First Embrace

Introducing and sustaining EENC in hospitals: routine childbirth and newborn care

World Health Organization
Western Pacific Region

EARLY ESSENTIAL NEWBORN CARE (EENC) **MODULE 3**

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Foreword

WHO, Member States and stakeholders in the Western Pacific Region share a vision for mothers and their children: that every newborn infant have the right to a healthy start in life.

But now one newborn infant dies every two minutes – often needlessly – in the Region.

Together, we have taken bold steps to address this grim statistic, with Member States endorsing the *Action Plan for Healthy Newborn Infants in the Western Pacific Region (2014–2020).* The plan aims to improve the quality of care for mothers and babies in health facilities, where the vast majority of children are born in the Region.

We offer five teaching modules of Early Essential Newborn Care, or EENC, starting with the *Early Essential Newborn Care Clinical Practice Pocket Guide.* Since its release, reviews and research have shown impressive reductions in death, infection and intensive care unit admissions in facilities employing EENC.

The current volume, *Introducing and sustaining EENC in hospitals: routine childbirth and newborn care,* is the third module for improving EENC health provider practices in facilities across the Region.

These modules are critical components of the regional plan of sustained action and strong policies utilizing proven methods for saving money and lives. Already governments, health-care facilities and families are saving precious resources, making health systems more accountable and quality care more attainable.

Together, we must push beyond the era of the Millennium Development Goals and meet the even loftier targets for the Sustainable Development Goals: a global maternal mortality ratio of less than 70 per 100 000 live births with no country above 140; and a neonatal mortality rate of less than 12 per 1000 births in countries.

To reach these ambitious targets, we must work together with Member States and partners to bring improved high-quality EENC to all mothers and newborn infants in every stretch of the Region.

Shin Young-soo, MD, Ph.D.
Regional Director

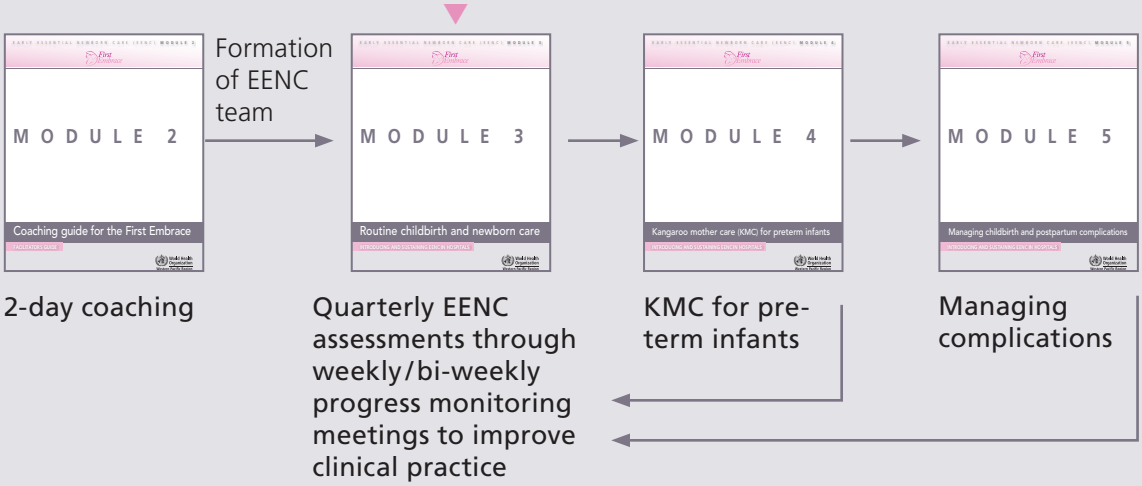
ABOUT THE EARLY ESSENTIAL NEWBORN CARE MODULES

The five Early Essential Newborn Care (EENC) modules support planning, implementation, improvement, and monitoring and evaluation of EENC.

Module	Title	Primary user level
1	Annual implementation reviews and planning	National and subnational
2	Coaching for the First Embrace – Facilitator's Guide	National and subnational facilitators
▲ **3**	Introducing and sustaining EENC in hospitals: routine childbirth and newborn care	Hospital with national support for scale up
4	Introducing and sustaining EENC in hospitals: Kangaroo Mother Care (KMC) for preterm infants	
5	Introducing and sustaining EENC in hospitals: managing childbirth and postpartum complications	

Module 1 is used at the national and subnational levels to collect data for development of annual and 5-year national strategic plans.

National and subnational facilitators use **Module 2** to upgrade skills of health workers providing routine childbirth and newborn care nationwide. In hospitals, EENC teams are formed to regularly assess and improve quality of care using **Module 3.** Once excellent routine childbirth and newborn care are well established, coaching and quality of improvement for Kangaroo Mother Care (KMC) for preterm infants is done with **Module 4.** Lastly, management of childbirth and postpartum complications is added using **Module 5** (see below).



