Neonatal infection: antibiotics for prevention and treatment

[A] Evidence review for information and support for parents and carers of babies with late-onset neonatal infection

NICE guideline NG195
Evidence reviews underpinning recommendations 1.1.1-1.1.13 in the NICE guideline
April 2021

These evidence reviews were developed by NICE Guideline Updates Team
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Contents

Information and support for parents and carers of babies with late-onset infection.... 5

1.1 Review question ........................................................................................................... 5

1.1.1 Introduction ................................................................................................................. 5

1.1.2 Summary of the protocol .......................................................................................... 5

Table 1 SPIDER table ......................................................................................................... 5

1.1.3 Methods and process ............................................................................................... 6

1.1.4 Qualitative evidence ................................................................................................. 6

1.1.5 Summary of studies included in the qualitative evidence ......................................... 7

1.1.6 Summary of the qualitative evidence ....................................................................... 8

1.1.7 Economic evidence .................................................................................................. 11

1.1.8 Summary of included economic evidence .................................................................. 11

1.1.9 Economic model ....................................................................................................... 11

1.1.10 The committee’s discussion and interpretation of the evidence ......................... 12

1.1.11 Recommendations supported by this evidence review ........................................ 14

1.1.12 References – included studies ............................................................................... 14

Appendices ....................................................................................................................... 15

Appendix A – Review protocols ......................................................................................... 15

Appendix B – Literature search strategies .......................................................................... 27

Clinical search literature search strategy ........................................................................... 27

Health Economics literature search strategy ...................................................................... 51

Appendix C – Qualitative evidence study selection ......................................................... 70

Appendix D – Qualitative evidence .................................................................................... 71

Appendix E – GRADE-CERQual tables ............................................................................ 74

Appendix F – Economic evidence study selection ............................................................ 79

Appendix G – Economic evidence tables .......................................................................... 80

Appendix H – Health economic model .............................................................................. 81

Appendix I – Excluded studies ......................................................................................... 82
Information and support for parents and carers of babies with late-onset infection

1.1 Review question

What are the perceived information and support needs for parents and carers with babies with suspected or confirmed late-onset neonatal infection?

1.1.1 Introduction

Neonatal infection is a significant cause of mortality and morbidity in newborn babies. It can lead to life-threatening sepsis, which accounts for 10% of all neonatal deaths. Late-onset neonatal infection occurs more than 72 hours after birth, is present in 7 of every 1000 newborn babies and is responsible for 61 of every 1000 neonatal admissions. Coagulase-negative staphylococci, Enterobacteriaceae and Staphylococcus aureus are the most common organisms identified.

It is important that parents and carers are aware if their baby is at risk of developing late-onset infection and understand what to expect if their baby has been admitted to hospital with an infection. Making sure that parents and carers are aware of issues such as risk factors and consequences of infection can help to improve outcomes for the baby, as well as reducing stress and uncertainty for the baby’s family. The aim of this review is therefore to identify what information and support should be provided to a baby’s family, including which methods of presenting the information are the most preferred.

1.1.2 Summary of the protocol

Table 1 SPIDER table

<table>
<thead>
<tr>
<th>Type of review</th>
<th>Qualitative evidence synthesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Inclusions:</td>
<td></td>
</tr>
<tr>
<td>• Expectant parents, and parents and carers of babies aged under 28 days (corrected age) who may or may not be at risk of late-onset neonatal infection</td>
<td></td>
</tr>
<tr>
<td>• Parents and carers of babies with suspected or confirmed late-onset neonatal infection</td>
<td></td>
</tr>
<tr>
<td>• Health-care professionals with experiences of caring for babies with suspected or confirmed late-onset neonatal infection</td>
<td></td>
</tr>
<tr>
<td>Exclusions:</td>
<td></td>
</tr>
<tr>
<td>• Parents and carers of babies with suspected or confirmed non-bacterial infections</td>
<td></td>
</tr>
<tr>
<td>• Parents and carers of babies with suspected or confirmed syphilis.</td>
<td></td>
</tr>
<tr>
<td>• Parents and carers of babies with localised infections.</td>
<td></td>
</tr>
<tr>
<td>• Parents and carers of babies with suspected or confirmed bacterial infection resulting from therapeutic interventions such as surgery</td>
<td></td>
</tr>
<tr>
<td>Phenomenon of Interest</td>
<td>Information and support for parents and carers of babies who may develop late-onset neonatal infection</td>
</tr>
<tr>
<td>Design</td>
<td></td>
</tr>
<tr>
<td>• Studies using qualitative methods:</td>
<td></td>
</tr>
<tr>
<td>• Including, semi-structured and structured interviews, focus groups, observations</td>
<td></td>
</tr>
<tr>
<td>• Qualitative data from mixed methods studies will be included.</td>
<td></td>
</tr>
<tr>
<td>• Data from surveys will not be included</td>
<td></td>
</tr>
<tr>
<td>• Qualitative evidence syntheses of above study types</td>
<td></td>
</tr>
</tbody>
</table>
1.1.3 Methods and process

This evidence review was developed using the methods and process described in *Developing NICE guidelines: the manual*. Studies were uploaded to Nvivo version 11 software and coded into themes based on the data presented in the primary studies. For further details of the methods used see the methods document.

Declarations of interest were recorded according to NICE’s 2018 conflicts of interest policy.

1.1.4 Qualitative evidence

1.1.4.1 Included studies

The search returned a total of 3217 results. Of these, 27 were identified as potential includes, and full text articles were ordered and reviewed against the inclusion criteria. One study, using semi-structured interviews, met the inclusion criteria for this review.

The search was re-run in July 2020 to identify any studies which had been published since the date of the original search. This returned a total of 188 results of which 0 were identified as possible included studies. In total there was therefore 1 study, using semi-structured interviews, which met the inclusion criteria for this review.

See Appendix D for evidence tables of included studies.

1.1.4.2 Excluded studies

See Appendix I for excluded studies and reasons for exclusion.
1.1.5 Summary of studies included in the qualitative evidence

Table 2 Summary of included clinical studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Study type and time</th>
<th>Population</th>
<th>Type of analysis</th>
<th>Setting</th>
<th>Expectant parents / parents / healthcare professionals</th>
</tr>
</thead>
</table>
| De 2014 (n=36) | • Semi-structured interviews  
|                | • Questionnaires given towards end of baby’s hospital admission          | • Parents of febrile infants aged <3 months admitted to hospital  
| Australia      |                                                                 | • Parents of infants who were previously healthy  
|                |                                                                 | Infants with uncomplicated febrile illness - with an unremarkable clinical course and uneventful recovery | Semi-structured interviews  
|                |                                                                 |                                                                 | • Tertiary children’s hospital  
|                |                                                                 |                                                                 | • Parents and carers                  |

See appendix D for full evidence tables.
### 1.1.6 Summary of the qualitative evidence

<table>
<thead>
<tr>
<th>Themes</th>
<th>Studies</th>
<th>CERQual concerns: Methodological limitations (ML), Coherence (C), Adequacy (A), Relevance (R)</th>
<th>CERQual explanation</th>
</tr>
</thead>
</table>
| Parent or carer anxiety    | 1 De 2014 | ML: Serious  
C: Not serious  
A: Serious  
R: Very serious  
Overall: Very low | Results were from a single study which was only partially relevant to the review question. Study provided limited information about analysis and excluded parents of preterm babies. |
|                             |         | Some parents were concerned about missing the signs of serious illness in their baby.      |                                                                                                                                                   |
|                             |         | Others were concerned about not knowing what was going to happen to their baby while at the hospital. |                                                                                                                                                   |
|                             |         | Reassurance that they had done the right thing by taking the baby to the hospital helped to reduce anxiety. |                                                                                                                                                   |
|                             |         | Anxiety for some was made worse by their perception of the urgency of treatment when they arrived at the hospital and the number and invasiveness of some of the tests. |                                                                                                                                                   |
|                             |         | Anxiety over tests was highlighted by some parents, particularly in relation to lumbar punctures. |                                                                                                                                                   |
| Explanation of procedures  | 1 De 2014 | ML: Serious  
C: Not serious  
A: Serious  
R: Not relevant  
Overall: Moderate | Results were from a single study which was only partially relevant to the review question. Study provided limited information about analysis and excluded parents of preterm babies. |
|                             |         | Some parents highlighted the importance of a clear explanation of any medical procedures. They highlighted |                                                                                                                                                   |
how being in a stressful situation made it hard to process all of the information, particularly where complex medical terms were being used.

Clear explanations of procedures helped them to understand what was going to happen to the baby and why the tests were important.

### Parental or carer involvement in decision making

Having clear explanations of the management plan, what will happen and when helped parents to trust the team. Being able to ask questions made them feel valued and increased their understanding of what was happening.

However, some felt that in a stressful situation it was difficult to know what to ask. Others were either unaware that they had the right to say no to treatment or, although they had been made aware of this, they didn’t feel that was really the case because they didn’t want their child to get sicker.

Some parents were worried that their questions could make them appear paranoid or potentially delay treatment. They were relieved when they were reassured that their concerns were justified.

### Format of information

Results were from a single study which was only partially relevant to the review question. Study provided limited information about analysis and excluded parents of preterm babies.
It was suggested that parents may prefer fact sheets as source of information as these are easy to understand and can be processed over time.

<table>
<thead>
<tr>
<th>R: Very serious</th>
<th>Overall: Very low</th>
</tr>
</thead>
<tbody>
<tr>
<td>analysis and excluded parents of preterm babies.</td>
<td></td>
</tr>
</tbody>
</table>

See [appendix E](#) for full GRADE-CERQual tables.
1.1.7 Economic evidence

1.1.7.1 Included studies

A single search was performed to identify published economic evaluations of relevance to any of the questions in this guideline update (see Appendix B). This search retrieved 4,398 studies. Based on title and abstract screening, all of the studies could confidently be excluded for this question, as none of them were found to be relevant.

The search was re-run in July 2020 to identify any studies which had been published since the date of the original search. This returned a total of 577 results. Based on title and abstract screening, all the studies could confidently be excluded for this question. Thus, the review for this question does not include any study from the existing literature.

1.1.7.2 Excluded studies

No full-text copies of articles were requested for this review and so there is no excluded studies list.

1.1.8 Summary of included economic evidence

No studies were applicable to this review question.

1.1.9 Economic model

No economic modelling was undertaken for this review because of a lack of economic evidence and because the committee agreed that other topics were higher priorities for economic evaluation.
1.1.10 The committee’s discussion and interpretation of the evidence

1.1.10.1. The outcomes that matter most

The committee stated that support following discharge of the baby from medical care was an important outcome. This includes both babies who are discharged from hospital after birth or medical care after a home birth as well as those who are discharged following treatment for suspected infection. Whereas clinicians within a neonatal unit will be familiar with potential signs of late-onset infection, families will be less aware of the risks and signs. Support at discharge should also influence other important outcomes, such as parental or carer anxiety. By being given clear information at discharge, parents and carers can be more confident in asking for help if their child is displaying any signs of infection. The committee also thought that format of information was important, as not everyone may have access to certain types of resources, such as online content.

