of disease are targeted by the technology?	The technology can affect only some aspects (e.g. mortality) and leave other aspects (e.g. quality of life) untouched.	Critical	Complete	Yes	Deductive models (based on the natural history of the disease, test target and treatment target; epidemiological studies (if sufficient testing has been done).	B0002		
A0011	Utilisation	How much is the technology utilised currently and in the future?	Provide national estimates for current and future utilisation rates, for both the technology under assessment and its comparators. Variations in utilisation reflect market access, sales figures, actual usage in hospital level and adherence to the use of the technology by both professionals and patients. Data on current and previous utilisation reflect the phase of the technology (experimental, emerging, established or obsolete). This also has implications for the availability of evidence and the level of uncertainties.	Critical	Partial	Yes	National statistics, surveys, technology and procedure registers, disease management studies, utilisation studies, manufacturer sales data	G0009 G0010		Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}
A0012	Utilisation	What kind of variations in use are there across countries/regions/settings?	This information can be useful for decision-makers to understand regional variations in their own country and also understand the situation in comparison with other countries.	Important	Partial	Yes	National statistics, surveys, disease management studies, manufacturer sales data, utilisation reviews, audits, studies on praxis-variation. Own primary analysis of: Disease register,	G0009 G0010		Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}

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							procedure register, device register, administrative data (DRG, discharge databases, reimbursement claims database).			
A0023	Target Population	How many people belong to the target population?	This information can be used to give an idea of the resource requirements in general for implementing the technology. Estimates of likely relevant increases or decreases in the size of the target population in the future should also be included.	Critical	Partial	Yes	Sources: text books, HTAs, national registries, statistics, systematic reviews. Method: A descriptive summary.			Burls 2000 {1}, Velasco 2002 {25}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}
A0017	Current Management of the Condition	What are the differences in the management for different stages of the disease or health condition?	<p>Identification of practice variations due to the differences in the forms, stages or severity of the disease. May be useful to understand the proper place of technology in the health care delivery process.</p> <p>Different stages of disease may call for different therapeutic procedures (for example aortic insufficiency is first treated with medication and at a certain point of cardiac structural changes an operation is preferred).</p> <p>Provide an overview of other treatment alternatives. Likewise diagnostic or monitoring methods used for various diseases may vary depending on the stage of disease..</p>	Critical	Partial	Yes	Surveys, utilisation reviews, clinical guidelines, recommendations. If such information is lacking: expert surveys / expert interviews			Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}
A0018	Current Management of the Condition	What are the other typical or common alternatives to the current technology?	Provide an overview of other treatment alternatives. Focus primarily on those used within professional health care delivery. Consider including technologies that people may commonly seek or use even if these wouldn't be commonly provided in professional health care (e.g. technologies for self-testing or self-treatment, or alternative medicine).	Critical	Partial	Yes	Clinical guidelines, recommendations, systematic reviews	B0001		Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}
A0024	Current	How is the	The effectiveness of an intervention may vary in	Important	Partial	Yes	Sources: Clinical guidelines			Burls 2000 {1},

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	Management of the Condition	disease or health condition currently diagnosed according to published guidelines and in practice?	differently diagnosed populations. A sensitive test tends to have low specificity such that there are several people who do not have the condition among the test-positive population. The effectiveness of an intervention in that population may be lower than in a population examined with a less sensitive test (but with more true positive cases). It is important to point out possible discrepancies between guidelines and actual practice.				and published utilisation reviews; in the absence of these, clinical experts survey. See Appendix 1. Method: Systematic review of clinical guidelines. Quality appraisal of guidelines can be done using e.g. AGREE II Instrument. For practice mapping, a pragmatic review or listing of available information is sufficient. Flowcharts are illustrative in reporting diagnostic pathways.			Velasco 2002 {25}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}
A0025	Current Management of the Condition	How is the disease or health condition currently managed according to published guidelines and in practice?	It is important to describe whether the technology is an add-on or a replacement for the existing management options, and what the other evidence-based alternatives are. Are there differences in the treatment of diseases at their different stages? Identification of practice variations may imply differences in the quality of health care. Deviation from evidence-based guidelines may suggest over/under use of the technology.	Critical	Partial	Yes	Sources: Clinical guidelines and published utilisation reviews; in the absence of these clinical experts survey. See Appendix 1. Method: Systematic review of clinical guidelines. Quality appraisal of guidelines can be done using e.g. AGREE II Instrument. For practice mapping, a pragmatic review or listing of available information is sufficient. Flowcharts are illustrative in reporting management pathways.			
G0009	Utilisation	Who decides which people are eligible for the technology and on what basis?	Provide information on who are the key actors in deciding on the use of the technology. Do most important decisions take place on the national level (e.g. population screening) or for example by individual professionals (e.g. surgical method for a specific disease)? How is the decision	Important	Partial	Yes	Literature search, guidelines, documents of hospitals, own study: questionnaires and interviews of different actors of the process (monitoring authorities, hospitals, hospital	A0011 A0012 :B0016, D0021, F0012, I0012,		Kristensen 2007 {24} {14}

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			<p>made; are there some documented criteria?</p> <p>Information about the possible variations in the decision level and criteria has ethical implications.</p> <p>This issue is related to the issue of work processes (G0001) Companion diagnostics (tests or measurements) assist physicians in making treatment decisions for their patients by elucidating the efficacy and/or safety of a specific pharmaceutical or class of pharmaceuticals for a targeted patient group or sub-groups. How companion diagnostic should be used to identify eligible patient should be specified and explained.</p> <p>Criteria must be specified for higher risk groups of patients such as elderly and children.</p>				districts, laboratory).	H0012		
B0003	Utilisation	What is the phase of development and implementation of the technology and the comparator(s)?	<p>Most technologies will be introduced at approximately the same time in several countries. This information is relevant for the assessment while the evidence base may change rapidly for technologies that are at an earlier stage in their development. It is also important to establish whether new versions of the technology with substantial improvements are expected in the near future. For end users it is useful to know if new versions or adaptations of the technology are expected in the near future.</p> <p>Describe the following aspects:</p> <p>- Is the technology an innovation?</p>	Critical	Partial	Yes	Manufacturers' sites and effectiveness studies, HTAs, guidelines, published literature including reviews, textbooks, introduction sections of research articles, grey literature, hand-searches and conference proceedings.	A0020 A0021 A0011 A0019 A0020 F0001		<p>Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}</p> <p>Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al. 2005</p>

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			<p>-When was it developed?</p> <p>-Is the technology only partially innovative (i.e. a modification of an existing technology), and in that case, is it possible to specify the degree of innovation the technology may represent?</p> <p>-When was the technology introduced into healthcare?</p> <p>-Is the technology an already established one, but now used in a different way, for instance for a new indication?</p> <p>-Is it experimental, emerging, established in use or obsolete (implementation level)?</p> <p>- Is the technology field changing rapidly</p> <p>-How does this technology differ from its predecessors (other technologies used for similar purposes)?</p> <p>-Are there new aspects that may need to be considered when applying it?</p> <p>-Is there evidence that the technology works (or is used) outside its current indication area or produces incidental findings that can have consequences relevant to effectiveness, safety, organisational, social and ethical domains.</p>							
F0001	Utilisation	Is the technology a new, innovative mode of care,	Explain how the possible use / non-use of the technology would affect the current treatment process and practices. How substantial is the	Critical	Partial	Yes	Horizon scanning databases, ongoing research databases, information from manufacturers.			Mitcham 2004 {26}

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		an add-on to or modification of a standard mode of care or replacement of a standard mode of care?	change to current practices? Notice that the technology may be in a different phase of utilisation for different health conditions or purposes of use.							
A0020	Regulatory Status	What is the marketing authorisation status of the technology?	There are both international and national market authorisation systems. An overview of the status with regard to key processes, e.g. CE marking, EMA/FDA approval is recommended. Also information on national data and an analysis of possible discrepancies can be highly useful.	Critical	Complete	Yes	CE-Approval, EMA, FDA, national authorities. Manufacturers should be contacted in order to identify which steps have they taken/ are they planning to take concerning market approval	I0015 B0002		Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}
A0021	Regulatory Status	What is the reimbursement status of the technology across countries?	Information on national reimbursement status from different countries for the technology as well as the comparators, including key dates and anticipated licensing timeframe should be listed here. Notice that reimbursement status may differ for different purposes: e.g. treatment vs. prevention. Information on full coverage, co-payments, coverage under special circumstances/conditional coverage is useful.	Important	Complete	Yes	Appendix 1 of REA model = List of websites of national agencies with information on reimbursement, EVIDENT database.	I0012 B0002		Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}

2 Description and technical characteristics of technology

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
A0022	Other	Who manufactures the technology?		Important	Partial	Yes	Manufacturers' information, clinical guidelines, legislation, HTAs, approving authority, National or local judgement.	Related to Organisational domain		Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al. 2005
B0012	Training	What kind of	Differentiate between the users who are. 1.	Critical	Partial	Yes	Manufacturers' sites,	G0003		Liberati A. et al. 1997;

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
	and information needed to use the technology	qualification and quality assurance processes are needed for the use or maintenance of the technology?	<p>applying the technology (could be different from those interpreting results) 2. interpreting the results and make clinical decisions. 3. taking care of service and maintenance.</p> <p>Describe what type of training materials (writing and/or translation, other adaptation) and the characteristics of the personal training (individual and/or group sessions, number and length of sessions, number and qualifications of trainers) and if regular or frequent standardisation or quality checks are required (E.g. CME points). Provide an estimate to what extent the training and quality assurance measures may affect the efficacy and safety of the technology.</p>				<p>approving authority, published literature including handbooks, textbooks, reviews, HTA-reports, interviews with specialists and clinical experts, as well as grey literature, hand-searches and conference proceedings.</p> <p>Research studies and national or local judgement can be used.</p>	C0020 C0062 C0063 E0001 E0002 G0006		Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al. 2005
B0013	Training and information needed to use the technology	What kind of training and information is needed for the personnel/carer using this technology?	Describe what type of training materials (writing and/or translation, other adaptation) and the characteristics of the personal training (individual and/or group sessions, number and length of sessions, number and qualifications of trainers); if the technology requires a specific skill that is developed over a period of time using the technology (learning curve), an estimate should be provided of the number of patients a professional needs to treat (as a basis or per year) in order to reach an acceptable minimum standard. Provide an estimate to what extent the training and quality assurance measures may affect the efficacy and safety of the technology.	Important	None	No	Manufacturer, effectiveness studies, observational studies, applicability studies, clinical experts, user information, HTA-reports. National or local judgement.	G0003 C0020 C0062 C0063 I0008 F0006		Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al. 2005
B0014	Training and information needed to use the technology	What kind of training and information should be provided for the patient who uses the technology, or	Describe what type of training materials should be provided (writing and/or translation, other adaptation) by whom, and the characteristics of the personal training (individual and/or group sessions, number and length of sessions, number and qualifications of trainers) and if the informed consent regarding the risk/benefits of participation is required.	Optional	None	No	Manufacturer data, effectiveness studies, observational studies, applicability studies, clinical experts, user information, patient organisations, HTA-	C0001 C0003 C0005 C0007 C0062 F0004 F0006 G0004		Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al. 2005