BACKGROUND

This module aims to provide the EENC hospital team with a practical approach to assess and improve the quality of routine childbirth and newborn care. The team will use data from observations, interviews and reviews of charts, policies and hospital registers to complete checklists, identify priorities and develop plans.

PARTICIPANTS

EENC team members include paediatricians, obstetricians, nurses, midwives and infection control, quality improvement and hospital administration staff (maximum of 25). These should include senior staff in key positions as well as mid-level staff to carry out the work. Participants are divided into small groups and collect data using checklists.

TIMING

Six to 13 weeks after the 2-day First Embrace coaching, an initial full EENC quality assessment is conducted. Thereafter, regular team meetings are held at least monthly. A day-long EENC quality assessment (Module 3, 4 or 5) is conducted at least twice a year. The EENC team may decide to conduct assessments more frequently, depending on the status and quality of EENC practice.

MATERIALS NEEDED FOR INITIAL FULL EENC QUALITY ASSESSMENT

Module 3 (one per participant); flipchart (1–2) with A1-size paper (10); markers (10), tape.

TABLE 1. Content of the full EENC quality assessment

Quality improvement action	Tasks	Tools	Method followed in orientation
SECTION 1: Review EENC clinical practice			
	• Interview postpartum mothers	Checklist 1	Data collection in pairs/groups, then summarize in plenary
	• Review charts of postpartum mothers	Checklist 2	
	• Observe delivery practice and environmental hygiene	Checklists 3a, 3b, 3c	
	• Review availability of key medicines and supplies for EENC	Checklist 4	
	• Review hospital policies: support of EENC practices	Checklist 5	
	• Review EENC coaching status of facility staff	Checklist 6	
	• Review hospital impact indicators	Checklists 7a, 7b	
SECTION 2: Identify and prioritize EENC strengths and areas for improvement			
	• Identify and prioritize EENC strengths	Table 2	Group work per topic, then plenary discussion
	• Identify and prioritize EENC areas for improvement		
SECTION 3: Identify priority actions for improving EENC			
	• Develop action steps	Table 3	Group work per topic, then plenary discussion
	• Assign responsibility		
	• Review progress regularly		

SECTION 1.

REVIEW EENC CLINICAL PRACTICE

1.1 Exit interviews with postpartum mothers

Checklist 1

Instructions

1. Divide the EENC team into pairs, with each pair conducting at least two exit interviews – one person interviewing and the other recording. Altogether, a minimum of 10 interviews should be conducted. Interviews should be completed before women are discharged.

2. Select a room away from patients and staff for conducting interviews. If this is not possible, locate a quiet corridor or area where the conversation can be more private.

3. Select mothers using these criteria:

- Delivered at least three hours prior to the interview.
- A mix of women with normal vaginal deliveries, assisted deliveries, and caesarean sections (when present) and babies in the neonatal care unit (NCU).
- Have not been admitted for abortion, or had a stillbirth or newborn death.
- If 10 or fewer postpartum mothers meeting the criteria are available, select all mothers.
- If more than 10 postpartum mothers meeting the selection criteria are available, use a random sampling method.[1]

4. Obtain informed oral consent. State, "We are trying to understand your delivery experience so that we can help improve care for women. Everything you say here will be kept confidential, meaning no one will know you said it. Anytime you want to stop, you may. Your care will remain the same. Do you agree to do this interview?" Record informed consent if given.

1. If more than 20 women meet the selection criteria, consider systematic random sampling. Number the women in the delivery admission register in the order they arrived. Divide the total number of admissions in the register by 10 to find the sampling interval (for example, if 40 women meet the criteria, select every fourth women on the list). Start randomly and use the sampling interval to select women from the random start until 10 women have been sampled.

5. Conduct the exit interview and record in a notebook.
   - State: "We would like to start by asking you to describe what happened to you from the moment you went into labour until now."
   - Probe: the silent probe (i.e. maintaining silence even after you feel uncomfortable) with head nods is very effective in allowing women to tell their story. This can be followed by: "so the first thing that happened was… [repeat what was said], what happened next?" Keep probing to fill in the details.
   - Write down the "story" of her labour and delivery. Ask her to tell it in her own words. Record the story in a notebook, making special note of responses to questions in **Checklist 1 – Exit interviews with postpartum mothers**. If by the end, the mother does not tell you specific details spontaneously, then use the questions in Checklist 1. For #12 in Checklist 1, you will need to ask the mother the question as she is unlikely to mention this in her narration. If the mother answers "yes", ask her to show you the items she has bought herself or received from baby food companies.
   - The questions in Checklist 1 should not be used to conduct the interview until the mother has finished telling the story.

6. Extract information from notebook and record in Checklist 1 indicating Y (Yes), N (No), or as otherwise instructed in the questions.

7. In plenary, tally findings from all exit interviews in the summary column of Checklist 1**.**

1.2 Chart reviews of postpartum mothers who received an exit interview

Checklist 2

Instructions

1. In pairs, use the identification numbers of the mother and baby to identify the charts of women who already received an exit interview. If mothers' charts are separate from those of their babies, it may be necessary to review both to complete the chart review.

