How to write a plain language summary of a Cochrane intervention review

27th March 2017

(Please send any comments to the template to Claire Glenton (claire.glenton@fhi.no) at Cochrane Norway)

Cochrane Norway

How to write a plain language summary of a Cochrane intervention review

In this document, we describe how to write a plain language summary for a Cochrane Intervention Review. We suggest sub-headings and provide a description of the content required under each sub-heading.

The instructions in this template aim to supplement the Standards for the reporting of Plain Language Summaries in new Cochrane Intervention Reviews (PLEACS).

The recommended length of a Cochrane plain language summary is between 400 and 700 words.

Who are Cochrane Plain Language Summaries for?

Plain language summaries are aimed at consumers and non-expert readers, including journalists. However, your target group may vary from review to review. For instance, if you are writing about a review on the optimal duration of exclusive breastfeeding, important target audiences are likely to be parents and health workers. If you are writing about a review on the effects of financial incentives for prescribers, on the other hand, important target audiences are more likely to be policy makers or programme planners. Consider who your target audience is as this may influence the style of writing and the language you use.

Different review topics may also be more or less familiar to your target audience. For instance, you may need to spend more time explaining rare conditions or new treatments. People may also give certain health conditions and treatments different names in different settings. The same term may also mean different things to different people.

No matter who your target audience is, and how familiar you think they may be with the review topic, you should generally assume that your reader:

- is not familiar with these research methods
- may not be familiar with the problem and/or the intervention
- may not have English as a first language

