

# BMJ Open Quality Family and provider perceptions of quality of care in the management of sick young infants in primary healthcare settings in four counties of Kenya

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## ABSTRACT

**Background** Understanding the perceptions of quality of care given to sick young infants in primary healthcare settings is key for developing strategies for effective uptake and utilisation of possible severe bacterial infection guidelines. The purpose of this study is to assess families and providers' perceptions of care given to sick young infants at primary healthcare facilities in four diverse counties in Kenya.

**Methods** A cross-sectional qualitative design involving 37 in-depth interviews and 39 focus group discussions with very young (15–18 years), young (19–24 years) and older (25–45 years) caregivers of young infants aged 0–59 days; and key informant interviews with community-based and facility-based front-line health providers (14) in primary healthcare facilities. Qualitative data were captured using audio tapes and field notes, transcribed, translated and exported into QSR NVivo V.12 for analysis. A thematic framework approach was adopted to classify and analyse data.

**Results** Perceived care given to sick young infants was described around six domains of the WHO framework for the quality of maternal and newborn healthcare: evidence-based practices for routine and emergency care; functional referral systems; effective communication; respect and preservation of dignity; availability of competent, motivated human resources; and availability of physical resources. Views of caregivers and providers regarding sick young infant care in primary healthcare settings were similar across the four sites. Main hindrance to sick young infant care includes stockout of essential drugs, limited infrastructure, lack of functional referral system, inadequate providers which led to delays in receiving treatment, inadequate provider skills and poor provider attitudes. Despite these challenges, motivation and teamwork of health providers were key tenets in care provision.

**Conclusion** The findings underscore the need to prioritise improving quality of sick young infant services at primary healthcare settings by building capacity of providers through training, ensuring continuous supply of essential medicines and equipment and improving infrastructure including referral.

## BACKGROUND

Recent estimates show a substantial reduction in global neonatal mortality rates (NMR) by 51% from 36.6 deaths per 1000 live births in 1990 to 18.0 deaths per 1000 live births in 2017.<sup>1</sup> Despite the decline, over 2.5 million children died globally in the first month of life in 2018 which translates to approximately 7000 newborn deaths every day.<sup>1</sup> Most of these deaths are attributed to preventable causes such as newborn infections, often due to lack of access to quality of care during birth and the first days of life.<sup>2</sup> The four counties in the study are in the coastal, north-eastern and western regions with prevalence of acute respiratory infections in children reported at 7%, 4% and 13%, respectively.<sup>3</sup>

The Sustainable Development Goal 3.2<sup>4</sup> aims to reduce neonatal mortality to at least 12 deaths per 1000 live births and under five mortality to 25 deaths per 1000 live births by 2030.<sup>5,6</sup> In 2015, the WHO developed guidelines for management of possible serious bacterial infection (PSBI) in neonates (aged 0–28 days) and young infants (aged 0–59 days) where referral is not feasible.<sup>7</sup> Kenya has incorporated the WHO PSBI guidelines as part of the revised Integrated Management of Neonatal and Childhood Illness (IMNCI).<sup>8</sup> IMNCI guidelines offer critical guidance to health providers in the assessment, classification, treatment and referral of children under 5 years in the provision of child health services in primary healthcare (PHC) facilities. This initiative is expected to improve treatment of sick young infants (SYIs) with serious infection at the PHC facilities when families do not accept or are unable to access referral services.<sup>9</sup> However, evidence shows that health systems in resource-limited settings remain unresponsive to provision of optimal quality newborn



care.<sup>10–12</sup> Challenges including lack of appropriately trained staff, incorrect treatment, poor staff attitude, delay in referral, poor cooperation and interpersonal relationships between health providers, as well as inadequate supplies and equipment may hinder provision of quality care to SYIs.<sup>13–15</sup> Perceptions about the quality of care as judged by users may influence care seeking and subsequent utilisation of health services.<sup>16–19</sup> Delays in initiating care may occur as a result of caregivers being asked to pay for medicines when stockouts are experienced.<sup>20</sup> Documented literature highlights other hindrances to quality care as provider misbehaviour, prior unpleasant experiences, lack of availability of staff, rude behaviour of providers and poor quality of care.<sup>21</sup>