2. In pairs, complete **Checklist 2 – Chart reviews of postpartum mothers who received an exit interview.** If data are not recorded in the chart, the response is "NR" (Not Recorded).

3. In plenary, tally the results in the summary column of Checklist 2.

1.3 Observation of delivery practices and environmental hygiene

Instructions

Observation of delivery practices **Checklists 3a and 3b**

1. Ask delivery and operation room staff to notify the group of pending deliveries and caesarean sections. At least five deliveries should be observed. As cases requiring resuscitation are uncommon, participants may not have the opportunity to observe such a delivery.
2. In pairs, move about to get a clear view without obstructing the birth attendant(s), speaking or intervening.
3. Observe the same delivery, record findings individually on **Checklist 3a – Delivery practice for the breathing baby** or **Checklist 3b – Delivery practice for the non-breathing baby** as: correctly done (Y = Yes), incompletely done (P = Partial) or not done or done incorrectly (N = No). If a practice is not assessed, indicate N/A and provide details in the "Comments" column.
4. After each observation, score the checklist: 2 points for "Yes", 1 point for "Partial" and 0 points for "No." The maximum possible score for delivery of a breathing baby (Checklist 3a) is 42 and non-breathing baby (Checklist 3b) is 60. Upon completion, compare findings in the pair and reconcile differences. Record average scores and score ranges in completed checklists.
5. Give feedback to staff at the end of the delivery away from the mother. Provide positive feedback first, then describe areas for improvement.

Observation of environmental hygiene **Checklist 3c**

1. Observe handwashing facilities and toilets for patients, newborn resuscitation areas and supply and equipment in delivery rooms, postnatal care rooms (PNC) and neonatal care units.
2. Complete **Checklist 3c – Environmental hygiene**.
3. For each aspect of environmental hygiene assessed, record the total number of observations (N) and of these, how many meet the criteria asked (*n*)?
4. Give feedback to staff at the end of the review on areas for improvement.

1.4 Review of availability of key medicines and supplies for EENC

Checklist 4

Instructions

1. Review the list of medicines and supplies by direct observation – staff who work in antenatal care (ANC), delivery, postnatal care and neonatal care areas are often familiar with the availability of essential medicines, equipment and supplies and can help identify where medicines and supplies are stored and answer key questions.

2. If EENC team members are unsure of the status of some medicines or supplies, determine who should be consulted to determine the status. This may include staff from the relevant section or the hospital pharmacy.

3. Complete **Checklist 4 – Review of availability of key medicines and supplies for EENC.**
   - The WHO definition of normal storage conditions is: "Storage in dry, well-ventilated premises at temperatures of 15–25 °C or, depending on climatic conditions, up to 30 °C".
   - Note items not available on the day of the review and those that have had stock-outs in the previous 12 months. Note problems with storage or functionality of equipment.
   - Note whether stock records are available for all items.

1.5 Review of hospital policies: support of EENC practices

Checklist 5

Instructions

1. Get copies of hospital policies listed in **Checklist 5 – Review of hospital policies: support of EENC practices.**

   Note: national policies are not included unless a written policy is available at the hospital.

2. Record policies seen in Checklist 5 and identify policies currently not available.

3. Determine whether all relevant staff have been oriented on the available written policies.

1.6 Review of EENC coaching status of facility staff

Checklist 6

Instructions

1. List the types of health professionals at the hospital involved in childbirth, postnatal and newborn cares in **Checklist 6 – EENC coaching summary.**
2. Identify the total number of staff for each type of health professional.
3. Identify the total number of staff coached and the number who still need to be coached. Ensure new and trainee staff are included and that staff who have departed are not counted. If any staff members have been coached more than once, count them only once.
4. Decide on a responsible person and time line for completing coaching.
5. Identify resources needed to complete coaching such as manikins, essential supplies or other materials. Discuss sources of support.

1.7 Review of hospital impact indicators

Checklist 7

Instructions

1. Review data collected for the last 12 months for each hospital impact indicator – indicators are summarized in **Checklist 7a – EENC hospital impact indicators**.
   - Discuss the type of database most suitable for the facility (Excel database, other electronic database). If necessary, discuss adaptation of the database format to facilitate data entry and reporting.
   - Discuss problems with collecting data for hospital impact indicators, such as record completeness or case-definitions and possible solutions.
   - Discuss and note trends in indicators over the past 12 months (changes in mortality or case-fatality rates, changes in asphyxia, sepsis, prematurity or low-birth weight, and NCU admission rates), and possible reasons for observed trends in **Checklist 7b – Progress in EENC hospital impact indicators in the previous 12 months.**
   - Note data inconsistencies and gaps in the database, and possible reasons and solutions for them.

SECTION 2.

