



RESEARCH ARTICLE

Neonatal nursing policy and practice in Kenya: Key stakeholders and their views on task-shifting as an intervention to improve care quality. [version 1; peer review: 1 approved, 1 approved with reservations]

Dorothy Oluoch ¹, Georgina Murphy ^{1,2}, David Gathara¹, Nancy Abuya³, Jacinta Nzinga¹, Mike English ^{1,2}, Caroline Jones^{1,2}

¹Health services unit, KEMRI-Wellcome Trust Research Programme, Nairobi, 43640-00100, Kenya

²Centre for Tropical Medicine & Global Health, Nuffield Department of Medicine, University of Oxford, Oxford, OX3 7FZ, UK

³Department of Health, Nairobi City County, Nairobi , 30075-00100, Kenya

V1 First published: 03 Apr 2018, 3:35
<https://doi.org/10.12688/wellcomeopenres.14291.1>
 Latest published: 03 Apr 2018, 3:35
<https://doi.org/10.12688/wellcomeopenres.14291.1>

Abstract



Background: Improving the quality of facility based neonatal care is central to tackling the burden of neonatal mortality in Low and Middle Income Countries (LMIC). Quality neonatal care is highly dependent on nursing care but a major challenge facing health systems in LMICs is human resource shortage. In Kenya, task-shifting among professional care cadres is being discussed as one potential strategy of addressing the human resource shortage, but little attention is being paid to the potential for task-shifting in the provision of in-patient sick newborn care. This study identified key neonatal policy-making and implementation stakeholders in Kenya and explored their perceptions of task-shifting in newborn units.


Methods: The study was exploratory and descriptive, employing qualitative methods including: document review, stakeholder analysis, observation of policy review process meetings and stakeholder feedback. A framework approach was used for analysis.

Results: In Kenya, guidelines for the care of sick neonates exist but there are few specialized neonatal nurses and no policy documents outlining the nurse to patient ratio required in neonatal care or other higher dependency areas. The Ministry of Health, Nursing Council of Kenya and international agencies were identified as playing key roles in policy formulation while County governments, the National Nurses Association of Kenya and frontline care providers are central to implementation. Newborns were perceived to be highly vulnerable requiring skilled care but in light of human resources challenges, most expressed some support for shifting 'unskilled' tasks. However, a few of the key implementers were concerned about the use of unqualified

Open Peer Review

Approval Status  

	1	2
version 1		
03 Apr 2018	view	view

1. **Carole Kenner**, The College of New Jersey, Ewing, USA
Council of International Neonatal Nurses (COINN), Ewing, USA
2. **Eilish McAuliffe**, University College Dublin, Dublin, Ireland
Purity Mwendwa , University of Dublin, Dublin, Ireland

Any reports and responses or comments on the article can be found at the end of the article.

staff and all stakeholders emphasized the need for training, regulation and supervision.

Conclusions: Task-shifting has the potential to help address human recourse challenge in low-income settings. However, any potential task-shifting intervention in neonatal care would require a carefully planned process involving all key stakeholders and clear regulations to steer implementation.

Keywords

Task-shifting, newborn, neonatal care, stakeholder analysis, policy.



This article is included in the [KEMRI | Wellcome Trust](#) gateway.

Corresponding author: Dorothy Oluoch (doluoch@kemri-wellcome.org)

Author roles: **Oluoch D:** Conceptualization, Data Curation, Formal Analysis, Investigation, Methodology, Project Administration, Writing – Original Draft Preparation; **Murphy G:** Conceptualization, Funding Acquisition, Supervision, Writing – Review & Editing; **Gathara D:** Investigation, Writing – Review & Editing; **Abuya N:** Writing – Review & Editing; **Nzinga J:** Investigation, Writing – Review & Editing; **English M:** Conceptualization, Funding Acquisition, Methodology, Project Administration, Supervision, Writing – Original Draft Preparation, Writing – Review & Editing; **Jones C:** Conceptualization, Formal Analysis, Methodology, Project Administration, Supervision, Writing – Original Draft Preparation, Writing – Review & Editing

Competing interests: No competing interests were disclosed.