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		for his family?					reports. National or local judgement	H0003 H0007 H0008 I0002		
B0015	Training and information needed to use the technology	What information of the technology should be provided for patients outside the target group and the general public?	Describe what type of information materials should be provided (writing and/or translation, other adaptation) and if the informed consent for participating is required?	Critical	None	Yes	Manufacturer data, effectiveness studies, observational studies, applicability studies, clinical experts, user information, patient organisations, HTA-reports, discussion forums in web, as well as grey literature, hand-searches and conference proceedings, National or local judgement	F0005 F0011 G0004 H0002 H0007 H0008 I0002 I0008		Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al. 2005
B0001	Features of the technology	What is this technology and the comparator(s)?	This is relevant in all assessments. Use the descriptions of the technology and comparator(s) defined in that scope and elaborate them here in more detail. Technology may include a single device, a questionnaire, imaging or sequence of technologies. The HTA may address one or several similar technologies. Describe separately for the technology and the comparator: the type of device, technique, procedure or therapy; its biological rationale and mechanism of action, and also, describe how the technology differs from its predecessors, and the various current modifications or different manufacturers' products, especially if the dissimilarities affect performance.	Critical	Complete	Yes	Manufacturers' sites, published literature including reviews, textbooks, introduction sections of research articles, effectiveness studies, clinical experts, studies in basic science, HTA-reports.	A0022 A0018 F0001		Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al. 2005
B0002	Features of the technology	What is the approved indication and claimed benefit	This issue is especially relevant in new technologies with uncertain expectations and claims of benefit.	Critical	Partial	Yes	Manufacturers' sites, HTAs, effectiveness studies, clinical experts, published literature including reviews,	A0001 A0009 C0008		Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al.

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		of the technology and the comparator(s)?	<p>Describe the following aspects:</p> <p>-How is it expected to be an improvement over previous /existing technologies used for the same health problem?</p> <p>-The expressed objectives for the implementation of the technology in health care; what are the claimed objectives e.g. increased safety, health benefit, accuracy or patient compliance, and whether it is intended to replace or to supplement existing technologies. Is the technology licensed as a mono-intervention, or in addition to current interventions (which should be specified) Are there stopping rules for use of the technology? Is there evidence that the technology works (or is used) outside its current indication area, or produces incidental findings that can have consequences relevant to effectiveness, safety, organisational, social and ethical domains? This information may explain the choice of comparator(s) and outcomes for the assessment and helps in appraising the overall results.</p>				introduction sections of research articles, grey literature, hand-searches and conference proceedings, consulting clinical professionals, lay journals and websites.			2005
B0003	Features of the technology	What is the phase of development and implementation of the technology and the comparator(s)?	<p>Most technologies will be introduced at approximately the same time in several countries. This information is relevant for the assessment while the evidence base may change rapidly for technologies that are at an earlier stage in their development. It is also important to establish whether new versions of the technology with substantial improvements are expected in the near future. For end users it is useful to know if new versions or adaptations of the technology are expected in the near future.</p>	Critical	Partial	Yes	Manufacturers' sites and effectiveness studies, HTAs, guidelines, published literature including reviews, textbooks, introduction sections of research articles, grey literature, hand-searches and conference proceedings.	A0020 A0021 A0011 A0019 A0020 F0001		<p>Burls 2000 {1}, Busse 2002 {2}, Liberati 1997 {3}, Imaz-Iglesia 1999, Kristensen 2007 {24}</p> <p>Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al. 2005</p>

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			<p>Describe the following aspects:</p> <ul style="list-style-type: none"> - Is the technology an innovation? -When was it developed? -Is the technology only partially innovative (i.e. a modification of an existing technology), and in that case, is it possible to specify the degree of innovation the technology may represent? -When was the technology introduced into healthcare? -Is the technology an already established one, but now used in a different way, for instance for a new indication? -Is it experimental, emerging, established in use or obsolete (implementation level)? - Is the technology field changing rapidly -How does this technology differ from its predecessors (other technologies used for similar purposes)? -Are there new aspects that may need to be considered when applying it? -Is there evidence that the technology works (or is used) outside its current indication area or produces incidental findings that can have consequences relevant to effectiveness, safety, organisational, social and ethical domains. 							

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B0004	Features of the technology	Who performs or administers the technology and the comparator(s)?	Describe the following aspects: -Which professionals (nurses, doctors, and other professionals) apply and make decisions about starting or stopping the use of the technology? -Do the patients themselves, or their carers, administer the technology? -Who can select the patients, make referrals, decide to initiate the use of the technology, or interpret the outcome? -Are there certain criteria (skills, function, training requirements) for the patients or professionals who will administer the technology?	Critical	Partial	Yes	Clinical guidelines, professionals' consensus statements, HTAs, manufacturers' websites, introduction sections of research articles, interviews with clinical professionals or patients. Manufacturer, effectiveness studies, clinical experts, legislation. National or local judgement, as well as grey literature, hand-searches and conference proceedings can be also used.			Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al. 2005
B0005	Features of the technology	In what context and level of care are the technology and the comparator used?	Describe the level of care in which the technology is used: self care, primary care, secondary and tertiary care. If secondary or tertiary care, describe whether it is intended to be used in the outpatient or inpatient setting. Its role in the management pathway can be as a replacement, an add-on or for triage	Critical	None	Yes	Manufacturers' information, clinical guidelines, professionals' consensus statements, HTAs, manufacturers' websites, introduction sections of research articles, interviews with clinical professionals or patients. Manufacturer, effectiveness studies, clinical experts, legislation. National or local judgement, as well as grey literature, hand-searches and conference proceedings can be also used.	A0012 A0025 G001 G0005		Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al. 2005
B0007	Investments and tools	What material investments are needed to use	Devices, machinery, computer programs, etc. Those parts of the technology that need to be purchased (and often installed) by an	Important	Partial	Yes	Manufacturers' sites, published literature including reviews, textbooks,	E0001 E0002 G0006		Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al.

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	required to use the technology	the technology?	organisation in order to use the technology. Includes need for back-up investment to cover for breakdowns in use.				handbooks, introduction sections of research articles, interviews with specialists, clinical experts, user information. National or local judgement, as well as grey literature, hand-searches and conference proceedings.	G0003?		2001; Draborg E et al. 2005
B0008	Investments and tools required to use the technology	What kind of special premises are needed to use the technology and the comparator(s)?	<p>Many technologies require purpose-built premises, such as radiation-secured areas, Faraday cages, dressing rooms for the patient, or specific premises for storage and reconstitution of chemotherapy pharmaceuticals equipped with fume cupboards.</p> <p>Typical premises in primary or secondary care may differ markedly from country to country.</p> <p>A clear description of necessary facilities is needed instead of general statement (e.g. to be used in hospitals only)</p>	Critical	Complete	Yes	<p>Sources: User information from manufacturer, and market approval authority. HTAs, applicability studies, interviews with clinical experts and hospital managers.</p> <p>Manufacturer, applicability studies, clinical experts, user information. National or local judgement can be also used.</p>			Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al. 2005
B0009	Investments and tools required to use the technology	What equipment and supplies are needed to use the technology and the comparator?	Describe all required disposable items necessary for using the technology, such as: syringes, needles, pharmaceuticals and contrast agents, fluids, bandages and tests to identify patients eligible for treatment.	Critical	Complete	Yes	<p>Sources: Information from manufacturer, HTAs, applicability studies, interviews with clinical professionals and hospital managers.</p> <p>Manufacturer, applicability studies, clinical experts, user information. National or local judgement can be also used.</p>	E0001 E0002 G0006		Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al. 2005
B0010	Investments and tools required	What kind of data and records are needed to	Describe the data that needs to be collected about the care process, professionals involved, patients and their health outcomes. These include: e.g. clinical indications, specified	Critical	Partial	Yes	Sources: Local authorities and legislation, administrative staff, clinical professionals, HTAs, National or local	G0008		Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al.

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	to use the technology	monitor the use of the technology and the comparator?	populations, prescriber information, inpatient or outpatient use, test results, review period, and health outcomes. In case of new technologies, EVIDENT database could be consulted.				judgement.			2005
B0011	Investments and tools required to use the technology	What kind of registers are needed to monitor the use of the technology and comparator?	Describe the general importance of having a registry to monitor the use of this particular technology and the comparator. Are there existing registries that should be used, or should a registry be established, to collect the necessary data to monitor safety or true life effectiveness? Provide national examples.	Important	Partial	Yes	Sources: Local authorities and legislation, administrative staff, clinical professionals. HTAs, National or local judgement.	G0008 G0003?		Liberati A. et al. 1997; Busse R. et al. 2002; Kristensen FB et al. 2001; Draborg E et al. 2005

3 Safety

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
C0001	Patient safety	What kind of harms can use of the technology cause to the patient; what are the incidence, severity and duration of harms?	Here one should identify and describe the direct harms of the use and the administration of the technology. User dependent harms are described in C0007, and comparative harms in C0008. Harms are identified in placebo-controlled trials, observational studies, and in registries. It is important to refer to the source and report separately harms identified in spontaneous reporting databases. Harms should be reported per indication or target population. The identified harms should be categorised according to their severity and frequency. The seriousness of harm is typically graded based on events that pose a threat to a patient's life or functioning. Frequency of occurrence for each harm is usually presented in comparison with placebo or no treatment, as percentages or risk ratios. Finally, the harms should be grouped by their severity and	Critical	Complete	Yes	Sources: Placebo controlled trials, observational research, FDA database, safety monitoring databases, observational research, safety monitoring databases, registers, statistics registers, statistics. Method: Systematic review. Results should be presented by risk level (i.e. the product of severity and frequency of harm).).	Effectiveness domain D0009; D0003 A0001 A0007 B0001	A0001 A0007 B0001	{ 1, 12, 14, 16, 28, 29, 34, 37 }