Understanding the perceived care is critical in the roadmap towards ensuring effective uptake and utilisation of PSBI guidelines in the management of SYIs within the existing IMNCI strategies. Monitoring community and provider perceptions is vital for PSBI effective adoption and uptake.<sup>9</sup> Motivated and skilled providers, while equipping facilities with necessary essential medicines, commodities and equipment, are imperative in creating an enabling environment that will promote client-centred, evidence-based practices.<sup>22</sup>

This paper explores caregiver and provider perceptions of quality of care given to SYIs at PHCs (dispensaries and health centres) in four diverse counties in Kenya. Implementation and acceptance of PSBI and IMNCI strategies is largely anchored on the acceptance and utilisation of newborn/infant care provided in public facilities. This cements the importance of understanding the perception of the quality of care provided thus the significance of this study. We draw on WHO framework for the quality of maternal and newborn healthcare.<sup>23</sup> The concept of quality of maternal and newborn care entails two important, interlinked elements of provision and experience of care by users. In this study, we focus on both domains of the quality at PHCs as perceived by users and providers of healthcare services.

## METHODS

### Study design

We used a cross-sectional qualitative study design with 37 in-depth interviews and 39 focus group discussions in four counties. The study draws on data from a formative assessment that is part of implementation research (IR) aimed at guiding the operationalisation of PSBI guidelines in Kenya. The formative assessment refers to the initial baseline survey conducted in the development and institution of public health interventions to inform learning in research and practice.

### Study setting

Data were collected in four purposively sampled counties. These sites are representative of a mix of varying contexts characterised by rural and urban slum disadvantage, nomadic pastoralist and agrarian settings that impact access to healthcare. The four settings have higher NMRs ranging from 26 to 60 deaths per 1000 live births in each of the counties compared with the national mean of 22 deaths per 1000 live births with many other deaths in the community going unreported.<sup>24</sup> Two subcounties in each county were selected in consultation with respective County Health Management Teams. Six facilities in each subcounty were subsequently purposively selected as implementation sites. For purposes of presenting the results, we anonymised the sites using symbols as County A, B, C and D.

### Data collection

Caregivers were selected based on age; residency in the project site and with newborns or young infants aged 0–59 days. They were recruited with the help of village elders or community health volunteers (CHVs). The interviews were conducted in Kiswahili or local languages by research assistants with training in qualitative data collection using an interview guide. Health providers were interviewed to examine the facility-level perceptions of quality of care for SYIs and challenges faced during service delivery among other aspects. [Table 1](#) outlines the type and number of qualitative interviews conducted.

**Table 1** Distribution of qualitative data collection by site

Category of method/participants (demographics)	County D	County C	County B	County A	Total number of participants per data collection time
IDI with very young mothers (15–18 years)	2	4	3	2	11
IDI with young mothers (19–24 years)	3	2	3	4	12
IDI with providers and facility managers	2	2	3	7	14
FGD with very young mothers (15–18 years)	2	1	2	2	7
FGD with young mothers (19–24 years)	3	3	2	4	12
FGD with older mothers (25–45 years)	1	1	2	2	6
FGD with married men (>35 years)	2	2	1	2	7
FGD with active CHVs	2	2	1	2	7

CHV, community health volunteer; FGD, focus group discussion; IDI, in-depth interview.

In-depth interviews were held with very young mothers (15–18 years) and young mothers (19–24 years) to provide deeper context of the quality of care provided to SYIs in each study site. The in-depth interviews with providers and facility managers in turn provided health system-related reflections of the quality of care. The focus groups were critical in illuminating community perceptions on the quality of care and the different factors affecting the care of young infants. The qualitative interviews in each county and participant category outlined in [table 1](#) were arrived at in consideration of the number of community units attached to each health facility which in turn informed the population coverage of the facility to ensure qualitative data saturation.