Grant information: This work was also supported by the Wellcome Trust [109943] This work was also supported by a Health Systems Research Initiative joint grant provided by the Department for International Development, UK (DFID), Economic and Social Research Council (ESRC), Medical Research Council (MRC) [MR/M015386/1].

The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Copyright: © 2018 Oluoch D *et al.* This is an open access article distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

How to cite this article: Oluoch D, Murphy G, Gathara D *et al.* Neonatal nursing policy and practice in Kenya: Key stakeholders and their views on task-shifting as an intervention to improve care quality. [version 1; peer review: 1 approved, 1 approved with reservations] Wellcome Open Research 2018, 3:35 <https://doi.org/10.12688/wellcomeopenres.14291.1>

First published: 03 Apr 2018, 3:35 <https://doi.org/10.12688/wellcomeopenres.14291.1>

Abbreviations

World Health Organization (WHO)

Technical Working Group (TWG)

Expert Advisory Group (EAG)

The Ministry of Health (MoH)

Nursing Council of Kenya (NCK)

KPA (Kenya Pediatric Association)

National Nurses Association of Kenya (NNAK)

KEMRI (Kenya Medical Research Institute).

Introduction

Neonatal mortality currently accounts for over 40% of all child mortality in many countries in sub-Saharan Africa¹. Reducing neonatal mortality is a global priority² and improving access to quality care is central to these efforts³. As access to facility based health care for maternity and neonatal services is slowly improving, particularly in urban areas (see [UNICEF page on maternal and newborn health](#)) weaknesses in facility based healthcare delivery are emerging as a major factor contributing to the neonatal mortality burden⁴⁻⁶.

Improving the quality of care for neonates, and specifically for sick newborns, involves particular challenges as this group often have multiple morbidity and require multiple interventions, given repetitively often over many days. In addition to carefully planned medical care, providing quality care to sick newborns is highly dependent on the availability and quality of nursing care. In countries such as the UK it is recommended that, even for babies who do not require intensive care, there should be 1 nurse for every 2 to 4 sick babies^{7,8} with evidence suggesting higher mortality where such standards are not met⁷. Providing such levels of nursing care is a major challenge in low-income settings where there are considerable deficits in human resources for health⁹. Many countries in sub-Saharan Africa fail to reach the World Health Organization (WHO) recommended minimum ratio of 2.5 health workers per 1,000 population¹⁰. In Kenya, a recent study examined services in 22 large county hospitals and found a median ratio of inpatient children to nurses on paediatric wards of 11:1, a ratio often higher at night¹¹. Comparable data were not available for newborn units but a complete absence of qualified nursing staff in some facilities has been noted in prior reports¹².

A strategy suggested for addressing health workforce challenges in low income settings is task-shifting, defined by the WHO as: “the rational redistribution of tasks among health workforce teams”, wherein “specific tasks are moved, where appropriate, from highly qualified health workers to health workers with shorter training and fewer qualifications in order to make more efficient use of the available human resources for health”¹³. That task-shifting may be effective is supported by work on HIV¹⁴, on non-physician clinicians¹⁵ and a recent systematic review on community based care¹⁶. In many sub-Saharan African countries, there is often considerable informal sharing of tasks between

existing professional cadres. For example, nurses perform diagnostic tests and prescribe medicines and non-physician clinicians perform surgery¹⁷. In Kenya, such forms of task-shifting are the subject of policy discussions intended to update the legal and regulatory framework guiding professional roles for health care providers¹⁸. However, there is as yet no discussion of shifting tasks to non-professionals who work alongside health professionals within hospitals. This study aimed to explore the potential of task-shifting as a policy option to address constraints in the provision of sick newborn care in Kenya. Specifically, the objectives were to: describe neonatal nursing care policies; identify key neonatal nursing policy development and implementation stakeholders; and explore stakeholder perceptions of the potential role of task-shifting in improving the quality of neonatal nursing care.

