# ANTIBACTERIAL-COATED SUTURES VERSUS NON-ANTIBACTERIAL-COATED SUTURES FOR THE PREVENTION OF ABDOMINAL, SUPERFICIAL AND DEEP INCISIONAL, SURGICAL SITE INFECTIONS (SSIs)

***Project ID: OTCA02***

**Project description and planning**

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**Co-Author: National School of Public Health, Management and Professional Development (NSPHMPDB), Romania**

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# A. VERSION LOG

| Version number | Date | Name (Initials) | Modification | Reason for the modification |
|---|---|---|---|---|
| V1 | 30/08/16 | MH on behalf of AAZ team | 1st version of draft project plan | |
| V2 | 09/09/16 | MH | Revised draft project plan | Comments received from co-authors |
| V3 | 14/09/16 | MH on behalf of AAZ team | Revised draft project plan | After SABA e-meeting/discussion with co-authors |
| V4 | 06/10/16 | MH on behalf of AAZ team and NSPHMPDB team | Revised draft project plan | Comments received from dedicated reviewers, 1st external expert and manufacturer |
| V5 | 29/11/16 | MH on behalf of AAZ and NSPHMPDB team | Final project plan | Comments received from 2nd external expert (The 2nd external expert got a draft PP on 23/11/2016) |

# B. PROJECT PLAN

## 1.0 PARTICIPANTS

All individuals actively participating in the project.

Table 1. Project participants

| # | **Agency** [please fill in the full name of your agency including abbreviations] | **Country** | **Role in the project** | **Individual's expertise** |
|---|---|---|---|---|
| 1. | Agency for Quality and Accreditation in Health Care and Social Welfare (AAZ) | Croatia | Author(s) | Clinical (physician-specialist in clinical pharmacology and toxicology, psychiatry), methodological expertise (evidence-based medicine and HTA, scientific journal editor) |
| 2. | National School of Public Health, Management and Professional Development (NSPHMPDB) | Romania | Co-Author(s) | Public health (evidence-based decision making and health policy development, systematic reviews, need and rapid situation assessment, health services research etc.), methodological expertise (evidence-based medicine and HTA, scientific journal editor) |
| 3. | State Institute for Drug Control (SUKL) | Czech Republic | Reviewer | Methodological expertise: evidence-based decision making, regulation and pricing/reimbursement of pharmaceuticals, assessment of relative effectiveness and safety of pharmaceuticals |
| 4. | National Institute of Pharmacy and Nutrition (NIPN/OGYEI) | Hungary | Reviewer | Department of Health Technology Assessment: HTA, evidence-based medicine, developing the professional guidelines for health technology assessment and participation in the creation and development of legal regulations |
| 5. | State Health Care Accreditation Agency (VASPVT) | Lithuania | Reviewer | HTA of medical devices, Healthcare Management |
| 6. | Swiss Network for Health Technology Assessment (SNHTA) | Switzerland | Reviewer | Methodological (Epidemiologist with experience in systematic reviews and HTA), Clinical (Physician) |

| | | | | |
|---|---|---|---|---|
| 7. | Institute for Quality and Efficiency in Health Care (IQWIG) | Germany | Reviewer | Clinical (physician, surgical research, public health) and methodological expertise (evidence-based medicine, systematic reviews, guidelines, and HTA) |
| 8. | University Hospital Centre Zagreb, Reference Centre for Hospital Infection – Croatian Ministry of Health | Croatia | External Expert | Head of Department of Clinical and Molecular Microbiology<br>Specialist in clinical microbiology, hospital infections prevention and treatment |
| 9. | Donauspital Vienna | Austria | External Expert | Head of the surgical department of the Donauspital in Vienna and member of the Austrian Surgical Association |
| 10. | Ludwig Boltzmann Institute for Health Technology Assessment (LBI-HTA) | Austria | Project coordinator | Project management |

## 1.1 PROJECT STAKEHOLDERS

Table 2. Project stakeholders

| **Organisation's name** | **Type of organisation** |
|---|---|
| Ethicon, Johnson & Johnson Company Int. | Manufacturer |
| Assut Europe | Manufacturer |
| Samyang Genex | Manufacturer |
| Taisier Med | Manufacturer |

## 2.0 PROJECT INTRODUCTION/ RATIONALE

| Project introduction/ rationale |
|---|
| The rationale for this assessment report is to produce joint assessments that are fit for purpose, of high quality, of timely availability, and cover the whole range of non-pharmaceutical health technologies. In addition, the implementation of the joint assessment in the national/regional practice will be facilitated. |

