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Quality improvement baseline assessment in the African Neonatal Network

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Abstract: *Background:* Achieving the Sustainable Development Goal target for neonatal mortality reduction requires improved access and quality of services globally. The extent to which neonatal teams in the African Neonatal Network (ANN) have knowledge, experience and capability in quality improvement (QI) is unknown.
Methods: ANN team members completed baseline assessments with three standardized QI assessment tools: Beliefs, Attitudes, Skills and Confidence in QI (BASiC-QI), the Institute for Healthcare Improvement (IHI) Improvement Capability Self-Assessment Tool, and the IHI QI Knowledge Application Tool-Revised (QIKAT-R). Team leaders completed a focused assessment on the landscape of neonatal QI within their hospital, region and country.
Results: Ninety percent of ANN team members and 100% of team leaders completed the baseline assessment. 41% of participants reported prior experience in QI. Participants reported strong feelings or beliefs regarding QI on the BASiC-QI, including 72.7% strongly agreeing with 'Using QI in the real world will make improvements'. The minority of participants agreed or strongly agreed that they were knowledgeable in fundamentals of QI. Just over half of participants reported that their hospital was in the 'just beginning' or 'developing' stages. The novel neonatal cases for the IHI QIKAT-R showed variation in applied knowledge (case scores: 0 to 9 of possible 9; median total score 11 of possible 27). 35% of teams reported collaboration on QI prior to ANN pilot.
Conclusion: The baseline assessment among ANN pilot sites documented gaps in QI knowledge, skills and their application. As ANN focuses on improving QI capability, learnings may have global relevance.

Keywords: Quality Improvement; Needs Assessment; Capacity Building; Infant, Newborn; Infant, Premature; Neonatal Intensive Care Units; Africa South of the Sahara; Global Health

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Résumé: *Contexte:* Atteindre l'objectif de développement durable (ODD) relatif à la réduction de la mortalité neonatal nécessite une amélioration de l'accès aux services de santé et de leur qualité à l'échelle mondiale. Le niveau de connaissances, d'expérience et de capacité des équipes néonatales du Réseau Néonatal Africain (ANN) en matière d'amélioration de la qualité (AQ) demeure inconnu.
Méthodes: Les membres des équipes de l'ANN ont complété des évaluations de référence à l'aide de trois outils standardisés : le BASiC-QI (croyances, attitudes, compétences et confiance en AQ), l'outil d'auto-évaluation des capacitésd'amélioration de l'Institute for Healthcare Improvement (IHI), et l'outilrévisé d'évaluation des connaissances et de l'application de l'AQ de l'IHI (QIKAT-R). Les responsables d'équipe ont également complete une evaluation ciblée sur le paysage de l'AQnéonatale dans leur hôpital, leur région et leur pays.
Résultats: Quatre-vingt-dix pour cent des membres des équipes de l'ANN et 100 % des responsables-d'équipe ont complete l'évaluation de référence. Quarante et un pour cent des participants ont declare une experience antérieure en AQ. Les participants ont exprimé de fortes convictions quant à l'AQ dans le BASiC-QI, notamment 72,7 % qui ont fortement approuvé l'affirmation « Utiliser l'AQ dans la pratique permetd'obtenir des améliorations ». Une minorité de participants a declare maîtriser les principes fondamentaux de l'AQ. Un peu plus de la moitié des participants ont indiqué que leur hôpital se trouvait au stade de « tout début » ou de « développement ». Les casc liniques neonatal développés pour le QIKAT-R ont montré une grande variabilité dans l'application des connaissances (scores par cas : de 0 à 9 sur 9 ; score total médian : 11 sur 27). Trente-cinq pour cent des équipes ont rapport une collaboration antérieure en AQ avant le lancement du projet pilote de l'ANN.
Conclusions: L'évaluation de reference réalisée dans les sites pilotes de l'ANN a mis en évidence des lacunes dans les connaissances, les compétences et l'application de l'amélioration de la qualité. Alors que l'ANN concses efforts sur le renforcement des capacitésen AQ, les enseignements tires pourraient avoir une portée internationale.