1.1.10.2 The quality of the evidence

Only one study, with very low-quality evidence, was included in the review. This study included parents of febrile infants, rather than those specifically with neonatal infection, and excluded preterm babies, who may often be at higher risk of infection. However, the committee decided that this was still relevant to the review as this group of parents will face similar experiences to those with babies who develop late-onset infection. In particular they may have similar experiences in relation to awareness of the symptoms and seeing their child receive examinations that they are not necessarily familiar with. Given the differences in population, the study was assessed as partially relevant to the review and the quality was downgraded for relevance. The quality of the study was further downgraded for risk of bias, due to limited information about the analysis methods used in the research. The inclusion of only one study in the review meant that it was difficult to assess the coherence of findings for each of the themes identified. However, the themes in the article corresponded with the experience of the committee when considering what information is important and the format in which it is given to parents and carers. The evidence was therefore useful to highlight similarities between the opinions of parents and clinicians on what is important, and it did not identify any unexpected themes that the committee may otherwise not have considered. The committee decided that the evidence corresponded with the recommendations that were made for babies at risk of early-onset infection in the 2012 version of this guideline, which were based on committee consensus. It was therefore decided that the 2012 recommendations should be applied to babies at risk of either early- or late-onset infection in this guideline, with minor updates. The committee decided not to make a research recommendation as it was satisfied that the results matched the experience of both the clinicians and lay members on the committee and were sufficient to be able to make effective recommendations.

1.1.10.3 Benefits and harms

The evidence identified in this review was consistent with principles of good practice when communicating with the parents and carers of babies who are being treated for neonatal infection. It also reflects the knowledge and experience of the committee members as well as the recommendations from the 2012 version of this guideline. The recommendations in the previous version of the guideline were extended to include late-onset neonatal infection. They therefore reflect current practice and are not expected to have any harmful effects.

The previous version of the guideline on early onset infection recommended that parents and carers of babies with risk factors for early onset infection should be given verbal and written information on the signs and symptoms of infection. This corresponds with the evidence
found in the current update, that parents appreciated clear explanations of procedures from clinicians and would like fact sheets to help them process information.

The committee noted that babies at risk of late-onset infection would often be cared for at home. Any baby can develop an infection, even if they are not identified as high risk at the time of discharge. The committee therefore thought it was important that all parents and carers be given information about the signs and symptoms of neonatal infection, when being discharged from hospital. The importance of giving advice to all parents and carers was reflected in the evidence, where parents were worried about missing the symptoms of infection or being seen as overprotective parents if they took their baby to the hospital. The recommendations should therefore ensure that all parents and carers are given information about the signs of neonatal infection, not just those whose babies are considered to be at high risk of infection. Highlighting this information means that parents will be more confident to seek medical advice if they think their child is unwell, thereby reducing the risk of the serious consequences of untreated neonatal infection.

1.1.10.4 Cost effectiveness and resource use

Since the recommendations are not expected to cause a major change in practice, the issue of cost-effectiveness was not considered explicitly, and no resource impact is expected.

1.1.10.5 Other factors the committee took into account

The committee discussed potential equality issues in relation to language barriers. It highlighted the importance of providing information to parents and carers that is either in their first language or in a language that they can clearly understand. Overcoming language barriers should increase the likelihood of a parent or carer identifying the signs of infection and getting medical care for their baby as early as possible. This will help to reduce the risk of a baby developing potentially serious consequences from not receiving early treatment for neonatal infection. Recommendations on establishing clear communication with people using NHS services are already provided in the NICE Patient experience in adult NHS services guideline (CG138, section 1.5 – enabling patients to actively participate in their care), and so the committee did not make separate recommendations for this, but instead cross referred to this guideline. The patient experience guideline not only covers language barriers but also provides information on other communication barriers, such as visual or hearing impairments, or where a patient advocate or family member may also need to be involved in care. The committee decided that this covered the main things for a clinician to consider when communicating with parents and carers.

A similar issue was highlighted in relation to the format in which information is provided, as some people may not have access to certain formats, such as online guidance. The committee felt that the recommendation that clinicians should provide guidance both verbally and in writing at the time of discharge should ensure that everyone has access to the relevant information.

The evidence indicated that many parents had difficulties in understanding clinical terminology when a clinician was explaining the tests or treatment that their babies would receive. The committee agreed that this was an important issue and were satisfied that the existing recommendations for early-onset infection highlight the main signs of infection in a way that is easy for parents and carers to understand. The description of change in skin colour was extended to be specific about a baby becoming very pale, blue/grey or dark yellow. The committee discussed whether colour changes might differ depending on a baby’s skin colour, but they were confident that these colour changes could be seen in all babies.
and that the recommendation would not result in equality issues. The recommendations also state that clinicians should discuss the best management options for the baby with parents and carers, as well as explaining the reasons for any treatment. This is important as the evidence highlighted that some parents were concerned about not knowing what was going to happen to their baby while they were in hospital, and others said that they did not always receive clear explanations of procedures.

The committee discussed whether any of the recommendations from the 2012 version of the guideline needed to be updated so that it applied to both early- and late-onset infection. They were satisfied that the recommendations were appropriate for the families and carers of all babies, but decided to extend the definition of breathing difficulties from rapid breathing to abnormal breathing, with a list of potential breathing problems. This will help make parents more aware of what to look for if they are concerned that their baby might have an infection.

1.1.11 Recommendations supported by this evidence review

This evidence review supports recommendations 1.1.1-1.1.13.

1.1.12 References – included studies

1.1.12.1 Effectiveness

Appendices

Appendix A – Review protocols

Review protocol for what information and support should be provided for parents and carers of babies with suspected or confirmed late-onset neonatal infection?

<table>
<thead>
<tr>
<th>ID</th>
<th>Field</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>PROSPERO registration number</td>
<td>CRD42019158604</td>
</tr>
<tr>
<td>1</td>
<td>Review title</td>
<td>Information and support for parents and carers of babies with late-onset neonatal infection</td>
</tr>
<tr>
<td>2</td>
<td>Review question</td>
<td>What are the perceived information and support needs for parents and carers with babies with suspected or confirmed late-onset neonatal infection?</td>
</tr>
<tr>
<td>3</td>
<td>Objective</td>
<td>To identify the information and support that should be provided for pregnant women or expectant parents with risk factors for late-onset neonatal infection and for parents and carers of babies at risk of late-onset neonatal infection, and those with suspected or confirmed late-onset neonatal infection. The review will synthesise qualitative data on information needs of parents and carers, as perceived by parents and carers themselves and by health-care professionals.</td>
</tr>
<tr>
<td>4</td>
<td>Searches</td>
<td>The following databases will be searched:</td>
</tr>
</tbody>
</table>
Information and support for late-onset neonatal infection

- Cochrane Central Register of Controlled Trials (CENTRAL)
- Cochrane Database of Systematic Reviews (CDSR)
- Embase
- MEDLINE (including ‘in process’ and ‘E-journal ahead of print’)
- Database of Abstracts of Reviews of Effect (DARE)
- Psychinfo

Searches will be restricted by:
- English language
- Human studies
- Conference abstracts
- No date limit will be used

Other searches:
None

The searches will be re-run 6 weeks before final submission of the review and further studies retrieved for inclusion.
The full search strategies for MEDLINE database will be published in the final review.

5. Condition or domain being studied

Infection is a significant cause of mortality and morbidity in neonates. It may be late-onset which, for the purpose of this guideline is classified as infection more than 72 hours after birth, although can be considered as infection at greater than 7 days after birth. Late-onset neonatal infection can lead to life-threatening sepsis, which accounts for 10% of all neonatal deaths.

6. Population

Inclusion:
- Expectant parents, and parents and carers of babies aged under 28 days (corrected age) who may or may not be at risk of late-onset neonatal infection
- Parents and carers of babies with suspected or confirmed late-onset neonatal infection
- Health-care professionals with experiences of caring for babies with suspected or confirmed late-onset neonatal infection

Exclusion:
| 7. | Intervention/Exposure/Test | Parents and carers of babies with suspected or confirmed non-bacterial infections.  
Parents and carers of babies with suspected or confirmed syphilis.  
Parents and carers of babies with localised infections.  
Parents and carers of babies with suspected or confirmed bacterial infection resulting from therapeutic interventions such as surgery  
Parents and carers of babies with suspected or confirmed meningitis who are not receiving care in neonatal units (covered by the NICE guideline on bacterial meningitis and meningococcal septicaemia) |
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>8.</td>
<td>Comparator/Reference standard/Confounding factors</td>
<td>Perceived information and support needs of parents and carers of neonates with, or at risk of, neonatal infection among health practitioners and parents and carers.</td>
</tr>
</tbody>
</table>
| 9. | Types of study to be included | Studies using qualitative methods:  
Including, semi-structured and structured interviews, focus groups, observations |
<p>| | | |</p>
<table>
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</table>
| **10.** | **Other exclusion criteria** | - Qualitative data from mixed methods studies will be included.  
- Data from surveys will not be included  
Qualitative evidence syntheses of above study types  
Non-English language studies  
Evidence from non-OECD countries (Non-OECD counties were excluded because the pathogens and risk factors which result in neonatal infection vary between countries. The committee thought that countries who are part of the OECD are likely to have more similar pathogens and standards of care to the UK than those which are not part of the OECD.) |
| **11.** | **Context** | The review will cover all contexts in which information and support is provided to parents and carers who have a child at risk of or who has suspected or confirmed late onset neonatal infection. All settings where care of pregnant women and neonates is provided will be covered including: antenatal care (community or hospital based), postal natal care (community or hospital based), neonatal care (neonatal unit). |
| **12.** | **Primary outcomes (critical outcomes)** | Themes will be identified from the literature and not pre-specified. Relevant themes may include:  
- Preferred format and content of information provision |
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Decision making</td>
</tr>
<tr>
<td></td>
<td>Information sources other than healthcare professionals (e.g. support groups, online resources)</td>
</tr>
<tr>
<td></td>
<td>Parent/carer involvement in decision-making</td>
</tr>
<tr>
<td></td>
<td>Parental/carer anxiety</td>
</tr>
<tr>
<td></td>
<td>Impact on the baby's family</td>
</tr>
<tr>
<td></td>
<td>Delivery of support (e.g. nurse, peer groups)</td>
</tr>
<tr>
<td></td>
<td>Setting (e.g. community, hospital)</td>
</tr>
<tr>
<td></td>
<td>Timing of information provision</td>
</tr>
<tr>
<td></td>
<td>Support following discharge of the baby from hospital</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>13.</th>
<th>Secondary outcomes (important outcomes)</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.</td>
<td>Data extraction (selection and coding)</td>
<td>All references identified by the searches and from other sources will be uploaded into EPPI reviewer and de-duplicated. 10% of the abstracts will be reviewed by two reviewers, with any disagreements resolved by discussion or, if necessary, a third independent reviewer. The full text of potentially eligible studies will be retrieved and will be assessed in line with the criteria outlined above. A standardised form</td>
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<tr>
<td></td>
<td>will be used to extract data from studies. Study investigators may be contacted for missing data where time and resources allow. This review will make use of the priority screening functionality within the EPPI-reviewer software. Included studies will be uploaded to NVivo 11 for coding and identification of themes.</td>
<td></td>
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<tr>
<td>15.</td>
<td>Risk of bias (quality) assessment</td>
<td></td>
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<tr>
<td></td>
<td>The methodological quality of the included studies will be assessed using the CASP qualitative checklist as described in Developing NICE guidelines: the manual.</td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>Strategy for data synthesis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data extracted from the papers will be grouped together into themes (aggregative coding). These themes will be examined for common factors and differences, which will be reported in the summary of qualitative findings table. The quality of evidence will be assessed used GRADE-CERQual.</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>Analysis of sub-groups</td>
<td></td>
</tr>
</tbody>
</table>
|   | Stratifications:  
  • Term vs preterm babies  
  • babies who have been admitted to hospital from home |
The stratifications listed above will be coded. Within each theme, evidence for each of the stratified groups will be presented separately.

