I.3	Antibiotics for bronchitis and bronchiolitis
Does the application adequately address the issue of the public health need for the medicine?	☒ Yes ☐ No ☐ Not applicable Comments: Acute bronchitis in a common respiratory syndrome that frequently leads to the prescription of antibiotics, particularly during peak periods of respiratory virus circulation such as in the fall and winter. Bronchiolitis is inflammation of the brochioles that occurs in young children and infants for which the cause is viral, predominantly respiratory syncytial virus (RSV). Usually, antibiotics are not needed for treatment of acute bronchitis and bronchiolitis.
Briefly summarize the role of the proposed medicine(s) relative to other therapeutic agents currently included in the Model List, or available in the market.	The highest quality SR (score 0.725) for acute bronchitis was a 2017 Cochrane review (17 RCTs, 5099 participants). Antibiotics included doxycycline, erythromycin, trimethoprim-sulfa, azithromycin, cefuroxime, amoxicillin, and amoxicillin-clavulanic (ref). There was no difference in clinical improvements between antibiotic and placebo groups (11 studies, 3841 participants), RR 1.07, 95%CI 0.99 to 1.15). Participants given antibiotics were less likely to have a cough (4 RCTs with 275 participants, RR 0.64, 95%CI 0. 49 to 0.85) and night cough (4 studies with 538 participants, RR 0.67, 95%CI 0.54 to 0.83), however there was no difference in productive cough at follow up. A shorter cough duration (7 studies, 2776 participants) was observed with antibiotics, mean difference -0.46 days, 95%CI -0.87 to -0.04 days). There was a significant increase in adverse events in the antibiotic treated group (12 studies, 3496 participants, RR 1.20, 95%CI 1.05 to 1.36). Another SR of 9 RCTs with a total of 774 participants and over 276 smokers randomized patients to antibiotics (erythromycin trimethoprim-sulfa, or doxycycline) or placebo (13). A meta-analysis was not performed. The authors reported that antibiotics showed no overall benefit in 5 of 9 of the RCTs while adverse events occurred on average in 11% of participants in the placebo group and 16% in the antibiotic group. The NICE (UK) guideline (score 62.2) recommends not routinely offering an antibiotic to treat an acute cough associated with acute bronchitis in patients who are not systemically unwell or at high risk for complications. The practice guidelines by the American College of Physicians and Centers for Disease Control and Prevention (score 68.5) do not recommend anibiotics for patients with acute bronchitis.
Have all important studies and all relevant evidence been included in the application?	☒ Yes ☐ No ☐ Not applicable If no, please provide brief comments on any relevant studies or evidence that have not been included:

Does the application provide adequate evidence of efficacy/effectiveness of the medicine for the proposed indication?	☒ Yes ☐ No ☐ Not applicable Briefly summarize the reported benefits (e.g. hard clinical versus surrogate outcomes) and comment, where possible on the actual magnitude and clinical relevance of benefit associated with use of the medicine(s). The highest quality SR showed no overall benefit in the antibiotic group compared to the placebo group in 5 of 9 of the RCTs. The NICE (UK) guideline (score 62.2) recommends not routinely offering an antibiotic to treat an acute cough associated with acute bronchitis in patients who are not systemically unwell or at high risk for complications. The practice guidelines by the American College of Physicians and Centers for Disease Control and Prevention (score 68.5) do not recommend antibiotics for patients with acute bronchitis. Is there evidence of efficacy in diverse settings (e.g. low-resource settings) and/or populations (e.g. children, the elderly, pregnant patients)? Yes.
Does the application provide adequate evidence of the safety and adverse effects associated with the medicine?	☒ Yes ☐ No ☐ Not applicable Comments: The highest quality SR showed that adverse events occurred on average in 11% of participants in the placebo group and 16% in the antibiotic group in 5 of 9 of the RCTs.
Are there any adverse effects of concern, or that may require special monitoring?	☐ Yes ☒ No ☐ Not applicable Comments:
Briefly summarize your assessment of the overall benefit to risk ratio of the medicine (e.g. favourable, uncertain, etc.)	The overall benefit to risk ratio of no antibiotic treatment for acute bronchitis and bronchiolitis is favourable.
Briefly summarize your assessment of the overall quality of the evidence for the medicine(s) (e.g. high, moderate, low etc.)	High.

Are there any special requirements for the safe, effective and appropriate use of the medicine(s)**?** (e.g. laboratory diagnostic and/or monitoring tests, specialized training for health providers, etc)	☐ Yes ☒ No ☐ Not applicable Comments:
Are you aware of any issues regarding the registration of the medicine by national regulatory authorities? (e.g. accelerated approval, lack of regulatory approval, off-label indication)	☐ Yes ☒ No ☐ Not applicable Comments:
Is the proposed medicine recommended for use in a current WHO Guideline approved by the Guidelines Review Committee? (refer to: https://www.who.int/publications/who-guidelines)	☐ Yes ☒ No ☐ Not applicable Comments:
Briefly summarize your assessment of any issues regarding access, cost and affordability of the medicine in different settings.	
Any additional comments	None
Based on your assessment of the application, and any additional evidence / relevant information identified during the review process, briefly summarize your proposed recommendation to the Expert Committee, including the supporting rationale for your conclusions, and any doubts/concerns in relation to the listing proposal.	Based on the highest quality SR showing no overall benefit for acute bronchitis in the antibiotic group verse in the placebo group and well-accepted international guidelines not recommending antibiotics to treat acute bronchitis, I highly recommend not to routinely use antibiotics for acute bronchitis and bronchiolitis in otherwise healthy children which are usually caused by viruses unless there is clear evidence for or a strong suspicion of a secondary bacterial infection.
References (if required)	