Introduction

There is wide agreement that the current disparities in neonatal global health are unacceptable. Globally, 2.3 million children died in the first month of life in 2023, approximately 6,300 neonatal deaths every day.[1] Despite declining neonatal mortality rates globally, marked disparities exist across regions and countries. Regionally, neonatal mortality was highest in sub-Saharan Africa, estimated at 26 deaths per 1,000 live births in 2023, where the risk of neonatal death is ten times more likely than in a high-income country.

International targets have been set for reduction in disparities with the 2030 Sustainable Development Goals (SDGs). Target 3.2 is an end to preventable death of newborns and children under five years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births.[2] It is recognized that in order to achieve the SDG targets, maternal, newborn, child, and adolescent health and nutrition services must improve in quality and in equity of access.[3,4] An important aspect to understanding and improving quality is the evaluation of effective coverage for evidence-based interventions and establishment of quality gaps.[5]

There are numerous metrics suggested for use globally, nationally and sub-nationally for goal setting and tracking improvement over time.[6] Identifying standardized facility-level metrics that are appropriate for benchmarking and quality improvement, feasible to collect, meaningful, valued and used locally by multi-disciplinary teams remains an active area of research and collaboration globally.[7–12] An ongoing challenge is to make better use of existing resources and high-quality data streams, improving efficiency and reducing data burden as quality improvement is embedded into the culture of neonatal care. Batalden and Davidoff defined quality improvement (QI) as "the combined and unceasing efforts of everyone- healthcare professionals, patients and their families, researchers, payers, planners and educators- to make the changes that will lead to better patient outcomes (health), better system performance (care) and better professional development (learning).[13] There is substantial

evidence from the global neonatal community that this definition of QI can be realized in varied resource settings. When QI teams collaborate within a community, enhanced learning, care and health is possible.[14-20]

The African Neonatal Association and Vermont Oxford Network partnered to co-develop the African Neonatal Network (ANN), a collaborative QI, learning and leadership development community. The ANN launched in 2023across 17 neonatal units in five countries, Ethiopia, Nigeria, Rwanda, Uganda and Zimbabwe.[21] The purpose of this manuscript is to describe the baseline QI knowledge and attitude of ANN team members as well as the QI experience and capability of ANN teams prior to the launch of mentored QI education and the ANN collaborative QI learning and leadership development community.

Methods

A multi-level assessment was developed to provide baseline information at both individual and team levels. Eligible participants for the individual assessment included all ANN team members at participating sites and team leaders. Assessments of ANN teams were completed by the designated team leader of the neonatal unit's QI team. Both individual and team assessments were developed in Google Forms. Unique links were sent via email, and responses were verified against the roster to calculate response rate and ensure only one response was captured per individual.

The individual assessments were completed between July 2023 to September 2023, prior to reviewing the VON QI Foundations curriculum or attending national meetings where QI skills were applied in reviewing baseline data. Individual assessment included demographic information and three standardized QI assessment tools: 1) Beliefs, Attitudes, Skills and Confidence in Quality Improvement (BASiC-QI),[22] 2) the Institute for Healthcare Improvement (IHI) Improvement Capability Self-Assessment Tool,[23] and 3) the IHI Quality Improvement Knowledge Application Tool- Revised (QIKAT-R).[24] The BASiC-QI uses a Likert scale of 'strongly disagree' through 'strongly agree' to assess individual beliefs, attitudes, skills and confidence in QI. The IHI Improvement Capability Self-Assessment Tool captures an individual's assessment of their hospital's capability, with response categories of 'just beginning', 'developing', 'making progress', 'significant impact' and 'exemplary'. The current QIKAT-R lacks scenarios related to neonatal care, especially applicable to low and middle-income country contexts. Therefore, for the purpose of this baseline assessment, three novel cases were developed specifically for the ANN by the first author (DE) (Appendix). Two authors (DE and MT) independently scored the three novel QIKAT-R neonatal cases. Each case is scored on a nine-point scale. For this baseline assessment, the mean, standard deviation, median and range of the two independent scores in each case are reported. All analyses are descriptive.