Plain Language Summary example 1

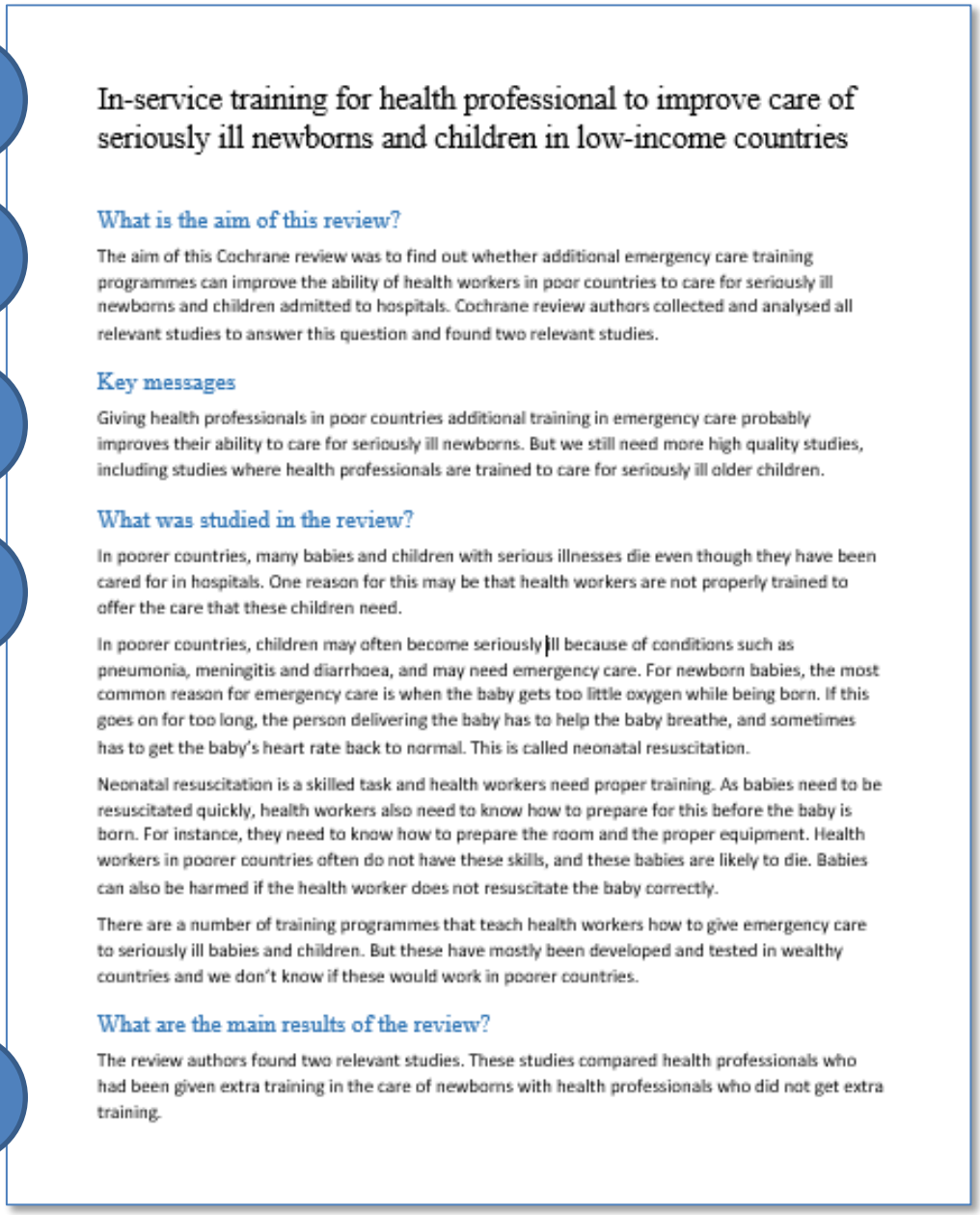
A

B

C

D

E



In-service training for health professional to improve care of seriously ill newborns and children in low-income countries

What is the aim of this review?

The aim of this Cochrane review was to find out whether additional emergency care training programmes can improve the ability of health workers in poor countries to care for seriously ill newborns and children admitted to hospitals. Cochrane review authors collected and analysed all relevant studies to answer this question and found two relevant studies.

Key messages

Giving health professionals in poor countries additional training in emergency care probably improves their ability to care for seriously ill newborns. But we still need more high quality studies, including studies where health professionals are trained to care for seriously ill older children.

What was studied in the review?

In poorer countries, many babies and children with serious illnesses die even though they have been cared for in hospitals. One reason for this may be that health workers are not properly trained to offer the care that these children need.

In poorer countries, children may often become seriously ill because of conditions such as pneumonia, meningitis and diarrhoea, and may need emergency care. For newborn babies, the most common reason for emergency care is when the baby gets too little oxygen while being born. If this goes on for too long, the person delivering the baby has to help the baby breathe, and sometimes has to get the baby's heart rate back to normal. This is called neonatal resuscitation.

Neonatal resuscitation is a skilled task and health workers need proper training. As babies need to be resuscitated quickly, health workers also need to know how to prepare for this before the baby is born. For instance, they need to know how to prepare the room and the proper equipment. Health workers in poorer countries often do not have these skills, and these babies are likely to die. Babies can also be harmed if the health worker does not resuscitate the baby correctly.