IDENTIFY AND PRIORITIZE EENC STRENGTHS AND AREAS FOR IMPROVEMENT

Instructions

1. Draw **Checklists 1, 2, 3a, 3b, 3c, 4, 5, 6** and **7** on flipcharts and enter the data collected.
2. Draw **Table 2** – Identifying and prioritizing strengths and areas for improvement for EENC on another flipchart.
3. Post completed flipcharts of each checklist around the room in order (Checklists 1, 2, 3a, 3b, 3c, 4, 5, 6 and 7).
4. Starting on Checklist 1, identify strengths and gaps including those that have not been recorded in checklists. Mark the two or three most important gaps, giving consideration to:
   - importance to improving EENC clinical practice;
   - whether action to address the gap can be taken with existing resources and personnel; and
   - whether action to address the gap can be taken in the next three months.
5. Reach consensus on the most important strengths, gaps and underlying reasons. Write them word-for-word on Table 2.

TABLE 2. Identifying and prioritizing strengths and areas for improvement for EENC

Areas	Strengths	Priority areas for improvement	Underlying reasons
Clinical practice [a]			
Environmental hygiene			
Key medicines and supplies			
Hospital policies			
EENC coaching for staff			
Hospital impact indicators			

a. Based on data collected from exit interviews, chart reviews, and observations of deliveries.

SECTION 3.

IDENTIFY PRIORITY ACTIONS FOR IMPROVING EENC

Purpose

Actions required to address areas needing improvement are developed, based on the underlying reasons for gaps identified in the previous step. Responsibilities are allocated to members of the EENC team. Some solutions will be relatively easy to implement with available staff and resources. Others may require the intervention of senior hospital managers or additional resources. Some solutions may require actions outside of the hospital – for example advocacy to improve supply of essential medicines or commodities.

Instructions

1. Draw **Table 3 – Priority actions for improving EENC** on a flipchart and post next to Table 2. Referring to Table 2, discuss priority actions to address underlying issues, person(s) responsible and timing. Leave status blank (it will be updated during subsequent team meetings).
2. Discuss and agree on up to three actions per priority area for improvement. Answer the following questions:
   - If we complete our actions, will we improve EENC?
   - Can we measure if the action has been completed?
   - Can we feasibly complete it within three months? (Or for longer-term priorities, can we substantially start the process within three months?)
3. Write the agreed actions on the flipchart.
4. Agree on the date and time of the next EENC hospital team meeting.
5. Discuss mechanisms to ensure that quarterly EENC assessments are carried out.

TABLE 3. Priority actions for improving EENC

Priority actions	Person responsible	Time	Status date
Clinical practice			
Environmental hygiene			
Key medicines and supplies			
Hospital policies			
EENC coaching for staff			
Hospital impact data			

Checklists

A printable Excel file for data entry and automatic calculation of summary information is available at: http://www.wpro.who.int/reproductive_maternal_newborn_child_adolescent/publications/20160901-mca-template.xlsx.

Checklist 1. Exit interviews with postpartum mothers

Question	Mother number										Summary
Answer the questions with: Y (= Yes) or **N** (= No)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	***n**** / N** (%)
1. Verbal informed consent obtained											
2. Identifying information of mother and baby (provide here)											
3. Mode of delivery (V = vaginal, CS = caesarean section)											*n* CS =
4. Age of the baby (in hours)											
5. During childbirth:											
a. was the mother allowed to sit, stand or lay in the position she wanted?											
b. if yes, in what position did she spend most of the time?											
c. did the mother have a companion of her choice?											
d. was the mother encouraged to eat and drink?											
e. did anyone push down on the mother's belly?											
f. was an enema done?											
6. Was the baby bathed?											
a. if yes, how long after birth? <1 h, 1–6 h, 7–24 h, ≥ 24 h											*n* ≥ 24 h =
7. Was the baby placed in skin-to-skin contact with the mother?											
a. how long after birth (<1, 1–10, 11–59, ≥60 min)?											*n* < 1 min =
b. how long did the baby remain in uninterrupted skin-to-skin contact before being separated from the mother for any reason? (<10, 10–29, 30–59, 60–89, ≥90 min)											*n* ≥ 90 min =
c. had the baby completed the first breastfeed (attached, deep sucking) before being separated from the mother?											

Question	Mother number										Summary
Answer the questions with: Y (= Yes) or **N** (= No)	1	2	3	4	5	6	7	8	9	10	*n** / N** (%)
d. why was the baby separated from the mother?											Reasons:
e. did the baby receive immediate skin-to-skin contact, no separation for at least 90 min and until the first breastfeed was completed? Answer Y only if: *a*<1 min, *b* ≥ 90 min and *c* = Y											
8. Did the baby stay with the mother during the entire hospital stay (rooming in)?											
9. Is the mother breastfeeding?											
a. if yes, how long after birth did the baby first breastfeed? (<15, 15–90, >90 min) (attached, deep sucking)											15 < *n* < 90 min =
b. how long did the baby breastfeed the first time?											*n* ≥ *15 min* =
c. since delivery, was the baby fed anything other than breastmilk?											*n* (# No) =
d. did the baby receive early (within 15–90 min) and exclusive breastfeeding? Answer Y only if: 15 < *a* < 90 min and *c* = N											
10. If the baby has been fed anything other than breastmilk, what was given?											Fluids given:
11. Has the baby been fed anything from a bottle?											
12. Was anything applied to the cord stump?											
a. if yes, what was applied?											Substances:
13. Does the mother have infant formula, baby bottles, gifts or other products sponsored by baby food companies with her at the hospital?											
a. if yes, ask her to show them to you and note down the types of products.											Products:

* *n* = total number of "Y" (Yes) responses **unless otherwise specified**

**N = total number of mothers interviewed

CHECKLIST 2

Chart reviews of postpartum mothers who received an exit interview

Checklist 2. Chart reviews of postpartum mothers who received an exit interview

Question	Mother number										Summary
Answer the questions with: **Y** (= Yes), **N** (= No), **NR** (= Not Recorded)	1	2	3	4	5	6	7	8	9	10	*n** / N** (%)
1. Identifying information of mother and baby (provide here)											
2. Were syphilis test results from ANC written in the record?											
3. Was point-of-care rapid HIV testing done or HIV test results from ANC written in the record?											
4. Was a partograph completed correctly? [a]											
a. if partial or no, specify reason											Main reasons:
5. Was artificial rupture of membranes (amniotomy) done?											
a. if yes, what were the indications?											Main indications:
6. Was the mother's labour induced or augmented with oxytocin?											
a. if yes, what were the indications?											Main indications:
7. Was the baby delivered by caesarean section?											
a. if yes, what were the indications?											Main indications:
8. Was an episiotomy done?											
a. if yes, were restricted criteria for episiotomy used? [b]											
9. Was IM oxytocin given after delivery?											
10. Were any substances put on the cord stump, e.g. alcohol, triple dye, gentian violet?											
a. if yes, what was applied?											Main substances:

Checklist 2. Chart reviews of postpartum mothers who received an exit interview *(continued)*

Question	Mother number										Summary
Answer the questions with: **Y** (= Yes), **N** (= No), **NR** (= Not Recorded)	1	2	3	4	5	6	7	8	9	10	*n** / N** (%)
11. Were the following assessed within 1 hour of delivery?											
a. vaginal bleeding											
b. fundal height and uterine contraction											
c. pulse and blood pressure of the mother											
d. temperature of the mother											
e. danger signs of the baby											
12. Was routine eye care given within 90 min of birth? [c]											
13. Was vitamin K given between 90 min and 6 h of birth? [c]											
14. Was hepatitis B vaccine given within 24 h of birth? [c]											
15. Was BCG vaccine given within 24 hours of birth? [c]											
16. Which of the following were assessed within 6 hours of delivery?											
a. second blood pressure of mother											
b. urine void											
c. full physical exam of baby											

a. P = partial may be applicable. If the assessor is unable to determine whether the partograph has been filled correctly, the answer should be validated with the overseeing staff member/attending physician.

b. Abnormal progression of labour; non-reassuring fetal heart rate pattern; vacuum or forceps delivery; shoulder dystocia.

c. If timing of administration is not specified, indicate "Y" and "TNS" (time not specified).

* *n* = total number of "Y" (Yes) responses unless otherwise specified

**N = total number of charts reviewed

Checklist 3a. Delivery practice for the breathing baby

Location:..... **Date:**.....

Observation conducted by:.....

Answer the questions with:	**Observation**					**Summary**
Y = Yes, **N** = No, **P** = Partial, **N/A** = Not Assessed	**1**	**2**	**3**	**4**	**5**	***n*** / N** (%)*
Vaginal = V, **Caesarean section** = CS						
Pre-birth preparation						
1. Checked room temperature; turned off fans and/or air conditioning						
2. Washed hands before touching any delivery area surfaces and handling equipment						
3. Placed dry cloth on abdomen (or upper body for caesarean section)						
4. Prepared the newborn resuscitation area						
5. Checked if newborn ambu bag and masks are functional						
6. Washed hands before gloving for delivery						
7. Wore two pairs of sterile gloves (if necessary)[a]						
8. Arranged forceps, cord clamp/ties in easy-to-use order						
Immediate postpartum/newborn activities						
9. Called out time of birth (hours, minutes, seconds) ..... / ..... /						
10. Drying started within 5 s of birth? *Answer: <5 s (Y), 5–10 s (P), >10 s (N)						
11. Dried the baby thoroughly (wiped the eyes, mouth, nose,face, head, front, back, arms and legs)[b]						