## 3.0 PROJECT SCOPE AND OBJECTIVES

| | **List of project objectives** | **Indicator (and target)** |
|---|---|---|
| 1. | To produce joint health technology assessments that are fit for purpose, of high quality, of timely availability, and cover the whole range of health | Production of 1 rapid assessment according to the research question (see Table 3). |

| | | |
|---|---|---|
| | technologies. | |
| 2. | To compile a rapid assessment of the antibacterial-coated suture material for abdominal wound closure. | Production of a rapid assessment on antibacterial-coated sutures for abdominal wound closure. Surgical site infections (SSI) represent one of the common complications of open abdominal surgery and appear by contamination of tissue in the operative wound, and also of the actual suture material. SSIs represent around 14% of all nosocomial infections. The incidence of SSI is 2.9 per 100 surgical procedures in Europe and this value is slightly larger than the value recorded in the US. Patients with SSIs are twice as likely to die, twice as likely to spend time in an intensive care unit and five times more likely to be readmitted after discharge than patients without SSI. An estimated, 40-60% of SSIs are preventable [1-3]. This assessment has been required by Croatian decision-makers due to potential clinical, quality-of-life and financial benefits of antibacterial-coated sutures for the prevention of abdominal surgical site infection (SSI), but other European countries are interested in the assessment and many other stakeholders may potentially benefit from the final document. It is planned to change the clinical practice guideline depending on the relative effectiveness assessment findings. |
| 3. | To refine the production processes of joint assessment reports based on lessons learned and experiences from JA2 and probe a stepped roll-out of additional collaborative assessments yielding timely information. | Development of sustainable production processes for joint assessments. Production of collaborative assessments probing a decentralized coordination process and facilitating to meet national timelines. |
| 4. | To develop a process that facilitates the implementation of the joint assessment in the national/regional practice. | Production of >2 national/local reports based on the jointly produced assessment. |

Rapid progress in the development of medical technologies has led to the discovery and implementation of new measures with the aim of preventing nosocomial infections. The objective of this rapid assessment is to evaluate the effectiveness and safety of antibacterial-coated sutures compared to non- antibacterial coated sutures in abdominal surgery in adults.

Table 3. Project Scope: PICO

| **Description** | **Project scope** |
|---|---|
| **Population** | Patients: **Adult patients having elective or emergency open (laparotomy) or minimally invasive abdominal (i.e. laparoscopic) surgery** ICD-10 codes:K20-K31; K35-K38; K40-K46; K55-K64; K65-K66; K70-K76; K80-K86; K91-K92…(types of incision used for open abdominal surgery, e.g. |

| | |
|---|---|
| | midline/transverse/Pfannenstiel, will not be used to restrict participant selection)<br><br>Mesh-terms: Abdomen/surgery; Laparotomy [D007813, E04.406]; Laparoscopy [D010535, E01.370.388.250.520, E04.502.250.520] Abdominal Wound Closure Techniques [E04.987.100]; Suture Techniques; Surgical Wound Infection<br><br>Intended use of the technology: Treatment and Prevention |
| **Intervention** | **Antibacterial-coated absorbable surgical sutures for abdominal wall closure**:<br><br>**Antibacterial Surgical Sutures coated with triclosane**: Antimicrobial triclosan-coated suture Polyglactin 910 - Vicryl Plus, Monocryl Plus Antimicrobial triclosan-coated suture Polyglecaprone and Antimicrobial triclosan-coated suture Polydioxanone - PDS Plus, Ethicon, Johnson & Johnson Company Int.;<br><br>**Antibacterial Surgical Sutures coated with chlorhexidine**: i.e. Assufil Plus (Assut Europe), Neosorb Plus (Samyang Genex), Egycryl Extra (Taisier-Med)<br><br>MeSH-terms: Sutures, Anti-Bacterial Agents, Triclosan, Chlorhexidine |
| **Comparison** | **Non-antibacterial coated absorbable surgical suture** (equivalent standard)**:** absorbable i.e. Vicryl, Monocryl, PDS II, Ethicon, Johnson & Johnson Company Int.<br>Studies using other methods of wound closure in the comparator arm (e.g. staples, or skin glue) will not be included.<br><br>Rationale: Comparators have been chosen based on information from relevant published HTAs, clinical guidelines [4-10] and EUnetHTA guidelines [11] and they represents current and usual therapeutic solutions for repairing the abdominal wall after surgical procedures.<br><br>Mesh-terms: Sutures [E07.858.690.820]; Catgut [E07.858.690.820.250] |
| **Outcomes** | ***EFF Domain***<br><br>***Primary*:** |

| | |
|---|---|
| | • Incidence of superficial and deep incisional surgical site infections (SSIs)), according to the US Centre for Disease Control and Prevention (CDC) criteria [6,12] in patients undergoing abdominal surgery;<br>• Mortality.<br>***Secondary**:*<br>• Quality of life.<br>• Length of hospital stay.<br>• The proportion of patients requiring secondary surgery for wound-related complications of surgery.<br>• The proportion of patients requiring hospital readmissions for SSI/wound-related complications<br>• The incidence of complete abdominal wound dehiscence within 30 days of surgery.<br>• The incidence of incisional hernia during the period of study follow-up.<br>• Causative microorganism of SSI (Results of microbiological cultures in patients with SSI)<br>• The use of systemic antibiotic therapy within 30 days of surgery.<br>• Patient satisfaction.<br>***SAF Domain***<br>**Adverse events (AEs)** /Any AEs, Serious AE (SAE), most frequent AEs and SEAs, Death as SAE/<br>***From Checklist for potential ethical, organisational, patient and social and legal aspects***, if needed<br>Rationale: Outcomes will be selected based on the recommendations from the relevant HTAs, clinical guidelines [4-10] and the EUnetHTA Guidelines on Clinical and Surrogate Endpoints and Safety [11]. |
| **Subgroups analysis**<br>**(If possible with available data)** | • Emergency versus elective surgery;<br>• Open versus laparoscopic surgery;<br>• The nature of the surgical procedure (e.g. oesophagogastric, hepato-pancreato-biliary, colorectal etc.) |