### Reflexivity and validity of data

To address the contextual convergent relationship between the research team and the participants, the researchers employed a combination of three mechanisms in each study site: (1) a detailed research log with details on date, time, place, participants and type of qualitative data method used, (2) field notes providing an account of all aspects discussed and observed during the interaction, and (3) a research journal with the researcher's questions, thoughts and notes to self well outlined. The data from these notes helped enrich the correspondent thematic area in the Results and Discussion sections.

### Data analysis

Qualitative data were captured via audio tapes and field notes, translated, transcribed and exported into QSR NVivo V.12 for analysis. Ten members of the research team used an iterative analysis process to develop a coding framework and later a thematic framework to classify and organise data into emergent themes. A team of research assistants conducted a second iteration of analysis using the frameworks developed by the research team. Analysis charts were developed for each theme and categorised across participants and sites in accordance with WHO's standard for improving quality of maternal and newborn care in health facilities.<sup>25</sup>

### Patient and public involvement

Community and public engagement activities included community advisory forums and community education days in which sensitisation, understanding and dialogue around research priorities were fostered. Community advisory forums entailed public meetings with the communities organised in collaboration with local leaders and the CHVs. Health providers in the facility serving the community played the crucial role of child health champions to ensure community ownership and leadership in implementation. Through these forums, the findings were shared and discussed, in form of posters, provider and caregiver pamphlets translated to local languages, continuously to ensure community and public participation.

## RESULTS

Perception of quality of care was structured around WHO's six domains of provision and experience of care in the framework for quality of maternal and newborn healthcare.<sup>23 25</sup> The framework increases the plausibility of achievement of suitable health outcomes. Under the provision of care, two elements of quality care are presented herein and include: evidence-based practices for routine care and management of complications, and functional referral systems. In terms of experience of care, two elements of quality care include effective communication, and respect and preservation of dignity. We also explored two other quality elements cutting across both domains: availability of competent, motivated human resources and availability of physical resources ([table 2](#)). Additional quotes referring to each element have been included in the online supplemental file.

### Timely evidence-based practices for routine care and management of SYIs

Most caregivers were concerned about delays in receiving treatment for SYIs at PHCs. The delays were mainly attributed to inadequate number of providers, which sometimes is aggravated by frequent absenteeism or delays in reporting to workstations. In some PHCs, there was only one provider, usually a nurse, who was responsible for everything. As a result, many caregivers experienced long queues and waiting time before their SYI received treatment.

...the doctor is just one at the hospital and the patients are many, there is nowhere else to go so we are forced to just queue here. (FGD, Very young mothers, 15–18 years, County A)

Most providers acknowledged that there were limited numbers of staff available in the health centres and dispensaries which affected delivery of quality care services for the newborns. The shortage of staff contributed to heavy workload and staff burnout which compromised quality of care for newborns.

We have inadequate personnel. To some extent, I think the care given to patients may not met their expectation. Also, staff burnout is common. If a staff has a burnout, s/he may not exhaustively deliver unlike when the work is well distributed to the staff. (IDI, Facility provider, County D)

The delays in receiving treatment at PHC are compounded by fragmentation of service architecture or lack of prioritisation for SYIs as narrated by one community health worker.

Then again when a mother has been referred, they are not given priority to the facility they go to, and so they have to move around from one department to another buying files and registering and all this time she is moving around with the baby who has not yet been treated. (FGD, CHV, County B)