Checklist 3a. Delivery practice for the breathing baby *(continued)*

Answer the questions with:	**Observation**					**Summary**
Y = Yes, **N** = No, **P** = Partial, **N/A** = Not Assessed	**1**	**2**	**3**	**4**	**5**	***n*** / N** (%)*
Vaginal = V, **Caesarean section** = CS						
Immediate postpartum/newborn activities *(continued)*						
12. Removed the wet cloth						
13. Placed baby in direct skin-to-skin contact						
14. Covered baby's body with cloth and head with a hat						
15. Checked for a second baby [c]						
16. Injected oxytocin IM to mother within 1 minute						
17. Removed first (soiled) pair of gloves[a]						
18. Checked for cord pulsations before clamping, clamped after cord pulsations stopped (usually 1–3 minutes)						
19. Placed clamp/tie at 2 cm, forceps at 5 cm, from umbilical base						
20. Delivered placenta						
21. Counselled mother on feeding cues (drooling, mouth opening, tonguing/licking, rooting, biting hand, crawling, etc.) – *Answer: > 2 cues (Y), 1–2 cues (P)						
Total score = (# Yes x 2) + (# Partial) *(maximum score possible = 42)*						
Average score =						
Score range (from lowest to highest) =						

a. If delivery is by caesarean section or a separate birth attendant is available to handle the cord, make a note in "Summary". If a separate birth attendant is available to handle the cord and uses sterile gloves when doing so, score practice as "Y" (Yes).
b. Deduct 5 points if suctioned unless baby was dried thoroughly and baby had no tone and amniotic fluid was meconium stained.
c. For caesarean sections, score this as "Y" (Yes).

* *n* = total number of "Y" (Yes) responses unless otherwise specified
**N = total number of observations

Checklist 3b. Delivery practice for the non-breathing baby

Location:..... **Date:**.....

Observation conducted by:.....

Activity	Observation		Summary
Y = Yes, **N** = No, **P** = Partial, **N/A** = Not Assessed	1	2	*n** / N** (%)
Vaginal = V, **Caesarean section** = CS			
Pre-birth preparation			
1. Checked room temperature; turned off fans and/or air conditioning			
2. Washed hands before touching any delivery area or equipment			
3. Placed dry cloth on abdomen (or upper body for caesarean section)			
4. Prepared the newborn resuscitation area			
5. Checked if newborn ambu bag and mask are functional			
6. Washed hands before gloving for delivery			
7. Wore 2 pairs of sterile gloves (if necessary)[a]			
8. Arranged forceps, cord clamp/ties in easy-to-use order			
Immediate postpartum / newborn activities			
9. Called out time of birth (hours, minutes, seconds) ..... / ..... /			
10. Drying started within 5 s of birth? *Answer: < 5 s (Y), 5–10 s (P), >10 s (N)			
11. Dried the baby thoroughly (wiped the eyes, mouth/nose, face, head, front, back, arms and legs)			
12. Removed the wet cloth			
13. Put baby in direct skin-to-skin contact			
14. Covered baby's body with cloth and head with a hat			
15. Determined whether the baby was gasping or not breathing			
16. Called for help and informed the mother			

Activity	Observation		Summary
Y = Yes, **N** = No, **P** = Partial, **N/A** = Not Assessed	1	2	*n** / N** (%)
Vaginal = V, **Caeasarean section** = CS			
17. Removed first (soiled) pair of gloves[a]			
18. Quickly clamped and cut cord			
19. Moved baby to resuscitation area			
20. Covered baby quickly during and after transfer			
21. Positioned head correctly to open airways			
22. Applied face mask firmly over chin, mouth and nose			
23. Gained chest rise within 1 minute of birth[b]: ..... min ..... s			
24. Squeezed bag to give 30–50 breaths per minute			
25. Maintained good chest rise throughout or took steps to improve ventilation			
26. After baby breathing well, stopped ventilation			
27. Returned to skin-to-skin contact, covered baby			
28. Checked for a second baby[c]			
29. Gave oxytocin IM to the mother			
30. Delivered placenta			
31. Counselled mother on babies status following resuscitation and on feeding cues *Answer > 2 cues (Y), 1–2 cues (P)			
Total score = (# Yes x 2) + (# Partial) *(maximum score = 62)*[d]			
Average score =			
Score range (from lowest to highest) =			

a. If delivery is by caesarean section, or a separate birth attendant is available to handle the cord, make a note in "Summary". If a separate birth attendant is available to handle the cord and uses sterile gloves when doing so, score practice as "Y" (Yes).

b. Only scored as "Yes" or "No" – No: "Partial"

c. For caesarean sections, score this as "Y" (Yes).

d. Deduct 5 points if resuscitation is performed when: (1) the baby is not breathing but has muscle tone and grimace, and (2) the baby is not dried immediately or thoroughly (either not immediately, not thoroughly or not at all).