| | |
|---|---|
| | • The type of surgical incision (midline, transverse, Pfannenstiel etc.)<br>• The degree of wound contamination, according to the US Centre for Disease Control and Prevention (CDC) criteria [12];<br>• Antibiotic prophylaxis (received vs not received) |
| **Study design** | **Effectiveness:**<br>If suitable evidence syntheses (SRs/HTA reports) are available:<br>• evidence syntheses (SRs/HTA reports) and<br>• primary studies (as described in next bullet) published after the last search date of the latest SR/HTA document<br><br>If suitable evidence syntheses (SRs/HTA reports) are NOT available:<br>• Randomised controlled trials<br><br>**Safety:**<br>If suitable evidence syntheses (SRs/HTA reports) are available:<br>• evidence syntheses (SRs/HTA reports) and<br>• primary studies (as described in next bullets) published after the last search date of the latest SR/HTA document<br><br>If suitable evidence syntheses (SRs/HTA reports) are NOT available:<br>• Randomised controlled trials<br>• Non-randomised controlled trials<br>• Prospective studies with or without a control group<br>• Medical device adverse event registers and<br>• Postmarketing surveillance data on device-related adverse events<br><br>**Organisational, ethical, patient and social, legal aspects:** Qualitative and qualitative studies, reports or opinions (according the EUnetHTA Core HTA Model 3.0, p. 264) [13]<br><br>Only English language studies will be included in this Rapid REA. |

# 4.0 PROJECT APPROACH AND METHOD

Table 4a. Project approach and method

| **Project approach and method** |
|---|
| The selection of assessment elements will be based on the EUnetHTA Core Model Application for Rapid Relative Effectiveness (REA) Assessments (4.2) [14]. The Checklist for potential ethical, organisational, patient and social and legal aspects of the HTA Core Model for rapid REA will be filled in as well. Additionally, further assessment elements from the EUnetHTA Core model domains: ethical analysis, organisational aspects, patients and social aspects, legal aspects - relevant for medical and surgical interventions - will be included if deemed relevant (3.0) [13]. The selected issues (generic questions) will be translated into actual research questions (answerable questions).<br><br>For TEC and CUR domains no quality assessment tool will be used, but multiple sources will be used in order to validate individual, possibly biased, sources. Descriptive analysis will be performed on different information sources. The completed part of EUnetHTA submission file from the manufacturer will be used as starting point.<br><br>For assessment elements from other domains (ETH, ORG, SOC, LEG) if deemed relevant: Hand search, internet-search, contacting manufacturers (part of manufacturer submission file). No quality assessment tool will be used, but multiple sources will be used in order to validate individual, possibly biased, sources. Descriptive analysis will be performed on different information sources.<br><br>For EFF and SAF domains, a systematic literature search, according to the predefined search strategy (not limited by publication date but limited to English language) will be performed according to the Cochrane methodology, in standard medical and HTA databases (The Cochrane Central Register of Controlled Trials, The Database of Abstracts of Reviews of Effects, The Health Technology Assessment Database, NHS Economic Evaluation DatabaseMEDLINE, EMBASE, EBSCO CINAHL). Handsearch (according to the reference lists of relevant studies) will be done also.The following clinical trials registries: ClinicalTrials,gov (http://www.clinicaltrials.gov/), WHO International Clinical Trials Registry Platform (http://apps.who.int/trialsearch/Default.aspx) and EU Clinical Trials Register (https://www.clinicaltrialsregister.eu/) will be searched as well for registered ongoing clinical trials and observational studies.<br>Relevant references (after duplicates removed) will be screened and assessed for eligibility independently by two reviewers. References will be included or excluded according to the overall research question, Population-Intervention-Control-Outcome (PICO)-scheme (as described in Project Scope) and the predefined inclusion/exclusion criteria, and presented according to the PRISMA Statement [15]. The quality of the included systematic reviews (SRs) will be assessed using the AMSTAR tool [16]. The results from the included SRs will be included according to the methodology suggested by Whitlock 2008 [17] and Robinson 2014 [18] on how to integrate existing SRs into new SRs. To answer our research questions four approaches in using existing systematic reviews, described in Robinson et al. 2014 [18], could be used: (1) using the existing SR(s)' listing of included studies as a quality check for the literature search and screening strategy conducted for the new review (Scan References); (2) using the existing SR(s) to completely or partially provide the body of included studies for one or more Key Questions in the new review (Use Existing Search); (3) using the data abstraction, risk of bias assessments, and/or analyses from existing SRs for one or more Key Questions in the new review (Use Data Abstraction/Syntheses), and (4) using the existing SR(s), including conclusions, to fully or partially answer one or more Key Questions in this SR (Use Complete Review).<br>For newly identified primary studies, the risk of bias of included RCTs will be evaluated independently by two reviewers. The Cochrane risk of bias assessment approach will be used for RCTs [19] and non-randomised controlled studies (ACROBAT-NRSI tool) [20], according the EUnetHTA Guidelines on Therapeutic medical devices and EUnetHTA Guideline for Internal validity of non-randomized studies [11].<br>The Institute of Health Economics quality appraisal tool for case series will be used for identified prospective studies without control group [21]. |

Direct evidence on primary outcomes is planned to be assessed by using the GRADE methodology [22,23]. This approach specifies four levels of quality: High: further research is very unlikely to change our confidence in the estimate of effect; Moderate: further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimates; Low: further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate; Very low: we are very uncertain about the estimate.