**Table 2** Perceptions of quality of care and approaches to improve management of SYIs in primary care settings

Themes of quality of care	Caregiver perception	Provider perception	Effect on managing SYIs	Priority approaches to improve SYI care
Availability of essential physical resources—space and essential medicines.	Availability of drugs and equipment hindered service provision.	Frequent stockout of essential drugs and supplies makes it difficult to offer quality services to SYIs.	Procurement challenges and lack of health system prioritisation of newborn care lead to frequent stockouts and referrals to higher level facilities.	<ul style="list-style-type: none"> <li>▶ Advocacy for prioritisation of essential medicines.</li> <li>▶ Tracking of stockouts and use of data in the community of practice platform to inform decision makers on commodity needs in facilities.</li> <li>▶ Use of provider network to redistribute medicines to other facilities.</li> </ul>
Timely, evidence-based routine practices.	Delays in initiating treatment due to long queues as a result of inadequate providers, absenteeism and complex service architecture.	Inadequate staffing.	Low staffing of PHCs and fragmentation of service structure limit identification of very SYIs for timely care.	Simple triaging mechanism and advocacy for effective human resource management in PHC facilities.
Competent and motivated human resource.	Inadequate provider knowledge and skills to manage SYIs, lack of provider motivation in service delivery.	Complexity in managing SYIs due to their fragility.	Affects service provision of SYIs, necessitates referral leading to congestion in higher level facilities.	Update providers on IMNCI, use of the community of practice platform and encouraging network of providers to enhance exchange learnings.
Respect and preservation of dignity.	Varying perceptions on the respect and dignity from providers—with caregivers being treated with disrespect due to negative provider attitudes among others.	Strenuous and taxing work environment.	Affects care seeking for SYIs—causes delay in care seeking, responsible for other resorts to care.	Advocate for approaches to improve provider–client interactions in PHCs such as community engagement forums.
Functional referral systems.	Lack of ambulances, additional resources (eg, fuel) and appropriate equipment.	Some facilities do not have ambulances that conform to standards required for emergency referral.	Increased burden on caregivers whose babies required referral.	Strategies to equip lower level PHCs with essential equipment and drugs will ensure timely access to treatment for SYIs and reduce unnecessary referrals to higher level facilities.
Effective communication.	Varying perceptions with some caregivers voicing satisfaction with information provided by providers and others pointing out concerns in infant assessment by providers.	Adequate communication strategies with a need for more involvement of CHVs.	Deters care seeking, client–provider interaction and client satisfaction in services provided to SYIs.	Sensitisation of providers on importance of effective communication and involvement of CHVs at the community level on dissemination of information on PSBI.

CHV, community health volunteer; IMNCI, Integrated Management of Neonatal and Childhood Illness; PHC, primary healthcare; PSBI, possible serious bacterial infection; SYI, sick young infant.

### Functional referral systems

Caregivers observed that most facilities did not have ambulances, lacked fuel or necessary equipment and supplies. Providers concurred that some of the facilities did not have ambulances that meet the standards for emergencies, including referrals. The referral challenges are compounded by long distance and poor roads as explained below.

Our vehicle is not up to the standard for an ambulance, it is a matatu. We need an ambulance where there is oxygen that can resuscitate the patient and we need drivers who are trained to provide emergency services... Facilities are quite far from the communities making referrals quite challenging. (IDI, Health provider, County C)

### Effective communication, respect and dignity

A positive client–provider interaction is a key element of quality of care. Some caregivers were satisfied with the information they received from providers about SYI conditions, procedures required and advice on care.

They [providers] attended to me very well. I explained to them the problem the baby had. I was told the baby did not have the urge to breastfeed. I was advised to go and buy a cup so I may express the breast milk and feed the baby. The providers even prescribed to me the medicine. (IDI, Very young mothers, 15–18 years, County B)

Caregivers expressed how they were attended to by healthcare providers. Some caregivers expressed being handled very well and receiving quality SYI services.

Others reported feeling belittled when they sought care at facilities claiming that some providers were extremely harsh; would quarrel, abuse or look down on them. Disrespect on the part of providers discouraged care seeking for SYIs.

... you can be explaining to the doctor how the baby is feeling and then s/he starts quarrelling; 'oh why didn't you bring the baby earlier than this' and so many things. They harass us and if they become like this, we may start fearing them and hide when the baby is sick. So, they should stop all these. (FGD, Very young mothers, 15–18 years, County B)

### Availability of competent, motivated human resources

For effective and efficient delivery of services, health-care providers need support, training and motivation to enable them to perform effectively. We present two inter-related themes that illuminate what may hinder or enhance performance of providers as they manage SYIs in PHC facilities—providers' knowledge and passion for work.

