NEST360 Change Package

Collections of Change Ideas for Priority Clinical Indicators

August 2025

These materials are intended to help facilitate a structured approach for quality improvement and enable useful conversations based on data, leading to effective change plans and action cycles. The team do not need to follow it rigidly.

(Available in digital format and paper-based, email info@nest360.org)

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Introduction

These materials are intended to strengthen locally led quality improvement (QI) to close gaps in coverage and quality by linking the gaps you identify to possible solutions to try. These solutions come from your and other sites in NEST360 and other groups working to reduce death among small and sick newborns.

The change ideas tables are not a comprehensive list of all possible challenges or change ideas but are the more common ones. Additionally, not all change ideas might work to address the gap in every setting, or you may need additional solutions. Instead, this tool aims to provide recommendations and resources to many commonly seen barriers.

How to use this tool: Use the following steps to identify change ideas for coverage gaps

Step 1	**Identify the coverage gap** you are trying to address (example Low CPAP coverage)
Step 2	Look at the **common causes** of low coverage listed and add any others you find at your site (example using fishbone)
Step 3	Choose which **gaps (causes)** you think are causing your low coverage and you are going to **start on first** (which are most important and able to be address)
Step 4	**Choose change idea(s)** which can be implemented and are likely to have a change and the process measure(s) you will use. Look at the tables which have more details in how sites have solved this problem
Step 5	**Get buy-in and resources needed and get started**. There are links to potential sources like wall charts, training etc.
Step 6	**Track your implementation and process measures for cycle 1 in 4 weeks** to see if change in needed (PDSA cycle 2) and continue

CPAP

Summary | *Follow the steps to identify gaps, look for common causes, choose gaps to address first, and develop rationale for changes to process measures. Tables include common gaps, change ideas, rationale, process measures. Resources list tools that support change ideas.*

Step 1	**Identify the coverage gap you are trying to address (example Low CPAP coverage)**
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Begin here:

Step 1 Identify the coverage gap you are trying to address (example Low CPAP coverage)

Step 2 Look at the common causes of low coverage listed and add any others you find at your site (example using fishbone)

Is the care gap you identified one or several of the following?

Gap in care quality?	Gap in data quality?
• Not enough working equipment • Not enough power • CPAP supplies not readily available • CPAP initiation is delayed • Not enough staff • Staff lack knowledge and comfort with using CPAP • Staff not motivated • Not routine monitoring of CPAP • Parents preventing CPAP from occurring	• CPAP not documented • Poor data usage • Poor data quality

CPAP | Change ideas by gap with rationales and process measures

Step 3 Choose which gaps (causes) you think are causing your low coverage and you are going to start on first (which are most important and able to be address)

Step 4 Choose change idea(s) which can be implemented and are likely to have a change and the process measure(s) you will use. Look at the tables which have more details in how sites have solved this problem

CPAP Gap | Not enough working equipment

Change Idea	Rationale	Process measure	Resources
Track the occurrence of CPAP planned preventative maintenance (PPM)	Routine PPM prevents breakdowns, ensuring devices are available when needed for newborns	Number of times PPM occurs	BMET Technical Job Aids

CPAP Gap | Not enough working equipment

Change Idea	Rationale	Process measure	Resources
Distribute additional CPAP machines while not compromising CPAP monitoring	Increasing the number of CPAPs allows a facility to treat more newborns	Number of additional CPAPs distributed	

CPAP Gap | Not enough power

Change Idea	Rationale	Process Measure
Identify and implement back up power (example solar, generator)	Adding a secondary power source ensures CPAP devices work during power outages	Backup power source identified (Yes/No)
Have additional power ports installed	Additional power ports enable staff to use more CPAP devices	Additional power ports installed (Yes/No)
Create space in the admission room and newborn unit (NBU) to store and keep CPAP devices	Designating a storage location for CPAP devices ensures they can be used without the need to frequently move/transport them	Space created (Yes/No)

CPAP Gap | CPAP supplies not readily available

Change Idea	Rationale	Process Measure	Resources
Prepare and maintain a CPAP box with all the tools required to adhere to the CPAP checklist	Providing all the tools and supplies necessary to place a newborn on CPAP in one box ensures staff have all the tools necessary to provide this care and increases the feasibility of following the CPAP checklist	Complete CPAP box is available on the ward (Yes/No)	List of supplies needed for CPAP box

CPAP Gap | CPAP initiation is delayed

Change Idea	Rationale	Process Measure
In cases where the labor ward anticipates a preterm delivery, have them call the newborn unit to inform the staff about the incoming admission and to set up the CPAP machine	Timely communication and preparation between the labor and newborn units, allows staff time to set up the CPAP machine in advance of the newborn admission and increases the feasibility of initiating treatment soon after birth	Percentage of times the labor ward called the newborn ward staff to inform them of an incoming preterm admission
Initiate CPAP in the labor ward with portable devices with labor ward staff	Allows for immediate respiratory support at the point of birth using portable devices that can then be transferred to the newborn unit, reducing delays from birth to CPAP initiation.	Percentage of eligible newborns that were initiated on CPAP in the labor ward

CPAP Gap | CPAP initiation is delayed

Change Idea	Rationale	Process Measure
Initiate CPAP at admission of eligible the newborn	Initiating CPAP at the time of admission reduces delay by ensuring eligible newborns receive respiratory support as soon as possible, without waiting for later assessment or rounds	Percentage of admissions that were eligible newborns were initiated on CPAP

CPAP Gap | Not enough staff

Change Idea	Rationale	Process Measure
Allocate a minimum of 2 staff nurses per duty shift	More nursing staff allows closer CPAP monitoring for newborns, enabling early intervention and better outcomes	2 nurses per duty shift (Yes/No)
Advocate with leadership to add an additional nurse to night shift	More nursing staff allows closer CPAP monitoring for newborns, enabling early intervention and better outcomes	Additional nurse on night shift (Yes/No)

CPAP Gap | Staff lack knowledge and comfort with using CPAP

Change Idea	Rationale	Process Measure	Resources
Conduct routine mentorship on CPAP use	Performing routine mentorship ensures all staff are aware of current care guidelines and practice the same level of care	Number of new clinicians who received mentorship Number of mentorship sessions that occurred	[Quality of care tool](#) [Clinical job aids](#) [Training videos](#) [Clinical Modules](#) [Clinical Scenarios](#) [NEST-IT dashboard](#) [OSCE template](#) [Nasal injury grading score sheet](#)
Conduct mentorship for new clinicians on CPAP usage	Mentoring new staff increases their capacity and ensures they have the training necessary to provide care	Number of new clinicians who received mentorship Number of mentorship sessions that occurred	
Conduct CPAP drills | possibly as a part of continuous professional development (CPDs)	Drills help staff practice skills and build confidence in their care abilities	Number of drills that occurred	
Peer to peer education	Peer education and support fosters a positive environment, boosting individuals' confidence with using CPAP	Number peer education occurrences	
Perform CPAP demonstration	Performing skills demonstrations allows staff to see how a skill should occur and provides a knowledge refresher	Number of staff/total staff that received the demonstration	
Set clinical care targets for clinicians	Clinical care targets help staff routinely practice skills, maintaining	Clinical care targets established (Yes/No)	

CPAP Gap | Staff lack knowledge and comfort with using CPAP

Change Idea	Rationale	Process Measure	Resources
	confidence through regular performance	Clinical care targets being monitored (Yes/No)	
Develop a job training schedule and perform on-job orientation	A job training schedule ensures the individuals who need training receive it and on-job orientation ensures new staff have the skills to care for newborns on CPAP	Schedule developed (Yes/No) Number of staff/total staff who have been trained	
CPAP care algorithms	Posted algorithms enhance staff knowledge, and provide guidance when needed	Algorithms available and/or posted in the unit (Yes/No)	
CPAP patient handovers	CPAP-specific handovers are essential to maintaining safety, continuity, and quality of care for newborns with respiratory needs	Number of CPAP patient handovers using the country's standard care form	
Regularly assess clinicians and provide feedback on CPAP competency using checklist (Objective Structured Clinical Examination (OSCE)	Regularly assessing clinician competency ensures staff have the knowledge to provide high-quality CPAP care and identify areas where additional mentorship and training may be needed	Number of clinicians /total clinicians competent for CPAP or assessed for CPAP competency	
Post decision support algorithm/checklist for CPAP eligibility as a poster on the wall around the admission area	Posted eligibility criteria are easy to locate, enhance staff knowledge, and provide guidance when needed	Eligibility poster posted in the ward (Yes/No)	
Develop a policy on prophylactic CPAP	A policy on prophylactic CPAP provides clear guidelines on when and how to initiate CPAP, which increases staff confidence and provides a standardized process for clinical decision-making	Policy on prophylactic CPAP developed (Yes/No)	
Use standardized decision support algorithms/checklist during admission to determine CPAP eligibility	Having a checklist/algorithm for determining CPAP eligibility is a simple knowledge aid that can assist with determining which newborns would benefit from CPAP	Since implementing were the next 5 babies screened for CPAP eligibility with the algorithm (Yes/No) Percentage of newborns that the decision algorithm was used to determine their CPAP eligibility	

CPAP Gap | Staff lack knowledge and comfort with using CPAP

Change Idea	Rationale	Process Measure	Resources
Task allocation (1 person assigned to handle all CPAP babies each day)	By assigning a CPAP specific nurse this person can solely focus their attention on providing high quality CPAP care	Percentage of shifts with a CPAP-specific nurse identified	
Focused training of all bedside nurses in groups emphasizing adherence to nasal CPAP fixation guidelines	Monitoring nasal prong placement and preventing nasal injury is a crucial care step for providing high-quality CPAP for small and sick newborns and providing training for it will increase staff knowledge and confidence	Percentage of staff that received the focus training on nasal CPAP fixation guidelines	

CPAP Gap | Staff not motivated

Change Idea	Rationale	Process Measure
Best CPAP nurse award	Recognizing a best CPAP nurse boosts their confidence and increases their motivation to continue high quality care and may inspire other staff to improve their practice	Number of staff receiving the award
CPAP champions	Champions can serve as early adopters and motivators, encouraging staff to perform high quality CPAP	Champion identified and trained (Yes/No) Champion has begun to mentor other staff (Yes/No)

CPAP Gap | No routine monitoring of CPAP

Change Idea	Rationale	Process Measure	Resources
Increase the frequency of monitoring for newborns on CPAP	By increasing monitoring frequency, nursing staff can deliver proactive, high-quality care, ensuring the safety and well-being of newborns on CPAP therapy	Percentage of babies on CPAP with documentation that they were monitored (vital signs, skin and nasal care, progress) as per national guidelines or another standard	Quality of care tool Nasal injury grading score sheet
Perform daily inspection, identification, and grading of nasal injuries for all newborns on CPAP using the modified nasal injury score	By inspecting and grading nasal injuries daily the staff is able to determine if and when a newborn receives an injury and track the progress of the injury to ensure it doesn't increase in severity	Percentage of newborns that received daily inspection, identification, and grading of nasal injuries while on CPAP	
Perform spot checks on CPAP during handovers	Spot checks ensure nurses communicate essential information between shifts,	Percentage of CPAP handovers occurring	

CPAP Gap | No routine monitoring of CPAP

Change Idea	Rationale	Process Measure	Resources
	maintaining high-quality care		

CPAP Gap | Parents preventing CPAP from occurring

Change Idea	Rationale	Process Measure	Resources
Provide health education to parents and guardians of newborns on CPAP	Educating parents can increase their knowledge of CPAP usage and its importance increasing their understanding	Percentage of newborn documentation that reports parents received education/counseling about CPAP Number of education sessions that parents with newborns on CPAP received Percentage of CPAP counseling/education session as reported through the Quality of Care Tool	Parent's Orientation Video Quality of care tool

CPAP Gap | CPAP not documented

Change Idea	Rationale	Process Measure
Prepare audit schedule for CPAP documentation, including documentation of CPAP eligibility screening	Monitoring documentation quality ensures individuals are following the change ideas and improving their reporting	Schedule developed (Yes/No) Percentage of properly documented files
Use CPAP champions to audit documentation quality	Assigning one person to perform documentation audits ensures accountability for completing the task	Number documentation audits occurring
Ensure documentation includes a place to report CPAP information, including morbidity associated with CPAP (example pneumothoraxes etc.)	Including this information allows facilities to track the quality of CPAP that they provide	Documentation includes places for morbidity (Yes/No) Number of data audits

CPAP Gap | Poor data usage

Change Idea	Rationale	Process Measure	Resources
Discuss NEST-IT data during morning discussion and/or QI meetings	Routinely evaluating data allows facilities to monitor care quality and provide resources for improvement if needed	Frequency of data reviews	QI Meeting Minutes Template
Send reminder messages to QI leads to review data	Reminders can be the nudge that QI leads need to remember to review data and can encourage	Data reminders sent to QI leads (Yes/No)	

CPAP Gap | Poor data usage			
Change Idea	**Rationale**	**Process Measure**	**Resources**
	them to promptly act on that data		
Prepare audit schedule for QI documentation	Monitoring QI documentation ensures change ideas are being tracked and care progress is monitored	Schedule developed (Yes/No) Frequency of documentation reviews	

CPAP Gap | Poor data quality			
Change Idea	**Rationale**	**Process Measure**	**Resources**
Include data completeness and timeliness in routine data reviews	By routinely evaluating data completeness and timeliness during routine data review meetings facilities will also be able to check to make sure their data is higher quality	Data completeness and timeliness included in data reviews (Yes/No) Frequency of data reviews	QI Meeting Minutes Template

CPAP | Sustaining Improvements

After identifying gaps, developing change ideas, rationales, and process measures, follow the next two steps for sustainable improvements.

