

# **Neonatal infection (early onset): antibiotics for prevention and treatment (update)**

## **Search strategies**

*NICE guideline <number>*

*Search strategies*

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# 1. Scoping search strategies

## 1.1 Scoping searches

Scoping searches were undertaken on the following websites and databases (listed in alphabetical order) in July 2018 to provide information for scope development and project planning. Browsing or simple search strategies were employed.

Guidelines/website	Systematic review/economic evaluations
American Academy of Pediatrics	Campbell Collaboration
American College of Critical Care Medicine	Cochrane Database of Systematic Reviews (CDSR)
American College of Obstetricians and Gynecologists	Database of Abstracts of Reviews of Effects (DARE) – last updated April 2015
Australasian Society for Infectious Diseases	DUETS
BabyCentre	Health Technology Assessment (HTA) Database – last updated October 2016
BLISS – for babies born premature or sick	NHS Economic Evaluation Database (NHS EED) – last updated April 2015
British Association of Perinatal Medicine	NIHR Health Technology Assessment Programme
British HIV Association	NIHR Health Services and Delivery Research (HS&DR) Programme
Canadian Medical Association Infobase	PROSPERO
Canadian Paediatric Society	TRIP Database
Canadian Task Force on Preventive Health Care	
Care Quality Commission	
Centers for Disease Prevention and Control	
Core Outcome Measures in Effectiveness Trials (COMET)	
Department of Health & Social Care	
General Medical Council	
Group B Strep Support	
Guidelines & Audit Implementation Network (GAIN)	
Guidelines International Network (GIN)	
Healthcare Infection Society	
Healthcare Quality Improvement Partnership	
Healthtalk Online	
Infection Prevention Society	
Infectious Diseases Society of America	
Italian Society of Neonatology	
International Guideline Library	
Medicines and Products Regulatory Agency (MHRA)	
Meningitis Now	
National Audit Office	
National Clinical Audit and Patient Outcomes Programme	
National Health and Medical Research Council - Australia	
National Institute for Health and Care Excellence (NICE) - published & in development guidelines	
National Institute for Health and Care Excellence (NICE) - Topic Selection	

Guidelines/website	Systematic review/economic evaluations
National Prescribing Centre National Quality Board NHS Choices NHS Digital NHS England NHS Quality Improvement Scotland NICE Clinical Knowledge Summaries (CKS) NICE Evidence Search Office for National Statistics Patient Experience Library Patient UK PatientVoices Picker Institute Europe Public Health England Office for National Statistics Quality Health Race Equality Foundation Royal College of General Practitioners Royal College of Midwives Royal College of Nursing Royal College of Obstetricians and Gynaecologists Royal College of Paediatrics and Child Health Scottish Government Scottish Intercollegiate Guidelines Network (SIGN) Society of Obstetricians and Gynaecologists of Canada Surviving Sepsis Campaign Swiss Society of Neonatology UK Data Service UK National Screening Committee UK National Statistics US National Guideline Clearinghouse Welsh Government	

## 1.2 Main searches

Bibliographic databases searched for the guideline

- Cochrane Database of Systematic Reviews – CDSR (Wiley)
- Cochrane Central Register of Controlled Trials – CENTRAL (Wiley)
- Database of Abstracts of Reviews of Effects – DARE (CDSR)
- EMBASE (Ovid)
- Health Technology Assessment Database – HTA (CDSR)
- MEDLINE (Ovid)
- MEDLINE Epub Ahead of Print (Ovid)
- MEDLINE In-Process (Ovid)
- PsycINFO (Ovid)

### **1.3 Identification of evidence for review questions**

Ten searches were conducted between August 2018 and March 2020 for 13 review questions (RQ).

Searches were re-run in July 2020.

Where appropriate, in-house study design filters were used to limit the retrieval to, for example, randomised controlled trials. Details of the study design filters used can be found in section 3. Other filter or search strategies were used where appropriate to limit results.

Searches were limited to those in the English language. Animal studies were removed from results.

## 2. Review question search strategies

### 2.1 Search strategy review questions

RQ1.1: Which maternal and fetal risk factors for early-onset neonatal infection should be used to guide management in the baby?

RQ1.2: Which risk factors in the baby (including symptoms and signs) should raise suspicion of early-onset infection?

**Table 1: search strategy**

Medline Strategy, searched 28 <sup>th</sup> November 2019	
Database: Ovid MEDLINE(R) 1946 to November 26, 2019	
Search Strategy:	
1	exp Infant, Newborn/
2	Term Birth/
3	Infant Care/
4	Perinatal Care/
5	Intensive Care Units, Neonatal/
6	Intensive Care, Neonatal/
7	Infant Health/
8	(newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*).tw.
9	((premature or pre-mature* or preterm or pre-term) adj4 (child* or infant* or baby* or babies* or offspring)).tw.
10	or/1-9
11	exp Bacterial Infections/
12	((bacter* or strep* or staph* or GNB) adj4 (infect* or diseas* or contaminat* or mening* or pneumon* or nosocomial*)).tw.
13	exp Sepsis/
14	(sepsis or septic?emia* or py?emia* or pyho?emia*).tw.
15	(septic* adj4 shock*).tw.
16	or/11-15
17	exp Streptococcus/
18	exp Staphylococcus/
19	(streptococc* or staphylococc*).tw.
20	(GBS or MRSA or NRCS-A or MSSA).tw.
21	(met?icillin-resistant adj3 aureus).tw.
22	exp Escherichia coli/
23	((Escheric* or E) adj2 coli).tw.
24	exp Listeria/
25	listeria*.tw.
26	exp Klebsiella/
27	klebsiella*.tw.
28	exp Pseudomonas/
29	(pseudomonas or chryseomonas or flavimonas).tw.
30	Enterobacteriaceae/
31	(enterobact* or sodalis or paracolobactrum or ewingella or leclercia).tw.
32	((enteric or coliform) adj2 bac*).tw.
33	exp Neisseria/
34	neisseria*.tw.



**Medline Strategy, searched 28<sup>th</sup> November 2019**

**Database: Ovid MEDLINE(R) 1946 to November 26, 2019**

**Search Strategy:**

35 exp Haemophilus influenzae/  
36 ((h?emophil\* or H or bacter\* or bacill\* or mycobacter\* or coccobac\*) adj2 (influenz\* or pfeiffer\* or meningitidis)).tw.  
37 exp Serratia/  
38 serratia\*.tw.  
39 exp Cronobacter/  
40 (cronobact\* or sakazaki\* or malonatic\*).tw.  
41 exp Acinetobacter/  
42 (acinetobact\* or herellea\* or mima or baumanni\* or genomosp\* or calcoacetic\*).tw.  
43 exp Fusobacterium/  
44 (fusobact\* or sphaerophor\* or necrophorum or nucleatum).tw.  
45 exp Enterococcus/  
46 enterococc\*.tw.  
47 or/17-46  
48 16 or 47  
49 10 and 48  
50 ((newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*) adj4 infect\*).tw.  
51 ((premature or pre-mature\* or preterm or pre-term) adj4 (child\* or infant\* or baby\* or babies\* or offspring) adj4 infect\*).tw.  
52 50 or 51  
53 49 or 52  
54 (bacter?emia\* or bacill?emia\*).tw.  
55 (blood\* adj4 (infect\* or contamin\* or invas\* or invad\*)).tw.  
56 54 or 55  
57 10 and 56  
58 53 or 57  
59 Risk Assessment/mt [Methods]  
60 ((risk\* or predict\* or probab\* or prognos\* or quantitativ\*) adj2 (model\* or tool\* or algorithm\* or rul\*)).tw.  
61 (diagnos\* adj2 (model\* or algorithm\*)).tw.  
62 ((sepsis\* or septic\* or Bayes\* or EOS or LOS) adj4 calculator\*).tw.  
63 (NEOSC or EOSCAL\* or SRC).tw.  
64 (Kaiser adj2 Permanente).tw.  
65 (Kaiser adj10 calculator\*).tw.  
66 ((sepsis or septic\*) adj4 risk\* adj4 scor\*).tw.  
67 SRS.tw.  
68 ((sepsis\* or septic\*) adj4 (metascore\* or meta-score\*)).tw.  
69 Diagnosis, Computer-Assisted/  
70 Algorithms/  
71 ((computer\* or vital signs\* or math\* or manag\* or clinic\* or medic\* or stratif\* or prevent\* or therap\*) adj4 algorithm\*).tw.  
72 RALIS.tw.  
73 (computer\* adj4 (analys\* or template\*)).tw.  
74 Decision Support Techniques/  
75 (decision\* adj4 (aid\* or analys\* or support\* or assist\*)).tw.  
76 CDSS\*.tw.  
77 or/59-76  
78 58 and 77

**Medline Strategy, searched 28<sup>th</sup> November 2019**

**Database: Ovid MEDLINE(R) 1946 to November 26, 2019**

**Search Strategy:**

- 79 Animals/ not Humans/
- 80 78 not 79
- 81 limit 80 to english language

Note: *In-house RCT and systematic review filters were appended. A filter to remove studies relating to viruses was also used. The in-house observational study filter was used in combination with risk management terms. No date limit was used as these were new questions. Results relating to questions 5.1 and 5.2 were removed.*

## 2.2 Search strategy review question

RQ.1.3 - Which risk factors for early-onset neonatal infection in the mother, fetus and baby should be used to guide management?

RQ 5.3 - Which risk factors for late-onset neonatal infection in the mother and baby should be used to guide management?

**Table 2: search strategy**

**Medline Strategy, searched 14<sup>th</sup> August 2019**

**Database: Ovid MEDLINE(R) 1946 to August 12, 2019**

**Search Strategy:**

- 1 exp Infant, Newborn/
- 2 Term Birth/
- 3 Infant Care/
- 4 Perinatal Care/
- 5 Intensive Care Units, Neonatal/
- 6 Intensive Care, Neonatal/
- 7 Infant Health/
- 8 (newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*).tw.
- 9 ((premature or pre-mature\* or preterm or pre-term) adj4 (child\* or infant\* or baby\* or babies\* or offspring)).tw.
- 10 or/1-9
- 11 exp Bacterial Infections/
- 12 ((bacter\* or strep\* or staph\* or GNB) adj4 (infect\* or diseas\* or contaminat\* or mening\* or pneumon\* or nosocomial\*)).tw.
- 13 exp Sepsis/
- 14 (sepsis or septic?emia\* or py?emia\* or pyho?emia\*).tw.
- 15 (septic\* adj4 shock\*).tw.
- 16 or/11-15
- 17 exp Streptococcus/
- 18 exp Staphylococcus/
- 19 (streptococc\* or staphylococc\*).tw.
- 20 (GBS or MRSA or NRCS-A or MSSA).tw.
- 21 (met?icillin-resistant adj3 aureus).tw.
- 22 exp Escherichia coli/
- 23 ((Escheric\* or E) adj2 coli).tw.
- 24 exp Listeria/
- 25 listeria\*.tw.
- 26 exp Klebsiella/

**Medline Strategy, searched 14<sup>th</sup> August 2019**

**Database: Ovid MEDLINE(R) 1946 to August 12, 2019**

**Search Strategy:**

- 27 klebsiella\*.tw.
- 28 exp Pseudomonas/
- 29 (pseudomonas or chryseomonas or flavimonas).tw.
- 30 Enterobacteriaceae/
- 31 (enterobact\* or sodalis or paracolobactrum or ewingella or leclercia).tw.
- 32 ((enteric or coliform) adj2 bac\*).tw.
- 33 exp Neisseria/
- 34 neisseria\*.tw.
- 35 exp Haemophilus influenzae/
- 36 ((h?emophil\* or H or bacter\* or bacill\* or mycobacter\* or coccobac\*) adj2 (influenz\* or pfeiffer\* or meningitidis)).tw.
- 37 exp Serratia/
- 38 serratia\*.tw.
- 39 exp Cronobacter/
- 40 (cronobact\* or sakazaki\* or malonatic\*).tw.
- 41 exp Acinetobacter/
- 42 (acinetobact\* or herellea\* or mima or baumannii\* or genomosp\* or calcoacetic\*).tw.
- 43 exp Fusobacterium/
- 44 (fusobact\* or sphaerophor\* or necrophorum or nucleatum).tw.
- 45 exp Enterococcus/
- 46 enterococc\*.tw.
- 47 or/17-46
- 48 16 or 47
- 49 10 and 48
- 50 ((newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*) adj4 infect\*).tw.
- 51 ((premature or pre-mature\* or preterm or pre-term) adj4 (child\* or infant\* or baby\* or babies\* or offspring) adj4 infect\*).tw.
- 52 50 or 51
- 53 49 or 52
- 54 (bacter?emia\* or bacill?emia\*).tw.
- 55 (blood\* adj4 (infect\* or contamin\* or invas\* or invad\*)).tw.
- 56 54 or 55
- 57 10 and 56
- 58 53 or 57
- 59 Risk Assessment/mt [Methods]
- 60 ((risk\* or predict\* or probab\* or prognos\* or quantitativ\*) adj2 (model\* or tool\* or algorithm\* or rul\*)).tw.
- 61 (diagnos\* adj2 (model\* or algorithm\*)).tw.
- 62 ((sepsis\* or septic\* or Bayes\* or EOS or LOS) adj4 calculator\*).tw.
- 63 (NEOSC or EOSCAL\* or SRC).tw.
- 64 (Kaiser adj2 Permanente).tw.
- 65 (Kaiser adj10 calculator\*).tw.
- 66 ((sepsis or septic\*) adj4 risk\* adj4 scor\*).tw.
- 67 SRS.tw.
- 68 ((sepsis\* or septic\*) adj4 (metascore\* or meta-score\*)).tw.
- 69 Diagnosis, Computer-Assisted/
- 70 Algorithms/

**Medline Strategy, searched 14<sup>th</sup> August 2019**

**Database: Ovid MEDLINE(R) 1946 to August 12, 2019**

**Search Strategy:**

- 71 ((computer\* or vital signs\* or math\* or manag\* or clinic\* or medic\* or stratif\* or prevent\* or therap\*) adj4 algorithm\*).tw.
- 72 RALIS.tw.
- 73 (computer\* adj4 (analys\* or template\*)).tw.
- 74 Decision Support Techniques/
- 75 (decision\* adj4 (aid\* or analys\* or support\* or assist\*)).tw.
- 76 CDSS\*.tw.
- 77 or/59-76
- 78 58 and 77
- 79 Animals/ not Humans/
- 80 78 not 79
- 81 limit 80 to english language

*Note: No date limit was used as these were new questions.*

## 2.3 Search strategy review question

RQ2.1: What is the clinical and cost effectiveness of intrapartum antibiotic prophylaxis for preventing early-onset neonatal infection?