The team assessments were completed between November 2023 to January 2024, incorporating the baseline experience of working with their newly established hospital-based neonatal QI team.
All teams included in this assessment received ethical clearance to participate in the ANN. The University of Vermont Institutional Review Board determined that the use of these surveys for the purpose of quality improvement was not human subjects research.

Results

The baseline individual team member assessments were completed by 88 individuals from the combined ANN team roster of 98 individuals, equating to a 90% completion rate. The disciplines reported by individuals included: 22% nursing leader, 14% midwife, 11% neonatologist, 9% paediatrician, 8% data manager, 8% bedside neonatal nurse, 5% NICU fellow, 5% general physician, 5% administrative officer, 3% paediatric resident, 2% medical officer, 2% public health officer, and 1% each: staff nurse, IT officer, healthcare assistant, quality coordinator, and parent. Of the individual team members, 41% (36 of 88) reported prior experience in QI.

Participants reported strong feelings or beliefs regarding QI on the BASiC-QI, including 73.9% strongly agreeing with 'QI plays an important role in strengthening systems, such as healthcare', 76.1% strongly agreeing with 'I value QI training as part of my professional development' and 72.7% strongly agreeing with 'Using QI in the real world will make improvements'. The minority of participants agreed or strongly agreed that *they* were knowledgeable in fundamentals of QI, including 'QI theory' (22.8%), 'How QI is different than research' (28.4%), 'Understanding processes within a system' (26.2%), 'Plan-Do-Study-Act (PDSA) cycles' (37.5%), 'How to measure the impact of a change' (30.7%) and 'How change links to improvement' (33%). Participants had the most confidence with their skills in 'Identifying an opportunity for improvement' with 52.3% agreeing or strongly agreeing with that statement, and the least confidence in using PDSA cycles to plan and test a change concept with 29.5% agreeing or strongly agreeing with that statement. Results of the full BASiC-QI are reported in Table 1.

On the IHI Improvement Capability Self-Assessment Tool, just over half of participants reported that their hospital was in the 'just beginning' or 'developing' stages, including: leadership for improvement (53.4%), results (55.7%), resources (54.5%), workforce and human resources (56.8%), data infrastructure and management (51.2%) and improvement knowledge and competence (56.8%) (Table 2).

The proportion of participants categorizing their hospitals as achieving 'significant impact' was 11.4% to 15.9% and as 'exemplary' was 2.3% to 5.7%.

The novel neonatal cases for the IHI QIKAT-R showed variation in applied knowledge, with scores ranging from 0 to 8.5 or 9 out of a possible score of nine, with the median scores 4.5, 3.5 and 3 for each case and 11 out of 27 total (Table 3).

For the team analysis, all 17 team leaders completed the assessment (100%). At the time of the survey, leaders reported that 82% of units had already incorporated QI into the care of patients in their unit. Thirteen of 17 hospitals (77%) offered QI training to neonatal team members prior to joining the ANN, with the IHI training and Model for Improvement reported as the most common offerings. Regional QI training as a team was reported by 18% of neonatal units, while national QI training as a team was reported by 29%. Six of 17 units (35%) reported collaboration with other neonatal units in QI efforts, such as a QI collaborative prior to joining the ANN. Amongst team leaders, 44% reported individually collaborating with other neonatal units in QI efforts. When assessing the national landscape, 29% of team leaders reported awareness of other neonatal QI efforts in their country that might pose duplication of efforts or confusion with the ANN while 41% reported awareness of other neonatal QI efforts in their country that represent opportunities for coordination, collaboration or partnership with the ANN.