Step 5 Get buy-in and resources needed and get started. There are links to potential sources like wall charts, training etc.

Step 6 Track your implementation and process measures for cycle 1 in 4 weeks to see if change in needed (PDSA cycle 2) and continue

Kangaroo Mother Care (KMC)

Summary | Follow the steps to identify gaps, look for common causes, choose gaps to address first, and develop rationale for changes to process measures. Tables include common gaps, change ideas, rationale, process measures. Resources list tools that support change ideas.

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Is the care gap you identified one or several of the following?

Gap in care quality?	Gap in data quality?
• Infrastructure not compatible with KMC or missing KMC resources • Inadequate leadership support • Not enough staff • Staff lack knowledge and comfort performing KMC • Staff not motivated • No routine monitoring • Mothers are not available • Family members are not involved in KMC • Family members do not understand the importance of KMC • Family members are not confident in their ability to provide KMC • KMC practice does not align with cultural norms • Guidelines are not correct or available	• KMC not documented • Inadequate or infrequent QI activities

KMC | Change ideas by gap with rationales and process measures

Step 3 Choose which gaps (causes) you think are causing your low coverage and you are going to start on first (which are most important and able to be address)

Step 4 Choose change idea(s) which can be implemented and are likely to have a change and the process measure(s) you will use. Look at the tables which have more details in how sites have solved this problem

KMC Gap | Infrastructure not compatible with KMC or missing KMC resources

Change Idea	Rationale	Process Measure	Resources
If space is available, place beds next to the neonatal warmer/bed	Providing seating around the newborn's bed enhances parental comfort, encouraging more frequent and longer KMC sessions	Number of additional beds/seats that were added to the unit	[KMC wrapping video](#)
If funds and space are available, purchase reclining chairs and/or beds for the KMC and/or newborn unit	Providing seating around the newborn's bed enhances parental comfort, encouraging more frequent and longer KMC sessions	Number of additional beds/seats that were added to the unit	
Utilize infrastructure funds to create cubicles in the KMC or newborn unit	Facilities can use available funds to renovate the unit, increasing privacy and creating a more KMC-friendly space	Report of unit renovations/remodels	
Place screens or curtains around/near the newborn's bed/warmer to provide privacy for the individual practicing KMC	Providing seating and curtains around the newborn's bed increases privacy and comfort, encouraging parents to practice KMC frequently or for longer durations	Screens placed around the unit for privacy (Yes/No)	
Facilities subsidize KMC wraps and gowns	Subsidizing KMC supplies makes them more affordable, encouraging mothers to provide KMC with the necessary resources	Cost of KMC wraps/gowns after subsidizing them	
Demonstrate how to use the Kitenges as KMC wrap	By using the mother's existing clothing, nurses can demonstrate how KMC can be practiced without buying additional items	Number of times a nurse demonstrated for mothers how to use Kitenges as wraps	
Explore abandoned rooms to create space for family members to bathe and prepare food	Providing families with spaces for daily needs allows them to stay at the facility, ensuring their availability for KMC	Is there a place for families to use the toilets (Yes/No) Is there a place for families to bathe (Yes/No) Is there a place for families to prepare and eat food (Yes/No)	
Repurpose nearby non-functional material stores to create space for family members to bathe and prepare food	Providing families with spaces for daily needs allows them to stay at the facility, ensuring their availability for KMC	Is there a place for families to use the toilets (Yes/No) Is there a place for families to bathe (Yes/No) Is there a place for families to prepare and eat food (Yes/No)	

KMC Gap | Infrastructure not compatible with KMC or missing KMC resources

Change Idea	Rationale	Process Measure	Resources
Practice intermittent KMC	Practicing intermittent KMC allows more mothers to come into the unit to practice KMC with their newborns even if the room is not large enough to support all mothers of eligible newborns being in the room at the same time	Percentage of eligible newborns that received intermittent KMC	
Ensure there is an available dining room for KMC mothers	By ensuring mothers have the space to accomplish tasks of daily living (e.g., preparing and eating food) this will make it easier for them to remain on the unit with their newborn and be available to provide KMC	Dining space for KMC mothers available (Yes/No)	

KMC Gap | Inadequate leadership support

Change Idea	Rationale	Process Measure
Educate leaders on importance of KMC	Educating leadership on KMC's importance helps them prioritize it and can lead to increased facility-level support	Number of education sessions with leadership
Incorporate KMC into management review metrics	Incorporating KMC data into management reviews helps leadership track coverage and fosters buy-in by keeping them informed of goals and progress	KMC data present in management review metrics (Yes/No)

KMC Gap | Not enough staff

Change Idea	Rationale	Process Measure
Monitor for staff turnover and retrain	Identifying the causes of high staff turnover is the first step in making changes to retain staff	Root cause analysis exploring reasons for turnover
Reduce staff rotations when possible	Reducing staff rotations from neonatal and labor wards ensures trained staff are consistently available	Updated guidelines that discourage staff rotation
Hire additional nursing staff to monitor and support KMC	Increasing staff on the unit ensures someone is available to monitor newborns during KMC and assist families with initiating it	Number of additional staff who have been hired to support KMC
Floater nurses during peak hours (collaborate with postnatal and other units to share staff)	By collaborating with other units, unit needs can shift staff between different areas based on admissions levels to ensure there are an	Number of floater nurses available on a shift

KMC Gap | Not enough staff

Change Idea	Rationale	Process Measure
	adequate number of clinicians available	
Train multiple departments, including maternal in newborn care	Providing training to multiple units ensures newborn is maintained across the continuum of care and ensures that staff who are rotated between newborn and maternal wards are properly trained	Number of staff trained Number of departments included in newborn training
Cluster care for the newborn so there are fewer interruptions to KMC	Clustering care minimizes KMC interruptions, allowing the newborn to receive KMC for longer periods	Duration of uninterrupted KMC per session
Allocate a nurse on daily duty to the KMC unit	Assigning a daily duty nurse to the KMC unit ensures continuous monitoring of newborns and provides mothers and family members with ongoing support, guidance, and encouragement in practicing KMC effectively	Nurse allocated to the KMC unit daily (Yes/No)

KMC Gap | Staff lack knowledge and comfort

Change Idea	Rationale	Process Measure	Resources
Train multiple departments, including maternal in newborn care	Providing training to multiple units ensures newborn is maintained across the continuum of care and ensures that staff who are rotated between newborn and maternal wards are properly trained	Number of staff trained Number of departments included in newborn training	Quality of care tool KMC videos KMC resources
Use continuous monitoring devices to track newborn vitals during KMC	Continuous monitoring devices enable clinical staff to check a newborn's status during KMC without interrupting the process, ensuring stability	Continuous monitoring devices utilization reports	
Doctors provide and document KMC prescriptions	KMC prescriptions clarify which newborns need KMC, reducing nurses' uncertainty about a newborn's stability for the intervention	Number of KMC prescriptions that have been documented	
Provide KMC simulation-based training for staff using KMC training and education material	Staff training ensures proper KMC skills and offers a chance to practice through simulation	Number of trainings Number of individuals trained	
Providing training to staff on which types of newborns should receive KMC	Training staff on KMC for high-acuity newborns improves their knowledge of eligible patients	Number of trainings Number of individuals trained	

KMC Gap | Staff lack knowledge and comfort

Change Idea	Rationale	Process Measure	Resources
Utilize more senior nurses to mentor junior nurses	Utilizing existing ward knowledge and skills enhances junior nursing staff capacity without additional administrative investment	Number of mentorship sessions involving senior and junior nurses	
Mentor peripheral hospital staff	Mentoring peripheral staff increases their capacity and increases the likelihood KMC is initiated prior to referral	Number of mentorship sessions that occurred	
Cross mentorship with all staff to encourage capacity beyond just the champions	Involving all clinical staff in mentorship ensures consistent reminders and encouragement for high-quality KMC, reducing reliance on a single champion	Number of mentorship sessions that occurred, number of mentors	
Facilitate cross learning activities between facilities	Cross-learning activities allow facilities to share successes, challenges, and learn what works from each other	Number of cross learning activities that occurred	
Assessing eligibility of the babies for KMC during morning rounds (physicians and/or nurses)	Daily KMC eligibility assessments during rounds or handoff ensure nurses and clinicians know which newborns need KMC and can encourage the intervention	Number of times KMC eligibility reviewed in morning rounds	
Reporting if the newborn is eligible for KMC during daily hand off	Daily KMC eligibility assessments during rounds or handoff ensure nurses and clinicians know which newborns need KMC and can encourage the intervention	Number of times KMC eligibility was reported in handoff	
Use devices that are better suited for KMC (example Pumani has longer cords than other CPAP)	Choosing KMC-compatible devices and supplies reduces the need to interrupt KMC for clinical interventions	Rates of KMC occurring with newborns receiving other interventions	
Provide training on newborn feeding (breast feeding, cup, nasogastric) and lactation support as well as post-feeding warning signs	Training staff on newborn feeding, warning signs, and lactation support improves their ability to counsel parents on newborn feeding and ensure the newborn receives adequate nutrition in a safe manner	Number of trainings that occurred, Number of individuals trained	

KMC Gap | Staff not motivated

Change Idea	Rationale	Process Measure
Develop and utilize KMC Champions to provide mentorship to clinicians (including nursing staff)	Champions can act as early adopters and motivators, encouraging staff to adopt KMC and offering guidance on its implementation in the ward	Number of KMC champions identified and trained
Recognize a KMC champion every month	Recognizing KMC champions boosts their confidence and motivation to promote KMC and may inspire other staff to improve their practice for recognition	KMC champion is recognized every month (Yes/No)
Cross mentorship with all staff to encourage capacity beyond just the champions	Involving all clinical staff in mentorship ensures consistent reminders and encouragement for high-quality KMC, reducing reliance on a single champion	Number of mentorship sessions that occurred, number of mentors