**Table 3: search strategy**

**Medline Strategy, searched 13<sup>th</sup> December 2019**

**Database: Ovid MEDLINE(R) 1946 to December 04, 2019**

**Search Strategy:**

- 1 exp Infant, Newborn/
- 2 Term Birth/
- 3 Infant Care/
- 4 Perinatal Care/
- 5 Intensive Care Units, Neonatal/
- 6 Intensive Care, Neonatal/
- 7 Infant Health/
- 8 (newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*).tw.
- 9 ((premature\* or pre-mature\* or preterm\* or pre-term\*) adj4 (child\* or infant\* or baby\* or babies\* or offspring)).tw.
- 10 or/1-9
- 11 exp Bacterial Infections/
- 12 ((bacter\* or strep\* or staph\* or GNB) adj4 (infect\* or diseas\* or contaminat\* or mening\* or pneumon\* or nosocomial\*)).tw.
- 13 exp Sepsis/
- 14 (sepsis or septic?emia\* or py?emia\* or pyho?emia\*).tw.
- 15 (septic\* adj4 shock\*).tw.
- 16 (bacter?emia\* or bacill?emia\*).tw.
- 17 (blood\* adj4 (infect\* or contamin\* or invas\* or invad\*)).tw.
- 18 or/11-17
- 19 exp Streptococcus/
- 20 exp Staphylococcus/
- 21 (streptococc\* or staphylococc\*).tw.
- 22 (GBS or MRSA or NRCS-A or MSSA).tw.
- 23 (met?icillin-resistant adj3 aureus).tw.

**Medline Strategy, searched 13<sup>th</sup> December 2019**

**Database: Ovid MEDLINE(R) 1946 to December 04, 2019**

**Search Strategy:**

24 exp Escherichia coli/  
25 ((Escheric\* or E) adj2 coli).tw.  
26 exp Listeria/  
27 listeria\*.tw.  
28 exp Klebsiella/  
29 klebsiella\*.tw.  
30 exp Pseudomonas/  
31 (pseudomonas or chryseomonas or flavimonas).tw.  
32 Enterobacteriaceae/  
33 (enterobact\* or sodalis or paracolobactrum or ewingella or leclercia).tw.  
34 ((enteric or coliform) adj2 bac\*).tw.  
35 exp Neisseria/  
36 neisseria\*.tw.  
37 exp Haemophilus influenzae/  
38 ((h?emophil\* or H or bacter\* or bacill\* or mycobacter\* or coccobac\*) adj2 (influenz\* or pfeiffer\* or meningitidis)).tw.  
39 exp Serratia/  
40 serratia\*.tw.  
41 exp Cronobacter/  
42 (cronobact\* or sakazaki\* or malonatic\*).tw.  
43 exp Acinetobacter/  
44 (acinetobact\* or herellea\* or mima or baumanni\* or genomosp\* or calcoacetic\*).tw.  
45 exp Fusobacterium/  
46 (fusobact\* or sphaerophor\* or necrophorum or nucleatum).tw.  
47 exp Enterococcus/  
48 enterococc\*.tw.  
49 or/19-48  
50 18 or 49  
51 10 and 50  
52 ((newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*) adj4 infect\*).tw.  
53 ((premature\* or pre-mature\* or preterm\* or pre-term\*) adj4 (child\* or infant\* or baby\* or babies\* or offspring) adj4 infect\*).tw.  
54 52 or 53  
55 51 or 54  
56 Antibiotic Prophylaxis/  
57 ((antibacter\* or anti-bacter\* or antibiotic\* or anti-biotic\* or antimycobact\* or anti-mycobact\* or bacteriocid\* or bacteriostat\*) and (prophyla\* or premedic\* or pre-medic\* or prevent\*).tw.  
58 56 or 57  
59 exp Anti-Bacterial Agents/  
60 exp Penicillins/  
61 penicillin\*.tw.  
62 (benzylpenicillin\* or crystapen\* or bicillin\* or triplopen\* or pentids\* or pfizerpen\*).tw.  
63 (amox?cillin\* or hydroxyamp?cillin\* or almodan\* or amix\* or amopen\* or amoram\* or amoxidant\* or amoxidin\* or amoxil\* or amoxymed\* or amrit\* or flemoxin\* or galenamox\* or rimoxallin\* or amiclav\* or augmentin\* or heliclear\* or amoxiclav\* or biomox\* or DisperMox\* or larotid\* or moxatag\* or polymox\* or trimox\* or wymox\* or amoclan\* or omeclamox\* or prevpac\*).tw.

**Medline Strategy, searched 13<sup>th</sup> December 2019**

**Database: Ovid MEDLINE(R) 1946 to December 04, 2019**

**Search Strategy:**

- 64 (ampicillin\* or KS-R1 or aminobenzylpenicillin\* or amfipen\* or flu-amp\* or magnapen\* or penbritin\* or rimacillin\* or vidopen\* or ampiclox\* or dicapen\* or D-Amp\* or marcillin\* or omnipen\* or polycillin\* or principen\* or totacillin\* or unasyn\*).tw.
- 65 Teicoplanin/
- 66 (teicoplanin\* or teichom?cin\* or targocid\*).tw.
- 67 Clindamycin/
- 68 (clindam?cin\* or dalacin\* or zindaclin\* or Duac or refobacin\* or treclin\* or cleocin\* or Clinda-Derm\* or ClindaMax\* or clindagel\* or clindesse\* or clindets\* or evoclin\* or acanya\* or benzaclin\* or clindacin\* or onexton\* or PledgaClin\* or veltin\* or ziana\*).tw.
- 69 (azithrom?cin\* or azyter\* or clamelle\* or zedbac\* or zithromax\* or AzaSite\* or zmax\*).tw.
- 70 exp Cephalosporins/
- 71 (cephalosporin\* or cephalosporanic\* or cepham?cin\*).tw.
- 72 (cefamandole\* or kefadol\* or mandol\*).tw.
- 73 (cefazolin\* or kefzol\* or ancef\* or zolicef\*).tw.
- 74 (cefepim\* or renapime\* or maxipime\*).tw.
- 75 (cefsulodin\* or monaspor\*).tw.
- 76 (ceftibuten\* or cedax\*).tw.
- 77 (cefuroxime\* or cephaloxime\* or aprokam\* or ximaract\* or zinacef\* or zinnat\* or ceftin\* or kefurox\*).tw.
- 78 (cefotaxim\* or cephotaxim\* or cefizox\*).tw.
- 79 (cefixime\* or suprax\*).tw.
- 80 (ceftizoxime\* or cefizox\*).tw.
- 81 (cef?triaxon\* or rocephin\*).tw.
- 82 (cephalothin\* or cefalotin\* or keflin\*).tw.
- 83 (cefalexin\* or cephalixin\* or ceporex\* or keflex\* or kiflone\* or biocef\* or cefanex\* or keflet\* or keftab\* or zartan\*).tw.
- 84 (cefaclor\* or bacticlor\* or distaclor\* or keftid\* or ceclor\* or raniclor\*).tw.
- 85 (cefadroxil\* or cephadroxyl\* or baxan\* or duricef\* or ultracef\*).tw.
- 86 (cefradine\* or cephradine\* or nicef\* or velosef\* or anspor\*).tw.
- 87 (ceftazidime\* or fortum\* or kefadim\* or zavicefta\* or ceptaz\* or fortaz\* or tazicef\* or tazidime\*).tw.
- 88 (cefoxitin\* or mefoxin\* or renoxitin\*).tw.
- 89 (ceftaroline\* or zinforo\* or teflaro\*).tw.
- 90 exp Erythromycin/
- 91 (erythrom?cin\* or arpm?cin\* or eryacne\* or erycen\* or erymax\* or erymin\* or erythrocin\* or erythrolar\* or erythromid\* or erythroped\* or ilosone\* or retcin\* or rommix\* or ronmix\* or stiem?cin\* or tiloryth\* or aknem?cin\* or benzam?cin\* or isotrexin\* or zineryt\* or Ak-Mycin\* or Akne-Mycin\* or Del-Mycin\* or E-Base or E-Mycin or emgel\* or eram?cin\* or Ery-Tab\* or Ery-sol\* or eryc or erycette\* or eryderm\* or erygel\* or erymax\* or eryped\* or Erythra-Derm\* or ilot?cin\* or pediam?cin\* or robim?cin\* or rom?cin\* or staticin or T-Stat or theram?cin\* or wyam?cin\* or aktipak\* or eryzole\* or pediazole\*).tw.
- 92 (clarithrom?cin\* or clarosip\* or febzin\* or klaricid\* or mycifor\* or HeliMet\* or heliclear\* or biaxin\* or omeclamox-pak\* or prevpac\* or clarie xl\* or xetinin xl\*).tw.
- 93 Metronidazole/
- 94 (metronidazole\* or acea\* or anabact\* or elyzol\* or flagyl\* or metrogel\* or metrolyl\* or metrosa\* or metrotop\* or metrozol\* or nidazol\* or noritate\* or norzol\* or rosiced\* or rozex\* or vaginyl\* or zadstat\* or zidoval\* or zyomet\* or entamizole\*).tw.
- 95 Vancomycin/

**Medline Strategy, searched 13<sup>th</sup> December 2019**

**Database: Ovid MEDLINE(R) 1946 to December 04, 2019**

**Search Strategy:**

- 96 (vancom?cin\* or vancocin\* or firvanq\* or lyphocin\* or vancocin\* or vancoled\*).tw.
- 97 (azlocillin\* or secuopen\* or azlin\*).tw.
- 98 (mezlocillin\* or baypen\* or mezlin\*).tw.
- 99 (piperacillin\* or pipril\* or tazocin\* or pipracil\* or zosyn\*).tw.
- 100 (pivampicillin\* or pondocillin\* or miraxid\*).tw.
- 101 (talampicillin\* or talpen\*).tw.
- 102 (carbenicillin\* or pyopen\* or geopen\*).tw.
- 103 (carfecillin\* or uticillin\*).tw.
- 104 (flucloxacillin\* or floxacillin\* or fluorochloroxacillin\* or floxapen\* or fluclomix\* or galfloxin\* or ladropen\* or stafoxil\* or staphlipen\* or zoxin\*).tw
- 105 exp Glycopeptides/
- 106 (glycopeptide\* or lipoglycopeptide\*).tw.
- 107 exp Aminoglycosides/
- 108 aminoglycoside\*.tw.
- 109 (gentamicin\* or gentamycin\* or gentacycol\* or G-Myticin\* or GMyticin\*).tw.
- 110 (cidom?cin\* or garam?cin\* or genticin\* or lugacin\* or collatamp\* or refobacin\* or septocoll\* or septopal\* or vipsogal\* or genoptic\* or gentacidin\* or gentafair\* or gentak\* or gentasol\* or gentrasul\* or jenam?cin\* or Ocu-Myacin\*).tw.
- 111 (amikacin\* or amikin\* or arikayce\*).tw.
- 112 (tobram?cin\* or bramitob\* or nebcin\* or Tobi or tobralex\* or tobravisc\* or vantobra\*).tw.
- 113 exp Carbapenems/
- 114 carbapenem\*.tw.
- 115 (meropenem\* or meronem\* or merrem\* or vabomere\*).tw.
- 116 (bleom?cin\* or Bleo or blenoxane\*).tw.
- 117 or/59-116
- 118 Pre-Exposure Prophylaxis/
- 119 Post-Exposure Prophylaxis/
- 120 Preventive Medicine/
- 121 Primary Prevention/
- 122 Secondary Prevention/
- 123 Tertiary Prevention/
- 124 (prophyla\* or premedic\* or pre-medic\* or prevent\*).tw.
- 125 or/118-124
- 126 117 and 125
- 127 58 or 126
- 128 55 and 127
- 129 Animals/ not Humans/
- 130 128 not 129
- 131 limit 130 to english language

*Note: No date limit was used as this is a new question.*

## 2.4 Search strategy review question

RQ3.1: What is the clinical and cost effectiveness of immediate delivery versus expectant management for women between 34- and 37- weeks gestation with preterm prelabour prolonged rupture of membranes and vaginal or urine group B streptococcus colonisation to reduce the risk of neonatal infection?