Table 1:. Beliefs, Attitudes, Skills and Confidence in Quality Improvement Scale (BASiC-QI)

	Strongly disagree n (%)	Disagree n (%)	Slightly disagree n (%)	Neither agree nor disagree n (%)	Slightly agree n (%)	Agree n (%)	Strongly agree n (%)
Response which best reflects how you feel about each statement relating to QI:							
I enjoy QI	1(1.1%)	0	2(2.3%)	5 (5.7%)	17(19.3%)	18(20.5%)	45 (51.1%)
I am interested in QI	0	1(1.1%)	0	0	10(11.4%)	21(23.9%)	56(63.6%)
I understand the role QI plays in the health care system	0	1(1.1%)	2(2.3%)	1(1.1%)	16(18.2%)	13(14.8%)	55(62.5%)
QI plays an important role in strengthening systems, such as healthcare	0	0	2(2.3%)	0	4(4.5%)	17(19.3%)	65(73.9%)
I value QI training as part of my professional development	0	1(1.1%)	2(2.3%)	3(3.4%)	3(3.4%)	12(13.6%)	67(76.1%)
I want to participate in QI initiatives as a health professional	0	1(1.1%)	0	1(1.1%)	5(5.7%)	20(22.7%)	61(69.3%)
Applications of QI theory and methodologies can help make change to a system	0	0	1(1.1%)	1(1.1%)	7(8%)	18(20.5%)	61(69.3%)
Using QI in the real world will make improvements	0	0	0	0	7(8%)	17(19.3%)	64(72.7%)
I understand the rationale for QI in the real world	0	1(1.1%)	2(2.3%)	7(8%)	9(10.2%)	24(27.3%)	45(51.1%)
I *believe I am knowledgeable in the following:*							
QI theory	5(5.7%)	7(8%)	1(18.2%)	26(29.5%)	14 15.9%)	10(11.4%)	10 (11.4%)
How QI is different than research	6(6.8%)	3(3.4%)	9(10.2%)	25(28.4%)	20(22.7%)	14(15.9%)	11(12.5%)
Systems thinking	11(12.5%)	2(2.3%)	8(9.1%)	26(29.5%)	17(19.3%)	10(11.4%)	14(15.9%)
6 dimensions of quality	9(10.2%)	5(5.7%)	12(13.6%)	15(17%)	20(22.7%)	16(18.2%)	11(12.5%)
Understanding processes within a system	8(9.1%)	4(4.5%)	11(12.5%)	22(25%)	20(22.7%)	10(11.4%)	13(14.8%)
The Model for Improvement	9(10.2%)	4(4.5%)	10(11.4%)	22(25%)	15(17%)	10(11.4%)	18(20.5%)
PDSA cycles	8(9.1%)	4(4.5%)	9(10.2%)	18(20.5%)	16(18.2%)	15(17%)	18(20.5%)
How to measure the impact of a change	6(6.8%)	10(11.4%)	9(10.2%)	19(21.6%)	17(19.3%)	13(14.8%)	14(15.9%)
How change links to improvement	5(5.7%)	7(8%)	5(5.7%)	21(23.9)	21(23.9)	13(14.8%)	16(18.2%)
I feel confident in my skills to do the following:							
Understanding quality issues	3(3.4%)	6(6.8%)	9(10.2%)	11(12.5%)	26(29.5%)	17(19.3%)	16(18.2%)
Identifying quality gaps	3(3.4%)	3(3.4%)	8(9.1%)	16(18.2%)	15(17%)	25(28.4%)	18(20.5%)
Approach QI projects	5(5.7%)	2(2.3%)	10(11.4%)	20(22.7%)	22(25%)	15(17%)	14(15.9%)
Understand root causes of quality gaps	4(4.5%)	6(6.8%)	11(12.5%)	15(17%)	20(22.7%)	20(22.7%)	12(13.6%)
Identifying an area for improvement	3(3.4%)	5(5.7%)	4(4.5%)	13(14.8%)	17(19.3%)	30(34.1%)	16(18.2%)
Application of evidence and best practices to the real world	4(4.5%)	3(3.4%)	7(8%)	14(15.9%)	24(27.3%)	23(26.1%)	13(14.8%)
Writing an aim statement	7(8%)	6(6.8%)	16(18.2%)	15(17%)	16(18.2%)	18(20.5%)	10(11.4%)
Using tools to identify areas for improvement	6(6.8%)	3(3.4%)	9(10.2%)	18(20.5%)	19(21.6%)	21(23.9%)	12(13.6%)
Using the Model for Improvement	6(6.8%)	8(9.1%)	7(8%)	19(21.6%)	17(19.3%)	20(22.7%)	11(12.5%)
Using PDSA cycles to plan and test a change concept	8(9.1%)	5(5.7%)	10(11.4%)	18(20.5%)	21(23.9%)	17(19.3%)	9(10.2%)
Designing an intervention or change	8(9.1%)	6(6.8%)	6(6.8%)	22(25%)	19(21.6%)	15(17%)	12(13.6%)
Using a family of measures to evaluate the impact of a change	8(9.1%)	10(11.4%)	6(6.8%)	21(23.9%)	15(17%)	19(21.6%)	9(10.2%)