KMC Gap | No routine monitoring of KMC

Change Idea	Rationale	Process Measure
Perform routine chart reviews of KMC documentation to track progress	Routine chart reviews help facilities monitor progress and track improvements in documentation or KMC coverage	Number of chart reviews that occurred
Perform KMC audits with feedback	Routinely evaluating KMC allows facilities to monitor care quality and provide resources for improvement if needed	Number of times data audits occurred
Use continuous monitoring devices to track newborn vitals during KMC	Continuous monitoring devices enable clinical staff to check a newborn's status during KMC without interrupting the process, ensuring stability	Continuous monitoring devices utilization reports
Routinely document weight of newborns receiving KMC to track their growth	Tracking newborn weight allows staff to monitor growth, detect early signs of malnutrition or failure to thrive, and ensure the newborns are gaining sufficient weight for healthy development	Percentage of newborn records that have daily weight documented

KMC Gap | Mothers are not available

Change Idea	Rationale	Process Measure
Utilize wheelchairs to transport nonambulatory mothers to the newborn	If mothers cannot travel to the newborn ward, using a wheelchair can enable earlier KMC initiation	Number of times sick mothers were transported to the newborn unit via a wheelchair
Ensure mothers and mother-appointed KMC providers have 24-hour access to the unit, except in cases of illness	Surrogates, such as aunts or grandmothers, can provide KMC if mothers are ill. Removing visitor restrictions improves their access	Do mothers and mother-appointed surrogates have 24-hour access to the unit (Yes/No)

KMC Gap | Mothers are not available

Change Idea	Rationale	Process Measure
		Number of surrogate mothers who provided KMC on behalf of sick mothers
Establish a regular, set time for KMC to encourage mothers to show up to perform KMC (access at any other times is not restricted)	Setting a regular time for the mother to return to the newborn unit, after the mother has been discharged, ensures accountability and increases the occurrences of KMC	Information sheet outlining when some recommended KMC times occur (Yes/No)
Have mothers or another relative stay at the hospital until the baby is discharged	Having a caregiver remain at the facility ensures continuous availability for KMC throughout the newborn's hospitalization	Documentation if the newborn has a family member staying at the facility (Yes/No)

KMC Gap | Family members are not involved in KMC

Change Idea	Rationale	Process Measure
Remove visitor restrictions for the newborn ward	Surrogates, such as aunts or grandmothers, can provide KMC if mothers are ill. Removing visitor restrictions improves their access	Updated visitor guidelines (Yes/No) Number of surrogate mothers who provided KMC on behalf of sick mothers
Provide support and encouragement for other KMC providers	Supporting KMC providers boosts confidence and shares responsibility, enabling earlier initiation, especially if the mother cannot	Number of surrogate mothers (other KMC providers) who were supported by staff to provide KMC
Establish a regular, set time for KMC to encourage mothers to show up to perform KMC (access at any other times is not restricted)	Setting a regular time for the mother to return to the newborn unit, after the mother has been discharged, ensures accountability and increases the occurrences of KMC	Information sheet outlining when some recommended KMC times occur (Yes/No)
Have mothers or another relative stay at the hospital until the baby is discharged	Having a caregiver remain at the facility ensures continuous availability for KMC throughout the newborn's hospitalization	Documentation if the newborn has a family member staying at the facility (Yes/No)
Cluster care for the newborn so there are fewer interruptions to KMC	Clustering care minimizes KMC interruptions, allowing the newborn to receive KMC for longer periods	Duration of uninterrupted KMC per session

KMC Gap | Family members do not understand the importance of KMC

Change Idea	Rationale	Process Measure	Resources
Provide parental counseling and education (possibly through KMC champions), and start the education during antenatal care visits	Educating parents can increase their knowledge of KMC and its importance, encouraging them to practice it	Number of counseling/education sessions Number of mothers who attended a KMC counseling session during antenatal	KMC videos KMC resources

KMC Gap | Family members do not understand the importance of KMC

Change Idea	Rationale	Process Measure	Resources
		sessions and in the newborn ward	
Hang KMC educational material around the newborn ward and antenatal ward	Posting educational materials in the ward offers parents informal learning about KMC, encouraging them to practice it	Presence of KMC educational material hanging in the ward (Yes/No)	
Utilize videos to provide KMC education for parents	Videos offer an engaging way to educate parents on KMC's importance and practice, saving clinical staff time	Number of KMC educational videos views	
Share educational material via smartphones and WhatsApp including nationally pre-recorded audio on KMC	Providing parents with educational material allows them to independently learn about KMC and gives them resources to continue KMC after discharge	Number of times educational material is shared with families electronically	
Use parental KMC champions to provide KMC counseling to mothers/surrogates in the newborn ward	Using parental KMC champions provides support and motivation to other parents in a relatable way and can increase acceptance and adoption of KMC	Number of KMC counseling sessions conducted by KMC champions	
Encourage peer education and demonstrations of KMC	Peer education and support foster a positive environment, boosting individuals' confidence in performing KMC	Number of times peer education demonstrations occurred	

KMC Gap | Family members are not confident in their ability to provide KMC

Change Idea	Rationale	Process Measure	Resources
Provide parental counseling and education (possibly through KMC champions), and start the education during antenatal care visits	Educating parents can increase their knowledge of KMC and its importance, encouraging them to practice it	Number of counseling/education sessions that occurred Number of mothers who attended a KMC counseling session during antenatal sessions and in the newborn ward	KMC videos KMC resources
Hang KMC educational material around the newborn ward and antenatal ward	Posting educational materials in the ward offers parents informal learning about KMC, encouraging them to practice it	Presence of KMC educational material hanging in the ward (Yes/No)	

KMC Gap | Family members are not confident in their ability to provide KMC

Change Idea	Rationale	Process Measure	Resources
Utilize videos to provide KMC education for parents	Videos offer an engaging way to educate parents on KMC's importance and practice, saving clinical staff time	Number of KMC educational videos views	
Share educational material via smartphones and WhatsApp including nationally pre-recorded audio on KMC	Providing parents with educational material allows them to independently learn about KMC and gives them resources to continue KMC after discharge	Number of times educational material is shared with families electronically	
Staff provide verbal encouragement to family members while they practice KMC at least once a day and provide corrections to newborn positioning if necessary	Verbal encouragement from staff boosts the mother's confidence, encouraging continued KMC	Number of documented staff-mother/surrogate encounter for KMC support	
Use parental KMC champions to provide KMC counseling to mothers/surrogates in the newborn ward	Using parental KMC champions provides support and motivation to other parents in a relatable way and can increase acceptance and adoption of KMC	Number of KMC counseling sessions conducted by KMC champions	
Encourage peer education and demonstrations of KMC	Peer education and support foster a positive environment, boosting individuals' confidence in performing KMC	Number of times peer education demonstrations occurred	
Provide parental counseling and education about newborn feeding (breast, cup, nasogastric tube) and warning signs to watch for after feeding	Educating parents on newborn feeding and warning signs can increase their knowledge and make them an active participant in their child's care	Number of counseling/education sessions that occurred	

KMC Gap | KMC practice does not align with cultural norms

Change Idea	Rationale	Process Measure
Place screens or curtains around/near the newborn's bed/warmer to provide privacy for the individual practicing KMC	Providing seating and curtains around the newborn's bed increases privacy and comfort, encouraging moms and surrogates to practice KMC more frequently or for longer	Number of newborn beds covered with curtains or screens

KMC Gap | Guidelines are not correct or available

Change Idea	Rationale	Process Measure	Resources
Review the KMC guidelines to ensure they align with national guidelines or another standard	Keeping guidelines up to date provides staff with accurate, current instructions for performing KMC	Did a review of the clinical guidelines occur (Yes/No) Is the guideline aligned with national guidelines or another standard (Yes/No)	KMC resources
Post guidelines and standards of practice throughout the unit and leave copies in multiple locations	Making the guidelines and standards of practice readily available ensures staff have the resources necessary to track their own care quality and answer questions they may have about performing KMC	Guidelines posted and available throughout the unit (Yes/No)	

KMC Gap | KMC not documented

Change Idea	Rationale	Process Measure
Review KMC documentation form with stakeholders	Reviewing and updating KMC documentation to include critical information helps facilities track their progress and ensures that all critical information is present	Documentation review with stakeholders occurred (Yes/No)
Include KMC duration and frequency into routine charting	Reviewing and updating KMC documentation to include key details like duration and frequency helps facilities track progress	KMC documentation includes duration and frequency (Yes/No)
Perform routine chart reviews of KMC documentation to track progress	Routine chart reviews help facilities monitor progress and track improvements in documentation or KMC coverage	Number of chart reviews that occurred
Providing KMC training for staff on how to complete KMC documentation forms	Training staff on KMC documentation increases their skills and confidence, encouraging regular use	Number of training sessions, Number of individuals trained
Provide practice examples during KMC mentorship and training sessions and highlight the importance of KMC documentation	Using practice examples allows staff to test their skills in different scenarios, boosting confidence in routine documentation	KMC documentation practice examples included in training material (Yes/No)
Continuously orient mothers on the importance of documenting KMC in their personal KMC book and have the booklet reviewed by a supervising nurse	Providing mothers with a book to record their own KMC episodes reduces the documentation burden on nurses, while supervisor review ensures accountability and encourages consistent use by mothers	Percentage of mothers documenting their KMC in their book Number of times a nursing supervisor reviews the maternal KMC books

Collection of Change Ideas for Priority Clinical Indicators   **August 2025**

KMC Gap | Inadequate or infrequent QI activities

Change Idea	Rationale	Process Measure	Resources
Provide QI training for staff using QI training and educational material	Providing QI training boosts staff skills and confidence, fostering a culture of continuous improvement	Number of training sessions, Number of individuals trained	[QI Meeting Minutes Template](#)
Include examples of how to use KMC data for QI activities within the KMC and QI training for staff	Using practice examples of KMC data for QI projects allows staff to test skills in various scenarios, boosting confidence for future KMC/QI projects	Presence of KMC/QI practice examples included in training material (Yes/No)	
Conducting QI coaching at facilities with a regional and/or country QI expert	Recurring QI coaching will enhance facility and regional skills and boost confidence in performing QI consistently	Number of coaching sessions that occurred	
Identify facility-level QI champions and provide them with training	Champions can serve as early adopters and motivators, encouraging staff to adopt QI practices and guiding them on integrating QI into routine activities	Number of champions who were identified and trained	
Conduct monthly QI meetings with the ward improvement team, and document best practices whenever wards achieve their targets	Monthly QI meetings help facilities monitor progress, assess the impact of QI projects on KMC coverage, and document successful practices to preserve change ideas	Number of QI meetings that occurred	
Perform monthly data audits during ward improvement meetings and develop action plans	Performing data audits allows facilities to monitor progress and track changes in KMC coverage	Number of data audits that occurred	
Audit documentation quality	Monitoring documentation quality ensures individuals are following the change ideas and improving their reporting	Number of documentation audits	
Include KMC as part of quality indicators review and tracking	Including KMC data in quality reviews reminds facilities to track and evaluate progress toward their KMC goals	Quality indicator documentation includes KMC information (Yes/No)	
Perform routine chart reviews of KMC documentation to track progress	Routine chart reviews help facilities monitor progress and track improvements in documentation or KMC coverage	Number of chart reviews that occurred	

KMC Gap | Inadequate or infrequent QI activities			
Change Idea	**Rationale**	**Process Measure**	**Resources**
Perform KMC audits with feedback	Routinely evaluating KMC allows facilities to monitor care quality and provide resources for improvement if needed	Number of times data audits occurred	

KMC | Steps for Sustaining Improvements

After identifying gaps, developing change ideas, rationales, and process measures, follow the next two steps for sustainable improvements.

Step 5 Get buy-in and resources needed and get started. There are links to potential sources like wall charts, training etc.

Step 6 Track your implementation and process measures for cycle 1 in 4 weeks to see if change in needed (PDSA cycle 2) and continue

Hypothermia

Summary | Follow the steps to identify gaps, look for common causes, choose gaps to address first, and develop rationale for changes to process measures. Tables include common gaps, change ideas, rationale, process measures. Resources list tools that support change ideas.