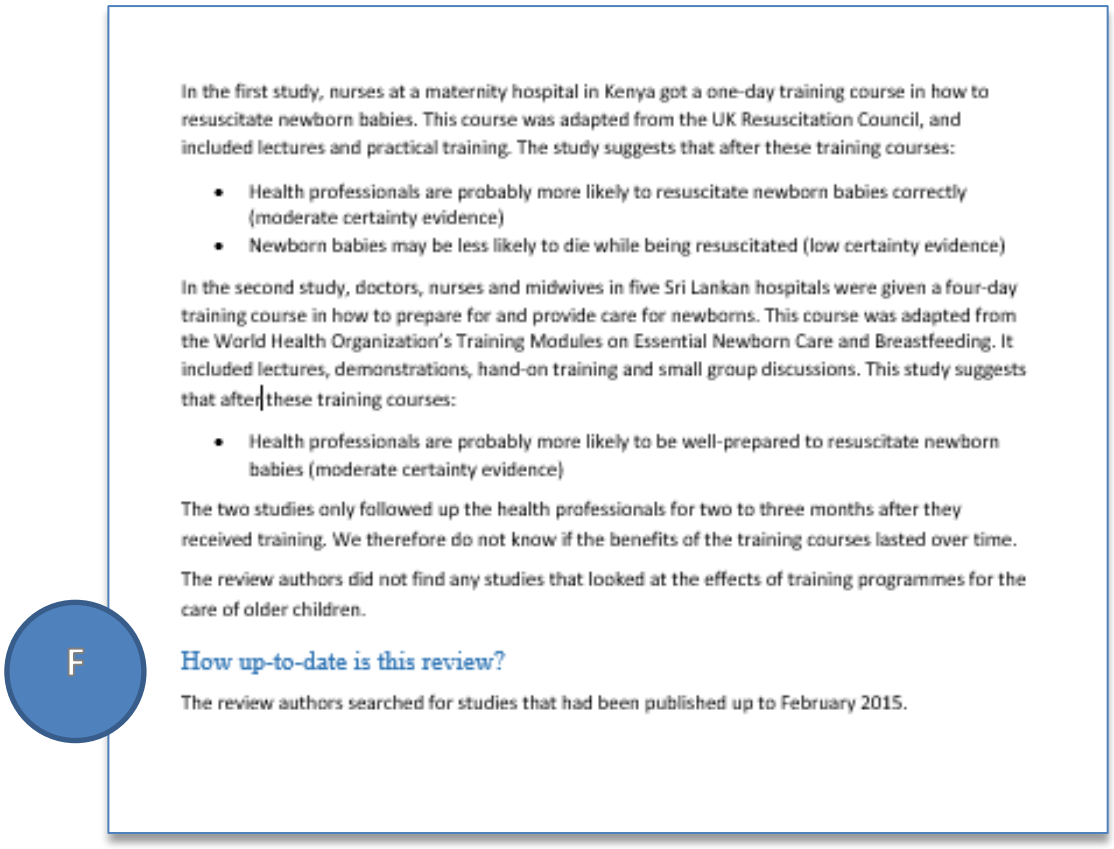
There are a number of training programmes that teach health workers how to give emergency care to seriously ill babies and children. But these have mostly been developed and tested in wealthy countries and we don't know if these would work in poorer countries.

What are the main results of the review?

The review authors found two relevant studies. These studies compared health professionals who had been given extra training in the care of newborns with health professionals who did not get extra training.

Example 1: This example has been written with the help of the plain language summary template and is based on the following review: Opiyo N, English M. In-service training for health professionals to improve care of the seriously ill newborn or child in low and middle-income countries (Review). Cochrane Database of Systematic Reviews 2015 (In press).

See also Appendix 2 for another example of a plain language summary.



In the first study, nurses at a maternity hospital in Kenya got a one-day training course in how to resuscitate newborn babies. This course was adapted from the UK Resuscitation Council, and included lectures and practical training. The study suggests that after these training courses:

- Health professionals are probably more likely to resuscitate newborn babies correctly (moderate certainty evidence)
- Newborn babies may be less likely to die while being resuscitated (low certainty evidence)

In the second study, doctors, nurses and midwives in five Sri Lankan hospitals were given a four-day training course in how to prepare for and provide care for newborns. This course was adapted from the World Health Organization's Training Modules on Essential Newborn Care and Breastfeeding. It included lectures, demonstrations, hand-on training and small group discussions. This study suggests that after these training courses:

- Health professionals are probably more likely to be well-prepared to resuscitate newborn babies (moderate certainty evidence)

The two studies only followed up the health professionals for two to three months after they received training. We therefore do not know if the benefits of the training courses lasted over time.

The review authors did not find any studies that looked at the effects of training programmes for the care of older children.

F

How up-to-date is this review?

The review authors searched for studies that had been published up to February 2015.

Instructions for each part of the template

A Review title

If the review title is difficult to understand, for instance if it includes technical terms or jargon, consider re-writing it in plain language.

B Suggested sub-heading: **"What is the aim of this review?"**

People do not always understand that the results of a plain language summary come from a systematic review rather than a single study. Some also wrongly assume that the review authors have carried out the studies themselves. We therefore suggest that you use an introductory sentence such as:

> *"The aim of this Cochrane Review was to find out if [….]. We / Cochrane review authors* collected and analysed all relevant studies to answer this question and found [X#] studies."*

*Choose whether you want to refer to "we" or to "review authors" throughout the PLS. Both options are acceptable, but be consistent.

C Suggested sub-heading: **"Key messages"**

In this section you should only present a brief summary of the results. This summary should include a reference to the quality or certainty of the evidence, and any important research gaps. It should not include recommendations. NB! Summarising the main results may involve some interpretation and caution is required!