**Table 4: search strategy**

Medline Strategy, searched 2 <sup>nd</sup> August 2019	
Database: Ovid MEDLINE(R) <1946 to August 01, 2019>	
Search Strategy:	
1	exp Infant, Newborn/
2	Term Birth/
3	Infant Care/
4	Perinatal Care/
5	Intensive Care Units, Neonatal/
6	Intensive Care, Neonatal/
7	Infant Health/
8	(newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*).tw.
9	((premature or pre-mature* or preterm or pre-term) adj4 (child* or infant* or baby* or babies* or offspring)).tw.
10	or/1-9
11	exp Bacterial Infections/
12	((bacter* or strep* or staph* or GNB) adj4 (infect* or diseas* or contaminat* or mening* or pneumon* or nosocomial*)).tw.
13	exp Sepsis/
14	(sepsis or septic?emia* or py?emia* or pyho?emia*).tw.
15	(septic* adj4 shock*).tw.
16	or/11-15
17	exp Streptococcus/
18	exp Staphylococcus/
19	(streptococc* or staphylococc*).tw.
20	(GBS or MRSA or NRCS-A or MSSA).tw.
21	(met?icillin-resistant adj3 aureus).tw.
22	exp Escherichia coli/
23	((Escheric* or E) adj2 coli).tw.
24	exp Listeria/
25	listeria*.tw.
26	exp Klebsiella/
27	klebsiella*.tw.
28	exp Pseudomonas/
29	(pseudomonas or chryseomonas or flavimonas).tw.
30	Enterobacteriaceae/
31	(enterobact* or sodalis or paracolobactrum or ewingella or leclercia).tw.
32	((enteric or coliform) adj2 bac*).tw.
33	exp Neisseria/
34	neisseria*.tw.
35	exp Haemophilus influenzae/
36	((h?emophil* or H or bacter* or bacill* or mycobacter* or coccobac*) adj2 (influenz* or pfeiffer* or meningitidis)).tw.
37	exp Serratia/
38	serratia*.tw.
39	exp Cronobacter/
40	(cronobact* or sakazaki* or malonatic*).tw.
41	exp Acinetobacter/
42	(acinetobact* or herellea* or mima or baumanni* or genomosp* or calcoacetic*).tw.
43	exp Fusobacterium/
44	(fusobact* or sphaerophor* or necrophorum or nucleatum).tw.



**Medline Strategy, searched 2<sup>nd</sup> August 2019**

**Database: Ovid MEDLINE(R) <1946 to August 01, 2019>**

**Search Strategy:**

```
45  exp Enterococcus/
46  enterococc*.tw.
47  or/17-46
48  16 or 47
49  10 and 48
50  ((newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*) adj4 infect*).tw.
51  ((premature or pre-mature* or preterm or pre-term) adj4 (child* or infant* or baby* or
babies* or offspring) adj4 infect*).tw.
52  50 or 51
53  49 or 52
54  exp Fetal Membranes, Premature Rupture/
55  ((preterm* or pre-term* or premature* or pre-mature* or prelabor* or pre-labor* or pre)
adj4 (ruptur* or membrane* or disrupt* or erupt* or sever or severed or tear* or breach*).tw.
56  (prom or proms or pprom*).tw.
57  or/54-56
58  53 and 57
59  limit 58 to english language
60  animals/ not humans/
61  59 not 60
```

*Note: In-house RCT and systematic review filters were appended. No date limit was used as this is a new question.*

## 2.5 Search strategy review question

RQ4.1. What information and support should be provided for parents and carers of babies with suspected or confirmed late-onset neonatal infection?

**Table 5: search strategy**

**Medline Strategy, searched 12<sup>th</sup> March 2020**

**Database: Ovid MEDLINE(R) 1946 to March 09, 2020**

**Search Strategy:**

```
1  exp Infant, Newborn/
2  Term Birth/
3  Infant Care/
4  Perinatal Care/
5  Intensive Care Units, Neonatal/
6  Intensive Care, Neonatal/
7  Infant Health/
8  (newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*).tw.
9  ((premature* or pre-mature* or preterm* or pre-term*) adj4 (child* or infant* or baby* or
babies* or offspring)).tw.
10 or/1-9
11 exp Bacterial Infections/
12 ((bacter* or strep* or staph* or GNB) adj4 (infect* or diseas* or contaminat* or mening* or
pneumon* or nosocomial*).tw.
13 exp Sepsis/
14 (sepsis or septic?emia* or py?emia* or pyho?emia*).tw.
15 (septic* adj4 shock*).tw.
```

**Medline Strategy, searched 12<sup>th</sup> March 2020**

**Database: Ovid MEDLINE(R) 1946 to March 09, 2020**

**Search Strategy:**

- 16 (bacter?emia\* or bacill?emia\*).tw.
- 17 (blood\* adj4 (infect\* or contamin\* or invas\* or invad\*)).tw.
- 18 or/11-17
- 19 exp Streptococcus/
- 20 exp Staphylococcus/
- 21 (streptococc\* or staphylococc\*).tw.
- 22 (GBS or MRSA or NRCS-A or MSSA).tw.
- 23 (met?icillin-resistant adj3 aureus).tw.
- 24 exp Escherichia coli/
- 25 (((Escheric\* or E) adj2 coli) or ecoli\*).tw.
- 26 exp Listeria/
- 27 listeria\*.tw.
- 28 exp Klebsiella/
- 29 klebsiella\*.tw.
- 30 exp Pseudomonas/
- 31 (pseudomonas or chryseomonas or flavimonas).tw.
- 32 Enterobacteriaceae/
- 33 (enterobact\* or sodalis or paracolobactrum or ewingella or leclercia).tw.
- 34 ((enteric or coliform) adj2 bac\*).tw.
- 35 exp Neisseria/
- 36 neisseria\*.tw.
- 37 exp Haemophilus influenzae/
- 38 ((h?emophil\* or H or bacter\* or bacill\* or mycobacter\* or coccobac\*) adj2 (influenz\* or pfeiffer\* or meningitidis)).tw.
- 39 exp Serratia/
- 40 serratia\*.tw.
- 41 exp Cronobacter/
- 42 (cronobact\* or sakazaki\* or malonatic\*).tw.
- 43 exp Acinetobacter/
- 44 (acinetobact\* or herellea\* or mima or baumanni\* or genomosp\* or calcoacetic\*).tw.
- 45 exp Fusobacterium/
- 46 (fusobact\* or sphaerophor\* or necrophorum or nucleatum).tw.
- 47 exp Enterococcus/
- 48 enterococc\*.tw.
- 49 or/19-48
- 50 18 or 49
- 51 10 and 50
- 52 ((newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*) adj4 infect\*).tw.
- 53 ((premature\* or pre-mature\* or preterm\* or pre-term\*) adj4 (child\* or infant\* or baby\* or babies\* or offspring) adj4 infect\*).tw.
- 54 52 or 53
- 55 51 or 54
- 56 Parental Notification/
- 57 exp Third-Party Consent/
- 58 exp Parents/ed, lj
- 59 Caregivers/ed, lj
- 60 Family/ed, lj
- 61 Grandparents/ed, lj

**Medline Strategy, searched 12<sup>th</sup> March 2020**

**Database: Ovid MEDLINE(R) 1946 to March 09, 2020**

**Search Strategy:**

62 exp Legal Guardians/ed, lj  
63 Professional Family Relations/  
64 ((parent\* or famil\* or carer\* or caregiv\* or care-giv\* or spous\* or husband\* or wife\* or wive\* or mother\* or father\* or dad\* or mum\* or mom\* or stepparent\* or stepfather\* or stepmother\* or stepm?m\* or stepdad\* or guardian\* or grandparent\* or grandm\* or grandad\* or grandfather\* or third-part\* or stepfamil\*) adj4 (inform\* or support\* or consent\* or approv\* or assent\* or acquiesc\* or authori?e\* or permiss\* or permit\* or sanction\* or accord or accords or notif\* or disclos\* or involv\* or engag\* or advocat\* or represent\* or knowledge\* or recommend\* or accept\* or nonaccept\* or utiliz\* or utilis\* or comply\* or complian\* or adher\* or accede\*)).tw.  
65 ((parent\* or famil\* or carer\* or caregiv\* or care-giv\* or spous\* or husband\* or wife\* or wive\* or mother\* or father\* or dad\* or mum\* or mom\* or stepparent\* or stepfather\* or stepmother\* or stepm?m\* or stepdad\* or guardian\* or grandparent\* or grandm\* or grandad\* or grandfather\* or third-part\* or stepfamil\*) adj4 (advice\* or advis\* or material\* or litera\* or help\* or assist\* or network\* or workshop\* or work-shop\* or group\* or association\* or organi?ation\* or forum\* or program\* or service\* or exchang\* or meeting\* or discuss\*)).tw.  
66 ((professional\* or practitioner\*) adj4 (parent\* or famil\* or carer\* or caregiv\* or care-giv\* or spous\* or husband\* or wife\* or wive\* or mother\* or father\* or dad\* or mum\* or mom\* or stepparent\* or stepfather\* or stepmother\* or stepm?m\* or stepdad\* or guardian\* or grandparent\* or grandm\* or grandad\* or grandfather\* or third-part\* or stepfamil\*) adj4 (relations\* or associate\*)).tw.  
67 or/56-66  
68 exp Parents/  
69 Family/  
70 Caregivers/  
71 Grandparents/  
72 exp Legal Guardians/  
73 (parent\* or famil\* or carer\* or caregiv\* or care-giv\* or spous\* or husband\* or wife\* or wive\* or mother\* or father\* or dad\* or mum\* or mom\* or stepparent\* or stepfather\* or stepmother\* or stepm?m\* or stepdad\* or guardian\* or grandparent\* or grandm\* or grandad\* or grandfather\* or third-part\* or stepfamil\*).tw.  
74 or/68-73  
75 exp Patient Acceptance of Health Care/  
76 exp Attitude to Health/  
77 exp Patient Compliance/  
78 exp Social Support/  
79 Friends/  
80 Interpersonal Relations/  
81 exp Peer Group/  
82 exp Social Networking/  
83 exp Consumer Health Information/  
84 Information Dissemination/  
85 exp Information Literacy/  
86 Health Promotion/  
87 exp Professional-Patient Relations/  
88 (information\* or communicat\* or advice\* or advis\* or support\*).ti.  
89 ((patient\* or peer\* or health\* or medic\* or consumer\*) adj4 (inform\* or support\* or advice\* or advis\* or knowledge\* or material\* or litera\*)).tw.