<table>
<thead>
<tr>
<th>18.</th>
<th>Type and method of review</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☐ Intervention</td>
</tr>
<tr>
<td></td>
<td>☐ Diagnostic</td>
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<tr>
<td></td>
<td>☐ Prognostic</td>
</tr>
<tr>
<td></td>
<td>☐ Qualitative</td>
</tr>
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<td></td>
<td>☐ Epidemiologic</td>
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<td></td>
<td>☐ Service Delivery</td>
</tr>
<tr>
<td></td>
<td>☐ Other (please specify)</td>
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<tr>
<td>19.</td>
<td>Language</td>
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<tr>
<td>20.</td>
<td>Country</td>
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<tr>
<td>21.</td>
<td>Anticipated or actual start date</td>
</tr>
<tr>
<td>22.</td>
<td>Anticipated completion date</td>
</tr>
<tr>
<td>23.</td>
<td>Stage of review at time of this submission</td>
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<td></td>
<td>Risk of bias (quality) assessment</td>
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</tr>
<tr>
<td></td>
<td>Data analysis</td>
</tr>
</tbody>
</table>

| 24. | Named contact                  | 5a. Named contact  
Guideline Updates Team |
|     |                                 | 5b Named contact e-mail  
Nlupdate@nice.org.uk |
|     |                                 | 5e Organisational affiliation of the review  
National Institute for Health and Care Excellence (NICE) |

| 25. | Review team members            | From the Guideline Updates Team:  
• Dr Kathryn Hopkins  
• Dr Clare Dadswell  
• Mr Fadi Chehadah  
• Mr Wesley Hubbard  
• Dr Stacey Chang-Douglass |

| 26. | Funding sources/sponsor        | This systematic review is being completed by the Centre for Guidelines which receives funding from NICE. |
## Conflicts of interest

All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE’s code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.

## Collaborators

Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website.

## Other registration details

None

## Reference/URL for published protocol

None

## Dissemination plans

NICE may use a range of different methods to raise awareness of the guideline. These include standard approaches such as:

- notifying registered stakeholders of publication
- publicising the guideline through NICE’s newsletter and alerts
### 32. Keywords

Information, support, late onset neonatal infection

### 33. Details of existing review of same topic by same authors

None

### 34. Current review status

| ☐ | Ongoing |
| ☐ | Completed but not published |
| ☐ | Completed and published |
| ☐ | Completed, published and being updated |
| ☐ | Discontinued |

### 35. Additional information

None

### 36. Details of final publication

The guideline with supporting evidence reviews will be published on the NICE website.
Appendix B – Literature search strategies

Clinical search literature search strategy

The search was conducted on 12th March 2020. The following databases were searched:

Medline, Medline In Process, Medline E-pub Ahead of print, Embase, PsycINFO (all via the Ovid platform), Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials, (both via the Wiley platform), and the DARE database (via the CRD platform).

Population and Intervention terms

Medline, Medline in Process, Medline E-pub Ahead of Print

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 disease* 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 invad* 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.
(met?icillin-resistant adj3 aureus).tw.
exp Escherichia coli/
(((Escheric* or E) adj2 coli) or ecoli*).tw.
exp Listeria/
listeria*.tw.
exp Klebsiella/
klebsiella*.tw.
exp Pseudomonas/
(pseudomonas or chryseomonas or flavimonas).tw.
Enterobacteriaceae/
(enterobact* or sodalis or paracolobactrum or ewingella or leclercia).tw.
((enteric or coliform) adj2 bac*).tw.
exp Neisseria/
neisseria*.tw.
exp Haemophilus influenzae/
((th?emophil* or H or bacter* or bacill* or mycobacter* or coccobac*) adj2 (influenz* or pfeiffer* or meningitidis)).tw.
exp Serratia/
serratia*.tw.
exp Cronobacter/
(cronobact* or sakazaki* or malonatic*).tw.
exp Acinetobacter/
(acinetobact* or herellea* or mima or baumann* or genomosp* or calcoacetic*).tw.
exp Fusobacterium/
(fusobact* or sphaerophor* or necrophorum or nucleatum).tw.
exp Enterococcus/
enterococc*.tw.
or/19-48
18 or 49
10 and 50
((newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*) adj4 infect*).tw.
((premature* or pre-mature* or preterm* or pre-term*) adj4 (child* or infant* or baby* or babies* or offspring) adj4 infect*).tw.
Information and support for late-onset neonatal infection

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
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 acqusiec* or authori?e* or permis* or permit* or sanction* or accord or accord 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 adhere* 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
Information and support for late-onset neonatal infection

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.
90 (patient* adj4 (consent* or approv* or assent* or acquiesc* or authori?e* or permis* or permit* or sanction* or accord or accords or notif* or involv* or engag* or advocat* or represent* or recommend* or accept* or nonaccept* or utiliz* or utilis* or compliy* 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 compani* 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* or meeting* or discus*)).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 exchang* or meeting* or discus*)).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.
(selfhelp* or self-help* or self-manag* or self-manag* or self-support* or self-support*).tw.

((professional* or practitioner*) adj4 patient* adj4 (relations* or associate*)).tw.

Health Education/

Patient Education as Topic/

(educat* or learn* or teach* or instruct* or taught* or train or training*).tw.

or/75-103

74 and 104

patient education handout.pt.

Pamphlets/

(booklet* or leaflet* or pamphlet* or brochure* or handout* or hand-out*).tw.

exp Computers/

exp Computer Communication Networks/

Computer Assisted Instruction/

exp User-Computer Interface/

Therapy, Computer-Assisted/

Cloud Computing/

exp Online Systems/

Mobile Applications/

Medical Informatics Applications/

(online or web or internet or digital*).ti.

(app or apps).tw.

((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.

((laptop* or palm* or handheld* or tablet* or pda or pc) adj2 comput*).tw.

(email* or e-mail* or electronic mail*).tw.

Search Engine/

(search* adj2 engine*).tw.

exp Telephone/

Hotlines/

(telephone* or helpline* or help-line* or hotline* or hot-line* or cellphone* or texting* or phone or phones* or smartphone* or smartwatch*).tw.

((text* or audio* or multimedia* or multi-media* or instant* or pictur*) adj2 messag*).tw.
(mobile health* or mhealth* or m-health* or ehealth* or e-health* or e-mental* or e-mental*).tw.

(mobile* adj3 (base* or application* or intervention* or device* or technolog* or tablet*)).tw.

exp Audiovisual Aids/

(audiovisual* or audio-visual*).tw.

(visual* adj2 aid*).tw.

(radio or radios or television* or DVD* or blu-ray* or VHS* or video*).tw.

exp Communications Media/

((communication* or transmiss* or transmit* or social*) adj4 media*).tw.

(Facebook* or Twitter* or WhatsApp* or Snapchat* or Linkedin* or Instagram* or YouTube* or Wikipedia* or Reddit*).tw.

(telecommunicat* or teleconference*).tw.

(tele* adj2 (communicat* or conference*)).tw.

Blogging/

(blog* or vlog*).tw.

or/106-141

67 or 105 or 142

55 and 143

Animals/ not Humans/

144 not 145

limit 146 to english language

Embase

1 newborn/

2 term birth/

3 infant care/

4 perinatal care/

5 neonatal intensive care unit/

6 newborn intensive care/

7 child 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 infection/
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.
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.
exp Serratia/
serratia*.tw.
exp cronobacter/
(cronobact* or sakazaki* or malonatic*).tw.
exp Acinetobacter/
(acinetobact* or herellea* or mima or baumannii* or genomosp* or calcoacetic*).tw.
exp Fusobacterium/
(fusobact* or sphaerophor* or necrophorum or nucleatum).tw.
exp Enterococcus/
enterococc*.tw.
or/19-48
18 or 49
10 and 50
((newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*) adj4 infect*).tw.
((premature* or pre-mature* or preterm* or pre-term*) adj4 (child* or infant* or baby* or babies* or offspring) adj4 infect*).tw.
52 or 53
51 or 54
parental notification/
informed consent/
((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.
((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 m?aterial* 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.
((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.
Information and support for late-onset neonatal infection

(99x792) FINAL

In this evidence review for information and support for parents and carers of babies with late-onset neonatal infection (April 2021), 35 of 61-62

exp parent/

family/
caregiver/

exp grandparent/

legal guardian/

(paren* 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.

or/62-67

exp patient attitude/

attitude to health/

social support/

friend/

friendship/

human relation/

exp peer group/

exp social network/

consumer health information/

information dissemination/

information literacy/

health promotion/

exp professional-patient relationship/

information* or communicat* or advice* or advis* or support*).ti.

((patient* or peer* or health* or medic* or consumer*) adj4 (inform* or support* or advice* or advis* or knowledge* or material* or litera*)).tw.

((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*).ti.

((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.

((information* or advice* or advis* or help* or assist* or litera*) adj4 support*).tw.
Information and support for late-onset neonatal infection

87 ((psych* or emot* or mental* or sentiment*) adj4 (support* or help* or advice* or advis* or assist* or workshop* or work-shop*)).tw.

88 ((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.

89 ((patient* or support* or consumer* or social*) adj4 (group* or association* or organisation* or network* or forum* or program* or workshop* or work-shop*)).tw.

90 ((peer* or community* or volunteer* or voluntary* or social*) adj4 (group* or support* or network* or service* or program* or forum* or workshop* or exchang* or meeting* or discuss*)).tw.

91 ((health* or well-being* or wellness* or well-being* or resilient* or coping*) adj4 (promot* or campaign* or advocat* or encourag* or improv* or workshop* or work-shop* or strateg*)).tw.

92 ((helpseek* or seek* or search*) adj4 (support* or help* or advice* or advis* or assist* or help*)).tw.

93 (selfhelp* or self-help* or self-manag* or self-manag* or self-support* or selfsupport*).tw.

94 ((professional* or practitiioner*) adj4 patient* adj4 (relations* or associate*)).tw.

95 health education/

96 patient education/

97 (educat* or learn* or teach* or instruct* or taught* or train or training*).tw.

98 or/69-97

99 68 and 98

100 (booklet* or leaflet* or pamphlet* or brochure* or handout* or hand-out*).tw.

101 exp computer/

102 exp internet/

103 computer interface/

104 exp computer assisted therapy/

105 cloud computing/

106 online system/

107 exp mobile application/

108 medical informatics/

109 (online or web or internet or digital*).ti.

110 (app or apps).tw.

111 ((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.