The results for *each* main outcome should be presented in the section called "*What are the main results*".

D Suggested sub-heading: **"What was studied in the review?"**

Give a brief description of the review topic:

- Where necessary, describe why this particular topic is important
- Describe or explain the population(s)/health problem(s) that was addressed in the review. Give enough information for readers to judge whether these are the same as those they are interested in
- Describe or explain the intervention that was addressed in the review. Where necessary, describe what it was compared to. Give enough information for readers to judge whether the intervention is relevant to them or comparable to those available to them
- Where necessary, describe or explain the outcomes addressed in the review, including possible adverse effects

Where to look for this information: You will find information about the population, intervention, comparison and outcomes that the Review aims to cover in the Background section and the Methods section. Avoid acronyms and jargon.

E Suggested sub-heading: **"What are the main results of the review?"**

Describing the included studies

In this section you should briefly describe the included studies. It may be enough to give information about how many studies you included and where they were set. Sometimes, you may also need to give more specific information about the intervention and comparison group and the study population. For instance, if the included studies only covered certain sub-groups of the population or certain types of the intervention, this should be mentioned. You may also need to mention the funding sources of the included studies. For instance:

*"We / The review authors found [x#] relevant studies. [X#] were from [*country/setting*] and [x#] were from [*country/setting*]. These studies compared [*intervention*] with [*comparison*] for [*population*]. [x#] of the studies were funded by the manufacturer while [x#] were funded by government agencies."*

Where to look for this information: You will find information about the populations, interventions, comparisons and outcomes that the included studies covered in the Review's Results section (under "Included Studies") and in the Characteristics of Included Studies Table. You may also find information about how the studies were funded in the Characteristics of Included Studies Table.

Reporting the effect of the interventions

Principles when reporting the effects of the intervention

When presenting the main results of the review, always follow these principles:

1. Only present results for the most important outcomes, and try to present no more than seven outcomes. These outcomes should be the same as the outcomes that are presented in the Summary of Findings table
2. If you found no data on an important outcome, you must present the outcome anyway, but explain that no data were found
3. Present the quality or certainty of the evidence for each outcome, as presented in the Summary of Findings table. (Within GRADE, the phrase "quality of the evidence" is increasingly referred to as "certainty of" the evidence. Use the same term that has been used elsewhere in the review)
4. Present the results consistently, using similar words and expressions for similar levels of effect. We recommend using standardised statements (See Appendix 1)
5. If your assessment of the quality / certainty of the evidence is anything other than high, then you should avoid strong statements such as "[intervention] leads to ["outcome"]. You should rather indicate to the reader that there is some degree of uncertainty by adding modifying terms such as "probably", "may" (see Appendix 1 for suggestions). We acknowledge that the modifying terms we have suggested in Appendix 1 (such as "probably" and "may") have different meanings to different people and may be difficult to translate into other languages. Nonetheless, the principle of including modifying terms when there is some degree of uncertainty should be adhered to
6. Ensure that the results are reported consistently between the plain language summary and the main text of the review, including the abstract, summary of findings table, results, and summary of main results
7. Do not present recommendations

Where to look for this information: You will find information about the main results in the Summary of Findings Table(s).

Using qualitative statements when reporting the effects of an intervention

By 'qualitative statements' we mean an expression of your results in plain language, using similar words and expressions for similar levels of effect.

Qualitative statements about effect are difficult to get right. It is easy to cause confusion and misinterpretation by using words inconsistently or by using overly complicated statements such as "a high likelihood of somewhat small but possibly important effects".

To help authors formulate clear, consistent statements, we present a set of standardised statements in Appendix 1. This shows which qualitative statements you can use for different combinations of the magnitude of effect (or effect size) and the quality or certainty of evidence.