**Medline Strategy, searched 12<sup>th</sup> March 2020**

**Database: Ovid MEDLINE(R) 1946 to March 09, 2020**

**Search Strategy:**

- 90 (patient\* adj4 (consent\* or approv\* or assent\* or acquiesc\* or authori?e\* or permiss\* or permit\* or sanction\* or accord or accords or notif\* or disclos\* or involv\* or engag\* or advocat\* or represent\* or recommend\* or accept\* or nonaccept\* or utiliz\* or utilis\* or comply\* or complian\* or adher\* or accede\*)).tw.
- 91 ((information\* or advice\* or advis\* or support\* or help\* or assist\* or litera\*) adj4 (need\* or demand\* or right\* or oblig\* or use\* or using\* or desir\* or requir\* or expect\* or suggest\* or disseminat\* or distribut\* or provision\*)).tw.
- 92 ((information\* or advice\* or advis\* or help\* or assist\* or litera\*) adj4 support\*).tw.
- 93 ((psych\* or emot\* or mental\* or sentiment\*) adj4 (support\* or help\* or advice\* or advis\* or assist\* or workshop\* or work-shop\*)).tw.
- 94 ((friend\* or buddy\* or buddies\* or befriend\* or be-friend\* or companion\*) adj4 (support\* or help\* or advice\* or advis\* or assist\* or network\* or workshop\* or work-shop\*)).tw.
- 95 ((patient\* or support\* or consumer\* or social\*) adj4 (group\* or association\* or organi?ation\* or network\* or forum\* or program\* or workshop\* or work-shop\*)).tw.
- 96 ((peer\* or communit\* or volunteer\* or voluntary\* or social\*) adj4 (group\* or support\* or network\* or service\* or program\* or forum\* or workshop\* or work-shop\* or exchange\* or meeting\* or discuss\*)).tw.
- 97 ((health\* or well-ness\* or wellness\* or well-being\* or wellbeing\* or resilien\* or coping\*) adj4 (promot\* or campaign\* or advocat\* or encourag\* or improv\* or workshop\* or work-shop\* or strateg\*)).tw.
- 98 ((helpseek\* or seek\* or search\*) adj4 (support\* or help\* or advice\* or advis\* or assist\* or help\*)).tw.
- 99 (selfhelp\* or self-help\* or selfmanag\* or self-manag\* or self-support\* or selfsupport\*).tw.
- 100 ((professional\* or practitiioner\*) adj4 patient\* adj4 (relations\* or associate\*)).tw.
- 101 Health Education/  
102 Patient Education as Topic/  
103 (educat\* or learn\* or teach\* or instruct\* or taught\* or train or training\*).tw.  
104 or/75-103  
105 74 and 104  
106 patient education handout.pt.  
107 Pamphlets/  
108 (booklet\* or leaflet\* or pamphlet\* or brochure\* or handout\* or hand-out\*).tw.  
109 exp Computers/  
110 exp Computer Communication Networks/  
111 Computer Assisted Instruction/  
112 exp User-Computer Interface/  
113 Therapy, Computer-Assisted/  
114 Cloud Computing/  
115 exp Online Systems/  
116 Mobile Applications/  
117 Medical Informatics Applications/  
118 (online or web or internet or digital\*).ti.  
119 (app or apps).tw.  
120 ((internet\* or web or cloud\* or digital\* or online\*) adj3 (base\* or comput\* or process\* or stor\* or system\* or application\* or intervention\* or program\* or therap\* or forum\* or tablet\*)).tw.  
121 ((laptop\* or palm\* or handheld\* or tablet\* or pda or pc) adj2 comput\*).tw.  
122 (email\* or e-mail\* or electronic mail\*).tw.

**Medline Strategy, searched 12<sup>th</sup> March 2020**

**Database: Ovid MEDLINE(R) 1946 to March 09, 2020**

**Search Strategy:**

123 Search Engine/  
 124 (search\* adj2 engine\*).tw.  
 125 exp Telephone/  
 126 Hotlines/  
 127 (telephon\* or helpline\* or help-line\* or hotline\* or hot-line\* or cellphone\* or texting\* or phone or phones\* or smartphone\* or smartwatch\*).tw.  
 128 ((text\* or audio\* or multimedia\* or multi-media\* or insttant\* or pictur\*) adj2 messag\*).tw.  
 129 (mobile health\* or mhealth\* or m-health\* or ehealth\* or e-health\* or emental\* or e-mental\*).tw.  
 130 (mobile\* adj3 (base\* or application\* or intervention\* or device\* or technolog\* or tablet\*)).tw.  
 131 exp Audiovisual Aids/  
 132 (audiovisual\* or audio-visual\*).tw.  
 133 (visual\* adj2 aid\*).tw.  
 134 (radio or radios or television\* or DVD\* or blu-ray\* or VHS\* or video\*).tw.  
 135 exp Communications Media/  
 136 ((communication\* or transmiss\* or transmit\* or social\*) adj4 media\*).tw.  
 137 (Facebook\* or Twitter\* or WhatsApp\* or Snapchat\* or LinkedIn\* or Instagram\* or YouTube\* or Wikipedia\* or Reddit\*).tw.  
 138 (telecommunicat\* or teleconference\*).tw.  
 139 (tele\* adj2 (communicat\* or conference\*)).tw.  
 140 Blogging/  
 141 (blog\* or vlog\*).tw.  
 142 or/106-141  
 143 67 or 105 or 142  
 144 55 and 143  
 145 Animals/ not Humans/  
 146 144 not 145  
 147 limit 146 to english language

*Note: No date limit was used as this was a new question.*

## 2.6 Search strategy review question

RQ5.1 Which maternal risk factors for late-onset neonatal infection should be used to guide management in the baby?

RQ5.2 Which risk factors in the baby (including symptoms and signs) should raise suspicion of late-onset infection?

**Table 6: search strategy**

**Medline Strategy, searched 23<sup>rd</sup> September 2019**

**Database: Ovid MEDLINE(R) 1946 to September 19, 2019**

**Search Strategy:**

1 exp Infant, Newborn/  
 2 Term Birth/  
 3 Infant Care/

**Medline Strategy, searched 23<sup>rd</sup> September 2019**

**Database: Ovid MEDLINE(R) 1946 to September 19, 2019**

**Search Strategy:**

- 4 Perinatal Care/
- 5 Intensive Care Units, Neonatal/
- 6 Intensive Care, Neonatal/
- 7 Infant Health/
- 8 (newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*).tw.
- 9 ((premature or pre-mature\* or preterm or pre-term) adj4 (child\* or infant\* or baby\* or babies\* or offspring)).tw.
- 10 or/1-9
- 11 exp Bacterial Infections/
- 12 ((bacter\* or strep\* or staph\* or GNB) adj4 (infect\* or diseas\* or contaminat\* or mening\* or pneumon\* or nosocomial\*)).tw.
- 13 exp Sepsis/
- 14 (sepsis or septic?emia\* or py?emia\* or pyho?emia\*).tw.
- 15 (septic\* adj4 shock\*).tw.
- 16 (bacter?emia\* or bacill?emia\*).tw.
- 17 (blood\* adj4 (infect\* or contamin\* or invas\* or invad\*)).tw.
- 18 or/11-17
- 19 exp Streptococcus/
- 20 exp Staphylococcus/
- 21 (streptococc\* or staphylococc\*).tw.
- 22 (GBS or MRSA or NRCS-A or MSSA).tw.
- 23 (met?icillin-resistant adj3 aureus).tw.
- 24 exp Escherichia coli/
- 25 ((Escheric\* or E) adj2 coli).tw.
- 26 exp Listeria/
- 27 listeria\*.tw.
- 28 exp Klebsiella/
- 29 klebsiella\*.tw.
- 30 exp Pseudomonas/
- 31 (pseudomonas or chryseomonas or flavimonas).tw.
- 32 Enterobacteriaceae/
- 33 (enterobact\* or sodalis or paracolobactrum or ewingella or leclercia).tw.
- 34 ((enteric or coliform) adj2 bac\*).tw.
- 35 exp Neisseria/
- 36 neisseria\*.tw.
- 37 exp Haemophilus influenzae/
- 38 ((h?emophil\* or H or bacter\* or bacill\* or mycobacter\* or coccobac\*) adj2 (influenz\* or pfeiffer\* or meningitidis)).tw.
- 39 exp Serratia/
- 40 serratia\*.tw.
- 41 exp Cronobacter/
- 42 (cronobact\* or sakazaki\* or malonatic\*).tw.
- 43 exp Acinetobacter/
- 44 (acinetobact\* or herellea\* or mima or baumanni\* or genomosp\* or calcoacetic\*).tw.
- 45 exp Fusobacterium/
- 46 (fusobact\* or sphaerophor\* or necrophorum or nucleatum).tw.
- 47 exp Enterococcus/
- 48 enterococc\*.tw.

**Medline Strategy, searched 23<sup>rd</sup> September 2019**

**Database: Ovid MEDLINE(R) 1946 to September 19, 2019**

**Search Strategy:**

- 49 or/19-48
- 50 18 or 49
- 51 10 and 50
- 52 ((newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*) adj4 infect\*).tw.
- 53 ((premature or pre-mature\* or preterm or pre-term) adj4 (child\* or infant\* or baby\* or babies\* or offspring) adj4 infect\*).tw.
- 54 52 or 53
- 55 51 or 54
- 56 ((previous or preceding or earlier or prior or antecedent) adj4 (child\* or infant\* or baby\* or babies\* or offspring or delivery or deliveries)).tw.
- 57 ((later or next or succeeding) adj4 (child\* or infant\* or baby\* or babies\* or offspring or delivery or deliveries)).tw.
- 58 (Infectious Disease Transmission, Vertical/ or Carrier State/) and (Streptococcal Infections/ or Methicillin-Resistant Staphylococcus aureus/)
- 59 ((vertical\* or maternal\* or mother\* or mum\* or mom\* or parental\* or fetomaternal\* or fetomaternal\* or woman\* or women\* or pregnan\* or gestat\* or parturition\* or birth\* or childbirth\* or labo?r\*) adj4 (GBS\* or group B\* or MRSA\* or met?icillin-resist\*) adj4 (transmission\* or transmit\* or transfer\* or infect\* or diseas\* or contaminat\* or coloni?ation\* or contagio\* or bacteriuria\* or carrier\* or carriage or heterozygo\*)).tw.
- 60 exp Pregnancy, Multiple/
- 61 ((multiple or twin or triplet or quadruplet or quintuplet or superfetation) adj4 (pregnan\* or gestat\* or parturition\* or birth\* or childbirth\* or labo?r\* or delivery or deliveries)).tw.
- 62 Wound Infection/
- 63 (wound\* adj4 (infect\* or diseas\* or contaminat\* or coloni?ation\* or contagio\* or sepsis)).tw.
- 64 Postpartum Period/
- 65 (postpartum or post-partum or puerperium or puerperal).tw.
- 66 ((perineal or perineum) adj4 (infect\* or diseas\* or contaminat\* or coloni?ation\* or contagio\*)).tw.
- 67 exp Obesity/
- 68 ((obesity or obese or overweight or over-weight) adj8 risk\*).tw.
- 69 exp Hygiene/
- 70 exp Sanitation/
- 71 (hygien\* or saniti?e\* or sanitation\* or sanitary\*).tw.
- 72 exp Maternal Behavior/
- 73 ((behavio?r\* or attitud\*) adj4 (factor\* or aspect\* or consider\* or circumstanc\* or component\* or influenc\* or feature\*)).tw.
- 74 Illness Behavior/
- 75 ((alter\* or chang\* or illness\*) adj4 (behavio?r\* or respons\* or feedback\*) adj8 risk\*).tw.
- 76 Muscle Hypotonia/
- 77 (flop\* or flaccid\* or hypoton\* or hypomyotoni\*).tw.
- 78 ((alter\* or chang\* or poor\* or decreas\* or atonic\* or feeble or insuffic\* or meag\* or weak\* or unsatisfact\* or imperfect\* or impair\* or declin\* or reduc\* or diminish\*) adj4 musc\*).tw.
- 79 Feeding Behavior/
- 80 ((feed\* or bottle\* or breast\*) adj4 (behavio?r\* or difficult\* or refus\* or intoleran\* or declin\* or ignor\* or withdraw\* or problem\*)).tw.
- 81 exp Vomiting/
- 82 (vomit\* or emesis\*).tw.
- 83 ((gastric\* or nasogastric\* or naso-gastric\*) adj4 (aspirat\* or suction\*)).tw.