112 ((laptop* or palm* or handheld* or tablet* or pda or pc) adj2 comput*).tw.
FINAL
Information and support for late-onset neonatal infection

113 e-mail/
114 (email* or e-mail* or electronic mail*).tw.
115 search engine/
116 (search* adj2 engine*).tw.
117 telephone/
118 exp mobile phone/
119 hotline/
120 (telephone* or helpline* or help-line* or hotline* or hot-line* or cellphone* or texting* or phone or phones* or smartphone* or smartwatch*).tw.
121 text messaging/
122 ((text* or audio* or multimedia* or multi-media* or intstant* or pictur*) adj2 messag*).tw.
123 (mobile health* or mhealth* or m-health* or ehealth* or e-health* or emental* or e-mental*).tw.
124 (mobile* adj3 (base* or application* or intervention* or device* or technolog* or tablet*)).tw.
125 exp audiovisual equipment/
126 audiovisual aid/
127 radio/
128 (audiovisual* or audio-visual*).tw.
129 (visual* adj2 aid*).tw.
130 (radio or radios or television* or DVD* or blu-ray* or VHS* or video*).tw.
131 mass medium/
132 social media/
133 ((communication* or transmiss* or transmit* or social*) adj4 media*).tw.
134 (Facebook* or Twitter* or WhatsApp* or Snapchat* or Linkedin* or Instagram* or YouTube* or Wikipedia* or Reddit*).tw.
135 exp telecommunication/
136 (telecommunicat* or teleconference*).tw.
137 (tele* adj2 (communicat* or conference*)).tw.
138 blogging/
139 (blog* or vlog*).tw.
140 or/100-139
141 61 or 99 or 140
Information and support for late-onset neonatal infection

Neonatal infection: antibiotics for prevention and treatment evidence review for information and support for parents and carers of babies with late-onset neonatal infection (April 2021)

142 55 and 141
143 nonhuman/ not human/
144 142 not 143
145 limit 144 to english language
146 limit 145 to (conference abstract or conference paper or "conference review")
147 145 not 146

PsycINFO

1 exp infant development/
2 neonatal period/
3 exp birth/
4 perinatal period/
5 (newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*).tw.
6 ((premature* or pre-mature* or preterm* or pre-term*) adj4 (child* or infant* or baby* or babies* or offspring)).tw.
7 or/1-6
8 exp bacterial disorders/
9 ((bacter* or strep* or staph* or GNB) adj4 (infect* or diseas* or contaminat* or mening* or pneumon* or nosocomial*)).tw.
10 (sepsis or septic?emia* or py?emia* or pyho?emia*).tw.
11 (bacter?emia* or bacill?emia*).tw.
12 (blood* adj4 (infect* or contamin* or invas* or invad*)).tw.
13 (septic* adj4 shock*).tw.
14 or/8-13
15 exp microorganisms/
16 (streptococc* or staphylococc*).tw.
17 (GBS or MRSA or NRCS-A or MSSA).tw.
18 (met?icillin-resistant adj3 aureus).tw.
19 (((Escheric* or E) adj2 coli) or ecoli*).tw.
20 listeria*.tw.
21 klebsiella*.tw.
22 (pseudomonas or chryseomonas or flavimonas).tw.
(enterobact* or sodalis or paracolobactrum or ewingella or leclercia).tw.

((enteric or coliform) adj2 bac*).tw.

neisseria*.tw.

((h?emophil* or H or bacter* or bacill* or mycobacter* or coccobac*) adj2 (influenz* or pfeiffer* or meningitidis)).tw.

serratia*.tw.

(cronobact* or sakazaki* or malonatic*).tw.

(acinetobact* or herellea* or mima or baumanni* or genomosp* or calcoacetic*).tw.

(fusobact* or sphaerophor* or necrophorum or nucleatum).tw.

enterococc*.tw.

or/15-31

14 or 32

7 and 33

((newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*) adj4 infect*).tw.

((premature* or pre-mature* or preterm* or pre-term*) adj4 (child* or infant* or baby* or babies* or offspring) adj4 infect*).tw.

35 or 36

34 or 37

limit 38 to human

limit 39 to english language

limit 40 to (chapter or dissertation or encyclopedia entry or obituary or poetry or review-book or review-media)

42 40 not 41

43 limit 42 to (classic book or conference proceedings or "handbook/manual" or reference book or "textbook/study guide")

44 42 not 43

Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials

#1 MeSH descriptor: [Infant, Newborn] explode all trees

#2 MeSH descriptor: [Term Birth] this term only

#3 MeSH descriptor: [Infant Care] this term only

#4 MeSH descriptor: [Perinatal Care] this term only

#5 MeSH descriptor: [Intensive Care Units, Neonatal] this term only
#6 MeSH descriptor: [Intensive Care, Neonatal] this term only
#7 MeSH descriptor: [Infant Health] this term only
#8 ((newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*)):ti,ab,kw
#9 ((premature* or pre-mature* or preterm* or pre-term*) near/4 (child* or infant* or baby* or babies* or offspring)):ti,ab,kw
#10 {or #1-#9}
#11 MeSH descriptor: [Bacterial Infections] 1 tree(s) exploded
#12 ((bacter* or strep* or staph* or GNB) near/4 (infect* or diseas* or contaminat* or mening* or pneumon* or nosocomial*)):ti,ab,kw
#13 MeSH descriptor: [Sepsis] 2 tree(s) exploded
#14 (sepsis or septicemia* or pyemia* or pyhoemia*):ti,ab,kw
#15 (septic* near/4 shock*):ti,ab,kw
#16 (bacteremia* or bacillemia*):ti,ab,kw
#17 ((blood*) near/4 (infect* or contamin* or invas* or invad*)):ti,ab,kw
#18 {or #11-#17}
#19 MeSH descriptor: [Streptococcus] explode all trees
#20 MeSH descriptor: [Staphylococcus] explode all trees
#21 (streptococc* or staphylococc*):ti,ab,kw
#22 (GBS or MRSA or NRCS-A or MSSA):ti,ab,kw
#23 (meta?icillin-resistant near/3 aureus):ti,ab,kw
#24 MeSH descriptor: [Escherichia coli] explode all trees
#25 (((Escheric* or E) near/2 (coli)) or (ecoli*)):ti,ab,kw
#26 MeSH descriptor: [Listeria] explode all trees
#27 (listeria*):ti,ab,kw
#28 MeSH descriptor: [Klebsiella] explode all trees
#29 (klebsiella*):ti,ab,kw
#30 MeSH descriptor: [Pseudomonas] explode all trees
#31 (pseudomonas or chryseomonas or flavimonas):ti,ab,kw
#32 MeSH descriptor: [Enterobacteriaceae] explode all trees
#33 (enterobact* or sodalis or paracolobactrum or ewingella or leclercia):ti,ab,kw
#34 ((enteric or coliform) near/2 (bac*)):ti,ab,kw
#35 MeSH descriptor: [Neisseria] explode all trees
#36 (neisseria*):ti,ab,kw
Information and support for late-onset neonatal infection

#37 MeSH descriptor: [Haemophilus influenzae] explode all trees

#38 ((h?emophil* or H or bacter* or bacill* or mycobacter* or coccobac*) near/2 (influenz* or pfeiffer* or meningitidis));ti,ab,kw

#39 MeSH descriptor: [Serratia] explode all trees

#40 (serratia*);ti,ab,kw

#41 MeSH descriptor: [Cronobacter] explode all trees

#42 (cronobact* or sakazaki* or malonatic*);ti,ab,kw

#43 MeSH descriptor: [Acinetobacter] explode all trees

#44 (acinetobact* or herellea* or mima or baumannii* or genomosp* or calcoacetic*);ti,ab,kw.

#45 MeSH descriptor: [Fusobacterium] explode all trees

#46 (fusobact* or sphaerophor* or necrophorum or nucleatum);ti,ab,kw

#47 MeSH descriptor: [Enterococcus] explode all trees

#48 (enterococc*);ti,ab,kw

#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*) near/4 (infect*));ti,ab,kw

#53 (premature* or pre-mature* or "preterm*" or "pre-term*") near/4 (child* or infant* or baby* or babies* or offspring) near/4 (infect*));ti,ab,kw

#54 #52 or #53

#55 #51 or #54

#56 MeSH descriptor: [Parental Notification] this term only

#57 MeSH descriptor: [Third-Party Consent] explode all trees

#58 MeSH descriptor: [Parents] explode all trees and with qualifier(s): [education - ED]

#59 MeSH descriptor: [Caregivers] this term only and with qualifier(s): [legislation & jurisprudence - LJ, education - ED]

#60 MeSH descriptor: [Grandparents] this term only and with qualifier(s): [education - ED]

#61 MeSH descriptor: [Legal Guardians] explode all trees and with qualifier(s): [education - ED, legislation & jurisprudence - LJ]

#62 MeSH descriptor: [Professional-Family Relations] this term only

#63 ((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 step?m* or stepdad* or guardian* or grandparent* or grandm* or grandad* or grandfather* or third-part* or stepfamil*) near/4 (inform* or support* or consent* or approv*
Information and support for late-onset neonatal infection

or assent* or acquiesc* or authori?e* or permit* or acord or accord or ord* or notif* or disclos* or involv* or engag* or advocat* or represent* or knowledge* or recommend* or accept* or nonaccept* or utiliz* or compl* or complian* or adher* or accede*:ti,ab,kw

#64 ((parent* or famil* or carer* or caregiv* or care-giv* or spouse* 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*) near/4 (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*)):ti,ab,kw

#65 ((professional* or practitioner*) near/4 (parent* or famil* or carer* or caregiv* or care-giv* or spouse* 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*)):ti,ab,kw

#66 {or #56-#65}

#67 MeSH descriptor: [Parents] explode all trees
#68 MeSH descriptor: [Family] this term only
#69 MeSH descriptor: [Caregivers] this term only
#70 MeSH descriptor: [Grandparents] this term only
#71 MeSH descriptor: [Legal Guardians] explode all trees
#72 ((parent* or famil* or carer* or caregiv* or care-giv* or spouse* 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*)):ti,ab,kw

#73 {or #67-#72}

#74 MeSH descriptor: [Patient Acceptance of Health Care] explode all trees
#75 MeSH descriptor: [Attitude to Health] explode all trees
#76 MeSH descriptor: [Patient Compliance] explode all trees
#77 MeSH descriptor: [Social Support] explode all trees
#78 MeSH descriptor: [Friends] this term only
#79 MeSH descriptor: [Interpersonal Relations] this term only
#80 MeSH descriptor: [Peer Group] explode all trees
#81 MeSH descriptor: [Social Networking] explode all trees
#82 MeSH descriptor: [Consumer Health Information] explode all trees
#83 MeSH descriptor: [Information Dissemination] this term only
#84 MeSH descriptor: [Information Literacy] explode all trees
#85 MeSH descriptor: [Health Promotion] this term only
Information and support for late-onset neonatal infection

MeSH descriptor: [Professional-Patient Relations] explode all trees

((patient* or peer* or health* or medic* or consumer*) near/4 (inform* or support* or advice* or advis* or knowledge* or material* or litera*)):ti,ab,kw

((patient*) near/4 (consent* or approv* or assent* or acquiesc* or authori?e* or permis* 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*)):ti,ab,kw

((information* or advice* or advis* or support* or help* or assist* or litera*) near/4 (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*)):ti,ab,kw

((information* or advice* or advis* or help* or assist* or litera*) near/4 (support*)):ti,ab,kw

((psych* or emot* or mental* or sentiment*) near/4 (support* or help* or advice* or advis* or assist* or workshop* or work-shop*)):ti,ab,kw

((friend* or buddy* or buddies* or befriend* or be-friend* or companion*)):ti,ab,kw

((patient* or support* or consumer* or social*) near/4 (group* or association* or organi?ation* or network* or forum* or program* or workshop* or work-shop*)):ti,ab,kw

((peer* or communit* or volunteer* or voluntary* or social*):ti,ab,kw

((health* or well-ness* or wellness* or well-being* or wellbeing* or resilien* or coping*):ti,ab,kw

((helpseek* or seek* or search*):ti,ab,kw

((selfhelp* or self-help* or selfmanag* or self-manag* or self-support* or selfsupport*)):ti,ab,kw

((professional* or practitiioner*) near/4 (patient*):ti,ab,kw

MeSH descriptor: [Health Education] this term only

MeSH descriptor: [Patient Education as Topic] this term only

(eucat* or learn* or teach* or instruct* or taught* or train or training*):ti,ab,kw

(or #74-#102)