Data extraction will be performed by one reviewer on pre-defined extraction tables and double-checked regarding completeness and accuracy by a second reviewer. Any differences in extraction results will be discussed to achieve consensus; any disagreements will be resolved by a third reviewer. Quantitative synthesis from existing SRs will be used and presented in the Result section when available and appropriate for specific assessment element questions. New meta-analysis on RCTs will be done if possible.

AAZ:

- Develop first draft of EUnetHTA project plan
- Perform the literature search
- Carry out the assessment: answer assessment elements, fill in checklist regarding potential "ethical, organisational, patient and social and legal aspects" of the HTA Core Model ® for rapid REA (see table 6)
- Send "draft versions" to reviewers, compile feedback from reviewers and perform changes according to reviewers comments
- Prepare the final assessment including a final summary of the assessment

NSPHMPDB:

- Review draft EUnetHTA project plan
- Check and approve all steps (e.g. literature selection, data extraction, assessment of risk of bias). Agree on the author's conclusions.

Review the draft assessment, propose amendments where necessary (perform additional hand search of literature if needed) and provide written feedback.

Table 4b. Preliminary Evidence

| **Preliminary evidence table** |
|---|
| **Study characteristics** |
| Author, year, reference number |
| Study Registration number (Registry identifier) |
| Study design |
| Country of recruitment |
| Sponsor |
| Study duration (start and completion date) |
| Objectives |
| Statistical analysis (ITT, modified ITT, per protocol, other) |

| |
|---|
| **Patient characteristics** |
| Number of patients |
| Age |
| Sex |
| Diagnosis |
| Comorbidities (i.e. diabetes and glycaemic control, obesity, hypothermia etc.) |
| Type of operative wound (clean, clean-contaminated, contaminated, dirty-infected) |
| US CDC criteria |
| Procedure (elective or emergency setting open or minimally invasive (i.e. laparoscopic) abdominal surgery) |
| Antibiotic prophylaxis (timing, dosing-single or multiple dose, antimicrobial agent given) |
| Antibiotic therapy |
| Duration of surgery |
| Use of drainage |
| Postoperative hospital stay (days) |
| **Intervention** |
| Type of antibacterial-coated suture |
| Fascial/muscle layer closure |
| Skin and/or subcutaneous tissue closure |
| **Comparator** |
| Type of non-antibacterial coated suture |
| Fascial/muscle layer closure |
| Skin and/or subcutaneous tissue closure |
| **Outcomes** |
| ***Effectiveness*** |
| Incidence of SSI (superficial and deep) in patients undergoing abdominal surgery |
| Mortality |
| Quality of Life |
| Length of hospital stay |
| The proportion of patients requiring secondary surgery for wound-related complications of surgery |
| The proportion of patients requiring hospital readmissions for SSI/wound-related complications |
| The incidence of complete abdominal wound dehiscence within 30 days of surgery |
| Incidence of incisional hernia during the period of study follow-up |
| Causative microorganism (Results of microbiological cultures in patients with SSI) |
| The use of systemic antibiotic therapy within 30 days of surgery |
| Patient satisfaction |
| ***Safety*** |
| Adverse events (AE) in n (%) of patients |
| Description of AE in n (%) of patients |
| Serious adverse events (SAE) in n (%) of patients |

| |
|---|
| Description of SAE in n (%) of patients |
| Frequency of SAEs leading to death in n (%) of patients |
| ***Organisational, ethical, patient and social, legal aspects*** (if deemed relevant, please see assessment element questions below) |

**Selected assessment elements**

The table shows the assessment elements and the translated research questions that will be addressed in the assessment. They are based on the assessments elements contained in the 'Model for Rapid Relative Effectiveness Assessment' and other HTA Core Model® Applications.
In the 'Procedure Manual for the rapid relative effectiveness assessment of other technologies' information can be found on assessment elements considered 'mandatory' and 'non-mandatory' for individual types of technologies. In general, 'mandatory' elements are likely to be relevant for all assessments of a certain type of technology. The 'non-mandatory' elements may be relevant for specific assessments only. 'Mandatory' assessment elements have to be considered by the authors. If they do not wish to provide an answer to 'mandatory' questions, they need to provide a justification in the right column below. 'Non-mandatory' assessment elements can be included in the assessment, based on the experiences and preferences of the assessment team. No justification needs to be provided for excluding these elements.

The table shows the assessment elements and the translated research questions that will be addressed in the assessment. They are based on the assessments elements contained in the 'Model for Rapid Relative Effectiveness Assessment'. Additionally, assessment elements from other HTA Core Model Applications (for medical and surgical interventions, for diagnostic technologies or for screening) have been screened and included/merged with the existing questions if deemed relevant.