**Medline Strategy, searched 23<sup>rd</sup> September 2019**

**Database: Ovid MEDLINE(R) 1946 to September 19, 2019**

**Search Strategy:**

- 84 (abdom?n\* adj4 disten\*).tw.
- 85 Arrhythmias, Cardiac/ or Atrial Fibrillation/ or Atrial Flutter/ or Cardiac Complexes, Premature/ or Parasystole/ or Ventricular Fibrillation/ or Ventricular Flutter/
- 86 (arrhythmia\* or dysrhythmia\*).tw.
- 87 ((abnormal\* or anomal\* or atypical\* or irregular\* or uncommon\* or unexpect\*) adj4 (heart\* or cardiac\* or vascular\*) adj2 (rate\* or pace\* or measure\* or rhythm\* or beat\*)).tw.
- 88 Bradycardia/ or Tachycardia/
- 89 (bradycardia\* or bradyarrhythmia\* or tachycardia\* or tachyarrhythmia\*).tw.
- 90 Respiratory Distress Syndrome, Newborn/
- 91 ((respirat\* or breath\*) adj4 (distres\* or troubl\* or discomfort\*)).tw.
- 92 exp Hypoxia/
- 93 (hypoxia\* or hypoxic\* or hypoxem\* or anoxia\* or anoxem\*).tw.
- 94 (oxygen\* adj4 (deficien\* or reduc\* or saturat\* or concentrat\* or measur\*)).tw.
- 95 exp Cyanosis/
- 96 exp Oximetry/
- 97 (cyanos?s\* or cyanotic\* or oximet\*).tw.
- 98 exp Jaundice, Neonatal/
- 99 (jaundice\* or icterus\*).tw.
- 100 exp Apnea/
- 101 apn?ea\*.tw.
- 102 Seizures/
- 103 ((seizure\* or convuls\* or paroxysm\*) adj8 risk\*).tw.
- 104 exp Cardiopulmonary Resuscitation/
- 105 (((cardiopulmon\* or cardio-pulmon\* or mouth-to-mouth\*) adj4 resuscitat\*) or CPR).tw.
- 106 exp Respiration, Artificial/
- 107 ((artificial\* or mechanic\* or automat\* or machine\* or control\*) adj4 (respirat\* or ventilat\* or breath\* or oxygenat\*)).tw.
- 108 exp Body Temperature/
- 109 ((body\* or organ\* or skin\* or high\* or low\* or excess\* or reduc\*) adj4 temperat\*).tw.
- 110 ("36\*" or "38\*") adj2 (C or celsius).tw.
- 111 ("96\*" or "100\*") adj2 (F or fahrenheit).tw.
- 112 exp Shock/
- 113 (shock not (septic or sepsis)).tw.
- 114 (circulat\* adj4 (collaps\* or fail\*)).tw.
- 115 ((pale\* or cold\* or clammy or chill\* or blanch\*) adj4 skin\*).tw.
- 116 Sweat/ or Sweating/
- 117 (sweat\* or perspir\*).tw.
- 118 ((rapid\* or shallow\* or accelerat\* or hollow\* or flat\*) adj4 (breath\* or respirat\*)).tw.
- 119 (weakness\* or fragilit\*).tw.
- 120 Dizziness/
- 121 (dizz\* or orthostas\* or lighthead\* or light-head\*).tw.
- 122 Thirst/
- 123 thirst\*.tw.
- 124 Yawning/
- 125 (yawn\* or sigh or sighs).tw.
- 126 exp Hemorrhage/
- 127 (bleed\* or h?emorrhag\*).tw.
- 128 (blood\* adj4 (loss or effus\* or excess\*)).tw.



**Medline Strategy, searched 23<sup>rd</sup> September 2019**

**Database: Ovid MEDLINE(R) 1946 to September 19, 2019**

**Search Strategy:**

129 exp Thrombocytopenia/  
130 (thrombocytop?enia\* or thrombop?enia\*).tw.  
131 Blood Coagulation/  
132 ((coagulat\* or clot or clott\*) adj8 risk\*).tw.  
133 Oliguria/  
134 oliguria\*.tw.  
135 ((decreas\* or diminish\* or dwindle\* or reduc\* or wane) adj4 urin\*).tw.  
136 Homeostasis/  
137 (homeostas\* or homeostat\* or autoregulat\* or auto-regulat\*).tw.  
138 exp Hypoglycemia/  
139 exp Hyperglycemia/  
140 (hypoglyc?emi\* or hyperglyc?emi\*).tw.  
141 ((low\* or high\*) adj4 blood\* adj4 (sugar\* or glucose\*)).tw.  
142 exp Acidosis/  
143 acidosis\*.tw.  
144 ((local\* or region\* or limit\*) adj4 (infect\* or contamin\* or invas\*)).tw.  
145 ((previous\* or preced\* or earlier or prior\* or anteceden\* or histor\* or past\*) adj4 (surg\* or operat\*)).tw.  
146 exp Catheters/ or Catheterization/ or Catheterization, Central Venous/ or exp Catheterization, Peripheral/  
147 ((catheter\* or cannula\*) adj4 (present\* or presence\* or exist\* or attend\* or current\*)).tw.  
148 ((indwell\* or in-dwell\*) adj4 (devic\* or apparat\* or applianc\* or equip\* or gadget\* or machine\* or mechanism\*)).tw.  
149 (prematur\* adj8 risk\*).tw.  
150 ((newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*) adj4 (admiss\* or admit\*)).tw.  
151 ((previous\* or preced\* or earlier or prior\* or anteceden\* or histor\* or past\*) adj4 (GBS\* or group B\*) adj4 (infect\* or contamin\* or invas\*)).tw.  
152 ((newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\* or infant\* or baby\* or babies\*) adj4 (GBS\* or group B\* or MRSA\* or met?icillin-resist\*) adj4 (contaminat\* or coloni?ation\* or contagio\*)).tw.  
153 or/56-152  
154 55 and 153  
155 Animals/ not Humans/  
156 154 not 155  
157 limit 156 to english language

*Note: In-house RCT and systematic review filters were appended. A filter to remove studies relating to viruses was also used. The in-house observational study filter was used in combination with risk management terms. No date limit was used as these were new questions.*

## 2.7 Search strategy review questions

RQ6.1 What investigations should be performed before starting treatment in babies with symptoms of late-onset neonatal infection?

**Table 7: search strategy**

<b>Medline Strategy, searched 30<sup>th</sup> October 2019</b>	
<b>Database: Ovid MEDLINE(R) 1946 to October 29, 2019</b>	
<b>Search Strategy:</b>	
1	exp Infant, Newborn/
2	Term Birth/
3	Infant Care/
4	Perinatal Care/
5	Intensive Care Units, Neonatal/
6	Intensive Care, Neonatal/
7	Infant Health/
8	(newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*).tw.
9	((premature* or pre-mature* or preterm* or pre-term*) adj4 (child* or infant* or baby* or babies* or offspring)).tw.
10	or/1-9
11	exp Bacterial Infections/
12	((bacter* or strep* or staph* or GNB) adj4 (infect* or diseas* or contaminat* or mening* or pneumon* or nosocomial*)).tw.
13	exp Sepsis/
14	(sepsis or septic?emia* or py?emia* or pyho?emia*).tw.
15	(septic* adj4 shock*).tw.
16	(bacter?emia* or bacill?emia*).tw.
17	(blood* adj4 (infect* or contamin* or invas* or invad*)).tw.
18	or/11-17
19	exp Streptococcus/
20	exp Staphylococcus/
21	(streptococc* or staphylococc*).tw.
22	(GBS or MRSA or NRCS-A or MSSA).tw.
23	(met?icillin-resistant adj3 aureus).tw.
24	exp Escherichia coli/
25	((Escheric* or E) adj2 coli).tw.
26	exp Listeria/
27	listeria*.tw.
28	exp Klebsiella/
29	klebsiella*.tw.
30	exp Pseudomonas/
31	(pseudomonas or chryseomonas or flavimonas).tw.
32	Enterobacteriaceae/
33	(enterobact* or sodalis or paracolobactrum or ewingella or leclercia).tw.
34	((enteric or coliform) adj2 bac*).tw.
35	exp Neisseria/
36	neisseria*.tw.
37	exp Haemophilus influenzae/
38	((h?emophil* or H or bacter* or bacill* or mycobacter* or coccobac*) adj2 (influenz* or pfeiffer* or meningitidis)).tw.

**Medline Strategy, searched 30<sup>th</sup> October 2019**

**Database: Ovid MEDLINE(R) 1946 to October 29, 2019**

**Search Strategy:**

39 exp Serratia/  
40 serratia\*.tw.  
41 exp Cronobacter/  
42 (cronobact\* or sakazaki\* or malonatic\*).tw.  
43 exp Acinetobacter/  
44 (acinetobact\* or herellea\* or mima or baumannii\* or genomosp\* or calcoacetic\*).tw.  
45 exp Fusobacterium/  
46 (fusobact\* or sphaerophor\* or necrophorum or nucleatum).tw.  
47 exp Enterococcus/  
48 enterococc\*.tw.  
49 or/19-48  
50 18 or 49  
51 10 and 50  
52 ((newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*) adj4 infect\*).tw.  
53 ((premature\* or pre-mature\* or preterm\* or pre-term\*) adj4 (child\* or infant\* or baby\* or babies\* or offspring) adj4 infect\*).tw.  
54 52 or 53  
55 51 or 54  
56 ((inflam\* or excit\*) adj4 (marker\* or flag\* or indicat\*)).tw.  
57 C-Reactive Protein/  
58 (C adj2 react\* adj4 protein\*).tw.  
59 (Creat\* adj4 protein\*).tw.  
60 CRP.tw.  
61 Acute-Phase Reaction/  
62 Acute-Phase Proteins/  
63 (acute\* adj2 phas\* adj4 (react\* or respons\* or state\* or protein\*)).tw.  
64 APR.tw.  
65 Serum Amyloid A Protein/  
66 (serum\* adj4 amyloid\* adj4 A).tw.  
67 SAA.tw.  
68 Orosomucoid/  
69 (orosomucoid\* or seromuroid\*).tw.  
70 (serum\* adj4 (fibronectin\* or sialomuini\*)).tw.  
71 alpha-2-Antiplasmin/  
72 ((acid\* or alpha\*) adj4 (antiplasmin\* or anti-plasmin\* or glycoprotein\*)).tw.  
73 (alpha\* adj4 plasmin\* adj4 inhibitor\*).tw.  
74 AGP.tw.  
75 Hepcidins/  
76 hepcidin\*.tw.  
77 Blood Sedimentation/  
78 ((blood\* or erythrocyte\*) adj4 sediment\*).tw.  
79 Haptoglobins/  
80 haptoglobin\*.tw.  
81 (h?emoglobin\* adj4 bind\* adj4 protein\*).tw.  
82 Procalcitonin/  
83 Calcitonin/  
84 (procalcitonin\* or calcitonin\*).tw.  
85 PCT.tw.

**Medline Strategy, searched 30<sup>th</sup> October 2019**

**Database: Ovid MEDLINE(R) 1946 to October 29, 2019**

**Search Strategy:**

- 86 exp Interleukins/
- 87 Interleukin 1 Receptor Antagonist Protein/
- 88 (interleukin\* or IL-6 or IL6 or IL-1 or IL1).tw.
- 89 Cytokines/
- 90 exp Receptors, Cytokine/
- 91 cytokine\*.tw.
- 92 exp Leukocyte Count/
- 93 ((leukocyte\* or leucocyte\* or lymphocyte\* or WBC\*) adj4 (count\* or number\* or polymorphonuclear\* or total\* or calculat\* or amount\* or estimat\* or quant\* or sum\*)).tw.
- 94 (white\* adj2 (blood\* or cell\*) adj4 (count\* or number\* or polymorphonuclear\* or total\* or calculat\* or amount\* or estimat\* or quant\* or sum\*)).tw.
- 95 exp Colony-Stimulating Factors/
- 96 ((colony\* or colonies\*) adj4 stimulat\* adj4 (factor\* or activit\* or determin\* or influenc\* or agen\*)).tw.
- 97 Granulocytes/
- 98 Neutrophils/
- 99 (granulocyte\* or neutrophil\* or neutrocyt\*).tw.
- 100 ((LE or band or granuloid\*) adj4 cell\*).tw.
- 101 (G-CSF or GM-CSF or "CSF-2" or TC-GM-CSF or CSF-GM or rhGM-CSF).tw.
- 102 Platelet Count/
- 103 ((platelet\* or thrombocyt\*) adj4 (count\* or number\* or total\* or calculat\* or amount\* or estimat\* or quant\* or sum\*)).tw.
- 104 Cerebrospinal Fluid/an, di, dg [Analysis, Diagnosis, Diagnostic Imaging]
- 105 ((cerebrospinal\* or cerebr\*-spinal\* or cephalorhachidian\* or cranial\* or spinal\* or brain\*-ventricl\* or neurolymph\* or neuro-lymph\*) adj4 (fluid\* or liquid\* or solut\*) adj4 (exam\* or test\* or analys\* or inspect\* or explor\* or scan\* or investigat\*)).tw.
- 106 (CSF\* adj4 (exam\* or test\* or analys\* or inspect\* or explor\* or scan\* or investigat\*)).tw.
- 107 Spinal Puncture/
- 108 ((spinal\* or spine\* or lumbar\*) adj4 (puncture\* or tap\*)).tw.
- 109 Latex Fixation Tests/
- 110 (latex\* adj4 (test\* or kit\* or method\* or fixat\* or agglutinat\* or antigen\* or assay\* or serotyp\* or react\*)).tw.
- 111 (streptex\* or pastorex\* or wellcogen\*).tw.
- 112 (LPA or LAT or LFT).tw.
- 113 Reagent Strips/
- 114 ((urin\* or reagent\* or immunochromographic\* or immuno-chromographic\* or Nephur\* or test\*) adj4 (strip\* or dipstick\* or dip-stick\* or tap\* or paper\*)).tw.
- 115 StripAssay\*.tw.
- 116 exp Polymerase Chain Reaction/
- 117 (polymerase\* adj4 chain\* adj4 react\*).tw.
- 118 PCR.tw.
- 119 Urinalysis/
- 120 Urine/mi [Microbiology]
- 121 urinalys\*.tw.
- 122 (urin\* adj4 (cultur\* or mcroscop\* or test\* or analys\* or exam\* or investigat\*)).tw.
- 123 UA.tw.
- 124 exp Catheters/
- 125 Catheterization/

