13.1, 13.2, 13.3 and 13.4. RECOMMENDATION:

Should NURSES initiate (a) antiretroviral treatment among pregnant women and for prevention of HIV infection in infants, and (b) antiretroviral prophylaxis for pregnant women for prevention of HIV infection; and should they maintain (c) antiretroviral treatment and (d) antiretroviral prophylaxis?

***Problem**:* Poor access to ART and antiretroviral prohylaxisfor pregnant women
***Option**:* Nurses initiating and maintaining ART and antiretroviral prophylaxis
***Comparison**:* Care delivered by other cadres or no care
Setting: Community/primary health care settings in LMICs with poor access to health professionals

Recommendation	*We recommend against the option*	***We suggest considering the option with targeted monitoring and evaluation***	*We recommend the option*
	☐	☑	☐
	We suggest considering the use of nurses to deliver these interventions with targeted monitoring and evaluation.		
Justification	There is insufficient evidence on the effectiveness of nurses initiating and maintaining antiretroviral treatment or prophylaxis. However, this intervention is probably acceptable, is probably feasible, may increase continuity of care and may reduce inequalities by extending care to underserved populations.		
Implementation considerations	The following should be considered when using nurses to initiate and maintain ART or prophylaxis: - The relevant professional bodies should be involved in the planning and implementation of the intervention to ensure acceptability among affected health workers - The distribution of roles and responsibilities between nurses and other health workers needs to be made clear, including through regulations and job descriptions - Changes in regulations may be necessary to support any changes in nurses' scope of practice - Implementation needs to be in the context of a comprehensive remuneration scheme, in which salaries or incentives reflect any changes in scope of practice. Giving incentives for certain tasks but not for others may negatively affect the work that is carried out - Referral systems need to function well, i.e. financial, logistical (e.g. transport) and relational barriers need to be addressed. Specifically, local health systems need to be strengthened to improve quality of care at the first referral facility - Supplies of drugs and other commodities need to be secure - Responsibility for supervision needs to be clear and supervision needs to be regular and supportive - Nurses and their supervisors need to receive appropriate initial and ongoing training		
Monitoring and evaluation			
Research priorities			

13.1, 13.2, 13.3 and 13.4. EVIDENCE BASE:

Should NURSES initiate (a) antiretroviral treatment for pregnant women and for prevention of HIV infection in infants, and (b) antiretroviral prophylaxis for pregnant women for prevention of HIV infection; and should they maintain (c) antiretroviral treatment and (d) antiretroviral prophylaxis?

***Problem**:* Poor access to ART and antiretroviral prohylaxisfor pregnant women
***Option**:* Nurses initiating and maintaining ART and antiretroviral prophylaxis
***Comparison**:* Care delivered by other cadres or no care
Setting: Community/primary health care settings in LMICs with poor access to health professionals

CRITERIA	JUDGEMENT	EVIDENCE	COMMENTS AND QUERIES
BENEFITS & HARMS OF THE OPTIONS			
Are the anticipated desirable effects large?	No ☐ / Probably no ☐ / Uncertain ☑ / Probably yes ☐ / Yes ☐ / Varies ☐	One systematic review searched for studies that assessed the effects of nurse-led primary care compared to care that was given by primary care doctors (Laurant 2012). However, this review did not include any studies that specifically assessed the effects of nurses initiating or maintaining ART or antiretroviral prohylaxis. **We are therefore unable to draw any conclusions about the desirable or undesirable effects of this intervention.** **Indirect evidence**: The review did identify a number of studies, mostly from high income settings, where nurses were compared to doctors for the delivery of other types of interventions. The review suggests that nurse care may improve several health outcomes while it may make no difference to other outcomes. However, the certainty of this evidence varies.	
Are the anticipated undesirable effects small?	No ☐ / Probably no ☐ / Uncertain ☑ / Probably yes ☐ / Yes ☐ / Varies ☐		
What is the certainty of the anticipated effects?	Very low ☐ / Low ☐ / Moderate ☐ / High ☐ / No direct evidence ☑ / Varies ☐		
Are the desirable effects large relative to the undesirable effects?	No ☐ / Probably no ☐ / Uncertain ☑ / Probably yes ☐ / Yes ☐ / Varies ☐		
RESOURCE USE			
Are the resources required small?	No ☐ / Probably no ☐ / Uncertain ☐ / Probably yes ☑ / Yes ☐ / Varies ☐	***Main resource requirements***	