#### Provider knowledge

When asked about the providers' knowledge and skills, caregivers implied that the providers lacked effective specialised knowledge and/or basic skills necessary to support management of SYI:

Indeed, I have observed that our providers here do not have special skills for infants, they do routine work that applies to both adults and children. (FGD, Married men >35 years, County D)

Majority of the respondents across all counties stated that when SYIs are taken for treatment, the providers just prescribe medication without carrying out the necessary laboratory tests. To validate this view, providers were asked the greatest challenge they face while managing SYIs and some reported the delicate nature of infants made it hard to have definitive diagnosis, as one provider noted:

Managing an infant is quite challenging because for one thing they are delicate, so in most cases for example if they have a bacterial infection, or if you suspect bacterial infections may be they present with fever, but we usually rule out malaria but now if the baby persist with fever may be you have checked out the cord, you have ruled out tetanus, it's difficult to come out with the right diagnosis. Basically, managing infants is quite challenging. (IDI, Health provider, County B)

#### Passion for work and teamwork

Most of the providers reported that despite staff shortage, there are occasions where teamwork becomes a key pillar of caregiving where providers from various departments support other departments making it easier to manage cases, as one provider noted:

Mmm...what motivates me is one, the passion for work...it is not the salary...if it is about the salary I would be coming at eight and leave at four, because am just looking for the salary, so it is the passion for the work that I just want to see that mother, that sick child, tomorrow we meet in the streets I see them healthy, that is what motivates me. The second thing that motivates me is the teamwork spirit that we have in the facility. (IDI, Health provider, County C)

### Availability of essential physical resources

Most caregivers reported that some PHC facilities did not have adequate or functional equipment. Caregivers had limited options but to buy drugs from private pharmacies or travel long distances to get testing services.

... you find that there are no drugs in the facility, so you are given the prescription to go and buy the drugs from a chemist outlet. (FGD, Young mothers, 19–24 years, County D)

The unavailability of drugs in facilities leads to clients resorting to alternative treatments including traditional medicines.

Most of us go for traditional medicine because there are no drugs at the facility so when we come here and find no drugs we still go back to traditional medicine because we have no option.... (FGD, Older men, County A)

Caregivers also decried of lack of adequate space for managing SYIs in some facilities.

They need to expand the hospital to increase space, sometimes it's usually very congested, you can even lack space and we cannot access other hospital because they are far. (FGD, Young mothers, 19–24 years, County C)

Providers pointed to an inability to handle some conditions at the primary health facility level due to lack of equipment, essential drugs and supplies.

Many times, cases that we could have handled here, we have to refer to a higher level because of lack of essential commodities. (IDI, Health provider, County D)

## DISCUSSION

The summary of the results indicates that caregivers held concerns about delays in the treatment of SYIs attributed to insufficient staffing; there was a lack of ambulances to facilitate referral worsened by poor roads and long distance; varying contextualised perspectives on communication, respect and dignity; providers lacked knowledge and skills to support the care of SYIs; teamwork among providers was integral to care provision; lack of essential equipment and commodities in health facilities negatively affected care-seeking behaviour of caregivers.



Quality of care has been recognised as a critical aspect of improving maternal and newborn health outcomes. A high coverage combined with improved quality of care contributes to reduction of maternal and newborn morbidity and mortality.<sup>26 27</sup> The study contributes to a complex issue of quality of neonatal care in low-resource settings by examining the perspective of caregivers and providers. Perceptions on quality of care, rather than clinical indicators of quality, drive utilisation of health services and are essential to increasing demand.<sup>28</sup> Qualitative analysis of perceived quality of care revealed six domains based on WHO framework of quality maternal and newborn care: availability of evidence-based practices for routine and emergency care; functional referral systems; effective communication; respect and preservation of dignity; competent, motivated human resources; and physical resources as highlighted in [table 2](#).