* *n* = total number of "Y" (Yes) responses unless otherwise specified

**N = total number of observations

Checklist 3c. ENVIRONMENTAL HYGIENE
Delivery room, recovery room, neonatal care unit and postnatal care room

Question	Delivery room(s)	Recovery room(s)	Neonatal care unit	PNC room(s)	Comments
Handwashing facilities and toilets for patients [a]					
1. Is there a filled alcohol hand gel dispenser within 2 m of every bed? (Y / N)					
2. Is at least one sink for washing hands available for use in the room? [b] (Y / N)					
3. What is the total number of sinks? (N)					
4. How many sinks:					
a. are clean? (*n*/N)					
b. have continuous supply of clean, running water? [c] (*n*/N)					
c. have soap [d] available? (*n*/N)					
d. have single-use towels available? (*n*/N)					
5. What is the total number of toilets for patients? (N)					
6. How many toilets:					
a. are functioning? (*n*/N)					
b. are clean? (*n*/N)					
Newborn resuscitation area					
7. How many other rooms have at least 1 resuscitation area set up? (N)					
8. How many delivery beds have a resuscitation area available within 2 m? (*n*/N)					
9. How many resuscitation areas are available? (N)					

Question	Delivery room(s)	Recovery room(s)	Neonatal care unit	PNC room(s)	Comments
10. How many resuscitation areas:					
a. are clean and dry? (*n*/N)					
b. have newborn ambu bag and mask available? (*n*/N)					
Supplies and equipment (Y/N)					
11. Are all surfaces free of clutter?					
12. Are new garbage bags used for each delivery?[e]					
13. Are sharps boxes available?					
14. At least 1 meter separation between beds?					
15. Clean thermometers and stethoscopes and used for each patient? (separate equipment dedicated to each patient; or supplies for cleaning instruments available?[e])					
Promotion of baby food company products					
16. Are baby food company materials visible (posters, brochures, stickers, painted walls, clothing, etc.)					
17. Are hospital orders prohibiting use of infant formula and other linkages with milk formula companies visible and posted somewhere in the area?					

a. To undertake a complete hand hygiene assessment, see 'Hand Hygiene Self-Assessment Framework' (WHO, 2010)

b. If more than one room is available in a category, report availability in each room separately. Note if alcohol gel/hand rub is available for staff use but not for use by patients and families.

c. A water supply that is either piped or from onsite storage, with appropriate disinfection, meeting appropriate safety standards for microbial and chemical contamination.

d. Soap: detergent-based products that contain no added antimicrobial agents or may contain these solely as preservatives. It may be in various forms including bar soap, tissue, leaf and liquid preparations.

e. These questions are preferably answered through observation. If it is not possible, then ask health staff. Indicate '(R)' next to answers that were obtained by asking staff.

CHECKLIST 4

Review of availability of key medicines and supplies for EENC

Checklist 4. Review of availability of key medicines and supplies for EENC

	Available on the day of the review? (Y or N)	Stock condition? No expired drugs? Equipment functional?	Stock records exist? (Y or N)	# Stock-outs in the past 12 months
1. Magnesium sulfate for severe pre-eclampsia and eclampsia, and fetal neuroprotection if gestational age < 32 weeks		☐ Normal storage [a] ☐ No expired drugs		
2. Oxytocin for IM and parenteral use – immediately postpartum – and for control of haemorrhage		☐ 2–8 °C ☐ Protected from light [b] ☐ No expired drugs		
3. Corticosteroids for women of 24–34 weeks of gestation at risk of preterm delivery [c]		☐ Normal storage [a] ☐ Protected from light [b] ☐ No expired drugs		
4. Antibiotics for preterm prelabour rupture of membranes [d]		☐ Normal storage [a] ☐ Protected from light [b] ☐ No expired drugs		
5. Functional newborn ambu bag and mask (sizes 0 and 1) within 2 m of each delivery bed				
6. Oxygen for newborn use				
7. CPAP				
8. Functional autoclave				
9. Refrigerator				
10. Full delivery sets for delivery [e]				
11. Vitamin K		☐ Normal storage [a] ☐ Protected from light [b] ☐ No expired drugs		

	Available on the day of the review? (Y or N)	Stock condition? No expired drugs? Equipment functional?	Stock records exist? (Y or N)	# Stock-outs in the past 12 months
12. Hepatitis B vaccine		☐ 2–8 °C ☐ No expired drugs		
13. BCG vaccine		☐ 2–8 °C ☐ No expired drugs		
14. Injectable antibiotics for management of newborn sepsis		☐ Normal storage [a] ☐ Protected from light [b] ☐ No expired drugs		
15. Baby caps – and adequate cloths for drying				
16. Functional delivery tables				
17. Surgical gloves				
18. At least one table or trolley for setting up:				
a. delivery sets				
b. resuscitation areas				

a. Storage in dry, well-ventilated premises at temperatures of 15–25 °C or, depending on climatic conditions, up to 30 °C.

b. Oxytocin (compared to methergin) is relatively less light-sensitive but it is still good practice to protect it from light as there is a 7% loss in potency when exposed to light if stored at 21–25 °C.

c. Recommended when the following conditions can be met: gestational age assessment can be accurately undertaken, preterm birth is considered imminent, there is no clinical evidence of maternal infection, adequate childbirth care is available, and the preterm newborn can receive adequate care if needed.

d. Preterm prelabour rupture of the membranes is defined as rupture of the membranes before labour has begun in a pregnancy with a gestational age of less than 37 weeks.

e. Defined locally – includes all materials and equipment needed to conduct a normal delivery.