Table 2: Institute for Healthcare Improvement (IHI) improvement capability self-assessment Tool

	Just beginning n (%)	Developing n (%)	Making progress n (%)	Significant impact n (%)	Exemplary n (%)
Leadership for improvement	26 (29.5%)	21 (23.9%)	26 (29.5%)	10 (11.4%)	5 (5.7%)
Results	22 (25%)	27 (30.7%)	26 (29.5%)	11 (12.5%)	2 (2.3%)
Resources	28 (31.8%)	20 (22.7%)	25 (28.4%)	12 (13.6%)	3 (3.4%)
Workforce and human resources	23 (26.1%)	27 (30.7%)	20 (22.7%)	14 (15.9%)	4 (4.5%)
Data infrastructure and management	18 (20.5%)	27 (30.7%)	28 (31.8%)	10 (11.4%)	5 (5.7%)
Improvement knowledge and competence	25 (28.4%)	25 (28.4%)	24 (27.3%)	10 (11.4%)	4 (4.5%)

Table 3: IHI Quality Improvement Knowledge Application Tool- Revised novel cases developed for the African Neonatal Network. Individual participant scores prior to team training in quality improvement and application of skills in focused QI projects.

	Mean (SD)	Median	Range
Case 1	4.3 (2.3)	4.5	0-9
Case 2	3.8 (2.5)	3.5	0-9
Case 3	2.8 (1.7)	3	0-8.5
Total	10.9 (5.4)	11	0-26

Discussion

This study describes the baseline QI knowledge and attitude of ANN team members as well as the QI experience and capability of ANN teams prior to the launch of mentored QI education and collaborative QI learning and leadership development community. These findings, which represent a participation rate of 90% of team members and 100% of team leaders, were essential to effectively tailor the QI education, support and collaborative activities to maximize success in this pilot phase of the ANN, ensuring a strong foundation for sustainability. Importantly, the majority of participants reported strong feelings or beliefs about the importance and impact of QI; however, they reflected that they lacked knowledge in the fundamentals and some key skills of QI. This combination underscored the need for the ANN and the potential for meaningful improvements.

Self-reported QI knowledge levels were understandably low at baseline, particularly in critical areas such as QI theory and PDSA cycles, signalling an existing gap that could hinder the effectiveness of QI efforts within the ANN if not addressed. Participants expressed favourable attitudes towards QI's importance in healthcare improvement, yet lacked confidence in QI application at baseline, as evidenced by low self-assessments in various QI fundamentals (e.g., understanding the difference between QI and research, and knowing how to measure change impact). This disparity indicated a need for targeted educational strategies bridging the gap between belief and practice, fostering the necessary skills for effective QI initiatives.