Methods

The study was exploratory and descriptive employing a variety of qualitative data collection methods including: document review, stakeholder analysis, observation of policy review process meetings and stakeholder feedback.

Data collection

Document review and identification of key stakeholders

A review of published and unpublished Kenyan national documents relating to neonatal health was undertaken to: i) ascertain the existence and content of policies relating to the provision of inpatient nursing care for sick newborns; and ii) to identify the key stakeholders involved in inpatient neonatal care policy development. The documents were identified through an internet search (Google scholar), and in discussions with experts in the field in Kenya (nurse educators, policy makers and managers) beginning with those known to researchers in the KEMRI-Wellcome Trust Research Programme (KWTRP) as a result of recent nursing workforce studies¹¹. These documents and contacts helped identify initial important stakeholders with additional stakeholders identified through snowball sampling¹⁹. Stakeholder sampling was further guided by a framework used previously in policy analysis²⁰ that helps categorize stakeholders according to their main roles in policy development and implementation. The categories included: i) statutory policy making/strategic endorsement; ii) technical advice; iii) evidence generation; and iv) consultative.

Stakeholder interviews

Stakeholders were contacted, either via phone or email, requesting an interview. The interviews followed a semi-structured, open ended format (see [Supplementary File 1](#)) designed to allow for discussion of: the factors influencing the initiation of policy change; the process of policy making; the actors involved in policy making and implementation along with their roles, responsibilities and relative influence; and views on task-shifting. DO conducted the interviews which were digitally recorded and subsequently transcribed by a transcription service and checked for accuracy. During the process of transcription all participants were anonymized by assigning interviewee codes. The audio recordings and transcripts were stored in a password protected computers.

Non-participant observation of the policy review process

The first author (DO) and two other researchers were observers in the process to develop a task-shifting policy for health care services in Kenya, primarily aimed at updating professional schemes of service among existing formally defined cadres of health worker¹⁸. Of five Technical Working Groups (TWG) supporting this policy process DO attended and observed the Legal and Regulatory committee meetings that was reviewing policy documents that promote or hinder task-shifting in Kenya. Two authors (JN and DG) observed the Service Delivery committee that was discussing tasks that are/could be shared across existing cadres of staff within the Kenyan health system.

Stakeholder feedback

Building on earlier nursing workforce studies¹¹ and informed by the stakeholder interview data, the KWTRP has convened an Expert Advisory Group (EAG) to guide current work on neonatal nursing and quality of care ([Supplementary File 2](#)). Draft results of the policy context and stakeholder analysis were presented to the group; suggested modifications were noted and incorporated into the final results presented in this paper.

Data analysis

A framework approach²⁰ linked to the objectives was used to analyze the stakeholder interviews. To determine which stakeholders were likely to be 'essential', 'important', and or/'necessary'²¹ to involve in exploring how task-shifting might create a new cadre of staff to support inpatient neonatal care, the stakeholders were asked who they thought were the key players in nursing policy development and implementation. Stakeholder policy making and implementation power grids were developed based on an analysis of the number of times an actor or organization was mentioned in the interviews combined with the respondents' perceptions of who they thought was the most influential. Drafts were shared with the EAG to confirm the position of the actors.

Results

Neonatal & nursing care policies/guidelines

Twelve documents were identified and reviewed ([Table 1](#)). Of these, seven were national strategy documents, three clinical care guideline documents and two were concerned with roles and responsibilities of nursing staff. Three national strategy documents identify averting neonatal deaths and improving

Table 1. Documents reviewed.