Step 1	**Identify the coverage gap you are trying to address (example Low CPAP coverage)**
Step 2	**Look at the common causes of low coverage listed and add any others you find at your site (example using fishbone)**
Step 3	**Choose which gaps (causes) you think are causing your low coverage and you are going to start on first (which are most important and able to be address)**
Step 4	**Choose change idea(s) which can be implemented and are likely to have a change and the process measure(s) you will use. Look at the tables which have more details in how sites have solved this problem**
Step 5	**Get buy-in and resources needed and get started. There are links to potential sources like wall charts, training etc.**
Step 6	**Track your implementation and process measures for cycle 1 in 4 weeks to see if change in needed (PDSA cycle 2) and continue**

Begin here:

Step 1 Identify the coverage gap you are trying to address (example Low CPAP coverage)

Step 2 Look at the common causes of low coverage listed and add any others you find at your site (example using fishbone)

Is the care gap you identified one or several of the following?

Gap in care quality?	Gap in data quality?
• Delivery room is not warm • Babies are not being dried immediately • Skin-to-skin contact is not occurring routinely • Breastfeeding is not initiated early • Newborn weighing scale is not warm, and bathing is not delayed • Newborns are not dressed in appropriate clothing • Warm transport is not maintained • Physical assessment and/or resuscitation space is not warm • Caregivers lack knowledge and comfort with maintaining the warm chain • Staff lack knowledge and comfort with maintaining the warm chain • Newborn temperature is not routinely monitored • Infrastructure features increase hypothermia risk	• Documentation gaps • Additional interventions to prevent hypothermia

Hypothermia | Change ideas by gap with rationales and process measures

Step 3 Choose which gaps (causes) you think are causing your low coverage and you are going to start on first (which are most important and able to be address)

Step 4 Choose change idea(s) which can be implemented and are likely to have a change and the process measure(s) you will use. Look at the tables which have more details in how sites have solved this problem

Hypothermia Gap | Delivery room is not warm

Change Idea	Rationale	Process Measure
Utilize a non-electric infant warmer that supports KMC (example warmilu)	Ensures stability, supports KMC, and is cost-effective	Number of non-electric infant warmers available on the ward Number of newborns that used non-electric infant warmers
Use of servo-heater and cardboard infant-chamber	Provides a controlled environment to mimic incubator and provide insulation	Number of servo-heater and chambers available on the ward Number of newborns that used servo-heaters and chambers
Use of conductive thermal mattress instead of swaddling with blankets and towels	Minimize risk of uneven distribution of heat, maintains optimal temperature	Number of newborns that used conductive thermal mattresses
Keep ward doors and windows closed	Ensuring doors and windows remain closed prevents the passive loss of heat from the unit	Nursery door closed (Yes/No) Nursery windows closed (Yes/No)
Training on implementation of warmer	Allows staff to more effectively utilize warmers	Number of warmer trainings
Measure room temperature four time per day (Morning, mid-day, night and mid night) and manage accordingly	Frequent monitoring ensures timely identification of temperature deviations, allowing for immediate corrective actions such as adjusting room heating, closing windows, or using additional warming devices to maintain an optimal temperature (≥25°C).	Percentage of scheduled temperature checks completed per day in the NBU and delivery ward.
Prepare and use checklist for delivery room preparation (Close open windows and doors, turn on radiant warmer and room warmer before delivery)	Since newborns are highly vulnerable to heat loss immediately after birth, a structured checklist helps healthcare providers standardize best practices, reducing variability and improving adherence to essential warming measures. The checklist may include closing open windows and doors minimizes cold drafts, turning on radiant warmers and room warmers before delivery	Percentage of deliveries conducted in a room where all checklist items for thermal protection were completed before birth

Hypothermia Gap | Babies are not being dried immediately

Change Idea	Rationale	Process Measure	Resources
Put Helping Babies Breathe poster on the delivery ward wall	Placing a Helping Babies Breathe (HBB) poster on the delivery ward wall serves as a visual reminder for healthcare providers to follow essential steps in newborn resuscitation and hypothermia prevention. The poster reinforces key	HBB poster posted on the wall of delivery ward (Yes/No)	Helping Babies Breathe poster OSCE template

Hypothermia Gap | Babies are not being dried immediately

Change Idea	Rationale	Process Measure	Resources
	practices such as immediate drying, skin-to-skin contact, and proper thermal management, ensuring that birth attendants consistently implement lifesaving interventions.		
Include two towels in the delivery set pack for immediate drying	At birth, babies are wet and lose heat rapidly through evaporation, especially in low-resource settings or cold environments. Using one towel to quickly dry the newborn and another to wrap and provide warmth helps minimize heat loss and maintain body temperature. This simple, cost-effective intervention supports the thermal protection of newborns, reducing the risk of cold stress and related complications	Percentage of delivery conducted using two towels for immediate drying	
Clinical mentorship using OSCE (objectively structured clinical examination)	Clinical mentorship using Objective Structured Clinical Examination (OSCE) is an effective approach to strengthening healthcare providers' skills in preventing neonatal hypothermia. OSCE offers a structured, hands-on assessment that ensures providers can correctly perform essential tasks, such as immediate drying, skin-to-skin care, proper wrapping, and monitoring newborn temperature. This method enhances competency through realistic simulations, immediate feedback, and standardized evaluation, ensuring consistency in neonatal thermal care practices.	Number of staff received clinical mentorship and skill evaluation using OSCE	

Hypothermia Gap | Skin-to-skin contact is not occurring routinely

Change Idea	Rationale	Process Measure	Resources
Encourage skin-to-skin contact immediately	Very early KMC shown to decrease hypothermia,	Percentage of eligible neonates that received	KMC clinical guidelines

Hypothermia Gap | Skin-to-skin contact is not occurring routinely

Change Idea	Rationale	Process Measure	Resources
(within 30 minutes ideal, or 24 hours) after delivery between naked neonate on mother's chest and continue for 2 hours	improve breastfeeding, decrease sepsis, and decrease morbidity	KMC within 24 hours (or within 30 minutes)	
Provided coaching for mothers on KMC for a stretch of 1 hour duration on one day. Then increase stretch by 1 hour each day for the following 2 days until mother is comfortable on her own	Allows mother to gradually become more confident with long durations of KMC	Modified procedures of education sessions (Yes/No)	
Incorporate KMC training, including early initiation of breastfeeding, into education about danger signs to ensure timely intervention	Empower mothers on how to recognize critical issues such as apnea, cyanosis, and decreased activity	Modified procedures of education sessions (Yes/No)	

Hypothermia Gap | Breastfeeding is not initiated early

Change Idea	Rationale	Process Measure	Resources
Demonstrate appropriate breast-feeding positioning and attachment using mannequin	Helps healthcare providers and mothers learn the correct techniques in a controlled environment before practicing on a real baby.	Number of mothers trained on breast-feeding positioning and attachment using mannequin	[Videos on appropriate breastfeeding positioning](#)
Develop and use counseling checklist that includes breast feeding good practices and importance	It helps healthcare providers deliver consistent, evidence-based information on proper breastfeeding techniques, positioning, and attachment, promoting optimal infant nutrition and health.	Breast feeding counseling checklist develop and used (Yes/No) Percentage of mothers that have a documented breastfeeding counseling checklist completed	
Monitor feeding amount and frequency with vital signs	Monitoring feeding amount and frequency alongside vital signs is essential for preventing hypothermia in newborns, as adequate nutrition supports thermoregulation and overall stability. Frequent feeding provides the necessary energy to generate body heat, while tracking vital signs—such as temperature, heart rate, and respiratory rate—	Percentage of newborn feeding amount and frequency monitored/documented	

Hypothermia Gap | Breastfeeding is not initiated early

Change Idea	Rationale	Process Measure	Resources
	helps detect early signs of cold stress.		

Hypothermia Gap | Newborn weighing scale is not warm, and bathing is not delayed

Change Idea	Rationale	Process Measure
Delay weighing the baby until one hour of life for the baby if it not necessary for immediate action	Newborns experience rapid heat loss after delivery, particularly when placed on a cold weighing scale. Delaying weighing the baby until one hour after birth, unless immediate action is required, helps prevent neonatal hypothermia by reducing unnecessary exposure to cold environment. This approach aligns with the golden hour principles, ensuring the newborn remains warm and stable before any routine procedures.	Percentage of newborns weighed after one hour of birth unless medically indicated for earlier weighing.
Prewarm clothing before weighing	By warming the clothes, the newborn won't become cold during the time they're weighed	Percentage of times clothing was prewarmed prior to weighing the newborn
Put weighing scale near the radiant warmer	Since newborns are highly susceptible to rapid temperature drops, unnecessary movement to distant weighing stations increases exposure to cold air and surfaces. By keeping the scale close to the radiant warmer, the newborn remains in a warm environment and body weight measured by warm scale, ensuring thermal stability and reducing the risk of hypothermia.	Percentage of newborns weighed within close proximity to a functioning radiant warmer.
Cover the weighing scale with pre-warmed towel before weighing the baby	A pre-warmed towel acts as a protective barrier, reducing the risk of temperature drop due to exposure of cold weighing scale and ensuring that the infant remains warm and stable during the weighing process.	Percentage of newborns weighed on a scale covered with a pre-warmed towel
Delayed bathing at least 24 hours after birth	Delaying bathing decreases the rapid loss of heat that newborn can experience	Percentage of newborn baths that occurred at least 24 hours after birth
Using sponging with tepid water to bath children	Using tepid water and sponges should prevent the rapid heat loss that newborns would experience if bathed in cool water	Percentage of baths that use sponges and tepid water

Hypothermia Gap | Newborns are not dressed in appropriate clothing

Change Idea	Rationale	Process Measure	Resources
Provide heat-resistant polyethylene plastic bag and plastic hat (as opposed to cotton hat)	Plastic bag and hat demonstrated to be more effective than cotton to prevent hypothermia; reduced risk of hyperthermia	Post-delivery procedures are modified to include polyethylene covers (Yes/No) Number of newborns wrapped in heat-resistant polyethylene plastic bag and hat	[Warm chain poster](#) [Quality of care tool](#)
Use chitenje as a wrap alternative for newborns	Using commonly available fabrics as newborn wraps decreases financial burden and shows mothers how they can continue to wrap newborns after discharge	Number of times chitenje were used as newborn wraps	
Provide training to newborn staff on the proper method for wrapping newborns in blankets	Training on proper wrapping techniques will increase staff knowledge and confidence with performing the skill	Number of staff who received the wrapping training	
Pre warm newborn clothes including socks, hat and drying towels before conducting the delivery using radiant warmer and use the clothes to cover newborn	immediate use of warm clothing helps maintain newborn body temperature and reduces the risk of cold stress. Covering the newborn with pre-warmed clothes ensures continuous thermal protection, promoting stable vital signs and reducing complications related to hypothermia.	Percentage of newborns covered with pre-warmed clothes immediately after birth.	
Provide counseling for pregnant women during ANC on birth preparedness and complication readiness including preparing appropriate clothes like cotton clothes, hat, socks, flannel …	Newborns lose heat rapidly after birth, and inadequate clothing increases the risk of hypothermia, which can lead to severe complications. Educating mothers about the importance of dressing their babies in warm, breathable fabrics like cotton clothes, hats, socks, and flannel ensures that they are well-prepared to maintain their newborn's body temperature. Integrating this counseling into ANC visits promotes early awareness and readiness, improving neonatal outcomes.	Percentage of pregnant women counseled during ANC on appropriate newborn clothing and thermal care.	