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			<p>frequency and ordered so that the severe and/or frequent harms are presented first. If there are many different harms reported in the literature, concentrate on reporting the most serious and the most frequent harms The important identified and potential adverse events/reactions presented in Risk Management Plan of the pharmaceutical (RMP) should be considered, as well as the important identified and potential interactions with other medicinal products, foods and other substances, and the important pharmacological class effects.</p> <p>Special attention should be given to drug interactions. Information in the label warnings and PSUR should be evaluated using literature and registration data.</p> <p>Distinction should be made between absolute and relative contra-indications of the pharmaceutical use for particular patient groups co-medications. Co-medication should be understood in its largest way: not only medically prescribed pharmaceuticals but also over-the-counter pharmaceuticals such as non-steroidal anti-inflammatory pharmaceuticals, and herbal remedies.</p> <p>Attention should be paid to the possibility of medication errors. Errors may be classified into near-miss events, no-harm events, and sentinel events. Cases of accidental overdose may be described in the EPAR but errors may also be related to the route of administration, storage conditions, reconstitution aspects, dosage, too long/too short treatment durations, or</p>							

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			<p>replacement of two pharmaceuticals which look alike or difficulties of handwriting readings that lead to mistakes by patient or professional.</p> <p>For further information see Endpoints used in REA of pharmaceuticals – Safety http://www.eunethta.eu/sites/5026.fedimbo.belgium.be/files/Safety.pdf</p>							
C0002	Patient safety	Are the harms related to dosage or frequency of applying the technology?	<p>Information should be included if safe use of the technology is sensitive to even small changes of the dose because this may have implications for the training and organisation of care. The potential for accumulated harm due to repeated dosage or testing should also be considered. For further information see Endpoints used in REA of pharmaceuticals – Safety</p> <p>http://www.eunethta.eu/sites/5026.fedimbo.belgium.be/files/Safety.pdf</p>	Critical	Complete	Yes	Phase 1 studies for pharmaceuticals, other research articles, HTAs, manufacturers' product data sheets, safety monitoring databases. Method: Systematic review.	A0017 B0001	A0017 B0001	{ 2, 11 }
C0004	Patient safety	How does the frequency or severity of harms change over time or in different settings?	<p>This issue is especially relevant for new or evolving technologies where there are considerable uncertainties in the safety evidence, and in technologies with steep learning curves. How does the safety profile of the technology vary between different generations, approved versions or products? Is there evidence that harms increase or decrease in different organisational settings?</p>	Critical	Partial	Yes	Sources: HTAs, efficacy and safety research articles, articles on learning curve, manufacturers' information. Method: Descriptive summary.	Current use, effectiveness (D0001; D0008; D0009) , costs domains B0004 B0005 B0001	B0004 B0005 B0001	
C0005	Patient safety	Are there susceptible patient groups	Typically, people with comorbidities and co-medication, pregnancy, intolerances, or specific genetic profiles, elderly people, children and	Critical	Complete	Yes	HTAs, guidelines, market access authorities, manufacturers' product	Ethical, Effectiveness	B0016 B0001	{ 2, 11 }

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
		that are more likely to be harmed through use of the technology?	immunosuppressed patients.				information, label warnings, safety monitoring databases. Method: Descriptive summary.	domain (D0008; D0009) B0016 B0001		
C0007	Patient safety	Are there special issues in the use of the technology that may increase the risk of harmful events?	Describe here what is known of the harms caused by the properties or behaviour of professionals, patients or other individuals who apply or maintain the technology. Is there e.g. a noteworthy risk of malfunction of a device, due to deficient user training or personal attitude; or a risk of errors related to reconstitution, dosage, administration, or storage of medicines, that may have serious consequences; or, is there a risk of addiction? Describe what is known of the learning curve, intra- or inter-observer variation in interpretation of outcomes, errors or other user-dependent concerns in the quality of care	Critical	Partial	Yes	Sources: Studies on effectiveness, safety and health services research; manufacturers' product data sheets, safety monitoring databases, label warnings. Method: Systematic review	Description and technical characteristics and Organisational domains B0006 B0001	B0006 B0001	{ 2, 11 }
C0008	Patient safety	How safe is the technology in relation to the comparator(s)?	Highlight the differences in the most important risks (i.e. the most severe and frequent harms) of the technology and its comparator(s). For harms that are common to both the technology and the comparator(s), provide information on which has the higher risk of the particular harm. Aspects of individual patients, populations, service delivery & cost effectiveness should be considered.	Critical	Partial	Yes	Research articles, manufacturers' product data sheets, safety monitoring databases. Other HTA reports or systematic reviews of main comparators. Method: Systematic review.	Current use/ organisational aspects/ costs, economic evaluation B0001 A0018	B0001 A0018	
C0020	Occupational safety	What kind of occupational harms can occur when using the technology?	Consider if there are possible harms to professional applying the technology: working positions, radiation or infection risks, etc.	Important	Complete	Yes	Research articles, manufacturers' product data sheets, safety monitoring databases	Ethical and Social domains B0012 B0013	B0012 B0013	
C0040	Environmental	What kind of risks for public	Several chemical substances or their toxic metabolites are potentially harmful in ecological	Optional	Partial	No	Research articles, manufacturers' product data	Ethical and		

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
	safety	and environment may occur when using the technology?	environments; some of the most recent concerns are endocrine modulators and disruptors and nanoparticles. The statistical risk of radiation at the public level should also be described here.				sheets, safety monitoring databases Method: Systematic review.	Social domains		
C0060	Safety risk management	How does the safety profile of the technology vary between different generations, approved versions or products?		Important	Complete	Yes	Research articles, manufacturers' product data sheets, safety monitoring databases	Description and Technical Characteristics		
C0061	Safety risk management	Can different organizational settings increase or decrease harms?		Critical	Partial	Yes	Research articles, manufacturers' product data sheets, safety monitoring databases. Descriptive review on accuracy and effectiveness research, epidemiological risk research	Current use, Effectiveness (D0009; Organizational B0020 A0012	B0020 A0012	
C0062	Safety risk management	How can one reduce safety risks for patients (including technology-, user-, and patient-dependent aspects)?	Is there a requirement for specific training, use of a protocol or available guideline which may reduce the occurrence or severity of the harm. Information on what kind of risk communication is needed for patients, citizens and decision makers may be included.	Important	Partial	Yes	Research articles, manufacturers' product data sheets, safety monitoring databases	Ethical F0006, Description and technical characteristics B0012, B0014, B0015		
C0063	Safety risk management	How can one reduce safety risks for professionals	Is there a requirement for specific training, use of a protocol or available guideline which may reduce the occurrence or severity of the	Important	Partial	Yes	Research in occupational health and safety research literature	Organizational and Social		

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
		(including technology-, user-, and patient-dependent aspects)?	harm. Information on what kind of risk communication is needed for patients, citizens and decision makers may be included.					Domains		
C0064	Safety risk management	How can one reduce safety risks for environment (including technology-, user-, and patient-dependent aspects)	Is there a requirement for specific training, use of a protocol or available guideline which may reduce the occurrence or severity of the harm. Information on what kind of risk communication is needed for patients, citizens and decision makers may be included.	Important	Partial	Yes	Research articles, manufacturers' product data sheets.	Social Domain		

4 Clinical Effectiveness

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
D0011	Function	What is the effect of the technology on patients' body functions	International classification of function proposes the following categories for body functions: mental, sensory and pain, voice and speech, cardiac, respiratory and immune functions, genitourinary and reproductive functions, movement-related, and skin functions. Report the results both in absolute terms and relative to the comparator. See also Methodological guideline for REA of pharmaceuticals: Endpoints used for relative effectiveness assessment of pharmaceuticals, clinical endpoints http://www.eunetha.eu/sites/5026.fedimbo.belgium.be/files/Clinical%20endpoints.pdf	Critical	Partial	Yes	Trials and observational studies with functioning as an outcome. The instruments for outcome reporting should be validated SPC and EPAR..	H0005 E0005 F0101		ICF http://apps.who.int/classifications/icfbrowser

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
D0012	Health-related Quality of life	What is the effect of the technology on generic health-related quality of life?	Health related quality of life (HRQL) is typically measured with self- or interviewer-administered questionnaires to measure cross-sectional differences in quality of life between patients at a point in time (discriminative instruments) or longitudinal changes in HRQL within patients during a period of time (evaluative instruments). Two basic approaches to quality-of-life measurement are available: generic instruments that provide a summary of HRQL; and specific instruments that focus on problems associated with single disease states, patient groups, or areas of function. Generic instruments include health profiles and instruments that generate health utilities. Each approach has its strengths and weaknesses and may be suitable for different circumstances. See also •Methodological guideline for REA of pharmaceuticals: Health-related quality of life and utility measures. http://www.eunetha.eu/sites/5026.fedimbo.belgium.be/files/Health-related%20quality%20of%20life.pdf	Critical	Complete	Yes	Trials, observational and qualitative studies , SPC and EPAR.	H0005 E0005		EMA 2005, FDA 2009, Chassany 2002, Terwee 2007, Revicki 2008, Puhan 2006
D0013	Health-related Quality of life	What is the effect of the technology on disease specific quality of life?	Health related quality of life (HRQL) is typically measured with self- or interviewer-administered questionnaires to measure cross-sectional differences in quality of life between patients at a point in time (discriminative instruments) or longitudinal changes in HRQL within patients during a period of time (evaluative instruments). Two basic approaches to quality-of-life measurement are available: generic instruments that provide a summary of HRQL; and specific instruments that focus on problems associated with single disease states, patient groups, or areas of function. Each approach has its strengths and weaknesses and may be suitable for different circumstances. See also	Critical	Partial	Yes	Trials, observational and qualitative studies SPC and EPAR.	H0005 E0005		EMA 2005, FDA 2009, Chassany 2002, Terwee 2007, Revicki 2008, Puhan 2006