Reporting confidence intervals in qualitative statements:

In most situations, it is not necessary to refer to the confidence intervals. However, there may be times when it is useful to do so. For instance, in situations where the confidence interval includes the possibility of both an important benefit and no effect, or an important benefit and harm, you should consider using the following type of statement:

> *"[*Intervention*] may lead to [*better outcome*]. However, the range where the actual effect may be shows that [*intervention*] may lead to [*better outcome*] but may also make little or no difference/may worsen/increase [*outcome*]."*

Reporting the effects of the intervention using numbers

Ideally, we would like to present the results of a review using numbers as well as words. However, it is difficult to incorporate numbers into the text of a plain language summary in a way that is simple to understand. Simplified versions of Summary of Findings tables are preferable, but it is currently not possible to include these tables in the Cochrane Library. For plain language summaries published *outside* the Cochrane Library, you may want to include a simplified Summary of Findings table in the format shown in Appendix 2.

If you choose to include numbers in the text of your plain language summary, we suggest that you present these in parentheses after the qualitative statement. We recommend that you use absolute numbers (as opposed to relative risk, odds ratios, percentages or numbers needed to treat), for instance, as follows:

"Fewer children get diarrhea (9 children per 100 who were given probiotics had diarrhea, compared to 22 children per 100 who did not get probiotics)."

When presenting continuous outcomes using numbers, remember to refer to the scale (e.g. "2 points on a scale of 1-10").

F Suggested sub-heading: "**How up-to-date is this review?"**

State *when* the review authors searched for the included studies, for instance by saying:

*"We / The review authors searched for studies that had been published up to [*date*]."*

Where to look for this information: You will find information about the dates of the search in the Methods section, under "Search methods for identification of studies"

What are these instructions based on?

These instructions were prepared by Claire Glenton and Marita Sporstøl Fønhus (Cochrane Norway) and Simon Goudie and Eamonn Noonan (Campbell Collaboration). They build on earlier instructions developed by Claire Glenton and Elin Strømme Nilsen (Cochrane Norway) and Nancy Santesso (Cochrane Applicability and Recommendations Methods Group), and on the following sources:

1. Glenton C, Santesso N, Rosenbaum S, Nilsen ES, Rader, T, Ciapponi A, Dilkes H. Presenting the results of Cochrane systematic reviews to a consumer audience: A qualitative study. Medical Decision Making 2010 Sep-Oct; 30(5):566-77
2. Santesso N, Rader T, Nilsen ES, Glenton C, Rosenbaum S, Ciapponi A, Moja L, Pardo JP, Zhou Q, Schünemann HJ. A summary to communicate evidence from systematic reviews to the public improved understanding and accessibility of information: a randomized controlled trial. J Clin Epidemiol. 2015 Feb;68(2):182-90. doi: 10.1016/j.jclinepi.2014.04.009.
3. Glenton C, Kho M, Underland V, Nilsen, ES, Oxman A. Summaries of findings, descriptions of interventions and information about adverse effects would make reviews more informative, Journal of Clinical Epidemiology 2006, 59 (8): 770-778
4. Woloshin S, Schwartz LM. Communicating data about the benefits and harms of treatment: A randomized trial. Annals of Internal Medicine 2011; 155:87-96.

Appendix 1: Table of standardised statements about effect

This table shows which qualitative statements you can use for different combinations of the magnitude of effect (or effect size) and the quality or certainty of evidence. To use the table:

1. Select an outcome that you are planning to report
2. Determine the quality/certainty of the evidence for that outcome (assessed using GRADE)
3. Decide whether the size of the effect is important, less important, or not important. This decision is a judgement call and should focus on the importance to the end user (decision makers, health care providers, health service users etc.) rather than "statistical significance" Go to the relevant cell in the table below and select the appropriate standard sentence to use

Please note: You may need to amend the statements to fit your intervention and / or outcome. However, any amendments that you make to the statements should not change the underlying principles of using a standard approach to describing the magnitude and certainty of the evidence.