Our findings illustrate commonality between caregivers and providers on the need to improve competency of providers to manage SYIs. Gaps in provider skills and competencies have huge implications for managing SYIs and compromise technical quality of care. This means that providers require frequent updates on management of SYIs, an important observation documented in IMNCI implementation which shows that continuous training was essential for improving quality of care in child health services.<sup>13</sup> Enhancing provider knowledge through initiatives such as mentorship, on-the-job training and online approaches to build their confidence in providing SYI care is essential. A systematic review of effectiveness of capacity-building interventions relevant to public health practice reported six intervention types: internet-based instruction, training and workshops, technical assistance, education using self-directed learning, communities of practice and multistrategy interventions. The review shows that organisations should carefully consider methods of capacity-building interventions based on purpose.<sup>29</sup>

Low staff numbers lead to increased workload reported previously.<sup>30</sup> Although the healthcare providers were concerned about the number of staff available, they also raised concern about equipment available for them to work more efficiently and deliver optimum care to SYIs at PHC.<sup>10</sup> Our study revealed inadequacy of drugs and equipment, infrastructure and space as major barriers towards effective service delivery for SYIs at PHCs. These features lead to delays in treatment, especially where referral systems are weak or lacking.<sup>10</sup> Most facilities did not have working ambulances, further creating additional burden to caregivers whose babies required referral service. For effective adoption of PSBI, strategies to equip lower level PHC with essential equipment and drugs will ensure timely access to treatment for SYIs and reduce unnecessary referrals to higher level facilities, a phenomenon that has been documented elsewhere.<sup>15 31</sup>

Respectful and dignified care has also been recognised as a key component of quality of newborn care during postnatal period<sup>31–34</sup>; however, documentation of experiences of mistreatment among infants is limited.<sup>35</sup> Our

study found that some caregivers complained of disrespectful treatment by providers, negative provider attitudes and lack of empathy, which are deterrents to care seeking. Although we did not examine deeply the extent in which these deter care seeking for SYIs, elsewhere strategies to improve interaction with caregivers have demonstrated success.<sup>36</sup>

Other interlinked elements of care that require attention are delayed initiation of treatment due to a range of factors including provider competency in diagnosing PSBI, long queues emanating from inadequate number of health providers, poor triaging process, provider attitude, as well as nepotism and discrimination of caregivers due to their socioeconomic status. The complex interaction of these issues means that simple strategies such as sensitising providers for positive provider–client interaction have the potential to improve PSBI uptake by caregivers. Overall, provision of efficient, equitable, compassionate, reliable, timely, patient-centred care while applying evidence-based standards to ensure the safety of clients and providers' satisfaction<sup>32–34</sup> is a key element of care that needs to be incorporated in scaling up PSBI strategies.

## CONCLUSION

Understanding caregivers and providers' perceptions of quality of care given to SYIs is critical in the roadmap towards ensuring effective uptake and utilisation of PSBI guidelines in the management of SYIs within the existing IMNCI strategies. The findings clearly point to the areas that need prioritisation to improve the quality of SYI health services. They include a need for continuous skill and knowledge enhancement of providers who manage SYIs, continuous supply of essential medicines and equipment in the facility and the need for service arrangement strategies in the context of constrained infrastructure. This will reduce the gaps of optimal quality for care of SYIs while ensuring respectful client management, better communication and supportive care. The findings of this study provide useful insights to the quality of care, caregivers' determinants of health-seeking behaviour and the overall utilisation of neonatal and infant health services. The conclusions drawn herein are critical in informing policy and priority decision-making at the facility level among health providers, county-level and national-level health system managers and policymakers. They also highlight the importance of user contextual perspectives in the provision of quality care. These provide a requisite building block in the improvement of maternal and newborn care in PHC settings. Using a participatory client-centred IR approach, child health stakeholders will use this evidence to localise solutions to improve the quality of care for SYIs. Researchers also need to critically evaluate maternal and newborn health programmes and inform policy to ensure that quality of care is a key component in standards for improvement of maternal and newborn care.

## Strength and limitations

The study has some limitations. Perception of quality is subjective and may change from time to time. In addition, the perceived quality of care may not necessarily mirror the technical quality of care since caregivers are not qualified to evaluate the technical aspect of care. However, this study identified perception of quality of care from the perspectives of caregivers and providers which could be instrumental in designing strategies to improve care given to SYIs in the context of streamlining PSBI within IMNCI service delivery. The findings provide consensus and generalisability on quality of care perceptions, which may also vary based on the individual, as an indicator of healthcare utilisation among caregivers of young infants in low-resource settings.

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