**Medline Strategy, searched 30<sup>th</sup> October 2019**

**Database: Ovid MEDLINE(R) 1946 to October 29, 2019**

**Search Strategy:**

- 126 exp Urinary Catheterization/
- 127 (catheter\* or cannula\*).tw.
- 128 ((suprapubic\* or supra-pubic\* or bladder\* or detrusor\*) adj4 (aspirat\* or punctur\*)).tw.
- 129 (SPA or SBA).tw.
- 130 (iQ200\* or (iChem\* adj4 workstation\*)).tw.
- 131 Flow Cytometry/
- 132 (flow\* adj4 (cytometr\* or microfluoromet\* or cytofluorometr\* or lateral\*)).tw.
- 133 (LFB or LFA).tw.
- 134 Sysmex\*.tw.
- 135 (Xpert adj4 (MTB or RIF)).tw.
- 136 ((rapid\* or quick\* or accelerat\* or fast\* or speed\* or swift\*) adj4 (test\* or kit\* or method\* or detect\* or discover\* or identif\* or recogni\* or assay\* or agglutinat\* or immunoassay\* or immunochromatographic\*)).tw.
- 137 (RDT or RADT or DIMA).tw.
- 138 exp Fluorescent Antibody Technique/
- 139 ((fluorescen\* or immunofluorescen\* or immuno-fluorescen\*) adj4 (techni\* or antibod\* or anti-bod\* or trac\* or cell\* or hybridization\* or test\* or method\* or identif\* or detect\*)).tw.
- 140 FISH.tw.
- 141 Spectrometry, Mass, Matrix-Assisted Laser Desorption-Ionization/
- 142 (matrix\* adj10 spectrom\*).tw.
- 143 (MALDI\* or MALD-MS\* or TOF-MS\* or LDI-MS\*).tw.
- 144 FilmArray\*.tw.
- 145 "Staining and Labeling"/
- 146 (gram\* adj4 (stain\* or label\*)).tw.
- 147 Limulus Test/
- 148 (limulus\* adj4 (lysate\* or test\* or assay\* or exam\* or analys\* or investigat\* or method\* or detect\* or endotoxin\* or toxin\* or coagul\* or serum\*)).tw.
- 149 LAL.tw.
- 150 swab\*.tw.
- 151 ((surface\* or exterior\* or outer\* or superficial\*) adj4 (culture\* or wipe\* or mop or smear\*)).tw.
- 152 ((skin\* or dermis\* or epidermis\* or nose\* or nasal\* or paranasal\* or ear or ears or umbilic\* or rectal\* or rectum\* or axilla\* or underarm\* or under-arm\* or armpit\* or arm-pit\* or groin\* or genital\* or eye\* or ocular\* or oculus\* or throat\* or pharyn\* or laryn\* or neck\*) adj4 (culture\* or wipe\* or mop or smear\*)).tw.
- 153 Infusions, Intravenous/
- 154 ((IV or I-V or intravenous\*) adj4 (line\* or infusion\* or sampl\* or fragment\* or specimen\* or indicat\* or segment\* or drip\* or admin\* or dos\* or inject\* or deliver\* or transfus\* or tip\*)).tw.
- 155 exp Radiography, Thoracic/
- 156 X-Rays/
- 157 ((chest\* or thorax\* or thorac\* or bronch\* or lung\*) adj4 (x-ray\* or xray\* or radio\* or roentgen\* or imag\*)).tw.
- 158 or/56-157
- 159 55 and 158
- 160 Animals/ not Humans/
- 161 159 not 160
- 162 limit 161 to english language

**Medline Strategy, searched 30<sup>th</sup> October 2019**

**Database: Ovid MEDLINE(R) 1946 to October 29, 2019**

**Search Strategy:**

*Note: The In-house systematic review filter was appended. A filter to remove studies relating to viruses was also used. No date limit was used as this was a new question.*

## 2.8 Search strategy review questions

RQ7.1: What is the optimal antibiotic treatment regimen for suspected late-onset neonatal infection?

**Table 8: Search Strategy**

**Medline Strategy, searched 14<sup>th</sup> January 2020**

**Database: Ovid MEDLINE(R) 1946 to January 14, 2020**

**Search Strategy:**

- 1 exp Infant, Newborn/
- 2 Term Birth/
- 3 Infant Care/
- 4 Perinatal Care/
- 5 Intensive Care Units, Neonatal/
- 6 Intensive Care, Neonatal/
- 7 Infant Health/
- 8 (newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*).tw.
- 9 ((premature\* or pre-mature\* or preterm\* or pre-term\*) adj4 (child\* or infant\* or baby\* or babies\* or offspring)).tw.
- 10 or/1-9
- 11 exp Bacterial Infections/
- 12 ((bacter\* or strep\* or staph\* or GNB) adj4 (infect\* or diseas\* or contaminat\* or mening\* or pneumon\* or nosocomial\*)).tw.
- 13 exp Sepsis/
- 14 (sepsis or septic?emia\* or py?emia\* or pyho?emia\*).tw.
- 15 (septic\* adj4 shock\*).tw.
- 16 (bacter?emia\* or bacill?emia\*).tw.
- 17 (blood\* adj4 (infect\* or contamin\* or invas\* or invad\*)).tw.
- 18 or/11-17
- 19 exp Streptococcus/
- 20 exp Staphylococcus/
- 21 (streptococc\* or staphylococc\*).tw.
- 22 (GBS or MRSA or NRCS-A or MSSA).tw.
- 23 (met?icillin-resistant adj3 aureus).tw.
- 24 exp Escherichia coli/
- 25 (((Escheric\* or E) adj2 coli) or ecoli\*).tw.
- 26 exp Listeria/
- 27 listeria\*.tw.
- 28 exp Klebsiella/
- 29 klebsiella\*.tw.
- 30 exp Pseudomonas/
- 31 (pseudomonas or chryseomonas or flavimonas).tw.
- 32 Enterobacteriaceae/
- 33 (enterobact\* or sodalis or paracolobactrum or ewingella or leclercia).tw.
- 34 ((enteric or coliform) adj2 bac\*).tw.

**Medline Strategy, searched 14<sup>th</sup> January 2020**

**Database: Ovid MEDLINE(R) 1946 to January 14, 2020**

**Search Strategy:**

- 35 exp Neisseria/
- 36 neisseria\*.tw.
- 37 exp Haemophilus influenzae/
- 38 ((h?emophil\* or H or bacter\* or bacill\* or mycobacter\* or coccobac\*) adj2 (influenz\* or pfeiffer\* or meningitidis)).tw.
- 39 exp Serratia/
- 40 serratia\*.tw.
- 41 exp Cronobacter/
- 42 (cronobact\* or sakazaki\* or malonatic\*).tw.
- 43 exp Acinetobacter/
- 44 (acinetobact\* or herellea\* or mima or baumanni\* or genomosp\* or calcoacetic\*).tw.
- 45 exp Fusobacterium/
- 46 (fusobact\* or sphaerophor\* or necrophorum or nucleatum).tw.
- 47 exp Enterococcus/
- 48 enterococc\*.tw.
- 49 or/19-48
- 50 18 or 49
- 51 10 and 50
- 52 ((newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*) adj4 infect\*).tw.
- 53 ((premature\* or pre-mature\* or preterm\* or pre-term\*) adj4 (child\* or infant\* or baby\* or babies\* or offspring) adj4 infect\*).tw.
- 54 52 or 53
- 55 51 or 54
- 56 exp Anti-Bacterial Agents/
- 57 (antibacter\* or anti-bacter\* or antibiotic\* or anti-biotic\* or antimycobact\* or anti-mycobact\* or bacteriocid\* or bacteriostat\*).tw.
- 58 exp Penicillins/
- 59 penicillin\*.tw.
- 60 (benzylpenicillin\* or crystapen\* or bicillin\* or triptopen\* or pentids\* or pfizerpen\*).tw.
- 61 (amox?cillin\* or hydroxyamp?cillin\* or almodan\* or amix\* or amopen\* or amoram\* or amoxidant\* or amoxidin\* or amoxil\* or amoxymed\* or amrit\* or flemoxin\* or galenamox\* or rimoxallin\* or amiclav\* or augmentin\* or heliclear\* or amoxiclav\* or biomox\* or DisperMox\* or larotid\* or moxatag\* or polymox\* or trimox\* or wymox\* or amoclan\* or omeclamox\* or prevpac\*).tw.
- 62 (ampicillin\* or KS-R1 or aminobenzylpenicillin\* or amfipen\* or flu-amp\* or magnapen\* or penbritin\* or rimacillin\* or vidopen\* or ampiclox\* or dicapen\* or D-Amp\* or marcillin\* or omnipen\* or polycillin\* or principen\* or totacillin\* or unasyn\*).tw.
- 63 Teicoplanin/
- 64 (teicoplanin\* or teichom?cin\* or targocid\*).tw.
- 65 Clindamycin/
- 66 (clindam?cin\* or dalacin\* or zindaclin\* or Duac or refobacin\* or treclin\* or cleocin\* or Clinda-Derm\* or ClindaMax\* or clindagel\* or clindesse\* or clindets\* or evoclin\* or acanya\* or benzaclin\* or clindacin\* or onexton\* or PledgaClin\* or veltin\* or ziana\*).tw.
- 67 (azithrom?cin\* or azyter\* or clamelle\* or zedbac\* or zithromax\* or AzaSite\* or zmax\*).tw.
- 68 exp Cephalosporins/
- 69 (cephalosporin\* or cephalosporanic\* or cepham?cin\*).tw.
- 70 (cefamandole\* or kefadol\* or mandol\*).tw.
- 71 (cefazolin\* or kefzol\* or ancef\* or zolicef\*).tw.

**Medline Strategy, searched 14<sup>th</sup> January 2020**

**Database: Ovid MEDLINE(R) 1946 to January 14, 2020**

**Search Strategy:**

- 72 (cefepim\* or renapime\* or maxipime\*).tw.
- 73 (cefsulodin\* or monaspor\*).tw.
- 74 (ceftibuten\* or cedax\*).tw.
- 75 (cefuroxime\* or cephuroxime\* or aprokam\* or ximaract\* or zinacef\* or zinnat\* or ceftin\* or kefurox\*).tw.
- 76 (cefotaxim\* or cephotaxim\* or cefizox\*).tw.
- 77 (cefixime\* or suprax\*).tw.
- 78 (ceftizoxime\* or cefizox\*).tw.
- 79 (cef?triaxon\* or rocephin\*).tw.
- 80 (cephalothin\* or cefalotin\* or keflin\*).tw.
- 81 (cefalexin\* or cephalixin\* or ceporex\* or keflex\* or kiflone\* or biocef\* or cefanex\* or keflet\* or keftab\* or zartan\*).tw.
- 82 (cefaclor\* or bacticlor\* or distaclor\* or keptid\* or ceclor\* or raniclror\*).tw.
- 83 (cefadroxil\* or cephadroxyl\* or baxan\* or duricef\* or ultracef\*).tw.
- 84 (cefradine\* or cephradine\* or nicef\* or velosef\* or anspor\*).tw.
- 85 (ceftazidime\* or fortum\* or kefadim\* or zavicefta\* or ceptaz\* or fortaz\* or tazicef\* or tazidime\*).tw.
- 86 (cefoxitin\* or mefoxin\* or renoxitin\*).tw.
- 87 (ceftaroline\* or zinforo\* or teflaro\*).tw.
- 88 exp Erythromycin/
- 89 (erythrom?cin\* or arpim?cin\* or eryacne\* or erycen\* or erymax\* or erymin\* or erythrocin\* or erythrolar\* or erythromid\* or erythroped\* or ilosone\* or retcin\* or rommix\* or ronmix\* or stiem?cin\* or tiloryth\* or aknem?cin\* or benzam?cin\* or isotrexin\* or zineryt\* or Ak-Mycin\* or Akne-Mycin\* or Del-Mycin\* or E-Base or E-Mycin or emgel\* or eram?cin\* or Ery-Tab\* or Ery-sol\* or eryc or erycette\* or eryderm\* or erygel\* or erymax\* or eryped\* or Erythra-Derm\* or ilot?cin\* or pediam?cin\* or robim?cin\* or rom?cin\* or staticin or T-Stat or theram?cin\* or wyam?cin\* or aktipak\* or eryzole\* or pediazole\*).tw.
- 90 (clarithrom?cin\* or clarosip\* or febzin\* or klaricid\* or mycifor\* or HeliMet\* or heliclear\* or biaxin\* or omeclamox-pak\* or prevpac\* or clarie xl\* or xetinin xl\*).tw.
- 91 Metronidazole/
- 92 (metronidazole\* or acea\* or anabact\* or elyzol\* or flagyl\* or metrogel\* or metrolyl\* or metrosa\* or metrotop\* or metrozol\* or nidazol\* or noritate\* or norzol\* or rosiced\* or rozex\* or vaginyl\* or zadstat\* or zidoval\* or zyomet\* or entamizole\*).tw.
- 93 Vancomycin/
- 94 (vancom?cin\* or vancocin\* or firvanq\* or lyphocin\* or vancocin\* or vancoled\*).tw.
- 95 (azlocillin\* or secuopen\* or azlin\*).tw.
- 96 (mezlocillin\* or baypen\* or mezlin\*).tw.
- 97 (piperacillin\* or pipril\* or tazocin\* or pipracil\* or zosyn\*).tw.
- 98 (pivampicillin\* or pondocillin\* or miraxid\*).tw.
- 99 (talampicillin\* or talpen\*).tw.
- 100 (carbenicillin\* or pyopen\* or geopen\*).tw.
- 101 (carfecillin\* or uticillin\*).tw.
- 102 (flucloxacillin\* or floxacillin\* or fluorchloroxacillin\* or floxapen\* or fluclomix\* or galfloxin\* or ladropen\* or stafoxil\* or staphlipen\* or zoxin\*).tw.
- 103 exp Glycopeptides/
- 104 (glycopeptide\* or lipoglycopeptide\*).tw.
- 105 (bleom?cin\* or Bleo or blenoxane\*).tw.
- 106 exp Aminoglycosides/