Table of standardised statements about effect

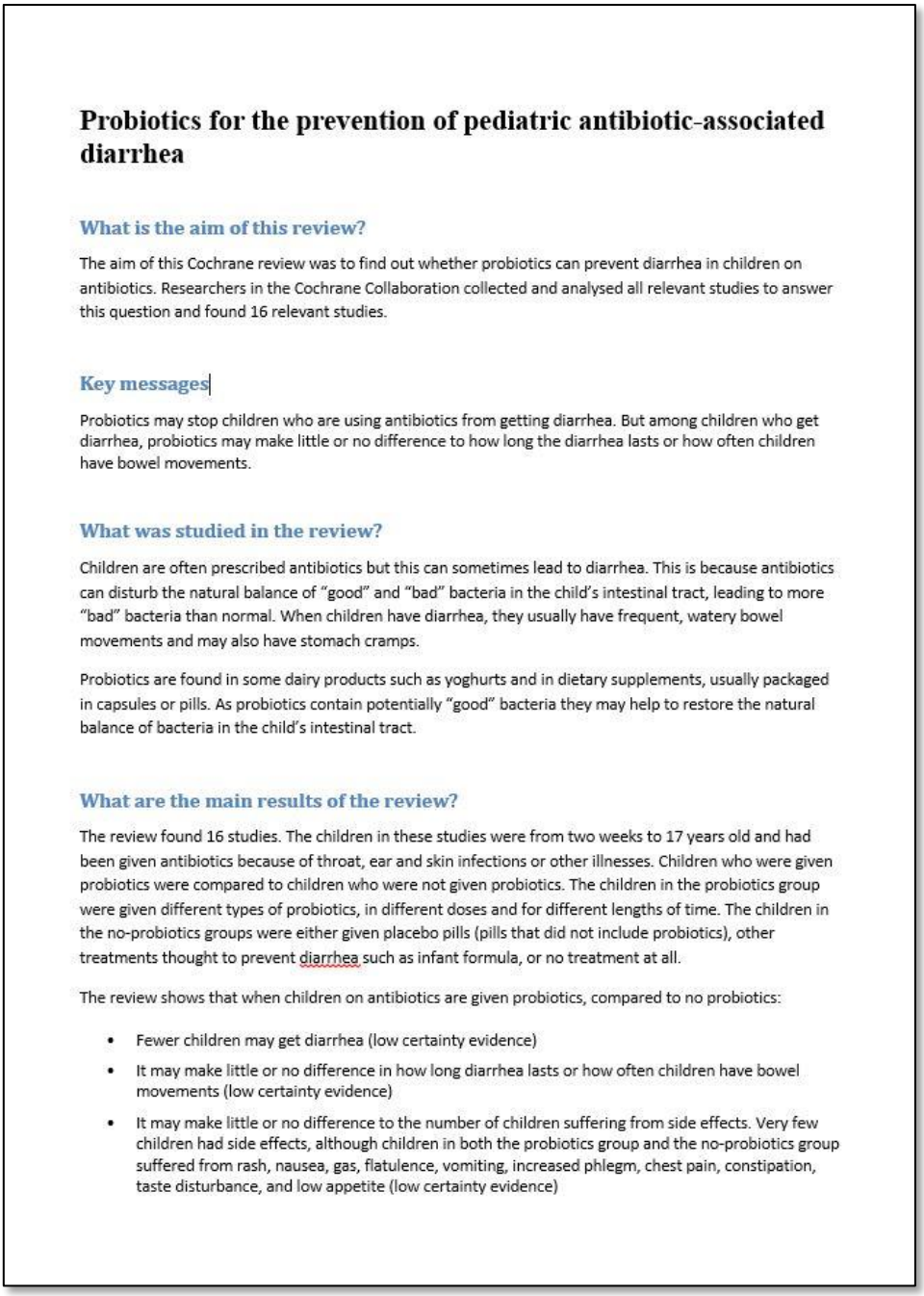
	Important benefit/harm	**Less important benefit/harm**	**No important benefit/harm**
High quality / certainty[1] evidence	[*Intervention*] improves/reduces [*outcome*] (high quality / certainty evidence)	[*Intervention*] slightly improves/reduces [*outcome*] (high quality / certainty evidence)	[*Intervention*] makes little or no difference to [*outcome*] (high quality / certainty evidence)
Moderate quality / certainty[1] evidence	[*Intervention*] probably improves/reduces [*outcome*] (moderate quality / certainty evidence)	[*Intervention*] probably slightly improves/reduces / probably leads to slightly better/worse [*outcome*] (moderate quality / certainty evidence)	[*Intervention*] probably makes little or no difference to [*outcome*] (moderate quality / certainty evidence)
Low quality / certainty[1] evidence	[*Intervention*] may improve/reduce [*outcome*] (low quality / certainty evidence)	[*Intervention*] may slightly improve/reduce [*outcome*] (low quality / certainty evidence)	[*Intervention*] may make little or no difference to [*outcome*] (low quality / certainty evidence
Very low quality / certainty[1] evidence	We / The review authors are uncertain whether [*intervention*] improves/reduces [*outcome*] as the quality / certainty of the evidence has been assessed as very low		
No studies	None of the studies looked at [*outcome*]		

[1]Within GRADE, the phrase "quality of the evidence" is increasingly referred to as "certainty of" the evidence. Use the same term that has been used elsewhere in the review.

