

**8.1. RECOMMENDATION:**
**Should AUXILIARY NURSES deliver injectable antibiotics for neonatal sepsis, using a standard syringe?**

**Problem:** Poor access to treatment for neonatal sepsis

**Option:** Auxiliary nurses delivering injectable antibiotics for neonatal sepsis

**Comparison:** Care delivered by other cadres or no care

**Setting:** Community/primary health care settings in LMICs with poor access to health professionals

Recommendation	<i>We recommend against the option</i>	<b><i>We suggest considering the option only in the context of rigorous research</i></b>	<i>We recommend the option</i>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	- We suggest considering this option only in the context of rigorous research. We suggest evaluating this intervention where auxiliary nurses are already an established cadre, where clear clinical guidelines are available and where a well-functioning referral system is in place or can be put in place.		
<b>Justification</b>	There is insufficient evidence on the effectiveness of auxiliary nurses delivering injectable antibiotics for neonatal sepsis using a standard syringe, and its feasibility is uncertain. However, this intervention may be acceptable and may reduce inequalities by extending care to underserved populations. Also, giving intramuscular and intravenous injections are generally within the standard competencies of auxiliary nurses.		
<b>Implementation considerations</b>	Not applicable		
<b>Monitoring and evaluation</b>			
<b>Research priorities</b>	Studies are needed to assess the effects of using auxiliary nurses to make a diagnosis and deliver injectable antibiotics for neonatal sepsis		

8.1. EVIDENCE BASE:

Should AUXILIARY NURSES deliver injectable antibiotics for neonatal sepsis, using a standard syringe?