#104 #73 and #103

(patient education handout):pt

MeSH descriptor: [Pamphlets] this term only

(booklet* or leaflet* or pamphlet* or brochure* or handout* or hand-out*):ti,ab,kw
Information and support for late-onset neonatal infection

#136 (Facebook* or Twitter* or WhatsApp* or Snapchat* or Linkedin* or Instagram* or YouTube* or Wikipedia* or Reddit*):ti,ab,kw
#137 (telecommunicat* or teleconference*):ti,ab,kw
#138 ((tele*) near/2 (communicat* or conference*)):ti,ab,kw
#139 MeSH descriptor: [Blogging] this term only
#140 (blog* or vlog*):ti,ab,kw
#141 {or #105-#140}
#142 #66 or #104 or #141
#143 #55 and #142
#144 (conference):pt
#145 (clinicaltrials or trialsearch):so
#146 #144 or #145
#147 #143 not #146

DARE

1  MeSH DESCRIPTOR infant, Newborn
2  MeSH DESCRIPTOR Term Birth
3  MeSH DESCRIPTOR Infant Care
4  MeSH DESCRIPTOR Perinatal Care
5  MeSH DESCRIPTOR Intensive Care Units, Neonatal
6  MeSH DESCRIPTOR Intensive Care, Neonatal
7  MeSH DESCRIPTOR Infant Health
8  (newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*)
9  ((premature* or pre-mature* or preterm* or pre-term*) NEAR4 (child* or infant* or baby* or babies* or offspring))
10 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9
11 MeSH DESCRIPTOR Bacterial Infections EXPLODE ALL TREES
12 ((bacter* or strep* or staph* or GNB) NEAR4 (infect* or diseas* or contaminat* or mening* or pneumon* or nosocomial*))
13 MeSH DESCRIPTOR Sepsis EXPLODE ALL TREES
14 (sepsis or septic?emia* or py?emia* or pyho?emia*)
15 (septic* NEAR4 shock*)
(bacter?emia* or bacill?emia*)
((blood*) NEAR4 (infect* or contamin* or invas* or invad*))
#11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17
MeSH DESCRIPTOR Streptococcus EXPLODE ALL TREES
MeSH DESCRIPTOR Staphylococcus EXPLODE ALL TREES
(streptococc* or staphylococc*)
(GBS or MRSA or NRCS-A or MSSA)
(met?icillin-resistant NEAR3 aureus)
MeSH DESCRIPTOR Escherichia coli EXPLODE ALL TREES
(((Escheric* or E) NEAR2 (coli) OR (ecoli*))
MeSH DESCRIPTOR Listeria EXPLODE ALL TREES
(listeria*)
MeSH DESCRIPTOR Klebsiella EXPLODE ALL TREES
(klebsiella)
MeSH DESCRIPTOR Pseudomonas EXPLODE ALL TREES
(pseudomonas or chryseomonas or flavimonas)
MeSH DESCRIPTOR Enterobacteriaceae EXPLODE ALL TREES
(enterobact* or sodalis or paracolobactrum or ewingella or leclercia)
((enteric or coliform) NEAR2 (bac*))
MeSH DESCRIPTOR Neisseria EXPLODE ALL TREES
(neisseria*)
MeSH DESCRIPTOR Haemophilus influenzae EXPLODE ALL TREES
((h?emophil* or H or bacter* or bacill* or mycobacter* or coccobac*) NEAR2 (influenz* or pfeiffer* or meningitidis))
MeSH DESCRIPTOR Serratia EXPLODE ALL TREES
(serratia*)
MeSH DESCRIPTOR Cronobacter EXPLODE ALL TREES
(cronobact* or sakazaki* or malonatic*)
MeSH DESCRIPTOR Acinetobacter EXPLODE ALL TREES
(acinetobact* or herellea* or mima or baumannii* or genomosp* or calcoacetic*)
MeSH DESCRIPTOR Fusobacterium EXPLODE ALL TREES
(fusobact* or sphaerophor* or necrophorum or nucleatum)
MeSH DESCRIPTOR Enterococcus EXPLODE ALL TREES
Information and support for late-onset neonatal infection

Neonatal infection: antibiotics for prevention and treatment evidence review for information and support for parents and carers of babies with late-onset neonatal infection FINAL (April 2021)

48  (enterococc*)
49  (#19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43 OR #44 OR #45 OR #46 OR #47 OR #48)
50  (#18 OR #49)
51  (#10 AND #50)
52  ((newborn* or new born* or neonat* or neo-nat* or peri-nat* or peri-nat*) NEAR4 (infect*))
53  ((prematur*e or pre-mature* or preterm* or pre-term*) NEAR4 (child* or infant* or baby* or babies* or offspring) NEAR4 (infect*))
54  (#52 OR #53)
55  (#51 OR #54)
56  MeSH DESCRIPTOR Parental Notification
57  MeSH DESCRIPTOR third-Party Consent EXPLODE ALL TREES
58  MeSH DESCRIPTOR Parents EXPLODE ALL TREES WITH QUALIFIER ED
59  MeSH DESCRIPTOR Caregivers WITH QUALIFIERS ED, LJ
60  MeSH DESCRIPTOR Grandparents WITH QUALIFIER ED
61  MeSH DESCRIPTOR Legal Guardians EXPLODE ALL TREES WITH QUALIFIERS ED, LJ
62  MeSH DESCRIPTOR Professional-Family Relations
63  ((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*) NEAR4 (inform* or support* or consent* or approv* or assent* or acquiesc* or authori?e* or permis* or permitt* or sanction* or accord or accord* 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 compliy* or complian* or adher* or accede*))
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*) NEAR4 (advice* or advis* or material* or litera* or help* or assist* or network* or workshop* or work-shop* or group* or association* or organis?ation* or forum* or progra?m* or service* or exchang* or meeting* or discuss*))
65  ((professional* or practitioner*) NEAR4 (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*) NEAR4 (relations* or associate*))
66  #56 OR #57 OR #58 OR #59 OR #60 OR #61 OR #62 OR #63 OR #64 OR #65
67  MeSH DESCRIPTOR Parents EXPLODE ALL TREES
MeSH DESCRIPTOR Family

MeSH DESCRIPTOR Caregivers

MeSH DESCRIPTOR Grandparents

MeSH DESCRIPTOR Legal Guardians EXPLODE ALL TREES

MeSH DESCRIPTOR Patient Acceptance of Health Care EXPLODE ALL TREES

MeSH DESCRIPTOR Attitude to Health EXPLODE ALL TREES

MeSH DESCRIPTOR Patient Compliance EXPLODE ALL TREES

MeSH DESCRIPTOR Social Support EXPLODE ALL TREES

MeSH DESCRIPTOR Friends

MeSH DESCRIPTOR Interpersonal Relations

MeSH DESCRIPTOR Peer Group EXPLODE ALL TREES

MeSH DESCRIPTOR Social Networking EXPLODE ALL TREES

MeSH DESCRIPTOR Consumer Health Information EXPLODE ALL TREES

MeSH DESCRIPTOR Information Dissemination

MeSH DESCRIPTOR Information Literacy EXPLODE ALL TREES

MeSH DESCRIPTOR Health Promotion

MeSH DESCRIPTOR Professional-Patient Relations EXPLODE ALL TREES

((patient* or peer* or health* or medic* or consumer*) NEAR4 (inform* or support* or advice* or advis* or knowledge* or material* or litera*))

((patient*) NEAR4 (consent* or approv* or assent* or acquiesc* or authori?e* or permis* or permit* or sanction* or accord or accords or notifi* or disclos* or involv* or engag* or advocat* or represent* or recommend* or accept* or nonaccept* or utiliz* or utilis* or comply* or compliant* or adhe* or accede*))

((information* or advice* or advis* or support* or help* or assist* or litera*) NEAR4 (need* or demand* or right* or oblig* or use* or using* or desir* or requir* or expect* or insist* or disseminat* or distribut* or provision*))

((information* or advice* or advis* or help* or assist* or litera*) NEAR4 (support*))

((pysch* or emot* or mental* or sentiment*) NEAR4 (support* or help* or advice* or advis* or assist* or workshop* or work-shop*))

((friend* or buddy* or buddies* or befriend* or be-friend* or companion*) NEAR4 (support* or help* or advice* or advis* or assist* or network* or workshop* or work-shop*))
Information and support for late-onset neonatal infection

94  ((patient* or support* or consumer* or social*) NEAR4 (group* or association* or organization* or network* or forum* or program* or workshop* or work-shop*))

95  ((peer* or community* or volunteer* or voluntary* or social*) NEAR4 (group* or support* or network* or service* or program* or forum* or workshop* or work-shop* or exchang* or meeting* or discuss*))

96  ((health* or well-being* or wellness* or well-being* or wellbeing* or resilience* or coping*) NEAR4 (promot* or campaign* or advocate* or encourage* or improve* or workshop* or work-shop* or strateg*))

97  ((helpseek* or seek* or search*) NEAR4 (support* or help* or advice* or advis* or assist* or help*))

98  (selfhelp* or self-help* or self-manage* or self-manage* or self-support* or self-support*)

99  ((professional* or practitioner*) NEAR4 (patient*) NEAR4 (relations* or associate*))

100 MeSH DESCRIPTOR Health Education

101 MeSH DESCRIPTOR Patient Education as Topic

102  (educat* or learn* or teach* or instruct* or taught* or train or training*)

103 #74 OR #75 OR #76 OR #77 OR #78 OR #79 OR #80 OR #81 OR #82 OR #83 OR #84 OR #85 OR #86 OR #87 OR #88 OR #89 OR #90 OR #91 OR #92 OR #93 OR #94 OR #95 OR #96 OR #97 OR #98 OR #99 OR #100 OR #101 OR #102

104 #73 AND #103

105 MeSH DESCRIPTOR patient education handout EXPLODE ALL TREES

106 MeSH DESCRIPTOR Pamphlets

107  (booklet* or leaflet* or pamphlet* or brochure* or handout* or hand-out*)

108 MeSH DESCRIPTOR Computers EXPLODE ALL TREES

109 MeSH DESCRIPTOR Computer Communication Networks EXPLODE ALL TREES

110 MeSH DESCRIPTOR Computer-Assisted Instruction

111 MeSH DESCRIPTOR User-Computer Interface EXPLODE ALL TREES

112 MeSH DESCRIPTOR Therapy, Computer-Assisted

113 MeSH DESCRIPTOR Cloud Computing

114 MeSH DESCRIPTOR Online Systems EXPLODE ALL TREES

115 MeSH DESCRIPTOR Mobile Applications

116 MeSH DESCRIPTOR Medical Informatics Applications

117  (online or web or internet or digital*):TI

118  (app or apps)

119  ((internet* or web or cloud* or digital* or online*) NEAR3 (base* or comput* or process* or stor* or system* or application* or intervention* or program* or therapy* or forum* or tablet*))
Information and support for late-onset neonatal infection

((laptop* or palm* or handheld* or tablet* or pda or pc) NEAR2 (comput*))
(email* or e-mail* or electronic mail*)
MeSH DESCRIPTOR Search Engine
(search* NEAR2 engine*)
MeSH DESCRIPTOR Telephone EXPLODE ALL TREES
MeSH DESCRIPTOR Hotlines
(telephon* or helpline* or help-line* or hotline* or hot-line* or cellphone* or texting* or phone or phones* or smartphone* or smartwatch*)
(text* or audio* or multimedia* or multi-media* or intstant* or pictur*) NEAR2 (messag*)
(mobile health* or mhealth* or m-health* or ehealth* or e-health* or emental* or e-mental*)
((mobile*) NEAR3 (base* or application* or intervention* or device* or technolog* or tablet*))
MeSH DESCRIPTOR Audiovisual Aids EXPLODE ALL TREES
(audiovisual* or audio-visual*)
(visual* NEAR2 aid*)
(radio or radios or television* or DVD* or blu-ray* or VHS* or video*)
MeSH DESCRIPTOR Communications Media EXPLODE ALL TREES
((communication* or transmiss* or transmit* or social*) NEAR4 (media*))
(Facebook* or Twitter* or WhatsApp* or Snapchat* or Linkedin* or Instagram* or YouTube* or Wikipedia* or Reddit*)
(telecommunicat* or teleconference*)
((tele*) NEAR2 (communicat* or conference*))
MeSH DESCRIPTOR Blogging
(blog* or vlog*)
#105 OR #106 OR #107 OR #108 OR #109 OR #110 OR #111 OR #112 OR #113 OR #114 OR #115 OR #116 OR #117 OR #118 OR #119 OR #120 OR #121 OR #122 OR #123 OR #124 OR #125 OR #126 OR #127 OR #128 OR #129 OR #130 OR #131 OR #132 OR #133 OR #134 OR #135 OR #136 OR #137 OR #138 OR #139 OR #140
#66 OR #104 OR #141
#55 AND #142
* IN DARE
#143 AND #144
Virus terms

The following terms were combined as ‘Not’ with the other sections of the search strategy to remove any papers focused on viral illness.