Hypothermia Gap | Newborns are not dressed in appropriate clothing

Change Idea	Rationale	Process Measure	Resources
Demonstrate appropriate newborn wrapping using mannequin for the mothers	Proper wrapping ensures that the newborn's head, feet, and body are well covered while allowing skin-to-skin contact when needed. Teaching mothers through hands-on demonstration increases their confidence and ensures they consistently apply the technique at home and in the hospital. This practice is particularly important for preterm and low-birth-weight infants who are more susceptible to cold stress.	Percentage of mothers who correctly demonstrate newborn wrapping after training	

Hypothermia Gap | Warm transport is not maintained

Change Idea	Rationale	Process Measure
Utilize a portable infant warmer for transportation	Ensure neonate remains warm during transport	Number of times a portable infant warmer was used post-delivery
Assign an individual to ensure the batteries for the incubators are charged, and that the incubator is turned on thirty minutes before delivery	Ensure portable infant warmer is available for use at the time of need	Percentage of shifts where a staff member was designate to ensure incubator is charged and available, ready for use
Wrap all newborns and place a hat on them before transfer to another unit	Ensuring the newborns are wrapped prior to transport will prevent them from experiencing a decrease in temperature even if the transport is colder than the units	Percentage of newborns that are wrapped and have a hat before transport
Use plastic bag during transportation as recommended per national guidelines or another standard	Using a plastic bag during neonatal transportation is an effective and evidence-based intervention to prevent hypothermia, particularly for preterm and low-birth-weight infants who are highly susceptible to heat loss. Wrapping the newborn in a sterile plastic bag immediately after birth helps create a warm microenvironment by reducing evaporative and convective heat loss.	Percentage of newborns transported using a plastic bag to prevent heat loss.
Take the newborn's temperature prior to transfer to another unit	Taking the temperature before transfer ensures the baby is ready to be moved and provides a baseline that can be compared after the newborn is in the new unit	Percentage of newborns that had their temperature taken before transport

Hypothermia Gap | Warm transport is not maintained

Change Idea	Rationale	Process Measure
Transport the newborn with the mother in a Kangaroo Mother Care (KMC) position with an accompanying healthcare provider	Transporting the newborn with the mother in a KMC position is a proven method to prevent hypothermia by ensuring continuous skin-to-skin contact, implementing this practice during transport within the facility ensures that the newborn remains warm and stable, particularly in resource-limited settings where external warming devices may not always be available. The accompanying healthcare provider can provide ongoing support, such as managing CPAP and oxygen while the newborn is in the KMC position.	Percentage of newborns transported within the facility using the KMC position.
Use a healthcare provider to carry the newborn, who is wrapped in appropriate clothing, holding the infant close to their chest, if a mother is surrogate is not available	Carrying the newborn close to the healthcare provider's chest allows the staff to share body warmth with the newborn and prevent hypothermia. Additionally, staff know the location of the newborn unit and can transport the newborn faster than family members if they are unfamiliar with the facility.	Percentage of newborns transported in the arms of a healthcare provider and appropriately wrapped in warm clothing or wraps
Practice zero separation between the mother and newborn	Practicing zero separation ensures continuous skin-to-skin contact between the newborn and mother which helps to regulate the newborn's temperature	Percentage of mothers and newborns that practiced zero separation
Rewarding staff who maintain the warm chain	This reinforces positive behaviors, motivates continued adherence, and encourages other staff to prioritize maintaining the warm chain	Number of staff who have been rewarded/acknowledged for maintain the warm chain
Stabilization of the baby in the labor ward prior to transferring to the newborn unit	Stabilizing the newborn's temperature prior to movement reduces the risk of heat loss during transfer to the newborn unit	Percentage of newborns that were stabilized in the labor ward, prior to transfer

Hypothermia Gap | Physical assessment and/or resuscitation space is not warm

Change Idea	Rationale	Process Measure
Proactively Warm the environment where physical examination will be conducted	Ensuring a warm room minimizes heat loss during undressing and examination, reducing the risk of cold stress, which can lead to hypoglycemia, respiratory distress, and increased morbidity. Simple measures such as closing windows, using room heaters, and pre-warming examination tables help maintain an optimal thermal environment. By integrating this practice into routine newborn care,	Percentage of physical examinations conducted in a room with an ambient temperature of ≥25°C.

Hypothermia Gap | Physical assessment and/or resuscitation space is not warm

Change Idea	Rationale	Process Measure
	healthcare providers can significantly improve neonatal outcomes and promote survival.	
Consistent practice of Warming physician/health professionals' hand before examination	Cold hands can cause heat loss through conduction, leading to a drop in the newborn's body temperature, increasing the risk of hypoglycemia, respiratory distress, and poor perfusion. By ensuring hands are warmed—either by rubbing them together, using warm water, or employing a heat source—providers create a more thermally stable environment for the baby. This simple yet effective practice enhances newborn comfort and supports thermal regulation.	Percentage of healthcare providers who warm their hands before newborn examinations
Proactively warm physical examination assessment tools (stethoscope, thermometer, etc.)	Since newborns have thin skin and a high susceptibility to temperature fluctuations, contact with cold surfaces can trigger vasoconstriction, increasing the risk of hypothermia. Warming these tools before use ensures a gentle and safe examination, maintaining the infant's thermal stability and promoting better physiological outcomes.	Percentage of newborn assessments conducted using pre-warmed examination tools
Delay unwrapping of the newborn during admission to the newborn unit	Delaying unwrapping of the newborn during admission prevents heat loss by keeping the baby warm until the physical space can be warmed or a radiant warmer is set up	Percentage of admissions who received delayed unwrapping

Hypothermia Gap | Caregivers lack knowledge and comfort with maintaining the warm chain

Change Idea	Rationale	Process Measure	Resources
Provide health education during antenatal visits to mothers on ways to be prepared for facility delivery	By providing this information to mothers during antenatal visits this will increase the likelihood the mothers bring the right kind of clothes for themselves and their babies and increase their knowledge of activities to participate in, like KMC	Number of health education sessions targeting ANC mothers	Parental counseling resources
Provide education sessions on the importance changing wet clothes after feeding and	Educational sessions will increase parental knowledge and increase the likelihood that they will perform these activities	Number of sessions provided to parents surrounding hypothermia prevention	

Hypothermia Gap | Caregivers lack knowledge and comfort with maintaining the warm chain

Change Idea	Rationale	Process Measure	Resources
frequently changing diapers			
Use a demonstration kit during antenatal clinic education sessions that contains the right delivery clothing and inappropriate delivery clothing so mothers can feel the difference	Using a demonstration kit with appropriate and inappropriate delivery clothing during antenatal education sessions allows mothers to physically feel the difference in clothing, enhancing their understanding and encouraging their select of clothing that is appropriate for the newborn and decreases the newborn's hypothermia risk.	Delivery kit with appropriate clothing available for antenatal education sessions (Yes/No)	
Inform guardians to place extra nappies at the baby's bedside	This ensures parents are aware of the importance of keeping their baby dry and warm, and keeps the nappies nearby so they can change the newborn in a timely manner if they need to	Percentage of newborn beds with extra nappies located next to it	

Hypothermia Gap | Staff lack knowledge and comfort with maintaining the warm chain

Change Idea	Rationale	Process Measure	Resources
Provide routine education for clinicians on dangers of hypothermia, consistent supply of warm linen, placed thermometer in labor room, placed radiant warmer for newborns in main operating theater, using transport incubators, and keeping transport incubator batteries charged	Allows staff to more effectively prevent hypothermia and emphasizes importance of treatment	Training includes greater focus on standard operating procedures for hypothermia (Yes/No) Number of clinicians who received the training	Checklists for hypothermia care Quality of care tool Helping babies breathe Essential care for every baby Warm chain poster
Educate students on dangers of hypothermia, ways to maintain the warm chain, and importance of documentation	Training students ensures they have the same knowledge of staff and that they perform the same level of care during their rotations	Percentage of students that received this education	
Implement a checklist to for hypothermia care including setting ambient temperature, quickly drying infant after birth, applying pre-warmed hat	Standardize hypothermia care to ensure all measures are taken	Standardized checklist for staff developed (Yes/No)	

Hypothermia Gap | Staff lack knowledge and comfort with maintaining the warm chain

Change Idea	Rationale	Process Measure	Resources
on the head, weighing after being placed in a blanket, using pre-heated mattresses, and planning training and assessments for nurses on temperature measurement			
Post standards of practice (SOPs) throughout the newborn ward	Making the SOPs readily available ensures staff have the resources necessary to track their own care quality and answer questions they may have about hypothermia prevention	SOPs are visible in the ward (Yes/No)	
Implementing training courses from Helping Babies Breathe and Essential Care for Every Baby	Ensure staff have standardized and high-quality information on hypothermia care	Number of sessions for Helping Babies Breathe and Essential Care for Every Baby that occurred	
Perform spot checks/Audit clinician procedures (example Completely drying and covering the baby)	Auditing clinician care ensures staff are performing the needed tasks and identifies areas for continuing education if necessary	Number of clinical audits occurring	
Use warm chain champions	Champions can act as early adopters and motivators, encouraging staff to adopt hypothermia prevention techniques and offering guidance on its implementation in the ward	Number of champions identified and trained	

Hypothermia Gap | Newborn temperature is not routinely monitored

Change Idea	Rationale	Process Measure
Monitor temperature using a device such as a bracelet to ensure thermoregulation	Ensure optimal temperature ranges are achieved	Percentage of newborns that had a temperature monitoring device

Hypothermia Gap | Infrastructural features increase hypothermia risk

Change Idea	Rationale	Process Measure
Create mother-newborn care unit including space and equipment to keep mothers present while their newborn was being cared for	Facilitate KMC by providing a designated area and greater involvement by parent in care	Restructure mother-newborn unit (Yes/No)

Hypothermia Gap | Infrastructural features increase hypothermia risk

Change Idea	Rationale	Process Measure
Procure additional thermometers to be used in the newborn wards	Having adequate thermometers will allow staff to frequently check room and newborn temperatures	Number of thermometers ordered
Procure additional heaters to keep in the labor ward	Having adequate heaters in the labor ward will help staff maintain a warm temperature in the ward	Number of heaters purchased
Procure additional radiant warmers	Having adequate radiant warmers will allow staff to keep more newborns in warmers	Number of radiant warmers purchased
Centralize the air conditioning (AC) and heating system at the facility	Using a centralized system will allow the facility to regulate the temperature in the labor and newborn wards	AC and heating system centralized (Yes/No)
Include clothes/wraps in delivery packs	Including material for newborn wrapping in the delivery kit ensures there will be dry wraps available for the newborn	Delivery kits include dry clothes/wraps (Yes/No)
Monitor the use of radiant warmers	Monitoring radiant warmer use helps staff to determine if they are taking advantage of the resources available to them	Percentage of available radiant warmers in use
Perform planned preventative (PPM) maintenance and refurbishment of warming devices (radiant warmers, heaters etc.)	Performing PPM ensures devices remain functional and are available for use when needed	Number of times PPM occurred
Repair the broken door in theater and labor ward	Broken doors and windows can allow cool air to enter the labor ward which can decrease the newborn's temperature	Broken door(s) fixed (Yes/No)

Hypothermia Gap | Documentation gaps

Change Idea	Rationale	Process Measure	Resources
Develop a room temperature monitoring chart and assign someone to monitor it	Having a chart to record room temperature will allow staff to monitor temperature trends and ensure they have maintained an adequate temperature	Chart developed (Yes/No)	QI Meeting Minutes Template
Audit documentation (room temperature, and newborn vitals)	Monitoring documentation quality ensures individuals are following the change ideas and improving their reporting	Number of documentation audits	
Perform monthly data audits during ward	Performing data audits allows facilities to monitor progress and track	Number of data audits that occurred	

Hypothermia Gap	Documentation gaps		
Change Idea	**Rationale**	**Process Measure**	**Resources**
improvement meetings and develop action plans	changes in hypothermia prevention		
Analyze causes of failure of QI projects	Evaluating the success of change ideas helps facilities identify which change ideas to continue and which to stop	QI project audit occurred (Yes/No)	

Hypothermia Gap	Additional interventions to prevent hypothermia		
Change Idea	**Rationale**	**Process Measure**
Massage neonates three times a day for 15 minutes on face and scalp after proper hand-washing	Demonstrated by several studies to reduce hypothermia, facilitated by use of virgin coconut oil which could be culturally aligned	Percentage of newborns that received a massage

Hypothermia | Steps for Sustaining Improvements

After identifying gaps, developing change ideas, rationales, and process measures, follow the next two steps for sustainable improvements.

Step 5 Get buy-in and resources needed and get started. There are links to potential sources like wall charts, training etc.