Outcomes	Impacts	Certainty of the anticipated effect
Patient health status	For some outcomes, benefits in favour of nurses. For other outcomes, no differences between nurses and doctors	Very low to moderate
Patient mortality	No differences between nurses and primary care doctors	Moderate
Process of care	Mixed results: some studies showed differences between nurses and primary care doctors in process of care, e.g. nurses gave more advice to patients, while others showed no differences	Very low to moderate
Patient satisfaction and preferences	Patients were significantly more satisfied with nurses compared with primary care doctors. Also, patients preferred significantly more often to see a nurse rather than a primary care doctor.	Very low to moderate

Annex: page 6 (Laurant 2012)

Resource	Settings in which nurses already provide other care
Training	E.g. less than 1 week of training for nurses on diagnosing HIV, treatment regimens, timing of treatment
Supervision and monitoring	Regular supervision by senior nurse
Supplies	HIV testing kits, drugs
Referral	Transport to referral facilities in case of adverse reactions or contra-indications to first-line treatment

	CRITERIA	JUDGEMENT	EVIDENCE	COMMENTS AND QUERIES
	Is the incremental cost small relative to the benefits?	*No* ☐ *Probably no* ☐ *Uncertain* ☑ *Probably yes* ☐ *Yes* ☐ *Varies* ☐	Uncertain as there is no direct evidence on effectiveness. Indirect evidence from the review referred to above (Laurant 2012) suggests that, compared to doctor-led care: • Overall, studies showed lower costs for nurse-led care • Consultation length was longer for nurses • For the frequency of consultations, results were mixed • For most studies there were no differences in the use of healthcare services and prescriptions	
ACCEPTABILITY	**Is the option acceptable to most stakeholders?**	*No* ☐ *Probably no* ☐ *Uncertain* ☐ *Probably yes* ☑ *Yes* ☐ *Varies* ☐	A systematic review of doctor-nurse substitution (Rashidian 2012) did not identify any studies that evaluated the acceptability of these interventions when delivered by nurses. **We are therefore uncertain about the acceptability of this intervention to key stakeholders.** **Indirect evidence:** For other maternal and child health interventions, the same review suggests that: • Nurses may be motivated to offer advanced care by increased recognition and job satisfaction (moderate certainty evidence). • Recipients may regard nurses as more accessible and better at listening and caring than doctors (moderate certainty evidence). Recipients may also prefer nurses for services that require more attention and time (low certainty evidence). However, in some settings, recipients may experience nurses as too overworked to explain things to their recipients (low certainty evidence). In addition, some recipients may have concerns about nurses' competence and willingness to provide high quality care compared to doctors (low certainty evidence) • Doctors were generally satisfied with the contribution of nurses to maternal and child health care, although some concerns were raised (low certainty evidence). Doctors may welcome the contribution of nurses where it reduces doctors' workloads (moderate certainty evidence). Doctors may also be comfortable with nurse prescribing, believing that it improves the continuity of care that patients receive (low certainty evidence). • In addition, doctors may also welcome the transfer of certain repetitive tasks to nurses (e.g. pap smears) and nurses seem to be happy with these tasks. Nurses may be willing to provide preventive and health promotional care that is not usually prioritised by doctors (low certainty evidence).However, an increase in nurse autonomy may negatively affect or produce negative reactions among other professions, including doctors and midwives, who for instance may be unwilling to relinquish final responsibility for patient care. • Lack of clarity about nurse roles and responsibilities in relation to other health workers may also be a challenge (low certainty evidence) **Annex**: page 43 (Rashidian 2012)	
FEASIBILITY	**Is the option feasible to implement?**	*No* ☐ *Probably no* ☐ *Uncertain* ☐ *Probably yes* ☑ *Yes* ☐ *Varies* ☐	Some additional work may be needed to add this intervention to nurses' tasks. It is likely to require changes in regulations and significant changes to drug supplies, and adequate referral to a higher level of care for further management may be necessary. Some training and supervision provided by skilled health cadres would likely be needed. However, a systematic review (Rashidian 2012) suggests that nurses may be unprepared or not adequately trained or supervised when they are given advanced and substitution roles (low certainty). **Annex**: page 43 (Rashidian 2012)	