**Medline Strategy, searched 14<sup>th</sup> January 2020**

**Database: Ovid MEDLINE(R) 1946 to January 14, 2020**

**Search Strategy:**

- 107 aminoglycoside\*.tw.
- 108 (gentamicin\* or gentamycin\* or gentacycol\* or G-Myticin\* or GMyticin\*).tw.
- 109 (cidom?cin\* or garam?cin\* or genticin\* or lugacin\* or collatamp\* or refobacin\* or septocoll\* or septopal\* or vipsogal\* or genoptic\* or gentacidin\* or gentafair\* or gentak\* or gentasol\* or gentrasul\* or jenam?cin\* or Ocu-Mycin\*).tw.
- 110 (amikacin\* or amikin\* or arikayce\*).tw.
- 111 (tobram?cin\* or bramitob\* or nebcin\* or Tobi or tobralex\* or tobravisc\* or vantobra\*).tw.
- 112 exp Carbapenems/  
113 (carbapenem\* or thienam?cin\*).tw.
- 114 (meropenem\* or meronem\* or merrem\* or vabomere\* or penem\*).tw.
- 115 (doripenem\* or doribax\* or finibax\*).tw.
- 116 (ertapenem\* or invanz\*).tw.
- 117 (imipenem\* or primaxin\* or recarbrio\*).tw.
- 118 or/56-117
- 119 55 and 118
- 120 Animals/ not Humans/  
121 119 not 120
- 122 limit 121 to english language

Note: *In-house RCT and systematic review filters were appended. The in-house observational study filter was used in combination with antimicrobial resistance terms. No date limit was used as this was a new question.*

## 2.9 Search strategy review questions

RQ7.2 What is the clinical and cost effectiveness of starting prophylactic antifungal treatment when starting antibiotic treatment for suspected late-onset neonatal infection?

**Table 9: Search strategy**

**Medline Strategy, searched 20<sup>th</sup> March 2020**

**Database: Ovid MEDLINE(R) 1946 to January 14, 2020**

**Search Strategy:**

- 1 exp Infant, Newborn/  
2 Term Birth/  
3 Infant Care/  
4 Perinatal Care/  
5 Intensive Care Units, Neonatal/  
6 Intensive Care, Neonatal/  
7 Infant Health/  
8 (newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*).tw.
- 9 ((premature\* or pre-mature\* or preterm\* or pre-term\*) adj4 (child\* or infant\* or baby\* or babies\* or offspring)).tw.
- 10 or/1-9
- 11 exp Bacterial Infections/  
12 ((bacter\* or strep\* or staph\* or GNB) adj4 (infect\* or diseas\* or contaminat\* or mening\* or pneumon\* or nosocomial\*)).tw.
- 13 exp Sepsis/  
14 (sepsis or septic?emia\* or py?emia\* or pyho?emia\*).tw.
- 15 (septic\* adj4 shock\*).tw.

**Medline Strategy, searched 20<sup>th</sup> March 2020**

**Database: Ovid MEDLINE(R) 1946 to January 14, 2020**

**Search Strategy:**

- 16 (bacter?emia\* or bacill?emia\*).tw.
- 17 (blood\* adj4 (infect\* or contamin\* or invas\* or invad\*)).tw.
- 18 or/11-17
- 19 exp Streptococcus/
- 20 exp Staphylococcus/
- 21 (streptococc\* or staphylococc\*).tw.
- 22 (GBS or MRSA or NRCS-A or MSSA).tw.
- 23 (met?icillin-resistant adj3 aureus).tw.
- 24 exp Escherichia coli/
- 25 (((Escheric\* or E) adj2 coli) or ecoli\*).tw.
- 26 exp Listeria/
- 27 listeria\*.tw.
- 28 exp Klebsiella/
- 29 klebsiella\*.tw.
- 30 exp Pseudomonas/
- 31 (pseudomonas or chryseomonas or flavimonas).tw.
- 32 Enterobacteriaceae/
- 33 (enterobact\* or sodalis or paracolobactrum or ewingella or leclercia).tw.
- 34 ((enteric or coliform) adj2 bac\*).tw.
- 35 exp Neisseria/
- 36 neisseria\*.tw.
- 37 exp Haemophilus influenzae/
- 38 ((h?emophil\* or H or bacter\* or bacill\* or mycobacter\* or coccobac\*) adj2 (influenz\* or pfeiffer\* or meningitidis)).tw.
- 39 exp Serratia/
- 40 serratia\*.tw.
- 41 exp Cronobacter/
- 42 (cronobact\* or sakazaki\* or malonatic\*).tw.
- 43 exp Acinetobacter/
- 44 (acinetobact\* or herellea\* or mima or baumanni\* or genomosp\* or calcoacetic\*).tw.
- 45 exp Fusobacterium/
- 46 (fusobact\* or sphaerophor\* or necrophorum or nucleatum).tw.
- 47 exp Enterococcus/
- 48 enterococc\*.tw.
- 49 or/19-48
- 50 18 or 49
- 51 10 and 50
- 52 ((newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*) adj4 infect\*).tw.
- 53 ((premature\* or pre-mature\* or preterm\* or pre-term\*) adj4 (child\* or infant\* or baby\* or babies\* or offspring) adj4 infect\*).tw.
- 54 52 or 53
- 55 51 or 54
- 56 exp Mycoses/
- 57 (mycoses\* or mycosis\*).tw.
- 58 ((fung\* or mycot\* or yeast\* or cryptococc\*) adj4 (infect\* or diseas\* or contaminat\* or mening\* or pneumon\* or nosocomial\*)).tw.
- 59 (candidias\* or candidemia\* or fungemia\*).tw.

**Medline Strategy, searched 20<sup>th</sup> March 2020**

**Database: Ovid MEDLINE(R) 1946 to January 14, 2020**

**Search Strategy:**

- 60 (zygomycos\* or phycomycos\* or entomophthoramycos\* or mucormycos\* or mucoromycos\*).tw.
- 61 ((cunninghamella\* or absidia\* or mortierella\* or mucor\* or rhizopus\*) adj4 (infect\* or diseas\* or contaminat\* or mening\* or pneumon\* or nosocomial\*)).tw.
- 62 (aspergillos\* or neuroaspergillos\*).tw.
- 63 exp Candida/
- 64 (candida\* or monilia\* or torulops\* or parapsilos\* or orthopsilos\* or metapsilos\*).tw.
- 65 exp Saccharomyces/
- 66 saccharomyce\*.tw.
- 67 Ascomycota/
- 68 (ascomyc\* or cochliobol\* or sclerotinia\*).tw.
- 69 exp Aspergillus/
- 70 aspergillus\*.tw.
- 71 or/56-70
- 72 10 and 71
- 73 55 or 72
- 74 exp Antifungal Agents/
- 75 (antifung\* or anti-fung\* or fungicid\* or antimycot\* or anti-mycot\* or mycostat\* or fung?stat\*).tw.
- 76 Fluconazole/
- 77 (fluconazole\* or azocan\* or diflucan\* or canesten\*).tw.
- 78 Amphotericin B/
- 79 (amphotericin B or abelcet\* or ambisome\* or amphochild\* or fungilin or fungizone\* or amphotec\* or amphocil\*).tw.
- 80 Clotrimazole/
- 81 (clotrimazole\* or abtrim\* or fungederm\* or masnoderm\* or candiden\* or mycil gold\* or privacom\* or lotriderm\* or lotrimin\* or femcare\* or mycelex\* or fungoid\* or lotrisone\*).tw.
- 82 Cycloheximide/
- 83 (c?cloheximide\* or actidione\*).tw.
- 84 Cyclosporine/
- 85 (cyclosporin\* or capimune\* or capsorin\* or deximune\* or ikervis\* or neoral\* or sandimmun\* or sangcya\* or cequa\* or gengraf\* or restasis\* or vanquoral\* or ciclosprin\* or neoral\*).tw.
- 86 exp Echinocandins/
- 87 (echinocandin\* or mulundocandin\* or aculeacin\* or pneumocandin\*).tw.
- 88 (anidulafungin\* or ecalta\* or eraxis\*).tw.
- 89 (caspofungin\* or candidas\*).tw.
- 90 (micafungin\* or mycamine\*).tw.
- 91 Flucytosine/
- 92 (flucytosine\* or ancotil\* or ancobon\*).tw.
- 93 Griseofulvin/
- 94 (griseofulvin\* or fulcin\* or fulsovin\* or grisol\* or grisovin\* or fulvicin\* or grifulvin\* or Gris-PEG\* or grisactin\*).tw.
- 95 Itraconazole/
- 96 (itraconazole\* or sporanox\* or onmel\* or tolsura\*).tw.
- 97 Ketoconazole/
- 98 (ketoconazole\* or daktarin\* or dandrazol\* or dandrid\* or nizoral\* or extina\* or ketodan\* or xolegel\*).tw.
- 99 Miconazole/

**Medline Strategy, searched 20<sup>th</sup> March 2020**

**Database: Ovid MEDLINE(R) 1946 to January 14, 2020**

**Search Strategy:**

100 (miconazole\* or dermonistat\* or dumicoat\* or femeron\* or loramyc\* or monistat\* or acnidazol or acorvio\* or daktacort\* or aloe vesta\* or azolen\* or cruex\* or desenex\* or femizol-M\* or fungoid\* or Lotrimin AF\* or M-Zole\* or micatin\* or miranel AF\* or Neosporin AF\* or oravig\* or podactin\* or vagistat\* or ZeaSorb AF\* or vusion\*).tw.  
 101 Nystatin/  
 102 (nystatin\* or infestat or nyspes\* or nystamont\* or nystan\* or nystavescent\* or dermovate\* or flagyl kompak\* or gregoderm\* or multilind\* or mysteclin\* or nystadermal\* or nystaform\* or timodine\* or tinaderm\* or trimovate\* or tri-adcortyl\* or tri-cicatr\* or mycostatin\* or nilstat\* or nystex\* or Pedi-Dri or pediaderm\* or myconel\* or mytrex\* or tri-statin\* or nystop\*).tw.  
 103 exp Sirolimus/  
 104 (sirolimus\* or rapamune\* or rapamycin\* or everolimus\* or afinitor\* or certican\* or votubia\* or zortress\*).tw.  
 105 Voriconazole/  
 106 (voriconazole\* or v fend\*).tw.  
 107 or/74-106  
 108 73 and 107  
 109 Animals/ not Humans/  
 110 108 not 109  
 111 limit 110 to english language

Note: *In-house RCT and systematic review filters were appended. The in-house observational study filter was used in combination with antimicrobial resistance terms. No date limit was used as this was a new question.*

## 2.10 Search strategy review questions

RQ8.1: What is the clinical and cost effectiveness of intravascular catheters impregnated with antibiotics in reducing the risk of the baby developing late-onset neonatal infection?

**Table 10: Search strategy**

**Medline Strategy, searched 2<sup>nd</sup> August 2019**

**Database: Ovid MEDLINE(R) 1946 to August 01, 2019**

**Search Strategy:**

1 exp Infant, Newborn/  
 2 Term Birth/  
 3 Infant Care/  
 4 Perinatal Care/  
 5 Intensive Care Units, Neonatal/  
 6 Intensive Care, Neonatal/  
 7 Infant Health/  
 8 (newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*).tw.  
 9 ((premature or pre-mature\* or preterm or pre-term) adj4 (child\* or infant\* or baby\* or babies\* or offspring)).tw.  
 10 or/1-9  
 11 exp Bacterial Infections/  
 12 ((bacter\* or strep\* or staph\* or GNB) adj4 (infect\* or diseas\* or contaminat\* or mening\* or pneumon\* or nosocomial\*)).tw.  
 13 exp Sepsis/  
 14 (sepsis or septic?emia\* or py?emia\* or pyho?emia\*).tw.