Step 6 Track your implementation and process measures for cycle 1 in 4 weeks to see if change in needed (PDSA cycle 2) and continue

Phototherapy

Summary | *Follow the steps to identify gaps, look for common causes, choose gaps to address first, and develop rationale for changes to process measures. Tables include common gaps, change ideas, rationale, process measures. Resources list tools that support change ideas.*

Step 1	**Identify the coverage gap you are trying to address (example Low CPAP coverage)**
Step 2	**Look at the common causes of low coverage listed and add any others you find at your site (example using fishbone)**
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Step 6	**Track your implementation and process measures for cycle 1 in 4 weeks to see if change in needed (PDSA cycle 2) and continue**

Begin here:

Step 1 Identify the coverage gap you are trying to address (example Low CPAP coverage)

Step 2 Look at the common causes of low coverage listed and add any others you find at your site (example using fishbone)

Gap in care quality?	Gap in data quality?
- Not enough power - Not enough working equipment - Staff lack knowledge and comfort with using phototherapy - Staff lack motivation - No routine phototherapy monitoring	Phototherapy not documented

Phototherapy | Change ideas by gap with rationales and process measures

Step 3 Choose which gaps (causes) you think are causing your low coverage and you are going to start on first (which are most important and able to be address)

Step 4 Choose change idea(s) which can be implemented and are likely to have a change and the process measure(s) you will use. Look at the tables which have more details in how sites have solved this problem

Phototherapy Gap | Not enough power		
Change Idea	**Rationale**	**Process Measure**
Identify and implement back up power (example solar, generator)	Adding a secondary power source ensures phototherapy machines work during power outages	Backup power source identified (Yes/No)
Have additional power ports installed	Additional power ports enable staff to use more phototherapy machines	Additional power ports installed (Yes/No)
Create space in the admission room and NBU to store and keep phototherapy machines	Designating a storage location for phototherapy machines ensures they can be used without the need to frequently move/transport them	Space created (Yes/No)

Phototherapy Gap | Not enough working equipment

Change Idea	Rationale	Process Measure	Resources
Track the occurrence of phototherapy planned preventative maintenance (PPM)	Routine PPM prevents breakdowns, ensuring devices are available when needed for newborns	Number of time PPM occurs	[BMET Technical Job Aids](#)
Distribute additional phototherapy machines while not compromising phototherapy monitoring	Increasing the number of phototherapy machines allows a facility to treat more newborns	Number of additional phototherapy machines distributed	

Phototherapy Gap | Staff lack knowledge and comfort with using phototherapy

Change Idea	Rationale	Process Measure	Resources
Conduct routine mentorship on phototherapy, light meter use, bilirubinometers, and transcutaneous bilirubinometers	Performing routine mentorship ensures all staff are aware of current care guidelines and practice the same level of care	Number of new clinicians who received mentorship Number of mentorship sessions that occurred	[Phototherapy and bilirubinometer clinical job aids](#) [Jaundice management clinical module](#) [Phototherapy and light meter clinical scenario](#) [Phototherapy and bilirubinometer technical job aids](#) [Jaundice management BMET education module](#) [Phototherapy light technical scenario](#) [Quality of care audit tool](#)
Include education and mentorship on newborn jaundice management in the induction package for new staff	Mentoring and providing education for new staff as part of their induction to the unit increases their capacity and ensures they have the training necessary to provide care	Number of new clinicians who received mentorship Number of mentorship sessions that occurred	
Use phototherapy champions	Champions can serve as early adopters and motivators, encouraging staff to perform high quality phototherapy	Number champions identified and trained	
Share standard operating procedures (SOPs)/job aids on blood samples needed for lab tests for jaundice with clinicians and make a copy available on the unit	Job aids can increase staff knowledge and serve as a guide if they are unsure how to provide care	Job aids developed (Yes/No) Job aids available on the unit (Yes/No)	
Use the NEST360 quality of care audit tool	Using the quality-of-care audit tool, facilities will be able to see if they are following best practices or if their care needs improvement	Number of times the quality-of-care audit tool was used for phototherapy Quality of care audit tool score	

Phototherapy Gap | Staff lack motivation

Change Idea	Rationale	Process Measure
Use phototherapy champions	Champions can serve as early adopters and motivators, encouraging staff to perform high quality phototherapy	Number champions identified and trained

Phototherapy Gap | No routine phototherapy monitoring

Change Idea	Rationale	Process Measure	Resources
Audit phototherapy documentation, including bilirubin documentation	Performing documentation audits allows facilities to monitor the quality of their documentation and identify if refresher mentorship is needed	Number of times documentation audits occurred	Quality of care audit tool
Use the NEST360 quality of care audit tool	Using the quality-of-care audit tool, facilities will be able to see if they are following best practices or if their care needs improvement	Number of times the quality-of-care audit tool was used for phototherapy Quality of care audit tool score	
Incorporate documentation monitoring into routine nursing manager duties	Integrating documentation review into routine duties enables nurse managers to uphold care standards, improve outcomes, and foster accountability and continuous improvement	Documentation monitoring a part of nursing manager duties (Yes/No) Number of documentation reviews that occurred	

Phototherapy Gap | Phototherapy not documented

Change Idea	Rationale	Process Measure
Audit phototherapy documentation, including bilirubin documentation	Performing documentation audits allows facilities to monitor the quality of their documentation and identify if refresher mentorship is needed	Number of times documentation audits occurred
Incorporate documentation monitoring into routine nursing manager duties	Integrating documentation review into routine duties enables nurse managers to uphold care standards, improve outcomes, and foster accountability and continuous improvement	Documentation monitoring a part of nursing manager duties (Yes/No) Number of documentation reviews that occurred

Phototherapy | Steps for Sustaining Improvements

After identifying gaps, developing change ideas, rationales, and process measures, follow the next two steps for sustainable improvements.

Step 5 Get buy-in and resources needed and get started. There are links to potential sources like wall charts, training etc.

Step 6 Track your implementation and process measures for cycle 1 in 4 weeks to see if change in needed (PDSA cycle 2) and continue

Infection Prevention and Control (IPC)

Summary | Follow the steps to identify gaps, look for common causes, choose gaps to address first, and develop rationale for changes to process measures. Tables include common gaps, change ideas, rationale, process measures. Resources list tools that support change ideas.

Step 1	**Identify the coverage gap you are trying to address (example Low CPAP coverage)**
Step 2	**Look at the common causes of low coverage listed and add any others you find at your site (example using fishbone)**
Step 3	**Choose which gaps (causes) you think are causing your low coverage and you are going to start on first (which are most important and able to be address)**
Step 4	**Choose change idea(s) which can be implemented and are likely to have a change and the process measure(s) you will use. Look at the tables which have more details in how sites have solved this problem**
Step 5	**Get buy-in and resources needed and get started. There are links to potential sources like wall charts, training etc.**
Step 6	**Track your implementation and process measures for cycle 1 in 4 weeks to see if change in needed (PDSA cycle 2) and continue**

Begin here:

Step 1 Identify the coverage gap you are trying to address (example Low CPAP coverage)

Step 2 Look at the common causes of low coverage listed and add any others you find at your site (example using fishbone)

Is the care gap you identified one or several of the following?

Gaps in infection protection prevention	Gaps in infection detection practices	Gaps in infection care
• Poor hand hygiene practice by health care providers • Poor IV insertion and care infection prevention practice • Poor adherence to IPC protocol by health care workers • Poor IPC practice by mothers and family • Inappropriate/poor environmental and device cleaning practices by facility housekeepers • Gaps in leadership buy-in for IPC • Poor proactive infection prevention practices	• Blood cultures not happening before antibiotic administration • Poor identification of suspected sepsis cases • Poor cross contamination prevention	• Poor adherence to antibiotic administration guidelines • Gaps in follow up of newborns with infection • Gaps in maternal and family engagement • Clinical audit on sepsis not conducted

IPC | Change ideas by gap with rationales and process measures

Step 3 Choose which gaps (causes) you think are causing your low coverage and you are going to start on first (which are most important and able to be address)

Step 4 Choose change idea(s) which can be implemented and are likely to have a change and the process measure(s) you will use. Look at the tables which have more details in how sites have solved this problem

IPC gaps in infection protection prevention (Resource)

IPC Gap	Poor hand hygiene practice by health care providers		
Change Idea	**Rationale**	**Process Measure**	**Resources**
Hand hygiene campaign	The hand hygiene campaign through healthcare workers' (HCW) consistent hand washing practice using running water and amicrobial soaps or soaps at each sink within the NBU. Opportunities for hand hygiene will be before and after patient contact, after contact with a source of microorganisms (i.e., body fluids and substances, mucous membranes, broken skin, or inanimate objects that are likely to be contaminated), and after removing gloves	Hand hygiene campaign conducted (Yes/No)	WHO resource considerations for investing in hand hygiene improvement in health care facilities Guide to local production: WHO- recommended handrub formulations WHO brief hand hygiene for all initiative: improving access and behavior in health care facilities
Improving use of hand rub	By availing a 60% isopropyl alcohol handrub containing 0.5% chlorhexidine gluconate as a waterless alternative for hand hygiene practices. Opportunities for hand rub were before and after patient contact, after contact with a source of microorganisms, and after removing gloves	Percentage of healthcare providers who are using hand rub	
Hand hygiene compliance observation	weekly 1-hour hand hygiene observations will occur during any 8-hour shift on weekdays or weekends. NBU nurses, randomly assigned by the head nurse, will anonymously record hand hygiene opportunities and compliance using a standard checklist. Errors will be discussed privately with individual HCWs to maintain confidentiality.	Percentage of five moment of hand hygiene compliance by healthcare providers	
Hand hygiene education	Well-structured educational sessions on proper hand hygiene techniques and the use of hand-cleansing agents will be provided to all HCWs, interns, and residents. NBU fellows/senior staff will incorporate this training into monthly	Percentage of healthcare providers trained on hand hygiene	

Collection of Change Ideas for Priority Clinical Indicators   **August 2025**

IPC Gap | Poor hand hygiene practice by health care providers

Change Idea	Rationale	Process Measure	Resources
	resident orientations, while new HCWs will receive it as part of their onboarding. Training covers nurses, physicians, therapists, technicians, and social workers.		
Posting Hand hygiene cartoons	Posting cartoons showing the correct steps for handwashing on the wall above each sink, or where they could be conveniently will be seen by HCWs. Labels with the slogan "Clean Hands, Prevent Infection" will be permanently placed in easily visible sites such as on treatment carts and digital weight scales, next to any machine, and at the supply shelves.	Hand hygiene cartoons/poster posted (Yes/No)	
Public praise for HCW who performed hand hygiene appropriately	Public praise (e.g. Recognition certificate) will be given by the head nurse at the monthly NBU staff meeting to each HCW who performed hand hygiene appropriately.	Number of HCW who receive public praise for hand hygiene	

IPC Gap | Poor IV insertion and care infection prevention practice

Change Idea	Rationale	Process Measure	Resources
IV line Insertion clinician asepsis bundle	Introduce clinical bundle for safe insertion of IV line with appropriate check list introduction. The safe IV line insertion bundle will have the following elements: 2 min procedural hand wash, Sterile gloves and gown, Hat and mask.	Percentage of IV insertion conducted as per the protocol among observed	Guidelines for the prevention of intravascular catheter-related infections
Change IV lines every 5 days	This possible solution aims to reduce the incidence of neonatal sepsis in the Neonatal Care Unit (NNU) by implementing a protocol to change intravenous (IV) lines every 3 days. Frequent replacement of IV lines is a crucial infection prevention strategy that helps minimize the risk of	Percentage of admitted Neonate IV line changed at least every 5 days	

IPC Gap | Poor IV insertion and care infection prevention practice

Change Idea	Rationale	Process Measure	Resources
	bacterial contamination and subsequent bloodstream infections in vulnerable newborns.		