Appendix 2: Plain Language Summary example 2

This example has been written with the help of the plain language summary template and is based on the following review: Johnston BC, Goldenberg JZ, Vandvik PO, Sun X, Guyatt GH. Probiotics for the prevention of pediatric antibiotic-associated diarrhea. Cochrane Database of Systematic Reviews 2011, Issue 11. Art. No.: CD004827. DOI: 10.1002/14651858.CD004827.pub3.

This Plain Language Summary also includes a simplified Summary of Findings Table.



Probiotics for the prevention of pediatric antibiotic-associated diarrhea

What is the aim of this review?

The aim of this Cochrane review was to find out whether probiotics can prevent diarrhea in children on antibiotics. Researchers in the Cochrane Collaboration collected and analysed all relevant studies to answer this question and found 16 relevant studies.

Key messages

Probiotics may stop children who are using antibiotics from getting diarrhea. But among children who get diarrhea, probiotics may make little or no difference to how long the diarrhea lasts or how often children have bowel movements.

What was studied in the review?

Children are often prescribed antibiotics but this can sometimes lead to diarrhea. This is because antibiotics can disturb the natural balance of "good" and "bad" bacteria in the child's intestinal tract, leading to more "bad" bacteria than normal. When children have diarrhea, they usually have frequent, watery bowel movements and may also have stomach cramps.

Probiotics are found in some dairy products such as yoghurts and in dietary supplements, usually packaged in capsules or pills. As probiotics contain potentially "good" bacteria they may help to restore the natural balance of bacteria in the child's intestinal tract.

What are the main results of the review?

The review found 16 studies. The children in these studies were from two weeks to 17 years old and had been given antibiotics because of throat, ear and skin infections or other illnesses. Children who were given probiotics were compared to children who were not given probiotics. The children in the probiotics group were given different types of probiotics, in different doses and for different lengths of time. The children in the no-probiotics groups were either given placebo pills (pills that did not include probiotics), other treatments thought to prevent diarrhea such as infant formula, or no treatment at all.

The review shows that when children on antibiotics are given probiotics, compared to no probiotics:

- Fewer children may get diarrhea (low certainty evidence)
- It may make little or no difference in how long diarrhea lasts or how often children have bowel movements (low certainty evidence)
- It may make little or no difference to the number of children suffering from side effects. Very few children had side effects, although children in both the probiotics group and the no-probiotics group suffered from rash, nausea, gas, flatulence, vomiting, increased phlegm, chest pain, constipation, taste disturbance, and low appetite (low certainty evidence)

How up-to-date is this review?

The review authors searched for studies that had been published up to May 2010.

Summary of findings table

What happens?	No probiotics	Probiotics	Certainty of the evidence
Diarrhea Fewer children may get diarrhea when given probiotics	223 children per 1000	89 children per 1000 (65 to 122 children)*	⊕⊕⊖⊖ Low
Side effects Probiotics may make little or no difference in side effects	18 children per 1000	23 children per 1000 (8 to 38 children)*	⊕⊕⊖⊖ Low
Duration of diarrhea Probiotics may make little or no difference to the length of time the child has diarrhea	The children who were given probiotics had diarrhea for 0.6 fewer days (1.18 to 0.02 fewer)* than the children who were not given probiotics		⊕⊕⊖⊖ Low
Bowel movements Probiotics may make little or no difference to how often children have bowel movements	The children who were given probiotics had bowel movements 0.3 fewer times (0.6 lower to 0 higher)* than the children who were not given probiotics		⊕⊕⊖⊖ Low

*The numbers in brackets show the range where the actual effect may be.