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			•Methodological guideline for REA of pharmaceuticals: Health-related quality of life. http://www.eunethta.eu/sites/5026.fedimbo.belgium.be/files/Health-related%20quality%20of%20life.pdf							
D0014	Function	What is the effect of the technology on work ability?	Describe the effects of the intervention on sick leave, absenteeism, presenteeism, return-to-work, retirement and other relevant outcomes describing working ability	Critical	Partial	Yes	Trials and other studies with return-to-work or work ability outcomes reported.	H0005 E0001		Fit for Work Europe website. Available at: www.fitforworkeurope.eu European Commission (2007). Together for Health: A Strategic Approach for the EU 2008-2013. Available at http://ec.europa.eu/health-eu/doc/whitepaper_en.pdf
D0015	Function	What is the effect of the technology on return to previous living conditions?	Discharge to the living conditions in which patients lived before admission is one of the most important treatment goals particularly for elderly patients. Implications for family members and carers should be considered too.	Critical	Partial	Yes	Trials and observational studies using one of the several evaluation tools, such as the Katz ADL scale, the Lawton IADL scale or the Bristol Activities of Daily Living Scale. Health care service providers may use ADL evaluations in their practice, using models such as the Roper-Logan-Tierney model of nursing, and the resident-centered models, such as the Program of All-Inclusive Care for the	H0005		

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
							Elderly (PACE).			
D0016	Function	How does use of the technology affect activities of daily living?	<p>Activities of Daily Living (ADL) is used in rehabilitation as an umbrella term relating to self care, comprising those activities or tasks that people undertake routinely in their every day life. The activities can be subdivided into personal care and domestic and community activities. Report the results both in absolute terms and relative to the comparator. For further information see guideline Health-related quality of life and utility measures http://www.eunethta.eu/sites/5026.fedimbo.belgium.be/files/Health-related%20quality%20of%20life.pdf, and guideline: Endpoints used for relative effectiveness assessment of pharmaceuticals, clinical endpoints http://www.eunethta.eu/sites/5026.fedimbo.belgium.be/files/Clinical%20endpoints.pdf</p>	Critical	Partial	Yes	Trials and observational studies reporting ADL outcomes, SPC and EPAR	H0005		
D0029	Benefit-harm balance	What are the overall benefits and harms of the technology in health outcomes?	<p>This question integrates all benefits and harms concerning mortality, morbidity, QoL and further patient relevant outcomes, also considering the amount of false positive and false negative test results. There is no common quantitative summary measure, and even qualitatively a balanced and meaningful presentation is difficult to reach.</p> <p>The integration of information across domains into the benefit-harm-balance is essential. This issue provides input for ETH (F0010) and ECO (E0005) to calculate the incremental effectiveness of the new technology. Information from SAF is needed for this issue: all harms to the patient are listed in outcomes and units which are comparable to the outcomes in EFF domain representing benefits. See Template 7 in</p>	Critical	Partial	Yes	Trials, observational studies, modelling studies	A0007, A0011, C0001, C0003, C0004, C0005, C0006, C0007, C0061, E0005, F0001, F0011	A0007, A0011, C0001, C0003, C0004, C0005, C0006, C0007, C0061,	

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			the the HTA Core Model for Rapid Relative Effectiveness Assessment of pharmaceuticals http://www.eunetha.eu/sites/5026.fedimbo.belgium.be/files/Model%20for%20Rapid%20REA%20of%20pharmaceuticals_final_20130311_reduced.pdf							
D0001	Mortality	What is the expected beneficial effect of the intervention on overall mortality?	Mortality is the preferred, objective endpoint for assessments of life-threatening conditions. Overall mortality refers to all-cause mortality. It is expressed either as mortality rates (incidence in given population, at given time point and usually risk standardised), or survival (number of people alive for a given period after an intervention). Several methods are used to adjust mortality rates and survival curves, e.g. relative survival (observed versus expected survival), which can be quite misleading; and hazard ratio (derived from a statistical method comparing the median survivals in the two groups). Note that progression-free survival is not a mortality endpoint; it describes the time from the beginning of an intervention until a patient shows signs of disease progression. Consider separately absolute mortality (compared to placebo or waiting list) and mortality relative to the comparator. See also Methodological guideline for REA of pharmaceuticals: Endpoints used for relative effectiveness assessment of pharmaceuticals, clinical endpoints http://www.eunetha.eu/sites/5026.fedimbo.belgium.be/files/Clinical%20endpoints.pdf	Critical	Complete	Yes	Systematic reviews of trials, trials, both placebo-controlled and with active control. In the absence of head to head trials, studies with indirect comparison (see Methodological guideline for REA of pharmaceuticals: Direct and indirect comparison, http://www.eunetha.eu/sites/5026.fedimbo.belgium.be/files/Direct%20and%20indirect%20comparisons.pdf). If these are not available, non-controlled studies and respective systematic reviews. Health care register data. Modelling studies. Submission file, SPC, EPARs,	E0005 F0001		Hochman 2011, Black 2002
D0002	Mortality	What is the expected beneficial effect on the disease-specific mortality?	Disease-specific mortality is a proportion of the all-cause mortality. It should be noted that even if a given treatment reduces one type of death, it could increase the risk of dying from another cause, to an equal or greater extent. Disease-specific mortality is typically presented as rates	Critical	Complete	Yes	Systematic reviews of trials, trials, both placebo-controlled and with active control. In the absence of head to head trials, studies with indirect comparison (see	E0005 F0001		Hochman 2011, Black 2002

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			and as age- and risk- adjusted measures such as hazard ratio. It is a frequently used endpoint in screening trials, where it is considered to be subject to bias. Consider separately absolute mortality (compared with placebo or waiting list) and mortality relative to the comparator. See also Methodological guideline for REA of pharmaceuticals: Endpoints used for relative effectiveness assessment of pharmaceuticals, clinical endpoints http://www.eunethta.eu/sites/5026.fedimbo.belgium.be/files/Clinical%20endpoints.pdf See also Methodological guideline for REA of pharmaceuticals: Endpoints used for relative effectiveness assessment of pharmaceuticals, clinical endpoints http://www.eunethta.eu/sites/5026.fedimbo.belgium.be/files/Clinical%20endpoints.pdf				Methodological guideline for REA of pharmaceuticals: Direct and indirect comparison, http://www.eunethta.eu/sites/5026.fedimbo.belgium.be/files/Direct%20and%20indirect%20comparisons.pdf). If these are not available, non-controlled studies and respective systematic reviews. Health care register data. Modelling studies. Submission file, SPC, EPARs,			
D0003	Mortality	What is the effect of the technology on the mortality due to causes other than the target disease?	This issue includes all unintended, either positive or negative effects of the technology on mortality. There may be e.g. decrease of mortality of another disease observed or suspected; or increased mortality due to accidents or hazardous medical interventions after false positive or incidental test results.	Important	Partial	Yes	Systematic reviews of trials, trials, both placebo-controlled and with active control. In the absence of head to head trials, studies with indirect comparison (see Methodological guideline for REA of pharmaceuticals: Direct and indirect comparison, http://www.eunethta.eu/sites/5026.fedimbo.belgium.be/files/Direct%20and%20indirect%20comparisons.pdf). If these are not available, non-controlled studies and respective systematic reviews. Health care register data. Modelling studies.	C0001 E0005 C0005		

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
							Submission file, SPC, EPARs,			
D0005	Morbidity	How does the technology affect symptoms and findings (severity, frequency) of the target condition?	Describe the efficacy and effectiveness of the technology on relevant disease outcomes and other changes in physical and psychological conditions. Outcomes such as function, quality of life and patient satisfaction are reported in other assessment elements of this domain. Report changes in severity, frequency and recurrence of symptoms and findings, both in absolute terms and relative to the comparator. See also Methodological guideline for REA of pharmaceuticals: Endpoints used for relative effectiveness assessment of pharmaceuticals, clinical endpoints http://www.eunetha.eu/sites/5026.fedimbo.belgium.be/files/Clinical%20endpoints.pdf	Critical	Partial	Yes	Trials, observational studies „,SPC and EPAR.	H0005 E0005		
D0006	Morbidity	How does the technology affect the progression (or recurrence) of the target condition?	Report here outcomes such as complete cure, progression-free survival, time-to-event (next stage of disease, relapse). Describe here the duration of treatment effect on symptoms and findings: permanent, short term, long term, intermittent, undulating. Report the results both in absolute terms and relative to the comparator. See also Methodological guideline for REA of pharmaceuticals: Endpoints used for relative effectiveness assessment of pharmaceuticals, clinical endpoints http://www.eunetha.eu/sites/5026.fedimbo.belgium.be/files/Clinical%20endpoints.pdf	Critical	Partial	Yes	Trials, prognostic studies , SPC and EPAR.	E0005		
D0010	Change-in management	How does the technology modify the need for hospitalization?	Consider also changes at different levels of care e.g. ward instead of intensive care.	Important	Partial	Yes	Trials, observational studies	E0001 G0001		
D0023	Change-in management	How does the technology	New (less invasive) interventions can reduce the need for surgical interventions. Some treatments	Important	Partial	Yes	Trials and pharmacoeconomic studies, guidelines	B0013 E0001	G0001, G0003,	

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
	ent	modify the need for other technologies and use of resources?	require ongoing monitoring and healthcare visits including hospitalisation.				on utilization of resources. Observational studies, statistics	F0003 G0001, G0003, G0004, G0007	G0007	
D0017	Patient satisfaction	Was the use of the technology worthwhile?	Describe patients' overall perception of the value of the intervention and their satisfaction with the treatment. See also Methodological guideline for REA of pharmaceuticals: Endpoints used for relative effectiveness assessment of pharmaceuticals, clinical endpoints http://www.eunetha.eu/sites/5026.fedimbo.belgium.be/files/Clinical%20endpoints.pdf	Optional	None	No	Surveys, qualitative research, observational studies, trials	H0006 F0001, F0011	H0006	

5 Costs and economic evaluation

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
E0001	Resource utilization	What types of resources are used when delivering the assessed technology and its comparators (resource-use identification)?	Report the resource items taken into account for each technology, as well as the sources of information used when identifying these and the reasons for their inclusion. Providing the results in tabular form is recommended.	Critical	Partial	Yes	Health-care registers and databases, RCT's with resource utilization data, reimbursement databases, micro-level costing studies/ABC-costing studies. Data may be available from different registers, and sources e.g., on sick leave, sickness allowance, patient administration systems/ clinical databases, earlier studies, cost diaries.	A0011, A0017, A0024, A0025, B0007, B0007, B0008, B0009, D0010, D0014, D0023 F0012 G0001, G0003, G0004, G0005, G0006,	A0017, A0024, A0025 B0007, B0008, B0009 D0010, D0023 G0001	Gold et al. {59}; Drummond et al. {1}; CADTH {18}; Kristensen and Sigmund {3}; Cleemput et al. {57}; Husereau et al. {51}.