IPC Gap | Poor adherence to IPC protocol by health care workers

Change Idea	Rationale	Process Measure	Resources
Group reinforcement of IPC protocol in every shift change— handing- taking over time	Staff members briefly discussed aseptic practices during handing-taking over time, using protocols and presentations. the session was designed to last <5 min and conducted during the shift change nursing huddle. These sessions will be carried out for 3 days in every shift change. During all the opportunities, the nursing staff could find time during shift changes to discuss aseptic practices and to increase awareness among themselves.	Number of group reinforcement session conducted during shift change	Newborn guideline of care: Infection prevention & control WHO brief: Nurses and midwives critical for infection prevention and control
Adherence to barrier nursing protocol	Barrier nursing protocol will be developed by the infection control nurse and introduced in the NBU. The protocol included using separate gowns, wearing gloves, caps and masks, and regular cleaning of the environment of the septic neonate, in addition to the usual aseptic practices. A checklist of the protocol with timings for the activities will be placed near every bed of any neonate suspected of or having proven sepsis. The nursing staff could adhere to the protocol with the expectation of preventing the spread of infection in the unit.	Percentage adherence to barrier nursing protocol	
Supervision for HCWs on IPC	Weekly classes on infection control procedures on the wards will be conducted by the Nursing Supervisor with nurses and caregivers.	Percentage of IPC supervision conducted as per the plan	

IPC Gap | Poor adherence to IPC protocol by health care workers

Change Idea	Rationale	Process Measure	Resources
	The head of the Infection Control Committee also conducted classes on a regular basis with the nurses, with special reference to specimen collection, aseptic measures, and basics of microbiology related to nosocomial infections. Practices were reinforced through daily supervision by the Nursing Supervisor.		
IPC regular training of newly posted residents and staff	A programme will be created to newly joined members in the NBU by designated QI team members. Simple theoretical and practical classes will be taken for new members. Before and after questionnaires will be formulated to evaluate their level of understanding. Every new member will be taught within a few days of joining, and the responsibility will be assigned to the senior nursing staff and the infection control nurse.	Percentage of newly posted resident and staff trained on IPC	
Change CPAP water daily using color coded water bottles, discarding unused water and replacing it with fresh, sterile water	Using color-coded bottles can make it easier for staff to remember to switch CPAP sterile water since it provides a simple, routine practice that all staff can follow	Percentage of CPAP machines that have the current colored water bottle during a unit audit	
Implement the "speak up protocol for IPC issues during neonatal unit rounds	The "Speak Up" change idea is a patient safety initiative designed to reduce HAIs by encouraging healthcare providers to speak up boldly and report any observed breaches in IPC protocols. Often, HAIs result from unnoticed or unaddressed lapses in hand hygiene, use of personal protective equipment, or safe injection practices. This change idea promotes a culture of accountability and psychological safety,	Percentage of staff that received training or introduction to the "speak up" protocol	

IPC Gap | Poor adherence to IPC protocol by health care workers

Change Idea	Rationale	Process Measure	Resources
	where staff at all levels are empowered to raise concerns without fear of retaliation. It includes training on assertive communication, clear and accessible reporting channels (both anonymous and direct), leadership support to model and reinforce the behavior, and a feedback loop to ensure reports lead to action and learning. By fostering open communication and reinforcing that every team member has a responsibility to protect patients, the protocol aims to improve adherence to IPC standards and ultimately prevent avoidable infections.		
Implement a comprehensive NBU sepsis prevention bundle	This bundle combines give critical interventions simultaneous to decrease the occurrence of infections and goes beyond the standard protocol, by focusing on a defined set of interventions as a bundle strategy	Percentage adherence to the comprehensive NBU sepsis bundle	

IPC Gap | Poor IPC practice by mothers and family

Change Idea	Rationale	Process Measure	Resources
Improving hand hygiene for visitors	Restrictions will be placed on the number of visitors in the wards, and visitors will be required to wash their hands before going to a patient's bedside.	Percentage of visitors wash their hands before going to patient bedside	Guideline for the prevention of mother to child transmission of communicable infections
IPC Training for mothers and other caregivers	Training in infection control will be provided for a group of three to four mothers and other caregivers on the ward to reinforce health and infection control messages. A logbook of these sessions will be maintained, including documentation of the issues discussed. Emphasis will be further	Percentage of mother and caregiver who received training on IPC	

IPC Gap | Poor IPC practice by mothers and family

Change Idea	Rationale	Process Measure	Resources
	placed on increasing awareness of the importance of infection control and personal hygiene.		
Inspection for mothers or care givers personal hygiene	Nurses will inspect the mother's hygiene, including the fingernails, each day. Caregivers will be given a clean gown each day to wear at the bedside when handling the baby and will be given a box in which to keep dirty items.	Number of days mothers' and caregivers' hygiene inspected	
Health education to mothers of babies admitted in NBU on hygiene and infection prevention, nutrition, breastfeeding, feeding, prevention of hypothermia, danger signs, KMC, hygiene, etc.	This intervention focuses on providing comprehensive health education to mothers of babies admitted to the NBU, equipping them with essential knowledge and skills to care for their newborns effectively. The health education will cover key topics including hygiene, infection prevention, nutrition, breastfeeding, feeding practices, hypothermia prevention, recognizing danger signs, and the benefits and techniques of Kangaroo Mother Care (KMC).	Percentage of mothers who received education on IPC	

IPC Gap | Inappropriate/poor environmental and device cleaning practices by facility housekeepers

Change Idea	Rationale	Process Measure	Resources
Providing training for facility supporting staff including porters, housekeepers and their supervisors on environmental cleaning	Training with practical demonstrations on cleaning hospital floors, surfaces, and walls is crucial for reducing healthcare-associated infections (HAIs). It equips staff with standardized techniques, proper use of cleaning agents, and infection prevention practices. Combining brief theoretical sessions, live demonstrations, and hands-on practice ensures immediate application and	Percentage of housekeeping staffs trained on environmental cleaning	Environmental cleaning and infection prevention and control in healthcare facilities in low-and middle-income countries

Best practices for environmental cleaning in healthcare facilities in resource- limited settings

WHO decontamination and reprocessing of medical devices for healthcare facilities |

IPC Gap | Inappropriate/poor environmental and device cleaning practices by facility housekeepers

Change Idea	Rationale	Process Measure	Resources
	better retention of best practices.		
Appropriate selection and use of detergents and disinfectants	The appropriate selection of detergents and disinfectants for cleaning hospital floors, surfaces, walls, and medical equipment is crucial to maintaining a safe and hygienic healthcare environment. The choice of cleaning agents must consider factors such as the type of surface or material, the level of contamination, and the risk of pathogen transmission.	Appropriate detergents and disinfectants selected and used (Yes/No)	
Validating environmental cleaning	The CDC Environmental Checklist ensures high standards of terminal cleaning, critical for preventing healthcare-associated infections (HAIs). By systematically validating cleaning processes and focusing on high-touch surfaces, the checklist identifies gaps, ensures compliance, and reduces infection risks. It also enables targeted feedback to cleaning staff, reinforcing proper techniques and improving overall hygiene quality.	Percentage of appropriately cleaned surfaces	
Staff training and competency assessments on cleaning and decontamination	Conduct regular training sessions on proper cleaning and decontamination techniques, followed by periodic competency assessments to ensure adherence Standardized Cleaning Protocols	Percentage of staff trained on equipment cleaning and decontamination and their competency assessed	
Visual aids for cleaning guidance	Place laminated visual guides or posters near cleaning stations that outline step-by-step decontamination processes for commonly used equipment.	Visual aid on equipment cleaning and decontamination posted (Yes/No)	
Enhanced cleaning and decontamination	Introduce a checklist-based monitoring system where supervisors review	Percentage of appropriate equipment cleaning and	

IPC Gap | Inappropriate/poor environmental and device cleaning practices by facility housekeepers

Change Idea	Rationale	Process Measure	Resources
monitoring and feedback systems	cleaning practices and provide real-time feedback.	decontamination conducted	
Maintaining incubators hygiene	The initiative involves implementing a routine weekly schedule for disinfecting incubators using appropriate cleaning agents to eliminate bacteria, viruses, and other contaminants. This process will include thorough cleaning of all surfaces, including any equipment and bedding used inside the incubators, as well as training staff on proper disinfection techniques.	Incubator hygiene maintained as per the protocol (Yes, No)	

IPC Gap | Gaps in leadership buy-in for IPC

Change Idea	Rationale	Process Measure
Avail Personal Protective Equipment (shoes and gowns) for infection prevention and control in NBU	Newborn unit by ensuring that appropriate personal protective equipment (PPE), specifically shoes and gowns, are readily available to healthcare providers and staff. By making PPE more accessible, staff can adhere more consistently to IPC protocols, thus enhancing IP practice in NBU. This initiative involves regular inventory checks, replenishment of PPE supplies, and ensuring that all personnel are trained in the correct use and disposal of these protective items.	Adequate PPE material available (Yes/No)
Colored buckets for waste disposal	Colored buckets will be placed in the ward; blue buckets for normal waste and red for potentially infectious or dangerous waste such as syringes, needles, broken tubes, etc.	Colored buckets for waste disposal availed near by the care delivery area (Yes/No)
Minor structural renovations	In the NBU a hand washing facility with liquid soap dispenser will be installed and minor repairs will be made to improve infection control measures.	Structural renovations (Yes/No)

IPC Gap | Poor proactive infection prevention practices

Change Idea	Rationale	Process Measure
Practice clean birth practices	Practicing clean birth practices minimizes the introduction of pathogens during delivery, thereby reducing the risk of infections for mothers and newborns	Percentage of deliveries that follow clean birth practices
Practice umbilical cord care including apply chlorohexidine ointment for all babies less than 7 days old	Practicing umbilical cord care with chlorohexidine ointment reduces bacterial colonization at the code site and lowers the risk of neonatal sepsis	Percentage of babies who receive appropriate umbilical cord care

IPC gaps in infection detection practices (Resource)

IPC Gap | Blood cultures not happening before antibiotic administration

Change Idea	Rationale	Process Measure	Resources
Education and skill enhancement of clinical service providers on Neonatal sepsis early identification and management	A concise training package will be developed based on the SOP. Doctors, nurses and paramedics directly involved with NBU in the demonstration hospitals received one-day training on this package. Regular refreshers trainings will be integrated with daily ward round or if necessary, will be organized quarterly in year one and six monthly in year two to reinforce education and promote knowledge retention.	Percentage of healthcare providers who trained on neonatal sepsis	NHS saving lives: taking blood cultures Blood culture: a key investigation for diagnosis of bloodstream infections booklet WHO guidelines on drawing blood: best practices in phlebotomy
Orientation for empowering healthcare providers to draw blood culture before first dose of antibiotic if resident doctor was busy	Teaching sessions-weekly orientation sessions for all day–night shift resident doctors and nurses by power point presentation on the importance of drawing blood culture before antibiotic.	Percentage of healthcare providers who received orientation on blood culture	
Using social media and posters reminder on drawing blood for culture before antibiotic	Regular WhatsApp reminders and motivational posters on the importance of drawing blood culture before antibiotic with aseptic technique will be send to healthcare providers.	WhatsApp reminders sent to healthcare providers (Yes/No)	

IPC Gap | Blood cultures not happening before antibiotic administration

Change Idea	Rationale	Process Measure	Resources
Ensuring availability of blood culture bottles in patient care area.	Ensuring availability of blood culture bottles in patient care area. Reach agreement with lab department to get culture bottles stock at labor ward and NBU for sample collection. the bottles will be replaced by the lab every fortnight.	Percentage of Blood culture bottles availed in patient care area for babies with suspected infection	
Maintain enough blood collection bottle for culture in every shift	Handover of culture bottle stock between nursing shifts.	Enough blood collection bottle for culture is Maintained in every shift (Yes/No)	
Assign a responsible person for on time collection of lab culture results	Assigning someone to collect culture results ensures timely receipt because it becomes a designated responsibility, preventing delays or oversight due to competing care priorities	Percentage of shifts that had a lab results person assigned	