Table 5. Assessment elements and translating research questions

| ID | Topic | Topic Issue | Relevance in this assessment Yes/No | Research question(s) or reason for non-relevance of 'mandatory' elements |
|---|---|---|---|---|
| **Description and technical characteristics of technology** | | | | |
| B0001 | Features of the technology and comparators | What is the technology and the comparator(s)? | Yes | What are the antibacterial-coated sutures and the comparator(s) - non-antibacterial-coated sutures? |
| A0020 | Regulatory Status | For which indications has the technology received marketing authorisation or CE marking? | Yes | For which indications the antibacterial-coated sutures have received CE marking? |
| B0002 | Features of the | What is the claimed benefit of the technology in relation to the | Yes | What is the claimed benefit of the antibacterial-coated sutures in relation to the |

| ID | Topic | Topic Issue | Relevance in this assessment Yes/No | Research question(s) or reason for non-relevance of 'mandatory' elements |
|---|---|---|---|---|
| | technology and comparators | comparator(s)? | | comparator(s)? |
| B0003 | Features of the technology | What is the phase of development and implementation of the technology and the comparator(s)? | Yes | What is the phase of development and implementation of the antibacterial-coated sutures and the comparator(s)? |
| B0004 | Features of the technology | Who administers the technology and the comparator(s) and in what context and level of care are they provided? | Yes | Who administers the antibacterial-coated sutures and the comparator(s) and in what context and level of care are they provided? |
| B0008 | Investments and tools required to use the technology | What kind of special premises are needed to use the technology and the comparator(s)? | No | |
| B0009 | Investments and tools required to use the technology | What equipment and supplies are needed to use the technology and the comparator(s)? | No | |
| A0021 | Regulatory Status | What is the reimbursement status of the technology? | Yes | What is the reimbursement status of the antibacterial-coated sutures? |
| **Health problem and current use of technology** | | | | |
| A0002 | Target Condition | What is the disease or health condition in the scope of this assessment? | Yes | What is abdominal surgical wound infection in the scope of this assessment? |
| A0003 | Target Condition | What are the known risk factors for the disease or health condition? | Yes | What are the known risk factors for abdominal surgical wound infection? |
| A0004 | Target Condition | What is the natural course of the disease or health condition? | Yes | What is the natural course of abdominal surgical wound infection? |
| A0005 | Target Condition | What are the symptoms and the burden of disease or health condition for the patient? | Yes | What are the symptoms and the burden of abdominal surgical wound infection? |
| A0006 | Target Condition | What are the consequences of the disease or health condition for the society? | Yes | What are the consequences of abdominal surgical wound infection for the society? |
| A0024 | Current Management | How is the disease or health condition currently diagnosed according to | Yes | How is the abdominal surgical wound infection currently diagnosed according to |

| ID | Topic | Topic Issue | Relevance in this assessment Yes/No | Research question(s) or reason for non-relevance of 'mandatory' elements |
|---|---|---|---|---|
| | of the Condition | published guidelines and in practice? | | published guidelines and in practice? |
| A0025 | Current Management of the Condition | How is the disease or health condition currently managed according to published guidelines and in practice? | Yes | How is the abdominal surgical wound infection currently prevented and managed according to published guidelines and in practice? |
| A0007 | Target Population | What is the target population in this assessment? | Yes | What is the target population in this assessment? |
| A0023 | Target Population | How many people belong to the target population? | Yes | How many people belong to the target population? |
| A0011 | Utilisation | How much are the technologies utilised? | Yes | How much are antibacterial-coated sutures utilised? |
| A0020 | Regulatory Status | For which indications has the technology received marketing authorisation or CE marking? | | Please see TEC Domain |
| A0021 | Regulatory Status | What is the reimbursement status of the technology? | | Please see TEC Domain |
| **Clinical effectiveness** | | | | |
| D0001 | Mortality | What is the expected beneficial effect of the intervention on mortality? | Yes | What is the expected beneficial effect of the antibacterial-coated sutures on mortality? |
| D0005 | Morbidity | How does the technology affect symptoms and findings (severity, frequency) of the disease or health condition? | Yes | How do the antibacterial-coated sutures affect symptoms and findings (severity, frequency) of abdominal surgical wound infection? |
| D0006 | Morbidity | How does the technology affect progression (or recurrence) of the disease or health condition? | Yes | How do the antibacterial-coated sutures affect progression (or recurrence) of abdominal surgical wound infection? |
| D0011 | Function | What is the effect of the technology on patients' body functions? | Yes | What is the effect of the antibacterial-coated sutures on patients' body functions? |
| D0016 | Function | How does the use of technology affect activities of daily living? | Yes | How does the use of antibacterial-coated sutures affect activities of daily living? |

| ID | Topic | Topic Issue | Relevance in this assessment Yes/No | Research question(s) or reason for non-relevance of 'mandatory' elements |
|---|---|---|---|---|
| | | | | |
| D0012 | Health-related quality of life | What is the effect of the technology on generic health-related quality of life? | Yes | What is the effect of the antibacterial-coated sutures on generic health-related quality of life? |
| D0013 | Health-related quality of life | What is the effect of the technology on disease-specific quality of life? | Yes | What is the effect of antibacterial-coated sutures on disease-specific quality of life? |
| D0017 | Patient satisfaction | Were patients satisfied with the technology? | Yes | Were patients satisfied with the antibacterial-coated sutures? |
| **Safety** | | | | |
| C0008 | Patient safety | How safe is the technology in relation to the comparator(s)? | Yes | How safe are antibacterial-coated sutures in relation to the comparator(s)? |
| C0002 | Patient safety | Are the harms related to dosage or frequency of applying the technology? | No | |
| C0004 | Patient safety | How does the frequency or severity of harms change over time or in different settings? | Yes | How does the frequency or severity of harms change over time or in different settings? |
| C0005 | Patient safety | What are the susceptible patient groups that are more likely to be harmed through the use of the technology? | Yes | What are the susceptible patient groups that are more likely to be harmed through the use of the antibacterial-coated sutures? |
| C0007 | Patient safety | Are the technology and comparator(s) associated with user-dependent harms? | No | |
| B0010 | Safety risk management | What kind of data/records and/or registry is needed to monitor the use of the technology and the comparator(s)? | Yes | What kind of data/records and/or registry is needed to monitor the use of antibacterial-coated sutures and the comparator(s)? |