The IHI Improvement Capability Self-Assessment Tool results showed that slightly over half of participants regarded their hospitals as being in the 'just beginning' or 'developing' stages in several QI domains. The prevalence of reports indicating 'significant impact' or 'exemplary' improvements was relatively low (2.3% to 15.9%), highlighting a baseline awareness of QI's importance but requiring substantial work for further advancement. These results highlighted the opportunity to have 'spread' of QI capability building beyond the neonatal unit environment, potentially contributing toward a hospital's adoption of a quality improvement culture.
ANN team leaders reported the integration of QI into patient care in 82% of units at baseline, reflecting a promising improvement culture. Current limited opportunities for regional or national QI training emphasized the importance of ANN QI training at the start of this pilot, as well as when new teams and team members joined the ANN. Team leaders reported that prior to the ANN, there had been limited collaboration with other neonatal units, highlighting the opportunity for the ANN to foster stronger partnerships for shared learning and QI practice implementation. Although there are co-existing national QI initiatives, 41% of team leaders emphasized the opportunity for coordination, collaboration and partnership. As a leadership development community, ANN has a responsibility to participating hospitals that openness and clear communication prevail to avoid redundancy or confusion and striving for collaboration when possible.

There are several important strengths for this baseline assessment, including a high participation rate among team members (90%) and leaders (100%), rendering the results representative for sites currently participating in the ANN. Validated and standardized tools were used to assess the baseline QI knowledge and attitude of ANN team members, as well as the QI experience and capability of hospitals. The published QIKAT-R lacked scenarios appropriate for this setting and patient population. The creation of novel newborn scenarios utilized in this baseline assessment may serve as a resource to others in the global neonatal QI community. A weakness of this analysis, however, is that the hospital participation in the ANN is voluntary and limited. Therefore, results are not representative of the baselines across all neonatal units in sub-Saharan Africa. Although generalizability may be questioned due to the self-selected nature of participating units, the rationale behind the ANN's composition is that for sustainability of the ANN, voluntary participation is critical. Teams need to find intrinsic value in participation in the ANN community rather than being mandated to participate or with the major focus on sec

secondary gains of time-limited resources for participation.

Our baseline assessment indicates a community with strong beliefs about QI and some important gaps in foundational knowledge, skills and their application. Planned areas of investment within the ANN are supported by these findings, including QI education, coaching/mentorship, data systems and knowledge to use them, health system strengthening, empowerment of multi-disciplinary team members including families as partners, and communication with leadership and stakeholders. As the ANN embarks on mentored education and collaborative learning, assessment-driven strategies will be crucial for continued strengthening of foundational QI knowledge and skills among its members.

Conclusion

Investment in an African co-developed collaborative QI, learning and leadership development community is needed to make progress in achieving SDG neonatal targets and retain the skilled multi-disciplinary workforce necessary to achieve positive system change. This baseline assessment documented strong beliefs regarding the importance and impact of QI along with quantifiable gaps in QI knowledge, skills and their application. Through data-driven QI education and mentorship, the ANN is poised to expedite the journey toward future targets of improving quality of care and outcomes for the families we serve.

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Appendix

IHI QI Knowledge Application Tool- Revised (QIKAT-R): Novel Scenarios Developed for the African Neonatal Network

Scenario 1: Labor and Delivery

You are the midwife caring for mothers and babies in the labor and delivery unit at your hospital. Today is a busier day than usual, with six patients already delivered this shift, the ten labor and delivery rooms all full, eight patients in labor waiting in the triage space, two midwives covering the unit and one nursing assistant administering birth vaccines, IM vitamin K and erythromycin ophthalmologic ointment to the infants in the postnatal care space at the end of the hall.

You learn that four of the six infants delivered so far today needed further monitoring in the newborn unit due to hypothermia, which prompts a sepsis evaluation and IV antibiotics for 7 days. It seems like this has been happening more often on busy days. You are concerned that there are often three or more babies waiting for vaccines and medications in the postnatal care area, and when families do not provide blankets, the infants often wait for more than an hour in that space wearing only a diaper.

In preparation for your hospital's monthly maternal-newborn health team meeting, you decide to share your concerns and begin a conversation about the current approach to immediate postnatal care of infants born at your hospital.