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
								G0007 H0003, H0010		
E0002	Resource utilization	What amounts of resources are used when delivering the assessed technology and its comparators (resource-use measurement)?	<p>Report the parameters required to estimate overall costs (E0009). Include the appropriate values, ranges, probability distributions as well as all references used. Providing the results in tabular form is recommended.</p> <p>Report the approach(es) and data source(s) used to measure resource use associated with the technologies.</p>	Critical	Partial	Yes	Health-care registers and databases, RCT's with resource utilization data, reimbursement databases, micro-level costing studies/ABC-costing studies	E0001	E0001	Gold et al. {59}; Drummond et al. {1}; CADTH {18}; Kristensen and Sigmund {3}; Cleemput et al. {57}; Husereau et al. {51}.
E0009	Resource utilization	What were the measured and/or estimated costs of the assessed technology and its comparator(s) (resource-use valuation)?	<p>For each technology report mean values of estimated costs and, where possible, information concerning distributions surrounding these estimates. Cost estimates from different viewpoints can be reported here (e.g., patient, hospital, societal). In addition, reporting disease-stage-specific cost estimates and costs estimated using varied discount rates. Providing the results in tabular form is recommended.</p> <p>Report the approach(es) and data source(s) used to estimate the costs associated with the technologies.</p>	Critical	Partial	Yes	Market prices, companies, hospital accounting or reimbursement systems, as well as micro level costing studies/ABC-costing studies, or other information on unit costs.	E0001, E0002	E0001, E0002	Gold et al. {59}; Drummond et al. {1}; CADTH {18}; Kristensen and Sigmund {3}; Cleemput et al. {57}; Husereau et al. {51}.
E0005	Measurement and estimation of outcomes	What is(are) the measured and/or estimated health-related outcome(s) of the assessed technology and its comparator(s)?	<p>For each technology report mean values of estimated effects and, where possible, information concerning distributions surrounding these estimates. It is suggested that estimates are expressed in natural units first, whenever possible, before using them in alternative forms such as QALYs.</p> <p>Report the approach(es) and data source(s) used to estimate the outcomes associated with the technologies.</p>	Critical	Partial	Yes	Estimation of the incremental or other effects can be based on information provided in the Clinical effectiveness domain (e.g., mortality data). Additional information collection may be needed (e.g. on health-related quality of life indices). The incremental effectiveness may result from an economic	A0004, A0005, A0006, A0009 C0001, C0002, C0004, C0006, C0008 D0001, D0002,	A0004 C0008 D0001, D0005, D0006, D0007, D0012, D0029	Gold et al. {59}; Drummond et al. {1}; CADTH {18}; Kristensen and Sigmund {3}; Cleemput et al. {57}; Husereau et al. {51}. Williams {60}; Johannesson et al. {61}.

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
							model, where inputs from the effectiveness domain are used.	D0003, D0005, D0006, D0007, D0011, D0012, D0013, D0029, F0003, F0010, F0011, H0100		
E0006	Examination of costs and outcomes	What are the estimated differences in costs and outcomes between the technology and its comparator(s)?	<p>For each technology report mean values of estimated costs and effects together. There are numerous ways of highlighting or comparing the differences in the costs and effects of the technologies under assessment, typically, one or more of the following outcomes or approaches are used when reporting the results of health-economic evaluations:</p> <ul style="list-style-type: none"> - listing the cost and outcomes of each technology in tabular form - an incremental cost-effectiveness ratio (ICER) - an incremental cost effectiveness plane or efficiency frontier - the net monetary benefit (NMB) and/or net health benefit (NHB) <p>Report the approach(es) and data source(s) used to estimate the of costs, outcomes, or economic evaluation(s) associated with the technologies.</p>	Critical	Partial	Yes	Relevant sources of data and evidence are specified in the relevant issues under the domains Safety , Clinical effectiveness and Costs and economic evaluation (bringing together the information collected in assessment elements E0009 and E0005). For example, ICER estimates from a de novo economic model could be reported, synthesising inputs from the Safety , Clinical effectiveness and Costs and economic evaluation domains.	E0001, E0002, E0005, E0009	E0001, E0002, E0005, E0009	<p>Gold et al. {59}; Drummond et al. {1}; CADTH {18}; Kristensen and Sigmund {3}; Cleemput et al. {57}; Husereau et al. {51}.</p> <p>Briggs et al. {26}.; Glick et al. {29}; Johannesson et al. {61}.</p>
E0010	Characteri	What are the	The effects of uncertainty should be reported	Critical	Partial	Yes	Relevant sources of evidence	E0006	E0006	Gold et al. {59};

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
	single uncertainty	uncertainties surrounding the costs and economic evaluation(s) of the technology and its comparator(s)?	<p>separately for parameter, structural and methodological uncertainty, whenever possible. For example:</p> <ul style="list-style-type: none"> - deterministic sensitivity analysis in tabular form or using a Tornado diagram - probabilistic sensitivity analysis, e.g., in the form of a CEAC - value-of-information analysis <p>The methods used in the sensitivity analysis should be reported in detail here.</p>				are specified under relevant issues under domains Safety and Clinical effectiveness, as well as from within the Costs and economic evaluation domain.			<p>Drummond et al. {1}; CADTH {18}; Kristensen and Sigmund {3}; Cleemput et al. {57}; Husereau et al. {51}.</p> <p>Bojke et al. {74}; NICE {69}; Briggs et al. {26}.</p>
E0011	Characterising heterogeneity	To what extent can differences in costs, outcomes, or 'cost effectiveness' be explained by variations between any subgroups using the technology and its comparator(s)?	<p>If applicable, describe differences in costs, outcomes, or cost effectiveness that can be explained, e.g., by variations between (pre-defined) subgroups of patients with different baseline characteristics or other observed variability in effects. Providing the results in tabular form is recommended, but graphical representation using, e.g., 'Forest' plots may also be useful.</p> <p>The methods used in any sub-group analysis should be reported in detail here.</p>	Critical	Partial	Yes	Relevant sources of evidence are specified under relevant issues under domains Safety and Clinical effectiveness, as well as from within the Costs and economic evaluation domain.	C0005, E0006, H0012	E0006	<p>Gold et al. {59}; Drummond et al. {1}; CADTH {18}; Kristensen and Sigmund {3}; Cleemput et al. {57}; Husereau et al. {51}.</p> <p>Sculpher et al. {56}; Cleemput et al. {57}</p>
E0012	Validity of the model(s)	To what extent can the estimates of costs, outcomes, or economic evaluation(s) be considered as	<p>It would be valuable to report any of the numerous ways of assessing to what extent the estimates for the technologies can be considered valid, For example:</p> <ul style="list-style-type: none"> - How well the model predicts health effects 	Critical	Partial	Yes	Relevant sources of evidence are specified under relevant issues under domains Safety and Clinical effectiveness, as well as from within the Costs and economic evaluation domain.	E0001, E0002, E0005, E0009, E0010, E0011	E0001, E0002, E0005, E0009, E0010, E0011	<p>Gold et al. {59}; Drummond et al. {1}; CADTH {18}; Kristensen and Sigmund {3}; Cleemput et al. {57}; Husereau et al. {51}.</p>

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
		providing valid descriptions of the technology and its comparator(s)?	<p>- Whether model includes all aspects of resource use and costs considered important</p> <p>- Estimates of the potential direction and/or potential magnitude of bias induced</p> <p>- An attempt to identify key factors that could compromise the validity of the model</p> <p>The process of validation and the types of validation addressed in the model should be reported here.</p>							Eddy {38}

6 Ethical analysis

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
F0100	Beneficence/nonmaleficence	What is the severity level of the condition that the technology is directed to?	Knowing the severity level of the condition the technology is directed to is relevant in the ethical analysis of the technology. Information about the severity level is also important to decision-makers when making decisions about whether or not to implement a technology.	Important	Complete	Yes	Literature search. Expert opinion		A0002 A0007 A0005 A0024 A0025	48
F0010	Beneficence/nonmaleficence	What are the known and estimated benefits and harms for patients when implementing or not implementing the technology?	<p>Decisions concerning implementation of new technologies generally require careful consideration of the balance between benefits and harms. Examples of questions that can be asked are:</p> <p>Who is the right candidate for the technology? What is the balance between benefits and harms? For instance, is the technology estimated to improve health, health-related quality of life,</p>	Critical	Partial	Yes	Information from other domains (links). Literature search. Expert opinion. Stakeholder hearing		D0001, D0002, D0029, H0001, H0004, H0005, H0006, C0001, C0005, A0010	47

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			<p>quality of life and/or survival compared to alternative technologies? Can the technology harm individual patients, or any other stakeholder, in any way? How many patients might face harm in order for the technology to have a benefit for one patient? What is the extent of these benefits and harms?</p> <p>What are the perceived benefits and harms of the technology in the eyes of the patients/users themselves? It might be useful to note that the patient is often the best judge of benefits and harms for themselves. .</p>						D0017	
F0011	Beneficence/nonmaleficence	What are the benefits and harms of the technology for other stakeholders (relatives, other patients, organisations, commercial entities, society, etc.)?	<p>Can the technology have positive effects for other stakeholders? Can the technology harm any other stakeholders? Some technologies have the potential to unfold unwanted or harmful effects not only on the patients that the technology is directly applied to but also indirectly on other stakeholders. For example results of genetic tests may negatively interfere with the family planning and social life of not only the individual being tested but also of his or her relatives. Another example is how the caregivers' burden and well-being will be affected by the technology.</p> <p>Benefits and harms to individuals must be balanced with benefits and harms that can have impact on society as a whole (social utility, maximizing public health). These harmful effects may manifest in the physical, social, financial or even other domains of life.</p> <p>Changes in the availability of new, more effective technologies may significantly alter the requirements placed on the health care system.</p>	Critical	Partial	Yes	Literature search. Expert opinion. Stakeholder hearing		D0029, H0001, H0002, C0020, C0040, A0006, E0006, D0017	1, 47