**Checklist for patient and social aspects**

The following checklist should be considered in order to determine whether there are specific ethical, organisational, social and legal aspects which also need to be addressed. Since the assessment is comparative in nature, only new issues should be dealt with, which arise from a difference between the technology to be assessed and its major comparator(s). Already known problems/issues with regard to ethical,

organisational, social and legal aspects which are common to the technology to be assessed and its comparator(s) will, as a rule, not be addressed, as it is not to be expected that the addition of a new technology will lead to changes.
If a question is answered with 'yes', further analysis of these issues may be warranted. If they are answered with no, the domains need not be dealt with further.

Table 6. Checklist for potential ethical, organisational, patient and social and legal aspects.

| | |
|---|---|
| **1. Ethical** | |
| 1.1. Does the introduction of the new technology and its potential use/non-use instead of the defined, existing comparator(s) give rise to any new ethical issues? | Yes/**No** |
| If answered with 'yes', please provide a short statement explaining why. | |
| 1.2. Does comparing the new technology to the defined, existing comparators point to any differences that may be ethically relevant? | Yes/**No** |
| If answered with 'yes', please provide a short statement explaining why. | |
| **2. Organisational** | |
| 2.1. Does the introduction of the new technology and its potential use/non-use instead of the defined, existing comparator(s) require organisational changes? | Yes/**No** |
| If answered with 'yes', please provide a short statement explaining why. | |
| 2.2. Does comparing the new technology to the defined, existing comparator(s) point to any differences that may be organisationally relevant? | Yes/**No** |
| If answered with 'yes', please provide a short statement explaining why. | |
| 3. **Social** | |
| 3.1. Does the introduction of the new technology and its potential use/non-use instead of the defined, existing comparator(s) give rise to any new social issues? | **Yes**/No |

| | |
|---|---|
| Triclosan is used in many antimicrobial soaps, shampoos, and toothpastes. Bacteria can develop resistance to triclosan. If triclosan-coated sutures effectively prevent surgical site infection, it might become necessary to restrict the public use of triclosan-containing products in order to prevent the development of triclosan-resistance. According to the literature, "widespread use of triclosan may represent a potential public health risk" [24]. | |
| 3.2. Does comparing the new technology to the defined, existing comparator(s) point to any differences that may be socially relevant? | Yes/**No** |
| If answered with 'yes', please provide a short statement explaining why. | |
| 4. **Legal** | |
| 4.1. Does the introduction of the new technology and its potential use/non-use instead of the defined, existing comparator(s) give rise to any legal issues? | Yes/**No** |
| If answered with 'yes', please provide a short statement explaining why. | |
| 4.2. Does comparing the new technology to the defined, existing comparator(s) point to any differences that may be legally relevant? | Yes/**No** |
| If answered with 'yes', please provide a short statement explaining why. | |

# 5.0 ORGANISATION OF THE WORK

## 5.1 MILESTONES AND DELIVERABLE(S)

Table 7. Milestones and Deliverables

| **Milestones/Deliverables** | **Start date** | **End date** |
|---|---|---|
| **Project duration** | **25/08/2016** | **23/12/2016** |
| **Scoping phase** | 25/08/2016 | 23/09/2016 |
| Identification of manufacturers | 25/08/2016 | 13/09/2016 |
| Scoping and development of draft Project Plan | 25/08/2016 | [23/09/2016 |
| Internal Scoping e-meeting | 12/09/2016 | 12/09/2016 |
| Consultation of draft Project Plan with dedicated reviewers | 15/09/2016 | 22/09/2016 |

| | | |
|---|---|---|
| Amendment of draft Project Plan & final Project Plan available | 22/09/2016 | 06/10/2016 Delay due fact that PP was sent to the 2nd external expert on 23/11/2016 |
| Send request for certain modules of the Submission file templates to manufacturer(s) | 14/09/2016 | 14/09/2016 |
| Completion of certain modules of the Submission file templates by manufacturer(s) | 14/09/2016 | 26/10/2016 |
| **Assessment phase** | **03/10/2016** | **30/12/2016** |
| Writing first draft rapid assessment | 03/10/2016 | 25/11/2016 |
| Review by dedicated reviewer(s) | 28/11/2016 | 08/12/2016 |
| Writing second draft rapid assessment | 09/12/2016 | 13/12/2016 |
| Review by ≥ 2 external clinical experts (and by other potential stakeholders) | 14/12/2016 | 22/12/2016 |
| Writing third draft rapid assessment + Medical editing + Formatting | 23/12/2016 | 30/12/2016 |
| Final version of REA | | **30/12/2016** |
| **Local Reports (if applicable)** | | |
| Local (national or regional) REA N°1 [*AAZ, Croatia*] | | **30/12/2016** |
| Local (national or regional) REA N°2 [*Institution, country*] | | |

## 5.2 MEETINGS

An e-meeting is held with the pilot team during the Scoping phase (12/09/2016), a further one between authors and co-authors to discuss comments from dedicated reviewers could be envisage. Whenever needed, further e-meetings can be scheduled.