Scenario 2: Newborn Unit

You are a bedside nurse in the inpatient newborn unit at your hospital, today caring for three preterm patients. One patient is an infant born at 33 weeks' gestational age, admitted for prematurity with respiratory distress syndrome and sepsis evaluation, now 5 days of age, breathing comfortably in room air with occasional episodes of apnea of prematurity requiring stimulation, receiving IV ampicillin and gentamicin, and beginning to learn to breastfeed directly and cup feed. Your second patient was born at 29 weeks' gestational age, admitted for prematurity with respiratory distress syndrome and sepsis evaluation, now 2 days of age, with retractions, grunting, fair aeration on auscultation and escalating oxygen requirement, currently on CPAP 6cmH_2O, FiO_2 0.45, receiving IV vancomycin and cefotaxime, with coverage broadened earlier today due to increasing respiratory distress. Your third patient was born at 36 weeks' gestation and was admitted today from home at 2 days of age for jaundice and sepsis evaluation, found to have ABO incompatibility and hemolysis, currently receiving maximum phototherapy with total serum bilirubin level 2 points under the threshold for exchange transfusion and IV ampicillin and gentamicin.

After replacing two of the peripheral IVs, you prepare your nursing documentation for daily bedside rounds. A teaching physician joins the trainees and providers on rounds today, emphasizing the increasing problem of hospital-acquired infection and antimicrobial resistance. This topic is especially important to you as one of your patients died yesterday of sepsis, and you are still thinking about that infant and family.

As part of teaching rounds the patients are examined together by all the providers on rounds. Although you hope the team washed their hands upon entering the newborn unit, you notice that after the teaching physician forgets to use the bedside hand sanitizer, the trainees follow that example and skip using it prior to examining all three of your patients.

You have seen this pattern on multiple occasions, and know it isn't specific to individuals. Over lunch, you begin to discuss this issue with the head nurse.

Scenario 3: KMC Unit

You are the pediatric provider assigned to cover the KMC unit today. You are happy as there are only six mother-infant pairs in the 8-bed KMC unit today, and all the babies are doing well, gaining weight with KMC and breastfeeding. You should be able to have plenty of time to round, examine the babies, write daily notes and complete the two discharges in the one-hour you have before your first scheduled outpatient clinic patient arrives.

The first discharge, however, takes longer than anticipated as the mother speaks a language that you do not understand. After searching around, you were able to find a cleaner from the pediatric floor that speaks her language and review plans for continued KMC at home and outpatient follow-up. The mother nods to show understanding and has no questions.

The mother of the second infant is surprised to learn that they are being discharged today. She notes that she has been present, living in the KMC unit for 4 weeks, but hadn't been alerted that they were nearing discharge. She is excited to hear the positive feedback on the infant's growth and clinical stability but is nervous about her ability to continue to care for the infant at home when her usual demands in the house return. She also lives in a remote village and does not think a two-hour drive for the hospital's high-risk infant follow-up clinic will be financially and logistically feasible.

Although these patients do not seem medically complex, you realize you underestimated the time that supporting them on the day of discharge might take. It also makes you reflect that preparation for discharge is often a 5-minute conversation accompanied by an appointment card. You are frustrated that you are now late for clinic, but more worried that the current system for discharge is not meeting the needs of the families you care so much about.

QIKAT-R Prompts for Each Case

Please answer each of the following questions as if you were developing a program to investigate and improve the problem presented above.

- What would be the aim?
- What would you measure to assess the situation?
- Identify one change that might be worth testing.

Revised QIKAT-R Scoring Rubric

Each item receives one point if the response adequately addresses the item and zero points if it does not. The total possible score is 9 points for each scenario.

3 points for the AIM. The AIM …
A1: is focused on the system-level of the problem presented.
A2: includes direction of change (increase or decrease)
A3: includes at least <u>one</u> specific characteristic such as magnitude (% change) or time frame
3 points for the MEASURE. The MEASURE…
M1: is relevant to the aim.
M2: is readily available so data can be analyzed over time.
M3: captures a key process or outcome.
3 points for the CHANGE. The CHANGE…
C1: is linked directly with the aim.
C2: proposes to use existing resources.
C3: provides sufficient details to initiate a test of change.