The Medline virus terms are listed below. These were translated across all databases used in the search:

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.
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. (syphilis* or neurosyphilis* or neuro-syphilis*).tw.
19. or/1-18

Health Economics literature search strategy

Sources searched to identify economic evaluations

- MEDLINE (Ovid)
- MEDLINE in Process (Ovid)
- Medline E-pubs (Ovid)
- Embase (Ovid)
- EconLit (Ovid)

A single search was performed to identify published economic evaluations of relevance to any of the questions in this guideline update in July 2019. Search filters to retrieve economic evaluations and quality of life papers were appended to the population and intervention terms to identify relevant evidence. Searches were not undertaken for qualitative RQs. Searches were re-run in July 2020 where the filters were added to the population terms.
### Health economics search strategy

<table>
<thead>
<tr>
<th>Database: Medline (Ovid)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 exp Infant, Newborn/ (607120)</td>
</tr>
<tr>
<td>2 Term Birth/ (2958)</td>
</tr>
<tr>
<td>3 Infant Care/ (9209)</td>
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<tr>
<td>4 Perinatal Care/ (4613)</td>
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<tr>
<td>5 Intensive Care Units, Neonatal/ (14748)</td>
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<td>6 Intensive Care, Neonatal/ (5673)</td>
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<td>7 Infant Health/ (783)</td>
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<td>8 (newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*).tw. (394580)</td>
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<td>9 ((premature* or pre-mature* or preterm* or pre-term*) adj4 (child* or infant* or baby* or babies* or offspring)).tw. (50922)</td>
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<td>10 or/1-9 (791905)</td>
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<td>11 exp Bacterial Infections/ (886598)</td>
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<td>12 ((bacter* or strep* or staph* or GNB) adj4 (infect* or diseas* or contaminat* or mening* or pneumon* or nosocomial*)).tw. (148920)</td>
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<td>13 exp Sepsis/ (123123)</td>
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<td>14 (sepsis or septic?emia* or py?emia* or pyho?emia*).tw. (100090)</td>
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<td>15 (septic* adj4 shock*).tw. (19697)</td>
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<tr>
<td>16 (bacter?emia* or bacill?emia*).tw. (26877)</td>
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<tr>
<td>17 (blood* adj4 (infect* or contamin* or invas* or invad*)).tw. (38725)</td>
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<td>18 or/11-17 (1097119)</td>
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<tr>
<td>19 exp Streptococcus/ (78627)</td>
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<td>20 exp Staphylococcus/ (104852)</td>
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<td>21 (streptococc* or staphylococc*).tw. (206696)</td>
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<td>22 (GBS or MRSA or NRCS-A or MSSA).tw. (27020)</td>
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<td>23 (met?icillin-resistant adj3 aureus).tw. (23563)</td>
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<td>24 exp Escherichia coli/ (278943)</td>
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<td>25 (((Escheric* or E) adj2 coli) or ecoli*).tw. (289781)</td>
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<td>26 exp Listeria/ (15143)</td>
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<td>27 listeria*.tw. (18688)</td>
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Budgets/ (11315)
exp Models, Economic/ (15053)
Markov Chains/ (14321)
Monte Carlo Method/ (28322)
Decision Trees/ (11133)
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cea.tw. (20532)
cua.tw. (999)
markov$.tw. (17997)
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quality of life.tw. (229884)
"Value of Life"/ (5706)
Quality-Adjusted Life Years/ (12284)
quality adjusted life.tw. (10842)
(qaly$ or qald$ or qale$ or qtime$).tw. (8901)
Information and support for late-onset neonatal infection

88 disability adjusted life.tw. (2741)
89 daly$.tw. (2486)
90 Health Status Indicators/ (23409)
91 (sf36 or sf 36 or short form 36 or shortform 36 or sf thirty six or sf thirty six or shortform thirty six or short form thirty six or short form thirty six).tw. (22454)
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93 (sf12 or sf 12 or short form 12 or shortform 12 or sf twelve or sftwelve or shortform twelve or short form twelve).tw. (4902)
94 (sf16 or sf 16 or short form 16 or shortform 16 or sf sixteen or sfsixteen or shortform sixteen or short form sixteen).tw. (29)
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97 (qol or hql or hqol or hrqol).tw. (44126)
98 (hye or hyes).tw. (60)
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100 utilit$.tw. (171457)
101 (hui or hui1 or hui2 or hui3).tw. (1304)
102 disutili$.tw. (396)
103 rosser.tw. (94)
104 quality of wellbeing.tw. (14)
105 quality of well-being.tw. (381)
106 qwb.tw. (190)
107 willingness to pay.tw. (4500)
108 standard gamble$.tw. (783)
109 time trade off.tw. (1037)
110 time tradeoff.tw. (238)
111 tto.tw. (899)
112 or/82-111 (493012)
113 81 or 112 (1350947)
114 55 and 113 (3480)
115 limit 114 to ed=20190716-20200724 (226)
animals/ not humans/ (4686781)
117 115 not 116 (213)
118 limit 117 to english language (208)

**Database: MiP (Ovid)**

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| 3 | Infant Care/ (0) |
| 4 | Perinatal Care/ (0) |
| 5 | Intensive Care Units, Neonatal/ (0) |
| 6 | Intensive Care, Neonatal/ (0) |
| 7 | Infant Health/ (0) |
| 8 | (newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*).tw. (32462) |
| 9 | ((premature* or pre-mature* or preterm* or pre-term*) adj4 (child* or infant* or baby* or babies* or offspring)).tw. (4347) |
| 10 | or/1-9 (34405) |
| 11 | exp Bacterial Infections/ (0) |
| 12 | ((bacter* or strep* or staph* or GNB) adj4 (infect* or diseas* or contaminat* or mening* or pneumon* or nosocomial*)).tw. (17517) |
| 13 | exp Sepsis/ (0) |
| 14 | (sepsis or septic?emia* or py?emia* or pyho?emia*).tw. (12331) |
| 15 | (septic* adj4 shock*).tw. (2749) |
| 16 | (bacter?emia* or bacill?emia*).tw. (2792) |
| 17 | (blood* adj4 (infect* or contamin* or invas* or invad*)).tw. (4519) |
| 18 | or/11-17 (35377) |
| 19 | exp Streptococcus/ (0) |
| 20 | exp Staphylococcus/ (0) |
| 21 | (streptococc* or staphylococc*).tw. (22112) |
| 22 | (GBS or MRSA or NRCS-A or MSSA).tw. (4384) |
| 23 | (met?icillin-resistant adj3 aureus).tw. (3264) |
| 24 | exp Escherichia coli/ (0) |
Information and support for late-onset neonatal infection

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listeria*.tw. (2351)
exp Klebsiella/ (0)
klebsiella*.tw. (4101)
exp Pseudomonas/ (0)
(pseudomonas or chryseomonas or flavimonas).tw. (10779)
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(enterobact* or sodalis or paracolobactrum or ewingella or leclercia).tw. (4282)
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exp Neisseria/ (0)
neisseria*.tw. (1256)
exp Haemophilus influenzae/ (0)
((hemophil* or H or bacter* or bacill* or mycobacter* or coccobac*) adj2 (influenz* or pfeiffer* or meningitidis)).tw. (1064)
exp Serratia/ (0)
serratia*.tw. (829)
exp Cronobacter/ (0)
(cronobact* or sakazaki* or malonatic*).tw. (168)
exp Acinetobacter/ (0)
(acinetobact* or herellea* or mima or baumannii* or genomosp* or calcoacetic*).tw. (2747)
exp Fusobacterium/ (0)
(fusobact* or sphaerophor* or necrophorum or nucleatum).tw. (821)
exp Enterococcus/ (0)
enterococc*.tw. (3589)
or/19-48 (59520)
18 or 49 (83682)
10 and 50 (2543)
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Information and support for late-onset neonatal infection

113 81 or 112 (236895)
114 55 and 113 (231)
115 limit 114 to dt=20190716-20200724 (89)
116 animals/ not humans/ (1)
117 115 not 116 (89)
118 limit 117 to english language (89)

Database: Medline E-pubs (Ovid)

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3  Infant Care/ (0)
4  Perinatal Care/ (0)
5  Intensive Care Units, Neonatal/ (0)
6  Intensive Care, Neonatal/ (0)
7  Infant Health/ (0)
8  (newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*).tw. (6371)
9  ((premature* or pre-mature* or preterm* or pre-term*) adj4 (child* or infant* or baby* or babies* or offspring)).tw. (1421)
10  or/1-9 (6871)
11  exp Bacterial Infections/ (0)
12  ((bacter* or strep* or staph* or GNB) adj4 (infect* or diseas* or contaminat* or mening* or pneumon* or nosocomial*)).tw. (2219)
13  exp Sepsis/ (0)
14  (sepsis or septic?emia* or py?emia* or pyho?emia*).tw. (1706)
15  (septic* adj4 shock*).tw. (361)
16  (bacter?emia* or bacill?emia*).tw. (347)
17  (blood* adj4 (infect* or contamin* or invas* or invad*)).tw. (688)
18  or/11-17 (4700)
19  exp Streptococcus/ (0)
20  exp Staphylococcus/ (0)
21  (streptococc* or staphylococc*).tw. (2264)
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Information and support for late-onset neonatal infection

52  ((newborn* or new born* or neonat* or neo-nat* or peri nat* or peri-nat*) adj4 infect*).tw. (255)
53  ((premature* or pre-mature* or preterm* or pre-term*) adj4 (child* or infant* or baby* or babies* or offspring) adj4 infect*).tw. (16)
54  S2 or S3 (268)
55  S1 or S4 (651)
56  Economics/ (0)
57  exp "Costs and Cost Analysis"/ (0)
58  Economics, Dental/ (0)
59  exp Economics, Hospital/ (0)
60  exp Economics, Medical/ (0)
61  Economics, Nursing/ (0)
62  Economics, Pharmaceutical/ (0)
63  Budgets/ (0)
64  exp Models, Economic/ (0)
65  Markov Chains/ (0)
66  Monte Carlo Method/ (0)
67  Decision Trees/ (0)
68  econom$.tw. (6645)
69  cba.tw. (61)
70  cea.tw. (331)
71  cua.tw. (17)
72  markov$.tw. (718)
73  (monte adj carlo).tw. (1219)
74  (decision adj3 (tree$ or analys$)).tw. (519)
75  (cost or costs or costing$ or costly or costed).tw. (13246)
76  (price$ or pricing$).tw. (954)
77  budget$.tw. (555)
78  expenditure$.tw. (1143)
79  (value adj3 (money or monetary)).tw. (65)
80  (pharmacoeconomic$ or (pharmaco adj economic$)).tw. (51)
Information and support for late-onset neonatal infection