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	CRITERIA	JUDGEMENT	EVIDENCE	COMMENTS AND QUERIES																						
BENEFITS & HARMS OF THE OPTIONS	Are the anticipated desirable effects large?	<table border="0"> <tr> <td>No</td> <td>Probably No</td> <td>Uncertain</td> <td>Probably yes</td> <td>Yes</td> <td>Varies</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>	No	Probably No	Uncertain	Probably yes	Yes	Varies	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>A systematic review searched for studies that assessed the effects of midlevel providers, including auxiliary nurses, in improving the delivery of health care services (Lassi 2012). However, this review did not identify any studies that assessed the effects of using auxiliary nurses for this intervention. <b>We are therefore unable to draw any conclusions about the desirable or undesirable effects of this intervention.</b></p> <p><b>Indirect evidence:</b>                      A systematic review of the effects of lay health workers (Lewin 2012) identified a number of trials from LMIC settings where packages of care were delivered by LHWs. In one trial, the package included LHWs injecting procaine penicillin and gentamicin to treat sick neonates, apparently using a standard syringe. The trial did not report any adverse effects of LHWs using injectable antibiotics. Overall, the trials suggest that these packages of care may lead to a reduction in neonatal mortality (moderate certainty evidence) and child mortality (low certainty evidence).</p> <p><b>Annex:</b> page 10 (Lewin 2012 – Table 2)</p>											
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Are the desirable effects large relative to the undesirable effects?	<table border="0"> <tr> <td>No</td> <td>Probably No</td> <td>Uncertain</td> <td>Probably yes</td> <td>Yes</td> <td>Varies</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>	No	Probably No	Uncertain	Probably yes	Yes	Varies	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
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RESOURCE USE	Are the resources required small?	<table border="0"> <tr> <td>No</td> <td>Probably no</td> <td>Uncertain</td> <td>Probably yes</td> <td>Yes</td> <td>Varies</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>	No	Probably no	Uncertain	Probably yes	Yes	Varies	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p><b>Main resource requirements</b></p> <table border="1"> <thead> <tr> <th>Resource</th> <th>Settings in which auxiliary nurses already provide other care</th> </tr> </thead> <tbody> <tr> <td>Training</td> <td>1-2 weeks of practice-based training in injection techniques, in diagnosing and managing neonatal sepsis</td> </tr> <tr> <td>Supervision and monitoring</td> <td>Regular supervision by midwife or nurse</td> </tr> <tr> <td>Supplies</td> <td>Antibiotics, syringes, sterile solution, robust supply chain</td> </tr> <tr> <td>Referral</td> <td>Transportation, adequate referral centre offering neonatal care</td> </tr> </tbody> </table>	Resource	Settings in which auxiliary nurses already provide other care	Training	1-2 weeks of practice-based training in injection techniques, in diagnosing and managing neonatal sepsis	Supervision and monitoring	Regular supervision by midwife or nurse	Supplies	Antibiotics, syringes, sterile solution, robust supply chain	Referral	Transportation, adequate referral centre offering neonatal care	
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	<p><b>Is the incremental cost small relative to the benefits?</b></p>	<p>No <input type="checkbox"/> Probably no <input type="checkbox"/> Uncertain <input checked="" type="checkbox"/> Probably yes <input type="checkbox"/> Yes <input type="checkbox"/> Varies <input type="checkbox"/></p>	<p>Uncertain as there is no direct evidence on effectiveness</p>	
ACCEPTABILITY	<p><b>Is the option acceptable to most stakeholders?</b></p>	<p>No <input type="checkbox"/> Probably no <input type="checkbox"/> Uncertain <input type="checkbox"/> Probably yes <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Varies <input type="checkbox"/></p>	<p>We are not aware of any systematic reviews that considered the acceptability of auxiliary nurse interventions. <b>We are therefore uncertain about the acceptability of this intervention to key stakeholders.</b></p> <p><b>Indirect evidence:</b> Three systematic reviews (Glenton, Khanna 2012; Glenton, Colvin 2012, Rashidian 2012) explored factors that influence the success of task-shifting to <u>lay health workers</u> and <u>nurses</u>. These reviews suggest that the acceptability of such programmes to key stakeholders may be mixed:</p> <ul style="list-style-type: none"> <li>• Nurses may be motivated to take on new tasks by increased recognition and job satisfaction (moderate certainty evidence) (Rashidian 2012)</li> <li>• Recipients, LHWs and other health workers may find the delivery of drugs and vaccines, including antibiotics for neonatal sepsis, by LHWs through compact prefilled autodisable devices (CPADs) such as Uniject to be acceptable, although the importance of training and supervision is emphasised (low certainty evidence). Some LHWs voiced concerns about possible social or legal consequences if something went wrong. These concerns were at least partly addressed through support and supervision (low certainty evidence) (Glenton, Khanna 2012)</li> <li>• Activities that demand that the LHW is present at specific times may lead to changes in working conditions. At least one study shows that this may have direct implications for LHWs' expectations regarding incentives (low certainty evidence) (Glenton, Colvin 2012)</li> </ul> <p><b>Annex:</b> page 33 (Glenton, Khanna 2012); page 26 ( Glenton, Colvin 2012); page 43 (Rashidian 2012)</p>	
FEASIBILITY	<p><b>Is the option feasible to implement?</b></p>	<p>No <input type="checkbox"/> Probably no <input type="checkbox"/> Uncertain <input checked="" type="checkbox"/> Probably yes <input type="checkbox"/> Yes <input type="checkbox"/> Varies <input type="checkbox"/></p>	<p>Significant additional work may be required to add the intervention to the tasks of auxiliary nurses. It is likely to require changes in regulations; significant changes to drug supplies and training; and validation of appropriate treatment algorithms. Also, implementation would require access to a referral system with trained and equipped healthcare professionals and facilities.</p> <p>Significant <b>training and</b> supervision provided by skilled health cadres would likely be needed. However, systematic reviews of lay health worker, nurse and midwife programmes suggest that sufficient training and supervision is often lacking (Glenton, Colvin 2012; Rashidian 2012; Colvin 2012).</p> <p><b>Annex:</b> page 26 (Glenton, Colvin 2012); page 20 (Colvin 2012); page 43 (Rashidian 2012)</p>	