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			<p>Is the symbolic value of the technology of any moral relevance?</p> <p>Another relevant question is how the assessed technology relates to more general challenges of modern medicine (over-diagnosis, medicalization)?</p> <p>Table 1 (link) in the process description can be used to describe benefits and harms. .</p>							
F0003	Beneficence/nonmaleficence	Are there any other hidden or unintended consequences of the technology and its applications for different stakeholders (patients/users, relatives, other patients, organisations, commercial entities, society etc.)?	<p>The technology may be used for other indications (extended use) or other purposes, e.g., in combination with other technologies (unintended use). It may have side-effects in addition to those following from the intended use. Ethical analysis of the technology should consider not only the consequences of the formal intended use of the technology, but also the ethical consequences of unintended and extended use. If unintended consequences are not well-known, they should be speculated and elaborated upon. The intended purpose and uses of the technology should be evaluated against the likely uses and consequences of the technology in reality.</p> <p>The mode of delivery, the need of laboratory tests or clinical follow-up to ensure safe and effective dose, and way of delivery (at home, outpatient or in-patient) may have large impact on the health care processes, systems and on individuals. They may also change the concepts of disease and normality (e.g. change an untreatable cancer into a chronic disorder or changing the border values when the concept of normality also changes).</p>	Critical	Partial	Yes	Literature search. Expert opinion. Stakeholder hearing			49, 50

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			<p>New technologies tend to lead to new areas of inventions and give rise to new ethical questions (e.g. IVF and development of genetic testing has led to questions of preimplantation genetic diagnostics (PGD)). As pre-symptomatic screening tests have become available, the health care system has to be prepared to handle moral issues raised by true positive and false negative findings.</p> <p>The mode of delivery, the need of laboratory tests or clinical follow-up to ensure safe and effective dose, and way of delivery (at home, outpatient or in-patient) may have large impact on the health care processes, systems and on individuals. They may also change the concepts of disease and normality (e.g. change an untreatable cancer into a chronic disorder or changing the border values when the concept of normality also changes).</p> <p>Another relevant question is whether or not there will be a moral obligation related to the implementation, withdrawal, or use of the technology (e.g. check-ups or alternative procedures). Pharmaceuticals have usually been designed and studied for a specific and defined group of patients but they may be used for a larger group (variation in age and severity of the disorder and persons with comorbidities and/ or need of other pharmaceuticals). Expensive pharmaceuticals (orphan disorders, new cancer treatments) and prescribing pharmaceuticals according to genetic profiles challenges the equal and just use of health care resources. The health care system has to be prepared to handle moral</p>							

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			issues raised by the new, expensive possibilities to treat rare, otherwise non-treatable disorders and to prolong life in chronic disorders.							
F0005	Autonomy	Is the technology used for patients/people that are especially vulnerable?	The right and justification to use the technology for persons who are vulnerable has to be clarified. Persons that are vulnerable could for example be pregnant women as to protect their unborn child, critically ill patients or individuals that have reduced decision making capacity (children, persons with cognitive disabilities or patients that due to their illness/state have limited decision making capacity). Who has the right to balance the benefit against possible harm in these situations? On what grounds can these decisions be made? Is the technology so valuable, as to justify its use on people who cannot give informed consent?	Critical	Complete	Yes	Literature search. Expert opinion. Stakeholder hearing		C0005	52
F0004	Autonomy	Does the implementation or use of the technology affect the patient's capability and possibility to exercise autonomy?	<p>Many technologies can alter a person's self-determination. The technology may interfere with patients' right to autonomy directly or indirectly by influencing/subtracting the decisional capacity. However, patients have in most cases a right to autonomy, i.e. right to be self-governing agents. This means both the right to decide (not to) use/participate, and the right to receive relevant information. Drugs for sedation and surgical treatment of severely ill patients are examples where patient autonomy may be reduced.</p> <p>Technology may require users/patients to behave in a certain way (e.g. dietary restrictions for fecal blood test). In order to be able to decide autonomously, the user/receiver of the technology should understand all alternative treatments or different therapeutic paths following test results. They should be able to make</p>	Critical	Partial	Yes	Literature search. Expert opinion. Stakeholder hearing		H0013	49, 52

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			<p>informed consent at every step.</p> <p>The practical challenge with treatment technologies is that in order to be fully autonomous, the patient should understand not just direct risks of the treatment, but also all alternatives if side effects take place and how these can affect the living quality or choices (eg car driving, nutrition).</p>							
F0006	Autonomy	Is there a need for any specific interventions or supportive actions concerning information in order to respect patient autonomy when the technology is used?	<p>Is the common professional practice of discussing the technology with patients enough, or is special information needed to decide on this technology? Can the technology entail special challenges/risks that the patient/person needs to be informed of? Should the patient be explicitly informed, for example, that false positive results of a test may lead to unnecessary further investigations and treatments, sometimes with serious harms. An example is screening programmes for early identification of life-threatening situations that may have life-threatening side effects such as invasive surgery with risk of death. Technology used for off-label use may have unexpected severe side-effects (e.g. patients with comorbidities or children).</p> <p>The information should enable the user/receiver of the technology to understand the technology and its associated risks/challenges. It should be in accordance to their personal values and intellectual capacity, thereby enabling users to decide accordingly. The patient should be explicitly informed, for example, that the treatment may have serious side effects, may have an effect on personality or lead to increased need of sleep or overweight. They should also be</p>	Critical	Complete	Yes	. Expert opinion. Stakeholder hearing		H0013, H0007, H0008, C0008, B0014, I0002, I0036, C0005 C0001	51

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			informed of that the mode of delivery or action may affect their daily life (eg. no car driving allowed, restricted travelling).							
F0007	Autonomy	Does the implementation or withdrawal of the technology challenge or change professional values, ethics or traditional roles?	Technologies may change the relationship between physician and patient, challenge professional autonomy or otherwise interfere with professional ethics and values. The patient-physician relationship is traditionally based on mutual trust, confidentiality and professional autonomy so that individual treatment decisions can be made in the best interest of the patient. Technologies that interfere with core values and principles of medical and professional ethics challenge the professional integrity of the physicians or other health care professionals (eg. screening for drug abuse when use is denied). Technologies that align with professional ethics are more likely to be implemented successfully. For example, people may ask for the technology for many reasons, while the professionals may see them as unnecessary and even potentially harmful (e.g. antibiotics, sleep medicine, antidepressants, whole body MRI scans).	Critical	Partial	Yes	Expert opinion		G0010	49, 53
F0008	Respect for persons	Does the implementation or use of the technology affect human dignity?	Especially technologies that are applied for persons with reduced autonomy (children, mentally impaired, severely ill), may violate a person's dignity i.e. challenge the idea that all human beings have intrinsic value, and should thus not be seen as means to others ends. Labelling people as result of use of the technology may also threaten their dignity. Some technologies may cause labelling healthy people as sick (eg PSA for prostate cancer) or otherwise less worthy, abnormal, less clean, etc. For instance labelling people as needing psychiatric medication for their behavioural	Critical	Partial	Yes	Literature search. Expert opinion. Stakeholder hearing			49, 54

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			difficulties may threaten their dignity. People with physical disabilities may be labelled by prenatal screening programmes, which imply that their handicap is an indication for abortion.							
F0009	Respect for persons	Does the implementation or use of the technology affect the user's moral, religious or cultural integrity?	<p>The technology can challenge integrity by preventing (or tempting to prevent) patients to live according to their moral convictions, values, preferences or commitments. It may also interfere with the coherent image or identity of the users' selves. This is especially important to analyse for vulnerable patient groups.</p> <p>The technology may challenge religious, cultural or moral convictions or beliefs of some groups (e.g. pharmaceuticals produced from human blood given to cultural groups that will not tolerate blood transfusion, pharmaceuticals used for abortion in cultural groups that will not tolerate abortion and assisted reproductive technologies that have separated the concept of genetic, biological and social motherhood).</p> <p>The technology may change generally or locally accepted social arrangements by challenging traditional conceptions or social roles. For instance ADHD medication might challenge the integrity of people who value personality, and cochlear implants may be problematic for those who do not see deafness as a disability.</p> <p>Identifying the conceptions behind the beliefs and values may help put them in perspective, when considering the ethical consequences of use and the overall acceptability of the technology. When possible, considering other acceptable alternatives for the affected groups of users is</p>	Critical	Partial	Yes	Literature search. Expert opinion. Stakeholder hearing		H0011, H0013	49, 50

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			important. Use of the technology can also be detrimental to integrity if it is associated with discouraging honesty or ethical conduct, e.g., systems that encourages users to lie about their health state in order to get better service/treatment.							
F0101	Respect for persons	Does the technology invade the sphere of privacy of the patient/user?	The sphere of privacy can be invaded both virtually and physically. Does the technology affect the population's possibility to have control over personal information? Is dissemination or gathering of information regarding the individual patient or the population justified? Is cooperation and sharing of information with professional groups outside the health services needed? Is the handling of personal information reasonable given the purpose of using the technology? Is the technology more or less invasive than the alternatives, regarding the physical body and/or the spatial sphere? Is a violation of the privacy of the patient or population necessary and reasonable to achieve desired outcomes?	Critical	Partial	Yes	Literature search. Expert opinion. Stakeholder hearing		B0010, B0011, D0011, I0007, I0009, I0010, I0033	51
F0012	Justice and Equity	How does implementation or withdrawal of the technology affect the distribution of health care resources?	Many technologies imply substantial costs, sometimes covered with resources from other areas. A new technology may require reallocation of human resources, funding and training. A large reallocation of resources may seriously jeopardize other patient groups (e.g. new technology that requires human resources in acute care or new diagnostic technology that uncovers a large pool of unmet needs for treatment). How this reallocation affects the existing health care system has to be studied. Who will gain and who will lose? Is the prioritization explicit or implicit? Pharmaceuticals may acquire abstract promise of health benefit that may create demand that is not justified. Some diagnosis may create demands for	Critical	Partial	Yes	Expert opinion.		G0007, E0001, E0002, E0009	49, 55, 56