CHECKLIST 5

Review of hospital policies: support of EENC practices

Checklist 5. Review of hospital policies: support of EENC practices

Policy area		Does the hospital have a written policy[a]?	Have staff been oriented on the policy[a]?
1.	Companion and position of choice for all deliveries		
2.	Maternal and fetal monitoring during labour including use of the partograph		
3.	Maternal and newborn monitoring after delivery?		
4.	Immediate newborn care:		
	a. immediate and thorough drying		
	b. skin-to-skin contact for a minimum of 90 minutes		
5.	All routine care (e.g. eye care, vitamin K, immunizations and examinations) delayed until after a full breastfeed		
6.	Non-separation of mother and baby unless urgent care is required – including elimination of neonatal nurseries for well babies		
7.	No routine suctioning		
8.	No placing substances on the cord stump		
9.	No pre-lacteal feeds		
10.	No bathing until at least 24 hours after delivery		
11.	EENC clinical pocket guide/national clinical standards adopted and used for all deliveries		
12.	Infection control practices for deliveries including:		
	a. handwashing practices		
	b. use of double gloves		
	c. processing contaminated instruments		
	d. disinfection of delivery beds, equipment, surfaces, floors and other items		
	e. distance of separation of patient beds/belongings		
	f. waste management		
13.	Corticosteroids for women of 24–34 weeks of gestation at risk of preterm delivery		
14.	Antibiotics for preterm prelabour rupture of the membranes (pPROM)		

Policy area	Does the hospital have a written policy[a]?	Have staff been oriented on the policy[a]?
15. Antidote for magnesium sulfate toxicity for management of pre-elampsia and eclampsia (10% calcium gluconate)		
16. Injectable antihypertensive for management of pre-eclampsia and eclampsia (Hydralazine 5 mg)		
17. Injectable antibiotics for management of manual removal of the placenta (ampicillin or first-generation cephalosporin)		
18. KMC for preterm babies weighing ≤ 2000 g at birth including feeding with breast milk and monitoring for complications		
19. Standard case-management guidelines for the management of newborn sepsis		
20. Criteria for inducing or augmenting labour		
21. Criteria for conducting caesarean sections		
22. Restricted criteria for conducting episiotomy for vaginal deliveries		
23. Stabilization of newborns including prevention of hypothermia, hypoglycaemia, hypoxaemia, apnoea and infection prior to timely referral		
24. For babies with respiratory distress:		
a. oxygen		
b. continuous positive airway pressure (CPAP)		
25. Care of seriously ill newborn infants		
26. Patient–staff ratios for:		
a. delivery room		
b. postpartum ward		
c. neonatal care unit		
27. Prohibition, promotion, sales, and use of infant formula or any linkages with formula companies in the facility		
28. Family planning counselling before discharge		
29. Routine reporting of stillbirths, maternal deaths and newborn deaths		

a. If hospital policies are not available, check for availability of written national policies at the hospital and if staff were oriented on it.

CHECKLIST 6

EENC coaching summary

Type of health professional	Total #	Total coached	Still to coach	Person responsible for coaching	Timeline	Other resources needed
Total						

CHECKLIST 7a

EENC hospital impact indicators

Indicator	Data by year					Country target 2020
	2015	2016	2017	2018	2019	
1. Neonatal care unit/nursery admission rate						
2. Proportion of newborn infants by weight:						
• < 1000 g						
• 1000–1499 g						
• 1500–1999 g						
• 2000–2499 g						
• 2500–3500 g						
• > 3500 g						
3. Proportion of newborn infants delivered at the facility classified with newborn sepsis [a]						
4. Proportion of newborn infants delivered at the facility classified with birth asphyxia [b]						
5. Newborn mortality rate stratified by weight:						
• < 1000 g						
• 1000–1499 g						
• 1500–1999 g						
• 2000–2499 g						
• 2500–3500 g						
• > 3500 g						
6. Case-fatality rate (% registered cases dying)						
a. Preterm [c] newborn infants						
b. Low-birth-weight [d] newborn infants						
c. Newborn sepsis						
d. Newborn asphyxia						

a. Bacterial sepsis of the newborn: ICD-10 P36 (including codes P36.0 – P36.9 bacterial sepsis of known cause or sepsis of unknown cause).

b. Birth asphyxia is defined as newborn infants who are gasping or not breathing at 1 minute of age.

c. Preterm newborn infants are live births less than 37 completed weeks gestation (ICD-10 P07.2 and ICD-10 P07.3).

d. Low-birth weight is defined as < 2500 g.

CHECKLIST 7b

Progress in EENC hospital impact indicators in the previous 12 months

Indicator	Are data available? Y or N	Details of observed trend	Reasons for observed performance
Neonatal care unit / nursery admission rate			
Proportion of newborn infants by birth weight			
Proportion of newborn infants with sepsis			
Proportion of newborn infants with asphyxia			
Newborn mortality by birth weight			
Case-fatality rate for sepsis			
Case-fatality rate for asphyxia			
Case-fatality rate for preterm babies			
Case-fatality rate for low-birth-weight babies			

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