81  or/56-80 (21922)
82  "Quality of Life"/ (0)
83  quality of life.tw. (7520)
84  "Value of Life"/ (0)
85  Quality-Adjusted Life Years/ (0)
86  quality adjusted life.tw. (388)
87  (qaly$ or qald$ or qale$ or qtime$).tw. (329)
88  disability adjusted life.tw. (101)
89  daly$.tw. (88)
90  Health Status Indicators/ (0)
91  (sf36 or sf 36 or short form 36 or shortform 36 or sf thirtysix or sf thirty six or shortform thirtysix or short form thirtysix or short form thirty six).tw. (479)
92  (sf6 or sf 6 or short form 6 or shortform 6 or sf six or sfsix or shortform six or short form six).tw. (50)
93  (sf12 or sf 12 or short form 12 or shortform 12 or sf twelve or sftwelve or shortform twelve or short form twelve).tw. (180)
94  (sf16 or sf 16 or short form 16 or shortform 16 or sf sixteen or sfsixteen or shortform sixteen or short form sixteen).tw. (1)
95  (sf20 or sf 20 or short form 20 or shortform 20 or sf twenty or sftwenty or shortform twenty or short form twenty).tw. (4)
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97  (qol or hql or hqol or hrqol).tw. (1460)
98  (hye or hyes).tw. (1)
99  health$. year$. equivalent$.tw. (0)
100  utilit$.tw. (4989)
101  (hui or hui1 or hui2 or hui3).tw. (18)
102  disutili$.tw. (12)
103  rosser.tw. (0)
104  quality of wellbeing.tw. (0)
105  quality of well-being.tw. (9)
106  qwb.tw. (3)
107  willingness to pay.tw. (184)
108  standard gamble$.tw. (7)
Information and support for late-onset neonatal infection

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**Database: Embase (Ovid)**

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<td>(enterobact* or sodalis or paracolobactrum or ewingella or leclercia).tw. (42447)</td>
</tr>
<tr>
<td>34</td>
<td>((enteric or coliform) adj2 bac*).tw. (7285)</td>
</tr>
<tr>
<td>35</td>
<td>exp Neisseria/ (32218)</td>
</tr>
<tr>
<td>36</td>
<td>neisseria*.tw. (22936)</td>
</tr>
<tr>
<td>37</td>
<td>exp Haemophilus influenzae/ (29007)</td>
</tr>
<tr>
<td>38</td>
<td>((l?emophil* or H or bacter* or bacill* or mycobacter* or coccobac*) adj2 (influenz* or pfeiffer* or meningitidis)).tw. (24329)</td>
</tr>
<tr>
<td>39</td>
<td>exp Serratia/ (14280)</td>
</tr>
<tr>
<td>40</td>
<td>serratia*.tw. (10397)</td>
</tr>
<tr>
<td>41</td>
<td>exp cronobacter/ (817)</td>
</tr>
<tr>
<td>42</td>
<td>(cronobact* or sakazaki* or malonatic*).tw. (1214)</td>
</tr>
<tr>
<td>43</td>
<td>exp Acinetobacter/ (27955)</td>
</tr>
<tr>
<td>44</td>
<td>(acinetobact* or herellea* or mima or baumannii* or genomosp* or calcoacetic*).tw. (23888)</td>
</tr>
<tr>
<td>45</td>
<td>exp Fusobacterium/ (7678)</td>
</tr>
<tr>
<td>46</td>
<td>(fusobact* or sphaerophor* or necrophorum or nucleatum).tw. (7403)</td>
</tr>
<tr>
<td>47</td>
<td>exp Enterococcus/ (49841)</td>
</tr>
<tr>
<td>48</td>
<td>enterococc*.tw. (37571)</td>
</tr>
</tbody>
</table>
(newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*) adj4 infect*.tw.
(preterm* or pre-term*) adj4 (child* or infant* or baby* or babies* or offspring) adj4 infect*.tw.
<table>
<thead>
<tr>
<th></th>
<th>Medical Subject Headings (MeSH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>78</td>
<td>Short Form 36/ (29036)</td>
</tr>
<tr>
<td>79</td>
<td>Health Status/ (127411)</td>
</tr>
<tr>
<td>80</td>
<td>quality of life.tw. (439622)</td>
</tr>
<tr>
<td>81</td>
<td>quality adjusted life.tw. (19747)</td>
</tr>
<tr>
<td>82</td>
<td>(qaly$ or qald$ or qale$ or qtime$).tw. (20178)</td>
</tr>
<tr>
<td>83</td>
<td>disability adjusted life.tw. (4103)</td>
</tr>
<tr>
<td>84</td>
<td>daly$.tw. (4016)</td>
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<tr>
<td>85</td>
<td>(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. (41434)</td>
</tr>
<tr>
<td>86</td>
<td>(sf6 or sf 6 or short form 6 or shortform 6 or sf six or sfsix or shortform six or short form six).tw. (2420)</td>
</tr>
<tr>
<td>87</td>
<td>(sf12 or sf 12 or short form 12 or shortform 12 or sf twelve or sftwelve or shortform twelve or short form twelve).tw. (9462)</td>
</tr>
<tr>
<td>88</td>
<td>(sf16 or sf 16 or short form 16 or shortform 16 or sf sixteen or sfsixteen or shortform sixteen or short form sixteen).tw. (61)</td>
</tr>
<tr>
<td>89</td>
<td>(sf20 or sf 20 or short form 20 or shortform 20 or sf twenty or sftwenty or shortform twenty or short form twenty).tw. (455)</td>
</tr>
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<td>90</td>
<td>(euroqol or euro qol or eq5d or eq 5d).tw. (20619)</td>
</tr>
<tr>
<td>91</td>
<td>(qol or hql or hqol or hrqol).tw. (97056)</td>
</tr>
<tr>
<td>92</td>
<td>(hye or hyes).tw. (135)</td>
</tr>
<tr>
<td>93</td>
<td>health$ year$ equivalent$.tw. (41)</td>
</tr>
<tr>
<td>94</td>
<td>utilit$.tw. (289831)</td>
</tr>
<tr>
<td>95</td>
<td>(hui or hui1 or hui2 or hui3).tw. (2300)</td>
</tr>
<tr>
<td>96</td>
<td>disutil$.tw. (924)</td>
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<tr>
<td>97</td>
<td>rosser.tw. (124)</td>
</tr>
<tr>
<td>98</td>
<td>quality of wellbeing.tw. (42)</td>
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<td>99</td>
<td>quality of well-being.tw. (486)</td>
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<td>100</td>
<td>qwb.tw. (253)</td>
</tr>
<tr>
<td>101</td>
<td>willingness to pay.tw. (8837)</td>
</tr>
<tr>
<td>102</td>
<td>standard gamble$.tw. (1104)</td>
</tr>
<tr>
<td>103</td>
<td>time trade off.tw. (1708)</td>
</tr>
<tr>
<td>104</td>
<td>time tradeoff.tw. (291)</td>
</tr>
<tr>
<td>105</td>
<td>tto.tw. (1683)</td>
</tr>
</tbody>
</table>
Information and support for late-onset neonatal infection

Database: Econlit (Ovid)

1. (newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*).tw. (732)
2. ((premature* or pre-mature* or preterm* or pre-term*) adj4 (child* or infant* or baby* or babies* or offspring)).tw. (45)
3. 1 or 2 (767)
4. ((bacter* or strep* or staph* or GNB) adj4 (infect* or diseas* or contaminat* or mening* or pneumon* or nosocomial*)).tw. (49)
5. (sepsis or septicemia* or pyemia* or pyhoemia*).tw. (17)
6. (septic* adj4 shock*).tw. (1)
7. (bacteremia* or bacillemia*).tw. (3)
8. (blood* adj4 (infect* or contamin* or invas* or invad*)).tw. (17)
9. (streptococcus* or staphylococcus*).tw. (18)
10. (GBS or MRSA or NRCS-A or MSSA).tw. (40)
11. (met?icillin-resistant adj3 aureus).tw. (8)
12. (((Escherichia* or E) adj2 coli) or ecoli*).tw. (47)
13. listeria*.tw. (6)
14. klebsiella*.tw. (0)
15. (pseudomonas or chryseomonas or flavimonas).tw. (6)
16. (enterobact* or sodalis or paracolobactrum or ewingella or leclercia).tw. (1)
17. ((enteric or coliform) adj2 bac*).tw. (0)
18. neisseria*.tw. (1)
19  ((h?emophil* or H or bacter* or bacill* or mycobacter* or coccobac*) adj2 (influenz* or pfeiffer* or meningitidis)).tw. (14)
20  serratia*.tw. (0)
21  (cronobact* or sakazaki* or malonatic*).tw. (1)
22  (acinetobact* or hereliea* or mima or baumanni* or genomosp* or calcoacetic*).tw. (2)
23  (fusobact* or sphaerophor* or necrophorum or nucleatum).tw. (0)
24  enterocc*.tw. (5)
25  or/4-24 (194)
26  ((newborn* or new born* or neonat* or neo-nat* or perinat* or peri-nat*) adj4 infect*).tw. (11)
27  ((premature* or pre-mature* or preterm* or pre-term*) adj4 (child* or infant* or baby* or babies* or offspring) adj4 infect*).tw. (1)
28  26 or 27 (12)
29  25 or 28 (205)
30  3 and 29 (15)
31  limit 30 to yr="2019 -Current" (1)
Appendix C  –Qualitative evidence study selection

Search retrieved 3217 articles
3190 excluded

27 full-text articles examined
26 excluded

1 included study

Re-run search retrieved 188 articles
188 excluded

0 full-text articles examined

0 included studies

1 included study
## Appendix D – Qualitative evidence

**De, 2014**

| Bibliographic Reference | De, Sukanya; Tong, Allison; Isaacs, David; Craig, Jonathan C; Parental perspectives on evaluation and management of fever in young infants: an interview study.; Archives of disease in childhood; 2014; vol. 99 (no. 8); 717-23 |

### Study Characteristics

<table>
<thead>
<tr>
<th>Study type</th>
<th>Semi structured interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aim of study</td>
<td>Explore the concerns, beliefs, attitudes and perspectives of parents of young infants hospitalised with a febrile illness</td>
</tr>
<tr>
<td>Study location</td>
<td>Australia</td>
</tr>
<tr>
<td>Study setting</td>
<td>Tertiary children's hospital</td>
</tr>
<tr>
<td>Study methods</td>
<td>Used the consolidated criteria for reporting qualitative research (COREQ). Participants selected using purposive sampling to include a range of demographic characteristics such as age, gender and birth order. Eligible parents identified by reviewing daily hospital admissions and were approached towards the end of the hospital stay. Interview prompts were developed based on clinical experience, literature review, feedback from paediatricians and researchers, and were piloted with five parents. Semi-structured, face-to-face interviews were conducted just prior to discharge from hospital, to enable a clear parental recollection of events and experiences while capturing the complete inpatient experience. The interviews were conducted in the privacy of a meeting room located in the ward. If both parents participated, they were interviewed together.</td>
</tr>
<tr>
<td>Population</td>
<td>Parents of febrile infants aged &lt;3 months admitted to hospital</td>
</tr>
<tr>
<td>Study dates</td>
<td>November 2011 - December 2012</td>
</tr>
<tr>
<td>Sources of funding</td>
<td>None reported</td>
</tr>
<tr>
<td>Inclusion Criteria</td>
<td>Parents of febrile infants aged &lt;3 months admitted to hospital Parents of infants who were previously healthy Infants with uncomplicated febrile illness - with an unremarkable clinical course and uneventful recovery</td>
</tr>
<tr>
<td>Exclusion criteria</td>
<td>Parents of infants with a complex medical background Parents of premature infants Parents of infants with prolonged hospitalisation and complex interventions Non-English speaking parents</td>
</tr>
</tbody>
</table>
Sample characteristics