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			pharmaceuticals that are not always justified to be prescribed on health grounds (eg. large variation in prescribing ADHD medication for children by various countries).							
F0013	Justice and Equity	How are technologies with similar ethical issues treated in the health care system?	Clearly presenting how technologies with similar ethical issues are treated in a health care system may help to adopt coherent and just health policies, either by applying past precedents to current cases, or showing that past cases need reconsideration. Similarity is to be defined individually for each technology. The idea is to concentrate only on the similarities relevant for solving the ethical problems found important for the current HTA project. The similar ethical problems can be related to similarities in the technology's medical, technological, economic, social, organisational or legal nature.	Important	Partial	Yes	Literature search. Expert opinion			49
H0012	Justice and Equity	Are there factors that could prevent a group or persons to participate?	<p>Can the technology be applied in a way that gives equal access to those in equal need? How can this be guaranteed? Could potential discrimination or other inequalities (geographic, gender, ethnic, religious, and employment, insurance) prevent access? Potential inequalities and discrimination should be justified. Issues of access to a technology as well as labelling and potential discrimination of persons receiving and not receiving treatment should be considered.</p> <p>Are special groups discriminated?. Ethical and social issues have often been considered in academic articles and discussions in the HTA field, but they have rarely been translated into practice.</p>	Critical	Partial	Yes	Implement the best available evidence about social restrictions, social pressure, social attitudes	SHARE D with SOC domain H0012 Legal domain	G0009, G0101 A0012 I0011	See social domain
F0014	Legislation	Does the implementation or use of the technology	The basic human rights are most notably declared in the United Nations Declaration of Human Rights. They are universal and consider the most important goods, protections and	Critical	Complete	Yes	Literature search. Law, rules and regulations. Expert opinion. Stakeholder hearing	SHARE D with legal domain?	H0012	49, 57

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
		affect the realisation of basic human rights?	freedoms for mankind. For HTA, perhaps the most relevant are the rights to equality, non-discrimination, safety, adequate standard of living and health care.							
F0016	Legislation	Can the use of the technology pose ethical challenges that have not been considered in the existing legislations and regulations?	Is legislation and regulation to use the technology fair and adequate? Use of the technology may lead to ethical issues that make current regulations inadequate. Screening and diagnostic technologies are commonly differently regulated than treatments, especially medications. Ethical reflection is essential in order to assess what kind of legislation, regulation or amendments is needed (see also legal domain).	Important	None	No	Law, rules and regulations. Stakeholder hearing. Expert opinion	SHARE D with legal domain?	B0010, B0011, I0011, I0009, I0036,, I0026, I0028	49, 58
F0017	Ethical consequences of the HTA	What are the ethical consequences of the choice of end-points, cut-off values and comparators/controls in the assessment?	<p>Is there a risk that the chosen end points, cut-off values or comparators/controls may give a biased description of the results of the technology?</p> <p>Clinical effectiveness should ideally be directly related to the disease under treatment. This is not always fully possible so other endpoints may have to be used (e.g. surrogate markers for preventing a life-threatening disease). In addition, the technology may have several aims (e.g. those related to treating the disease and preventing secondary morbidity).</p> <p>The choice of cut-off values for sensitivity and specificity should be done considering the moral value of different results – for example, high specificity is required if false positives have serious consequences.</p>	Critical	Partial	Yes	Other domains:., safety, effectiveness. Expert opinion, Stakeholder hearing		See methodological description in EFF and SAF	49
F0102	Ethical consequences of the HTA	Does the economic evaluation of the technology contain any	It is important to consider whether there are any ethical problems related to the data or assumptions that have been used in the economic valuation. An example is whether or not indirect costs have been valued in a fair and	Important	Partial	Yes	Literature search, Expert opinion		See methodological description in	9, 51

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
		ethical problems?	adequate way.						ECO	
F0103	Ethical consequences of the HTA	What are the ethical consequences of the assessment of the technology?	At what time of the lifetime of the technology is it assessed? Who will (not) get access to the new technology, as a result of the conclusions of the HTA? What are the consequences of assessing the technology with respect to prioritisation?	Important	Partial	Yes	Expert opinion, Stakeholder hearing			49

7 Organisational aspects

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
G0001	Health delivery process	How does the technology affect the current work processes?	<p>Current tasks and work processes should be described. This help to make a picture of the whole process as well as the continuity of care across professional and organisational boundaries. Who is doing what in the process?</p> <p>There are many actors at different levels (intra-organisational, inter-organisational and health care system level) in the process. Continuity should be ensured so that there will be no gaps between the steps of the process.</p> <p>It should be explained what kind of changes a new technology could have: it might replace or reduce some activities.</p> <p>This issue is about patient path way by the point of view of patient/participant. Patient path should be described step by step. This includes also the waiting times for diagnosis and/or treatment and</p>	Critical	Partial	Yes	<p>Literature search, guidelines, annual reports and statistics, reports and own study (e.g. questionnaires and interviews of different actors)</p> <p>Literature search, guidelines, annual reports and statistics, reports and own study (e.g. questionnaires and interviews of different actors)</p>	: A0013, A0014, A0024, B0004, B0005, C0063, D0020, D0021, D0023, F0001, F0007, I0002, I0010	A0007, A0023, A0011 Order of doing; to be answered prior to: E0001	{1, 14} {1, 14}

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			<p>waiting time for analysis of the technology.</p> <p>Preparations that patients/participants need to do before and after (e.g. diet before bariatric surgery) must be taken into account, as well as need for self/home monitoring. The differences of the work processes between the new medicine and the comparator have to be specified. For example new medicine does not need routine laboratory unlike the comparator.</p>							
G0100	Health delivery process	What kind of patient/participant flow is associated with the new technology?	<p>This issue is about patient path way by the point of view of patient/participant. Patient path should be described step by step. This includes also the waiting times for diagnosis and/or treatment and waiting time for analysis of the technology.</p> <p>Preparations that patients/participants need to do before and after (e.g. diet before bariatric surgery) must be taken into account, as well as need for self/home monitoring.</p>	Critical	Partial	Yes	Literature search, guidelines, annual reports and statistics, reports and own study (e.g. questionnaires and interviews of different actors)		A0010, H0003 Order of doing; to be answered prior to: E0001	{1, 14}
G0002	Health delivery process	What kind of involvement has to be mobilized for patients/participants and important others?	<p>This issue is about the role of patients/participants. A new technology may require distribution of tasks among the people involved in the treatment and care.</p> <p>Patients/participants and their important others may be more actively involved in own care and treatment – or tasks they used to carry out may be taken over by health professionals. The way patient get the medicine and how he is involved in the follow-up (monitoring by patients/participants or by their important others).</p>	Important	Partial	Yes	Literature search, annual reports and statistics reports, hospital documents and own study: questionnaires and interviews of different actors of the process (monitoring authorities, hospitals, hospital districts, laboratory, participants).	B0014, H0003, H0010, H0006, H0007, H0008, H0009, H0013	A0007 Order of doing; to be answered prior to: H0002	{14}
G0003	Health delivery process	What is the process ensuring proper education and training of the	<p>New technology may require new kind of professionals or new tasks for existing personnel.</p> <p>This issue is about how the organisation can manage to ensure proper education. It had to take into account how training affects the</p>	Important	Partial	Yes	Literature search, guidelines, reports and documents of the hospital or hospital districts and own study: interview or questionnaires of different	A0013, A0014, B0012, C0063, D0023,	B0013 Order of doing; to be answered	{1, 14, 26}

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
		staff?	management and effectiveness. Implementing a technology can change the job and thus have influence on job satisfaction.				actors of the process.	E0001, E0002, F0007, legal?	d prior to: E0003	
G0004	Health delivery process	What kind of co-operation and communication of activities have to be mobilised?	Co-operation and communication is crucial for fluent patient pathway. Implementing a technology can demand new co-operation and communication in- and outside the organization, e.g. other hospitals, pharmacies and manufactures. Therefore structure of co-ordination is important. Also, interaction and communication with patients/participants and their important others could change. Adaptation of self/home monitoring needs close co-operation and fluent communication.	Critical	Partial	Yes	Literature search, guidelines, reports and documents of hospital and hospital districts, guidelines, own study: questionnaires and interviews of different actors of the process (monitoring authorities, hospitals, hospital districts, laboratory, participants).	B0014, B0015, C0063, D0023, H0010, H0007, H0008, H0009, H0013, I0002		{1, 14} {27}
G0012	Health delivery process	How is the quality assurance and monitoring system of the new technology organised?	A new technology usually have an effect on current quality assurance not only inside the organization but also outside in different health care levels. To assure the quality, a monitoring system with standards and indicators are needed. There could be variations how quality assurance and monitoring system has been implemented. It had to be taken into account who is responsible for quality assurance and for monitoring system and how follow up has been arranged. It had to take into account how quality assurance and monitoring system affects the management and effectiveness. There could be international, national, regional and/or (cross) organisational demands for quality assurance (e.g. quality standards and monitoring) and for registration. What information have to be gathered (clinical indicators, special patient	Important	Partial	Yes	Literature search, annual reports and statistics reports of hospitals and own study: questionnaires and interviews of different actors of the process (monitoring authorities, hospitals, hospital districts, laboratories). Information from manufacturers. .	B0010, B0011, B0012, B0020, C0007, B0012, B0010, B0011, E0001, E0002,	B0020 Order of doing: to be answered prior to E0003	{14}

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			groups, laboratory results)? There are national standards for Pharmacovigilance of pharmaceuticals. Some countries legally oblige physicians to report the adverse events. In most countries, manufacturers are required to submit all the reports of adverse events they receive from healthcare providers to the national authority. A specific monitoring system is may be necessary for innovative pharmaceuticals.							
G0005	Structure of health care system	How does de-centralisation or centralization requirements influence the implementation of the technology?	The setting (primary - secondary - tertiary care) can vary between different countries depending on the health care system. (De)centralisation could have some economical and qualitative benefits. Centralisation could make the technology more difficult to access. Usually, expensive technologies are centralised to tertiary care units with special educated staff. In what health care level the medicine is implemented?	Important	Partial	Yes	Literature search, guidelines, reports and documents of hospital and hospital districts, health information databases (DRG etc.), own study: questionnaires and interviews of different actors of the process (monitoring authorities, hospitals, hospital districts, laboratory, participants). Literature search, guidelines, reports and documents of hospital and hospital districts, health information databases (DRG etc.), own study: questionnaires and interviews of different actors of the process (monitoring authorities, hospitals, hospital districts, laboratory, participants).		B0004, B0005, F0012	{1, 14, 26, 27}
G0101	Structure of health	What are the processes	Access to care is often measured in terms of utilisation. There are different viewpoints:	Critical	Partial	Yes	Literature search, guidelines, reports and documents of		A0001, H0012	