## 6.0 COMMUNICATION

Table 8. Communication

| Communication Type | Description | Date | Format | Participants/ Distribution |
|---|---|---|---|---|
| **Scoping** | To discuss and reach the consensus on the scoping, as a preparation for the final Project plan. | 12/09/2016 | E-mail and e-meeting (SABA) | Author(s), co-author(s) |
| | To discuss scoping | 15/09/2016 | E-mail | Author(s), co-author(s), dedicated reviewer(s), |

| | | | | |
|---|---|---|---|---|
| | | | | external experts |
| **Feedback on draft submission file (optional)** | To formulate clarifying questions on draft submission file before sending it to the manufacturers | 15/09/2016 | E-mail | Authors, Co-authors |
| **Draft Project Plan with timelines** | Review of methods and assessment elements chosen, discussion of time-lines | 15/09/2016 | E-mail (e-meetings to be planned here - optional) | Author(s), Co-author(s), dedicated reviewer(s), external experts |
| **Final Project Plan** | Review of methods and assessment elements chosen, discussion of time-lines. | 06/10/2016 | E-mail | Author(s), Co-author(s), dedicated reviewers, external experts |
| **First draft of the rapid assessment** | To be reviewed by dedicated reviewer(s) | 28/11/2016 | E-mail (e-meetings to be planned here -optional) | Dedicated reviewer(s) |
| | To discuss comments of dedicated reviewers (optional) | 14/11/2016 | E-Mail | Author(s), co-author(s), dedicated reviewers |
| **Second draft of the rapid assessment** | To be consulted with ≥2 clinical expert (other potential stakeholders) | 14/12/2016 | E-mail | ≥2 clinical experts (other potential stakeholders) |
| **Final rapid assessment** | Distribution | 30/12/2016 | E-Mail | Author(s), co-author(s), dedicated reviewer(s), external experts, Manufacturers |

## 6.1 DISSEMINATION PLAN

The final rapid assessment will be distributed as laid-out in the Work Plan of WP4.

## 7.0 COLLABORATION WITH STAKEHOLDERS

The draft Project Plan and the 2nd draft version of the assessment will be reviewed by external experts. The manufacturer will fill in certain modules of the Submission file templates and will be contacted with regard to questions, if necessary.
No collaboration with other stakeholders is planned.

## 8.0 COLLABORATION WITH EUnetHTA WPs

For the individual rapid assessment, no collaboration with other WPs is planned.

## 9.0 RESOURCE PLANNING

## 9.1 HUMAN RESOURCES

Table 9. Human resources

| Role | Total number of person days | Source | |
|---|---|---|---|
| | | Staff of participating organisations | Subcontracting |
| **Author** | 70 person days | 70 person days | - |
| **Co-Author** | 25 person days | 25 person days | - |
| **Reviewer** | 5 person days each | 5 person days each | - |
| **External reviewer** | 5 person days | - | - |
| **Medical Editor** | 5 person days | 5 person days | - |
| **Layout** | 5 person days | 5 person days | - |

## 10.0 CONFLICT OF INTEREST MANAGEMENT

Conflicts of interest will be handled according to EUnetHTA JA3 Conflict of Interest Policy. As conflict of interest may be topic dependent, conflict of interest declarations will be collected from authors and reviewers involved in a specific assessment via the Declaration of interest and confidentiality undertaking (DOICU) form. Authors and reviewers who declare a conflict of interest will be excluded from parts of, or the whole work under this specific topic. However, they may still be included in other assessments.
If external experts are involved in WP4 a conflict of interest declaration will be collected from them regarding the topic Any COI declared will be evaluated by the WP4 ACB lead according to EUnetHTA procedures and disclosed in the final assessment.

## 11.0 EXPECTED OUTCOME(S)

| **Project outcome(s)** |
|---|
| Jointly produced assessments that are fit for purpose, of high quality, of timely availability, and cover the whole range of non-pharmaceutical health technologies will have been produced. These assessments will have been used in the national/local context. Production processes for joint assessment reports will have been refined based on lessons learned and experiences from JA2. The decentralized approach for producing collaborative assessments will have been probed. The implementation of jointly produced assessments in the national/local context will have been facilitated. |

# C. REFERENCES

1. Leaper DJ, van Goor H, Reilly J, Petrosillo N, Geiss HK, Torres AJ, Berger A. Surgical site infection - a European perspective of incidence and economic burden. Int Wound J. 2004;1(4):247-73.

2. Allegranzi B, Nejad SB, Combescure C, et al. Burden of endemic healthcare-associated infection in developing countries: systematic review and meta-analysis. Lancet. 2011;377:228–241

3. European Centre for Disease Prevention and Control. Point prevalence survey of healthcare associated infections and antimicrobial use in European acute care hospitals. Stockholm: ECDC; 2013.