<table>
<thead>
<tr>
<th>Sample size</th>
<th>36 parents of 27 infants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reason for stopping recruitment</td>
<td>Once data saturation was reached</td>
</tr>
<tr>
<td>Parent's age</td>
<td>21-30: 38%; 31-40: 56%; 40+: 6%</td>
</tr>
<tr>
<td>Parents % female</td>
<td>39%</td>
</tr>
<tr>
<td>Age of the baby</td>
<td>&lt;4 weeks: 33%; 4-8 weeks: 52%; 8-12 weeks: 15%</td>
</tr>
<tr>
<td>Duration of admission (days)</td>
<td>2-3: 52%; 3-5: 41%; 5+: 7%</td>
</tr>
</tbody>
</table>

Relevant themes

<table>
<thead>
<tr>
<th>Reassurance and support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitators to parental empowerment</td>
</tr>
<tr>
<td>Barriers to parental empowerment</td>
</tr>
</tbody>
</table>

Risk of bias

<table>
<thead>
<tr>
<th>Section</th>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aims of the research</td>
<td>Was there a clear statement of the aims of the research?</td>
<td>Yes (Explore the concerns, beliefs, attitudes and perspectives of parents of young infants hospitalised with a febrile illness)</td>
</tr>
<tr>
<td>Appropriateness of methodology</td>
<td>Is a qualitative methodology appropriate?</td>
<td>Yes</td>
</tr>
<tr>
<td>Research Design</td>
<td>Was the research design appropriate to address the aims of the research?</td>
<td>Yes</td>
</tr>
<tr>
<td>Recruitment Strategy</td>
<td>Was the recruitment strategy appropriate to the aims of the research?</td>
<td>Yes (Purposive sampling to include a range of demographic characteristics such as age, gender and birth order)</td>
</tr>
<tr>
<td>Data collection</td>
<td>Was the data collected in a way that addressed the research issue?</td>
<td>Yes</td>
</tr>
<tr>
<td>Researcher and participant relationship</td>
<td>Has the relationship between researcher and participants been adequately considered?</td>
<td>Can't tell (Limited - stated that the interviews were conducted by the first author who was a paediatrician not involved in the family's care but no further information)</td>
</tr>
<tr>
<td>Ethical Issues</td>
<td>Have ethical issues been taken into consideration?</td>
<td>Can't tell</td>
</tr>
<tr>
<td>Data analysis</td>
<td>Was the data analysis sufficiently rigorous?</td>
<td>Can't tell (Limited information. States that the analysis was conducted using grounded theory principles and...</td>
</tr>
<tr>
<td>Section</td>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Findings</td>
<td>Is there a clear statement of findings?</td>
<td>Yes</td>
</tr>
<tr>
<td>Research value</td>
<td>How valuable is the research?</td>
<td>The research is valuable</td>
</tr>
<tr>
<td>Overall risk of bias and relevance</td>
<td>Overall risk of bias</td>
<td>Moderate (Limited information about analysis, including triangulation and validation. No acknowledgement of the relationships between researchers and participants)</td>
</tr>
<tr>
<td></td>
<td>Relevance</td>
<td>Partially relevant (Focused on parents with febrile infants rather than specifically late-onset infection. Excluded premature infants who may be at higher risk of developing infection)</td>
</tr>
</tbody>
</table>
Appendix E – GRADE-CERQual tables

<table>
<thead>
<tr>
<th>Theme</th>
<th>Illustrative quotes</th>
<th>Methodological limitations</th>
<th>Coherence</th>
<th>Adequacy</th>
<th>Relevance</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent or carer anxiety</td>
<td>“Babies can deteriorate so quickly. As a first-time parent you don’t know much, being advised, told what to do is quite important.”</td>
<td>Serious¹</td>
<td>Not serious²</td>
<td>Serious³</td>
<td>Serious⁴</td>
<td>Very low</td>
</tr>
<tr>
<td></td>
<td>“We were in Emergency and wondering whether we were being overprotective parents and one of the doctors said, ‘you did the right thing’. We were relieved.”</td>
<td>Serious¹</td>
<td>Not serious²</td>
<td>Serious³</td>
<td>Serious⁴</td>
<td>Very low</td>
</tr>
<tr>
<td></td>
<td>“It was about 40 minutes before we got spoken to or even told well this is what is going to happen. That was the only thing I was a little bit upset about. I never mind waiting. I just wanted to know whether I could wrap him up and put him to sleep or whether he had to be left unwrapped to be assessed and probably for me it was racing through my head and the big thing was</td>
<td>Serious¹</td>
<td>Not serious²</td>
<td>Serious³</td>
<td>Serious⁴</td>
<td>Very low</td>
</tr>
</tbody>
</table>
### Explanation of procedures

Parents stated that a clear explanation of what happens in a medical procedure is important, particularly in relation to lumbar punctures.

The use of medical terms rather than simple terminology can make it harder to understand either the diagnosis or the tests that are being carried out.

**fever we have been admitted what is going on what is it they were thinking."**

"I did not know what they were talking about. They were talking their own language, like jargons, they said it is a UTI and I was like, ‘what is that?’ That’s when I looked on the internet did some research of my own."

“It’s hard to take all the information in and the wording is important—when they talked about the lumbar puncture that they needed to take the fluid from around the baby’s brain we imagined the needle going into the head, I was standing, I felt my head spin and had to hold on to something.”

<table>
<thead>
<tr>
<th>Theme</th>
<th>Illustrative quotes</th>
<th>Methodological limitations</th>
<th>Coherence</th>
<th>Adequacy</th>
<th>Relevance</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation of procedures</strong></td>
<td></td>
<td><strong>Serious</strong>¹: One study at moderate risk of bias (Limited information about analysis, including triangulation and validation. No acknowledgement of the relationships between researchers and participants)</td>
<td><strong>Not serious</strong>²</td>
<td><strong>Serious</strong>³</td>
<td><strong>Serious</strong>⁴</td>
<td><strong>Very low</strong></td>
</tr>
</tbody>
</table>
### Illustrative quotes

- "The doctor that saw us in emergency was brilliant. She drew a diagram of the lumbar puncture, explained what was going to happen, the risks associated with it, I was told what may happen if he didn't have it so I think I was quite pleased with the information."

- "The turning point was when the registrar came in and said they were going to do the lumbar puncture and he sat down and went over everything step by step from the start of the day up until then, what had happened—that was the turning point."
<table>
<thead>
<tr>
<th>Theme</th>
<th>Illustrative quotes</th>
<th>Methodological limitations</th>
<th>Coherence</th>
<th>Adequacy</th>
<th>Relevance</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision making and parental or carer involvement</td>
<td>The manner of the doctor in emergency was excellent. He very clearly explained so we knew exactly what was going to happen, that our baby would go through a number of tests, and some would be hard to watch but he was gentle, kind. That in many ways was the key. If you get the explanation first and someone takes the time to sit to tell you what is happening, you are prepared to go through a whole lot of things because you have been warned.”</td>
<td>Serious¹</td>
<td>Not serious²</td>
<td>Serious³</td>
<td>Serious⁴</td>
<td>Very low</td>
</tr>
<tr>
<td>Theme</td>
<td>Illustrative quotes</td>
<td>Methodological limitations</td>
<td>Coherence</td>
<td>Adequacy</td>
<td>Relevance</td>
<td>Confidence</td>
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</tr>
<tr>
<td></td>
<td>are really uncomfortable with this we can stop.”</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“When you are sleep deprived, when you are concerned, [and] when you are worried sick and things happen so quick, your head seems to go blank. I was in so much shock I couldn’t come up with any question.”</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Format of information</td>
<td>Parents indicated that fact sheets would be a helpful way to explain what was happening.</td>
<td>“Fact sheets would be really good. It is hard to ask questions when the doctors are rushing in and out. By the time they are back you forget what you were about to ask.”</td>
<td>Serious¹</td>
<td>Not serious²</td>
<td>Serious³</td>
<td>Serious⁴</td>
</tr>
</tbody>
</table>

1. One study at moderate risk of bias (De 2014 - limited information about analysis, including triangulation and validation. No acknowledgement of the relationships between researchers and participants)
2. One study where the themes support the patterns found in the data
3. Results are based on a single study with 36 parents
4. Evidence from a single study. Parents of preterm babies were excluded
Appendix F — Economic evidence study selection

Search retrieved 4,398 articles
4,398 excluded

Re-run search retrieved 577 articles
577 excluded

0 full-text articles examined

0 full-text articles examined

0 included studies

0 included studies

0 included studies
Appendix G – Economic evidence tables

No economic evidence is available as none of the studies in the economic search results were found to be relevant.
Appendix H – Health economic model

This question was not prioritised for original economic analysis.
Appendix I – Excluded studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Code [Reason]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aronson, Paul L and Fraenkel, Liana (2017) Is Shared Decision-making the Right Approach for Febrile Infants?. Pediatrics 140(3)</td>
<td>- Review article but not a systematic review</td>
</tr>
<tr>
<td>Crocetti, M; Moghbeli, N; Serwint, J (2001) Fever phobia revisited: have parental misconceptions about fever changed in 20 years?. Pediatrics 107(6): 1241-6</td>
<td>- Study does not report any of the factors of interest specified in the protocol [Children with fever. Most of the parents had children aged 3 months and over]</td>
</tr>
<tr>
<td>Study</td>
<td>Code [Reason]</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Karimi, Mehran, Eslami, Zia, Shamsi, Farimah et al. (2012) The effect of educational intervention on decreasing mothers' expressed breast milk bacterial contamination whose infants are admitted to neonatal intensive care unit. Journal of research in health sciences 13(1): 43-7</td>
<td>- Not a relevant study design [Before and after quantitative study]</td>
</tr>
<tr>
<td>McQuaid, Fiona, Pask, Sophie, Locock, Louise et al. (2016) Attitudes towards antenatal vaccination, Group B streptococcus and participation in clinical trials: Insights from focus groups and interviews of parents and healthcare professionals. Vaccine 34(34): 4056-61</td>
<td>- Study does not report any of the factors of interest specified in the protocol [Opinions of a GBS vaccine]</td>
</tr>
<tr>
<td>Pearce, Rebecca and Baardsnes, Jason (2012) Term MRI for small preterm babies: do parents really want to know and why has nobody asked them?. Acta paediatrica (Oslo, Norway : 1992) 101(10): 1013-5</td>
<td>- Not a relevant study design [Article correspondence]</td>
</tr>
<tr>
<td>Plumb, Jane and Holwell, Dawn (2004) Group B strep: prevention is better than cure. The practising midwife 7(3): 17-21</td>
<td>- Review article but not a systematic review</td>
</tr>
<tr>
<td>Study</td>
<td>Code [Reason]</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>