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
	care system	ensuring access to care of the new technology for patients/participants?	<p>individual, population-specific and health system factors. Access to care is related to e.g. social, cultural, economic, organisational, relational or geographical factors.</p> <p>Access to care by wide definition includes availability, accessibility, accommodation, affordability and acceptability.</p> <p>This issue is related to the issue of acceptability of new technology (G0010)</p>				hospital and hospital districts, health information databases (DRG etc.), own study: questionnaires and interviews of different actors of the process (monitoring authorities, hospitals, hospital districts, laboratory, participants).			
G0006	Process-related costs	What are the processes related to purchasing and setting up the new technology?	Implementing the required changes in e.g. premises may be costly for organisations. High costs can influence the decision to introduce the new technology. There may be division of costs such that some organisation(s) is(are) responsible for the acquisition costs and others for the running costs. Investments by, at all stages of the process, should be taken into consideration. This includes e.g. devices, special room and software needed for the new medicine.	Critical	Partial	Yes	Literature search, guidelines, reports and documents of hospitals and hospital districts and manufacturers (e.g. producer handbook), own study: questionnaires and interviews of different actors of the screening process (monitoring authorities, hospitals, hospital districts, laboratory)		B0007, B0008, B0009, Order of doing: to be answered prior to E0001	{14}
G0007	Process-related costs	What are the likely budget impacts of implementing the technologies being compared?	Whenever a technology is introduced, there will be an impact on health care budgets. Budget impact analysis attempts to examine the likely impact of introducing a technology on financial outlays from, e.g., the perspective of different payers. Different payers include: government-level institutions; regions; municipalities; employers; insurance companies and patients/participants. The relevant perspective from which to estimate budget impact may change during different phases of the management process and incentives are connected to this issue. For example: What kind of incentives does the budget impact impose on	Critical	None	Yes	Literature search, reports questionnaires and interviews of different actors of the screening process (monitoring authorities, hospitals, hospital districts, laboratory), information from manufacturers.	A0011, A0020, B0007, B0009, D0023,	Order of doing; to be answered prior to: E0001	{14, 28}

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			different actors? How might this potentially impact on each organization? What is the estimated net financial (e.g. annual) cost of introducing the technology? Budget impact analysis provides data to inform an assessment of the affordability of a technology. It also provides a service planning tool to inform decisions about taking the technology into use.							
G0008	Management	What management problems and opportunities are attached to the technology?	<p>The issue concerns the administrative / managerial questions of technology: management of resources (e.g. investments), co-ordination (in relation to different levels and different steps of the process), establishment of objectives, monitoring and control (how quality assurance affects management or effectiveness), evaluation and sanctioning. Data/information management systems connected to each of these points have to take account.</p> <p>This issue includes also risk management and safety issues (e.g. safety of personnel).</p>	Critical	Partial	Yes	Literature search, guidelines, reports and documents of hospitals, own study: questionnaires and interviews of different actors of the process (monitoring authorities, hospitals, hospital districts, laboratory).	A0011, A0012, A0015, A0016, A0017, A0025, B0020, C0063, D0021, H0009, I0009		{28} {29}{14}
G0009	Management	Who decides which people are eligible for the technology and on what basis?	<p>Provide information on who are the key actors in deciding on the use of the technology. Do most important decisions take place on the national level (e.g. population screening) or for example by individual professionals (e.g. surgical method for a specific disease)? How is the decision made; are there some documented criteria?</p> <p>Information about the possible variations in the decision level and criteria has ethical implications.</p> <p>This issue is related to the issue of work processes (G0001) Companion diagnostics (tests or measurements) assist physicians in making</p>	Important	Partial	Yes	Literature search, guidelines, documents of hospitals, own study: questionnaires and interviews of different actors of the process (monitoring authorities, hospitals, hospital districts, laboratory).	A0011 A0012 :B0016, D0021, F0012, I0012, H0012		Kristensen 2007 {24} {14}

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
			<p>treatment decisions for their patients by elucidating the efficacy and/or safety of a specific pharmaceutical or class of pharmaceuticals for a targeted patient group or sub-groups. How companion diagnostic should be used to identify eligible patient should be specified and explained.</p> <p>Criteria must be specified for higher risk groups of patients such as elderly and children.</p>							
G0010	Culture	How is the technology accepted?	<p>Acceptance should be looked at by different perspectives: by organisation, by personnel and by patients/participants. Organisational view can be separated out intra-organisational (primary care), inter-organisational (secondary care) and health care system level. In all these actors/views acceptance could vary. Alternative ways to introduce a new technology into the organisation could influence problems e.g. resistance among staff and dysfunction of processes.</p> <p>Acceptability is related to access to care.</p>	Critical	Partial	Yes	Literature search, own study: questionnaires and interviews of different actors of the screening process (monitoring authorities, hospitals, hospital districts, screening units, laboratory, staff, participants).	F0001, F0003, F0007, H0006, H0007, H0011, H0012		{14}
G0011	Culture	How are the other interest groups taken into account in the planning / implementation of the technology?	<p>It may be useful to know who are the possible stakeholders, as well as what kind of co-operation exists and what kind of interaction is needed. The stakeholders could be e.g. the pharmaceutical industry and companies offering technologies for screening, authorities (national / regional), registry, administrative parties, municipalities, policy makers / decision makers, staff groups, GPs/primary care physicians and patient organisation. One can also ask: Has the patient organisation taken part into the evaluation process? Has it been involved from the beginning (in the planning) or in the later stages for example as commentator?</p>	Important	None	No	Literature search, reports and documents of hospitals, own study: questionnaires and interviews of different actors of the screening process (monitoring authorities, hospitals, hospital districts, screening units, laboratory, manufacturers, registry, participants).	A0022, B0015, F0003, F0011,		{1, 14, 27}

8 Social aspects

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
H0100	Individual	What kind of changes do patients or citizens expect?	What do the patients expect to get out of the intervention before, during and after the intervention? Are there temporary changes that should be explained?	Critical	Partial	Yes		ETH		
H0001	Major life areas	Which social areas does the use of the technology influence?	Map the major life areas of the patient and the important others (family life, day care, school, work, leisure time, lifestyle, or other daily activities), where the technology is going to be used or where its use may have a direct or indirect influence.	Critical	Partial	Yes				
H0002	Individual	Who are the important others that may be affected, in addition to the individual using the technology?	Describe who are the important other people that are involved in the use of technology in addition to the patients (parents, children, friends, people at work place etc)	Critical	Partial	Yes		ETH and LEG		
H0003	Individual	What kind of support and resources are needed for the patient or citizen as the technology is introduced?	This issue is about any kind of support and resources (practical, physical, emotional, personal social, nurturing, financial etc.) that need to be mobilized, and organized - or might be released - in order for the patient to use the technology with satisfactory results. It covers all arrangements or adjustments that may be needed (e.g. alteration of special tasks, working time, adjustments in the physical environment, emotional support).	Critical	Partial	Yes		ORG		(35): environmental factors: support and relationships (chapter 3: e310-399); " activities and participation, chapter 6: d698, structural arrangements of patient's environment. (17, 15, 14)
H0004	Individual	What kind of changes may the use of the technology generate in the individual's role	This issue is about the patient's social roles and ability to manage and maintain relations with other people in a socially appropriate manner in major life areas.	Critical	Partial	Yes		ETH and SAF		(35): activities and participation, interpersonal interactions and relationships (chapter 7, d710-779),

ID	Topic	Issue	Clarification	Import.	Transf.	Is core	Methodology	Content relations	Sequential relations	References
		in the major life areas?								community, social and civic life (chapter 9:d910-d999). (5, 7, 35, 36)
H0011	Major life areas	What kinds of reactions and consequences can the introduction of the technology cause at the overall societal level?	This issue is about the broader society. What social reactions can be expected for example from religious groups, specific patients and citizens organisations and associations and from any other stakeholder groups (social burden with accepted versus stigmatising diseases)? Are special (social) risk groups defined (ethnic, age etc.) and their possible reactions assessed?	Critical	Partial	Yes	Search for existing literature review, or collect primary studies and if possible conduct a literature review, or, if relevant data is not available, conduct a stakeholder analysis and a qualitative/quantitative primary study; if there's no time the systematic collection of opinion of some of the involved stakeholders and interest groups can be done. Patients, citizens and important others can be consulted.	Ethical, organizational and Legal domains		
H0006	Individual	How do patients, citizens and the important others using the technology react and act upon the technology?	This issue is about the patients and her important others' attitudes, perceptions, preferences, satisfaction and relations to the technology. This covers whether, from a patient perspective, any positive or negative issues arise as a consequence of using the technology e.g. feelings of unity or empowerment and existential experiences (e.g. insecurity, worries, hope, anxiety, stigmatisation, social status, courage to face life, satisfaction, changes in self-conception).	Critical	Partial	Yes		EFF		(35): body functions: mental functions (chapter 1:b110-b199), environmental factors: attitudes (chapter 4:, e410-499), (3)
H0012	Individual	Are there factors that could prevent a group or persons to participate?	Can the technology be applied in a way that gives equal access to those in equal need? How can this be guaranteed? Could potential discrimination or other inequalities (geographic, gender, ethnic, religious, and employment, insurance) prevent access? Potential inequalities and discrimination should be justified. Issues of	Critical	Partial	Yes	Implement the best available evidence about social restrictions, social pressure, social attitudes	SHARE D with SOC domain H0012 Legal domain	G0009, G0101 A0012 I0011	See social domain

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			<p>access to a technology as well as labelling and potential discrimination of persons receiving and not receiving treatment should be considered.</p> <p>Are special groups discriminated?. Ethical and social issues have often been considered in academic articles and discussions in the HTA field, but they have rarely been translated into practice.</p>							
H0007	Information exchange	What is the knowledge and understanding of the technology in patients and citizens?	<p>This issue explores the patient's and important others' understanding of the technology in order to describe and decide what guidance and help (e.g. patient information leaflets, counselling processes, need of follow up consultation or help from other professionals) they need before, during and after the use of the technology.</p> <p>What kind of access do patients' and significant others' have to ask questions? How do they receive answers? How is information provided and received?</p>	Critical	Partial	Yes		CUR and SAF		
H0009	Major life areas	What influences patients' or citizens' decisions to use the technology?	What kind of societal influences lead patients to decide to participate? How do the provisional perceptions about the outcome influence the use of the technology	Critical	Partial	Yes		ETH		
H0013	Information exchange	What are the social obstacles or prospects in the communication about the technology?	E.g. limitations to decision making in participating or using the technology (dependent, passive user), and possibilities (empowered, active user)..	Critical	Partial	Yes	Search for existing literature review, or collect primary studies and if possible conduct a literature review, or, if relevant data is not available, conduct a primary study; if there's no time for primary study, the opinion of health care professionals, patients,	Organisational and Ethical Domains		

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							citizens, or important others can be consulted.			

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