4. National Institute for Health and Clinical Excellence (NICE). Surgical Site Infection: Prevention and Treatment of Surgical Site Infection. NICE Clinical Guideline 74, 2008. http://www.nice.org.uk/nicemedia/pdf/CG74NICE Guideline.pdf

5. National Institute for Health and Clinical Excellence (NICE). Surgical Site Infection. Evidence Update 43, June 2013. A summary of selected new evidence relevant to NICE Clinical Guideline 74 'Prevention and treatment of surgical site infection' (2008).

6. Mangram AJ, Horan TC, Pearson ML, Silver LC, Jarvis WR. Guideline for Prevention of Surgical Site Infection, 1999. Centers for Disease Control and Prevention (CDC) Hospital Infection Control Practices Advisory Committee. Am J Infect Control. 1999;27(2):97-132.

7. Garner JS. CDC guideline for prevention of surgical wound infections, 1985. Supersedes guideline for prevention of surgical wound infections published in 1982. (Originally published in November 1985). Revised. Infect Control. 1986;7(3):193-200.

8. Canadian Agency for Drugs and Technologies in Health. Antibacterial Sutures for Wound Closure After Surgery: A Review of Clinical and Cost-Effectiveness and Guidelines for Use. Ottawa: The Agency; 21 November 2014.

9. Justinger C, Moussavian MR, Schlueter C, et al. Antibiotic coating of abdominal closure sutures and wound infection. Surgery. 2009;145:330–334.

10. Utjecaj upotrebe kirurških konaca obloženih triklosanom na infekciju kirurškog mjesta (engl. Impact of triclosan-coated sutures on surgical site infection): Procjena zdravstvene tehnologije (engl. HTA), Broj 09/2014.

11. European network for health technology assessment (EUnetHTA). EUnetHTA Guidelines. EUnetHTA; 2015. Available from: http://www.eunethta.eu/eunethta-guidelines.

12. Horan TC, Gaynes RP, Martone WJ, Jarvis WR, Emori TG. CDC definitions of nosocomial surgical site infections, 1992: a modification of CDC definitions of surgical wound infections. Am J Infect Control. 1992;20(5):271-4.

13. HTA Core Model. EUnetHTA; 2016. Available from: https://meka.thl.fi/htacore/model/HTACoreModel3.0.pdf

14. HTA Core Model for Rapid Relative Effectiveness (REA) Assessments (4.2) Available from http://meka.thl.fi/htacore/model/HTACoreModel_ForRapidREAs4.2.pdf

15. Liberati A, Altman DG, Tetzlaff J, Mulrow C, Gøtzsche PC, et al. The PRISMA Statement for Reporting Systematic Reviews and Meta-Analyses of Studies That Evaluate Health Care Interventions: Explanation and Elaboration. PLoS. 2009;6(7):e1000100.

16. Shea BJ, Grimshaw JM, Wells GA, Boers M, Andersson N, Hamel C, et al. Development of AMSTAR: a measurement tool to assess the methodological quality of systematic reviews. BMC Med Res Methodol. 2007;7:10. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1810543/pdf/1471-2288-7-10.pdf

17. Whitlock EP, Lin JS, Chou R, Shekelle P, Robinskon KA. Using existing systematic reviews in complex systematic reviews. Ann Int Med. 2008;148(10):776-82.

18. Robinson KA, Whitlock EP, O'Neil ME, Anderson JK, Hartling L, Dryden DM, Butler M, et al. Integration of Existing Systematic Reviews. Research White Paper (Prepared by the Scientific Resource Center under Contract No. 290-2012-00004-C). AHRQ Publication No. 14-EHC016-EF. Rockville, MD: Agency for Healthcare Research and Quality. June 2014. Available from: www.effectivehealthcare.ahrq.gov/reports/final.cfm

19. Higgins JPT, Green S (editors). Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0 [updated March 2011]. The Cochrane Collaboration, 2011. Available from www.cochrane-handbook.org.

20. Sterne JAC, Higgins JPT, Reeves BC, on behalf of the development group for ACRO-BAT-NRSI. A Cochrane Risk Of Bias Assessment Tool: for Non-Randomized Studies of Interventions (ACROBAT-NRSI), Version 1.0.0. 2014.

21. Moga C, Guo B, Schopflocher D, Harstall C. Development of a Quality Appraisal Tool for Case Series Studies Using a Modified Delphi Technique. Edmonton AB: Institute of Health Economics. 2012.

22. Guyatt GH, Oxman AD, Vist GE, Kunz R, Falck-Ytter Y, Alonso-Coello P et al. GRADE: an emerging consensus on rating quality of evidence and strength of reccomendations. BMJ. 2008;336:924-6.

23. Balshema H, Helfanda M, Schunemannc H, Oxmand A, Kunze R, Brozekc J, et al. GRADE guidelines: 3. Rating the quality of evidence. Journal of Clinical Epidemiology. 2011;64:e401-e4016.

24. Yazdankhah SP, Scheie AA, Høiby EA, Lunestad BT, Heir E, Fotland TØ, et al. Triclosan and antimicrobial resistance in bacteria: an overview. Microb Drug Resist. 2006;12(2):83-90.