**Medline Strategy, searched 2<sup>nd</sup> August 2019**

**Database: Ovid MEDLINE(R) 1946 to August 01, 2019**

**Search Strategy:**

15 (septic\* adj4 shock\*).tw.  
16 or/11-15  
17 exp Streptococcus/  
18 exp Staphylococcus/  
19 (streptococc\* or staphylococc\*).tw.  
20 (GBS or MRSA or NRCS-A or MSSA).tw.  
21 (met?icillin-resistant adj3 aureus).tw.  
22 exp Escherichia coli/  
23 ((Escheric\* or E) adj2 coli).tw.  
24 exp Listeria/  
25 listeria\*.tw.  
26 exp Klebsiella/  
27 klebsiella\*.tw.  
28 exp Pseudomonas/  
29 (pseudomonas or chryseomonas or flavimonas).tw.  
30 Enterobacteriaceae/  
31 (enterobact\* or sodalis or paracolobactrum or ewingella or leclercia).tw.  
32 ((enteric or coliform) adj2 bac\*).tw.  
33 exp Neisseria/  
34 neisseria\*.tw.  
35 exp Haemophilus influenzae/  
36 ((h?emophil\* or H or bacter\* or bacill\* or mycobacter\* or coccobac\*) adj2 (influenz\* or pfeiffer\* or meningitidis)).tw.  
37 exp Serratia/  
38 serratia\*.tw.  
39 exp Cronobacter/  
40 (cronobact\* or sakazaki\* or malonatic\*).tw.  
41 exp Acinetobacter/  
42 (acinetobact\* or herellea\* or mima or baumanni\* or genomosp\* or calcoacetic\*).tw.  
43 exp Fusobacterium/  
44 (fusobact\* or sphaerophor\* or necrophorum or nucleatum).tw.  
45 exp Enterococcus/  
46 enterococc\*.tw.  
47 or/17-46  
48 16 or 47  
49 10 and 48  
50 ((newborn\* or new born\* or neonat\* or neo-nat\* or perinat\* or peri-nat\*) adj4 infect\*).tw.  
51 ((premature or pre-mature\* or preterm or pre-term) adj4 (child\* or infant\* or baby\* or babies\* or offspring) adj4 infect\*).tw.  
52 50 or 51  
53 49 or 52  
54 (bacter?emia\* or bacill?emia\*).tw.  
55 (blood\* adj4 (infect\* or contamin\* or invas\* or invad\*)).tw.  
56 54 or 55  
57 56 and 10  
58 53 or 57  
59 exp Catheters/  
60 Catheterization/

**Medline Strategy, searched 2<sup>nd</sup> August 2019**

**Database: Ovid MEDLINE(R) 1946 to August 01, 2019**

**Search Strategy:**

- 61 Catheterization, Central Venous/
- 62 exp Catheterization, Peripheral/
- 63 (catheter\* or cannula\*).tw.
- 64 ((peripheral\* or percutaneous) adj4 (insert\* or plac\* or indwell\* or in-dwell\* or punctur\* or arterial or venous)).tw.
- 65 (central\* adj1 (vein\* or venous or arterial) adj4 (insert\* or plac\* or indwell\* or in-dwell\* or punctur\*)).tw.
- 66 (PICC\* or EPIV\* or PIV or PIVs or CVC or CVCs).tw.
- 67 (PIC\* adj2 lin\*).tw.
- 68 Catheter-Related Infections/
- 69 (CRBSI\* or CR-BSI\* or CLABSI\* or CLA-BSI\* or CABSIS\* or CRI or CRIs or CRB\*).tw.
- 70 or/59-69
- 71 58 and 70
- 72 Animals/ not Humans/
- 73 71 not 72
- 74 limit 73 to english language

*Note: In-house RCT and systematic review filters were appended. No date limit was used as this was a new question.*

### 3. Study Design Filters

**Table 11: Study design filters**

The study filters and limiting search strategies used as part of the literature searches are presented below.
<p><b>Antibiotic resistance terms (RQs 7.1 and 7.2)</b></p> <p>1 Drug Resistance, Microbial/            2 exp Drug Resistance, Bacterial/            3 Drug Resistance, Multiple/            4 (AR or AMR or ABR or MDR or MBR).tw.            5 (resist* or tolera* or nonsuscept* or non-suscept*).tw.            6 R Factors/            7 (r adj2 (factor* or plasmid*)).tw.            8 Superinfection/            9 (superbug* or super bug* or superinfect* or super infect* or superinvas* or super invas*).tw.            10 ((inappropriat* or irrational* or imprudent* or unnecessar* or incorrect* or irrespons* or misus* or improper* or error* or mistake* or indiscriminat* or suboptim* or sub-optim* or bad or badly or inefficient* or uncontrol* or overus* or excess* or vary* or varia* or poor*) adj4 (antibacter* or anti-bacter* or antibiotic* or anti-biotic* or antimycobact* or anti-mycobact* or bacteriocid* or bacteriostat*) adj4 (prescr* or adminis* or dispens* or "use" or usag* or utili* or provi* or distribut* or therap* or treatment* or expos* or consum*).tw.            11 or/1-10</p>
<p><b>Cross-sectional studies (RQs 1.1, 1.2, 5.1 and 5.2)</b></p> <p>1 Cohort Studies/            2 Prospective Studies/            3 Retrospective Studies/            4 Cross-Sectional Studies/            5 cohort:.mp.            6 predictor:.tw.            7 cross sectional.tw.            8 prospective*.tw.            9 retrospective*.tw.            10 or/1-9</p>
<p><b>Diagnostic studies (Optimal) (RQs 1.1, 1.2, 4.1, 5.1 and 5.2)</b></p> <p>1 sensitiv:.mp.            2 predictive value:.mp.            3 accurac:.tw.            4 or/1-3</p>
<p><b>Observational studies</b></p> <p>1 Observational Studies as Topic/            2 Observational Study/            3 Epidemiologic Studies/            4 exp Case-Control Studies/            5 exp Cohort Studies/            6 Cross-Sectional Studies/            7 Controlled Before-After Studies/            8 Historically Controlled Study/            9 Interrupted Time Series Analysis/            10 Comparative Study.pt.            11 case control\$.tw.            12 case series.tw.</p>

**The study filters and limiting search strategies used as part of the literature searches are presented below.**

13 (cohort adj (study or studies)).tw.  
14 cohort analy\$.tw.  
15 (follow up adj (study or studies)).tw.  
16 (observational adj (study or studies)).tw.  
17 longitudinal.tw.  
18 prospective.tw.  
19 retrospective.tw.  
20 cross sectional.tw.  
21 or/1-20

**Prognostic studies (RQs 1.1, 1.2, 5.1 and 5.2)**

1 prognosis.sh.  
2 diagnosed.tw.  
3 death.tw.  
4 exp models, statistical/  
5 or/1-4

**RCT**

1 randomized controlled trial.pt.  
2 randomi?ed.mp.  
3 placebo.mp.  
4 or/1-3

**Risk Terms (RQs 1.1, 1.2, 5.1 and 5.2)**

1 exp Risk/  
2 exp Risk Management/  
3 Pregnancy, High Risk/  
4 risk\*.tw.  
5 exp Health Status Indicators/  
6 ((health\* or illness\* or wellness\* or wellbeing\* or well-being\*) adj4 (indicat\* or index\* or indices\* or apprais\* or barometer\* or gaug\* or mark\* or warn\* or ratio or ratios)).tw.  
7 (sever\* adj4 illness\*).tw.  
8 exp "Signs and Symptoms"/  
9 ((symptom\* or sign or signs or manifest\* or phenomenon\*) adj8 (infect\* or diseas\* or contaminat\* or mening\* or pneumon\* or nosocomial\*)).tw.  
10 or/1-9

**Systematic Review**

1 MEDLINE or pubmed).tw.  
2 systematic review.tw.  
3 systematic review.pt.  
4 meta-analysis.pt.  
5 intervention\$.ti.  
6 or/1-5

**Virus, malaria and syphilis terms (removed from search results)**

1 exp Virus Diseases/  
2 exp Viruses/  
3 (virus\* or viral\* or retrovir\* or arbovir\* or lentivir\* or deltaretrovir\* or adenovir\*).tw.  
4 HIV\*.tw.  
5 (cytomegalovir\* or CMV\*).tw.  
6 herpes\*.tw.  
7 (papillomavir\* or HPV\*).tw.  
8 ((hepatitis\* or hepatitid\*) adj2 (A or B or C or D or E)).tw.



**The study filters and limiting search strategies used as part of the literature searches are presented below.**

- 9 (parechovir\* or echovir\*).tw.
- 10 (yellow\* adj2 fever\*).tw.
- 11 rhinovir\*.tw.
- 12 (coronavir\* or deltacoronavir\*).tw.
- 13 rotavir\*.tw.
- 14 (enterovir\* or coxsackie\*).tw.
- 15 exp Malaria/
- 16 (malaria\* or paludism\*).tw.
- 17 exp Syphilis/
- 18 (syphili\* or neurosyphili\* or neuro-syphili\*).tw.
- 19 or/1-18

## 4. Health economics search strategies

### 4.1 Economic evaluations and quality of life data

#### Sources searched to identify economic evaluations

- Econlit (Ovid)
- Embase (Ovid)
- MEDLINE (Ovid)
- MEDLINE In-Process (Ovid)

Search filters to retrieve economic evaluations and quality of life papers were appended to the population search for the guideline. The search was conducted in July 2019.

The search was re-run in July 2020,

The search was limited to those in the English language. Animal studies were removed from results.

**Table 12: Economic evaluation and quality of life filters**

Medline Strategy	
<b>Economic evaluations</b>	
1	Economics/
2	exp "Costs and Cost Analysis"/
3	Economics, Dental/
4	exp Economics, Hospital/
5	exp Economics, Medical/
6	Economics, Nursing/
7	Economics, Pharmaceutical/
8	Budgets/
9	exp Models, Economic/
10	Markov Chains/
11	Monte Carlo Method/
12	Decision Trees/
13	econom\$.tw.
14	cba.tw.
15	cea.tw.
16	cua.tw.
17	markov\$.tw.
18	(monte adj carlo).tw.
19	(decision adj3 (tree\$ or analys\$)).tw.
20	(cost or costs or costing\$ or costly or costed).tw.
21	(price\$ or pricing\$).tw.
22	budget\$.tw.
23	expenditure\$.tw.
24	(value adj3 (money or monetary)).tw.
25	(pharmacoeconomic\$ or (pharmaco adj economic\$)).tw.
26	or/1-25
<b>Quality of life</b>	

### Medline Strategy

- 1 "Quality of Life"/
- 2 quality of life.tw.
- 3 "Value of Life"/
- 4 Quality-Adjusted Life Years/
- 5 quality adjusted life.tw.
- 6 (qaly\$ or qald\$ or qale\$ or qtime\$).tw.
- 7 disability adjusted life.tw.
- 8 daly\$.tw.
- 9 Health Status Indicators/
- 10 (sf36 or sf 36 or short form 36 or shortform 36 or sf thirtysix or sf thirty six or shortform thirtysix or shortform thirty six or short form thirtysix or short form thirty six).tw.
- 11 (sf6 or sf 6 or short form 6 or shortform 6 or sf six or sfsix or shortform six or short form six).tw.
- 12 (sf12 or sf 12 or short form 12 or shortform 12 or sf twelve or sftwelve or shortform twelve or short form twelve).tw.
- 13 (sf16 or sf 16 or short form 16 or shortform 16 or sf sixteen or sfsixteen or shortform sixteen or short form sixteen).tw.
- 14 (sf20 or sf 20 or short form 20 or shortform 20 or sf twenty or sftwenty or shortform twenty or short form twenty).tw.
- 15 (euroqol or euro qol or eq5d or eq 5d).tw.
- 16 (qol or hql or hqol or hrqol).tw.
- 17 (hye or hyes).tw.
- 18 health\$ year\$ equivalent\$.tw.
- 19 utilit\$.tw.
- 20 (hui or hui1 or hui2 or hui3).tw.
- 21 disutili\$.tw.
- 22 rosser.tw.
- 23 quality of wellbeing.tw.
- 24 quality of well-being.tw.
- 25 qwb.tw.
- 26 willingness to pay.tw.
- 27 standard gamble\$.tw.
- 28 time trade off.tw.
- 29 time tradeoff.tw.
- 30 tto.tw.
- 31 or/1-30