IPC Gap | Poor identification of suspected sepsis cases

Change Idea	Rationale	Process Measure	Resources
Using Neonatal Healthcare-associated infection Prediction (NeoHoP) score for identifying suspected neonatal HAI	It is an easy-to-use score, consisting of five variables (capillary refill time >3 s, lethargy, abdominal distention, presence of a central venous catheter currently or in the preceding 48 hours and laboratory CRP ≥10 mg/L. A score of ≥2 is well positioned to be used as a 'rule-in' test.	Percentage of suspected neonatal HAI identified using Neonatal Healthcare-associated infection Prediction (NeoHoP) score	
Triage, Identification and Rapid Admission	Sick neonates will be prioritized in the emergency department followed by identification of syndromic sepsis through clinical assessment and immediate admission for proper treatment. Neonatal (0–28 days) syndromic sepsis was defined as the presence of any of the following sign/symptoms—hypothermia, hyperthermia, altered mental status, convulsion, respiratory distress,	Percentage of sick newborn early triage and d admitted	

IPC Gap | Poor identification of suspected sepsis cases

Change Idea	Rationale	Process Measure	Resources
	umbilical infection and not feeding properly.		
Introduction of syndromic sepsis checklists and patient record forms	Syndromic Sepsis Fast Assessment Checklist' will be introduced in the NBU. These tools and checklists will be maintained for all children admitted with syndromic sepsis. These checklists will be followed and filled by the on-duty nurse in the NBU.	Syndromic sepsis checklists and patient record forms introduced (Yes/No)	

IPC Gap | Poor cross contamination prevention

Change Idea	Rationale	Process Measure	Resources
Isolate septic cases and assign nursing staff that only manage sepsis cases	Isolating these newborns and assigning them a specific nurse minimizes contact between infected and non-infected babies, reducing the risk of spreading infection within the unit	Percentage of septic cases that are assigned a specific nurse	

IPC gaps in infection care (Resource)

IPC Gap | Poor adherence to antibiotic administration guidelines

Change Idea	Rationale	Process Measure	Resources
Sensitization on first dose of antibiotics within the golden hour	Provide ongoing education and sensitization regarding the importance of timely administration of antibiotics especially the first dose of antibiotics within the golden hour	Percentage of eligible babies first dose of antibiotics provided with the golden hour	Newborn guideline of care: Antibiotics
Posting Flow charts to assist management of sepsis	A clinical algorithm flow chart will be prepared based on the SOP to assist management of sepsis. These charts will be placed in prominent positions in the NBU to serve as quick references for clinicians. Some additional visual reminders related to infection prevention practice, hand washing and waste management will be also developed and displayed in prominent positions.	Sepsis management flow chart posted on the wall (Yes/No)	

IPC Gap | Poor adherence to antibiotic administration guidelines

Change Idea	Rationale	Process Measure	Resources
Parenteral administration of Broad-Spectrum Antibiotics	After 'Initial Management and Immediate Resuscitation'; broad spectrum antibiotics must be administered parenterally immediately. Parenteral Ampicillin (50 mg/kg body weight; 8 hourly) and Gentamicin (5mg/kg body weight for neonates and 7.5 mg/kg body weight for post neonates, once daily) combination will be the first line antibiotics and parenteral Ceftriaxone will be the second line antibiotics. In case of proven sepsis, the broad-spectrum antibiotics will be continued for 7–10 days. In case of early discharge due to request from the care takers, oral antibiotics can be recommended after 48 hours of admission (if there is no other complication).	Percentage newborn with infection broad spectrum antibiotics initiated	
Task shifting	Task shifting in the NBU allowed the on-duty nurses to conduct 'Fast Assessment', 'Initial Management and Immediate Resuscitation' and 'Parenteral administration of Broad-Spectrum Antibiotics' immediately with assent from the on-call physician.	Task shifting conducted (Yes/No)	
Antibiotic time out	Establish routine "antibiotic time out" at 48h (and no later than 72h) after negative cultures result are obtained	Percentage antibiotics discontinued for newborns with negative culture result at 48h	

IPC Gap | Gaps in follow up of newborns with infections

Change Idea	Rationale	Process Measure
Improve vital sign monitoring in newborn unit	Ensure accurate and consistent monitoring of vital signs—temperature, heart rate, respiratory rate, and oxygen saturation—for early detection and timely intervention. This includes standardizing protocols, training staff, maintaining equipment, and

IPC Gap | Gaps in follow up of newborns with infections

Change Idea	Rationale	Process Measure
	implementing a system for documenting and reviewing data. Improved monitoring enhances neonatal health tracking, enabling prompt responses and better outcomes.	

IPC Gap | Gaps in maternal and family engagement

Change Idea	Rationale	Process Measure	Resources
Involve caregivers in care using danger signs tracking sheet	The initiative introduces a neonatal danger sign tracking sheet for caregivers to observe and report critical signs indicating worsening conditions. The sheet lists danger signs such as feeding issues, convulsions, fast breathing, chest indrawing, abnormal temperatures, yellow soles, poor movement, and local infections. Caregivers will be trained to use the sheet effectively, enabling them to actively support their newborn's care.	Number of mothers /caregivers track danger sign using sheet	Danger signs in newborns
Use an "Expert Mom" role model to provide support to other mothers for breastfeeding, KMC, and observing for danger signs	The "Expert Mom" is a mother who has successfully navigated challenges related to breastfeeding, Kangaroo Mother Care (KMC), and recognizing danger signs in newborns. She will serve as a mentor and support figure for other mothers in the unit. The "Expert Mom" will provide practical guidance and emotional support to new mothers, sharing her experiences and offering tips on effective breastfeeding techniques, the benefits and proper practice of KMC, and how to observe and respond to critical danger signs in their newborns. By having a peer role model, mothers can feel more comfortable and confident in their care practices, knowing they have someone relatable to	Number of mothers educated by "expert mom"	

IPC Gap | Gaps in maternal and family engagement

Change Idea	Rationale	Process Measure	Resources
	turn to with questions or concerns.		
Task shifting to mothers for ensuring on-time and adequate amount feeding for newborns in NBU after 3 days support by NBU staff	This intervention empowers mothers in the Neonatal Care Unit (NBU) by transitioning feeding responsibilities to them after three days of guidance from NBU staff. During this period, mothers receive education on feeding techniques, hunger cues, and the importance of timely and adequate feeding, building confidence and skills under supervision. Afterward, mothers take on feeding independently, with staff providing ongoing support as needed, ensuring consistent and adequate nourishment for their newborns while fostering maternal independence.	Percentage of mothers task shifting conducted on newborn feeding	

IPC Gap | Clinical audit on sepsis not conducted

Change Idea	Rationale	Process Measure
Conduct monthly clinical audits and provide feedback based on the findings from the audit	Conduct clinical audit weekly/bi-weekly using checklist to identify gap in identifying and managing sepsis and provide appropriate feedback for staff working in NBU based on the findings	Percentage of clinical audit conducted as per the plan
Multidisciplinary sepsis review Huddles.	Multidisciplinary sepsis review meetings bring together healthcare professionals to review recent sepsis cases, discuss clinical data, treatment outcomes, and challenges, and identify areas for improvement. These sessions focus on refining protocols, enhancing communication, and improving patient care through actionable recommendations.	Percentage of Multidisciplinary sepsis review Huddles conducted as per the plan

IPC | Steps for Sustaining Improvements

After identifying gaps, developing change ideas, rationales, and process measures, follow the next two steps for sustainable improvements.

Step 5 Get buy-in and resources needed and get started. There are links to potential sources like wall charts, training etc.

Step 6 Track your implementation and process measures for cycle 1 in 4 weeks to see if change in needed (PDSA cycle 2) and continue

Additional Resources

Ward Improvement Team (WIT) Meeting Minutes

PROJECT AIM		
Meeting Date:	Meeting start time:	Meeting end time:

LIST OF QI MEETING PARTICIPANTS		
	Name	**Position**
1		
2		
3		
4		
5		
6		
7		
8		

REVIEW THE PREVIOUS QI PROJECT PLAN AND IMPLEMENTATION USING PDSA		
	Change idea 1	Change idea 2
Is the change idea tested as planned?		
If not, why was the change idea not tested as planned?		
If yes, what was the process measure value for the tested change idea?		
What was the impact of the change idea on the outcome measure as compared to the baseline?		
Decision on the change ideas: Abandon? Adopt? Adapt (how)?		
Comments on challenges, opportunities, & any observations related to this project?		

PROJECT AIM			
Meeting Date:	Meeting start time:	Meeting end time	

NEXT STEPS			
	Action items	**Responsible person**	**Deadline**	**Status**
1				
2				
3				
4				
5				

Next WIT meeting date and time:

Bubble CPAP OSCE Template

Station Overview:

- **Station Title:** Application and Management of Bubble CPAP

- **Time Allocation:** 10 minutes

- **Candidate Role:** Neonatal nurse/clinician in a Level II NICU/NBU

- **Patient Details:** Neonate, preterm (gestational age 32 weeks), respiratory distress (RDS), weighing 1.8 kg

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Objectives:
At the end of this station, the candidate should be able to:
1. Demonstrate proper assembly and setup of Bubble CPAP equipment.

2. Apply Bubble CPAP to a neonatal patient safely and effectively.

3. Monitor and troubleshoot Bubble CPAP performance.

4. Provide appropriate parental education about the therapy.

Equipment and Setup:
1. Bubble CPAP machine

2. CPAP circuit (including humidifier and nasal prongs)

3. Sterile water for humidifier

4. Neonatal mannequin (for simulation)

5. Monitoring equipment (pulse oximeter, heart rate monitor)

6. Personal protective equipment (PPE)

7. Patient chart (simulation notes provided)

8. Checklist for evaluation

OSCE Instructions for Candidate:
Background:
- The patient is a preterm neonate showing signs of respiratory distress (flaring nostrils, grunting, and subcostal retractions).

- You are required to initiate Bubble CPAP therapy as ordered by the attending physician.

Tasks:
1. **Assemble and Set Up Equipment:**

   o Properly connect the CPAP circuit to the humidifier and Bubble CPAP device.

   o Adjust the water level in the bubble chamber to the prescribed pressure (e.g., 5 cmH2O).

2. **Apply CPAP to Neonate:**

   o   Choose the correct size of nasal prongs and secure them.

   o   Position the neonate properly (neutral head position).

   o   Secure the CPAP headgear to ensure a snug fit without causing pressure injuries.

3. **Monitor and Troubleshoot:**

   o   Check for bubbling in the chamber and ensure no air leaks.

   o   Monitor oxygen saturation and adjust FiO2 as needed.

   o   Address potential complications (e.g., nasal irritation, blocked circuit).

4. **Parental Communication:**

   o   Explain the purpose of Bubble CPAP and reassure the parent.

   o   Highlight signs of improvement to watch for (e.g., improved breathing, reduced grunting).

Assessment Criteria (Checklist):

Step	Performance Indicator	Score (0-2)
Assemble CPAP equipment	Correctly connects circuit, humidifier, and Bubble CPAP device	
Adjust water level and settings	Sets pressure accurately (e.g., 5 cmH2O)	
Choose appropriate nasal prongs	Selects proper size and checks for fit	
Apply CPAP to neonate	Positions head and secures CPAP properly	
Ensure effective bubbling	Checks for proper bubbling and absence of air leaks	
Monitor patient	Monitors oxygen saturation and FiO2 appropriately	
Troubleshoot issues	Identifies and addresses common issues (e.g., leaks, irritation)	
Communicate with parent	Explains procedure and reassures parent	

Examiner Guidelines:
- Observe the candidate's technical skills and communication throughout the station.
- Use the checklist to score performance objectively.
- Provide feedback on areas of strength and improvement.

Feedback Form:
1. **Strengths:** (e.g., clear communication, technical accuracy)
2. **Areas for Improvement:** (e.g., equipment setup, troubleshooting)
3. **Overall Score:** __/16

This OSCE template can be adapted further based on specific institutional protocols or training requirements.