Document	Newborn care/neonate content
1. Basic Paediatric Protocols for ages up to 5 years _Nov 2013	<ul style="list-style-type: none"> • 10 pages relating to newborn care/ and management guidelines
2. National Guidelines for Quality Obstetrics and Perinatal Care	<ul style="list-style-type: none"> • 80 pages relating to newborn care/ and management guidelines
3. National Harmonized Emergency Obstetrics and Neonatal Care Learning Resource Package)	<ul style="list-style-type: none"> • 5 pages relating to newborn care/ and management guidelines
4. Kenya Health policy 2014–2030	<ul style="list-style-type: none"> • 1993–2008 Newborn mortality trends in Kenya, identifies newborns as one of the lifecycle cohorts for which care is to be provided.
5. The Vision 2030_October 2007	<ul style="list-style-type: none"> • Health target indicators for infant and under five mortality.
6. Kenya Health Sector Strategic and Investment plan	<ul style="list-style-type: none"> • 2012–2017 performance monitoring indicators and targets for newborns. It highlights and prioritizes newborn care intervention as an area of importance and investment.
7. The national RH Strategy_2009–2015	<ul style="list-style-type: none"> • Newborn health indicators for impact and outcomes monitoring and evaluation.
8. Kenya National AIDS Strategic Plan November 2009	<ul style="list-style-type: none"> • Situation analysis of paediatric HIV infection and prevention of mother-to-child transmission of HIV.
9. National Roadmap for Accelerating the attainment of the MDGs Related to Maternal and Newborn Health in Kenya_August 2010	<ul style="list-style-type: none"> • Outlines Kenya's newborn health model for reduction of newborn mortality.
10. Child Survival and Development Strategy	<ul style="list-style-type: none"> • A document outlining UNICEF's child survival and development strategy targeted at the reduction in child mortality.
11. Republic of Kenya Ministry of Health scheme of service for nursing officers and enrolled nurses	<ul style="list-style-type: none"> • Outlines job descriptions and codes of conduct for nurses in Kenya. Lists the newborn units among the most delicate areas requiring high levels of concentration and that are most labor intensive.
12. Human Resources For Health Norms and Standards Guidelines For The Health Sector	<ul style="list-style-type: none"> • Ministry of Health document covers newborn services; assumptions and methods to derive annual targets.

new-born health as a priority for the country: The Vision 2030 - Kenya's strategic road map for development and poverty reduction strategy²²; The Kenya Health Policy 2014 –2030²³; and the Kenya Health Sector Strategic and Investment plan²⁴. Additionally, four specific national health strategy documents identify newborn mortality and morbidity as a major problem that requires focus: the Health Sector Reproductive, Maternal, Newborn and Child Health (RMNCH) policies and strategies²⁵; the Kenya National Road Map for accelerating the attainment of the MDGs related to maternal and neonatal health in Kenya²⁶; the Child Survival and Development Strategy (CSDS)²⁷; and the Kenya National AIDS Strategic Plan (KNASP IV)²⁸. All seven documents set high level policy goals but do not articulate specific plans related to neonatal nursing to achieve them.

Specific guidelines for the care of sick neonates exist and can be found in three government documents: The Basic Paediatric Protocols²⁹; The National Guidelines for Quality Obstetrics and Perinatal Care³⁰; and the National Harmonized Emergency Obstetric and Neonatal Care (EmONC) Learning Resource Package³¹. Each of these documents contain sections specific to neonatal care with a focus on clinical guidelines. However, none of these documents makes reference to the potential roles and responsibilities of different cadres of health staff, or how these may be shared, in neonatal care provision.

Information regarding the roles and responsibilities of nursing staff in general is provided in the Scheme of Service for Nursing Officers and Enrolled Nurses in Kenya³². This document lists two categories of nurse: Enrolled Nurse and Nursing Officer. The category of Nursing Officer is further divided into three cadres: Registered Nurse (degree/diploma with no specialization);

Registered Midwife (diploma and/or degree level); and Specialist Nurse (Master's degree training). While there is no specific cadre of 'neonatal nurse', one training institution in Kenya (Kenyatta National Teaching and Referral Hospital) provides a one year higher diploma in neonatal nursing to approximately 15–20 nurses per academic year. This specialist training was started in 2011. Nurses who graduate from this training course join the more general cadre of 'Specialist Nurse'.

No formal Kenyan policy document stating the nurse to patient ratio required in neonatal care or other higher dependency areas or the qualifications of such staff was identified.

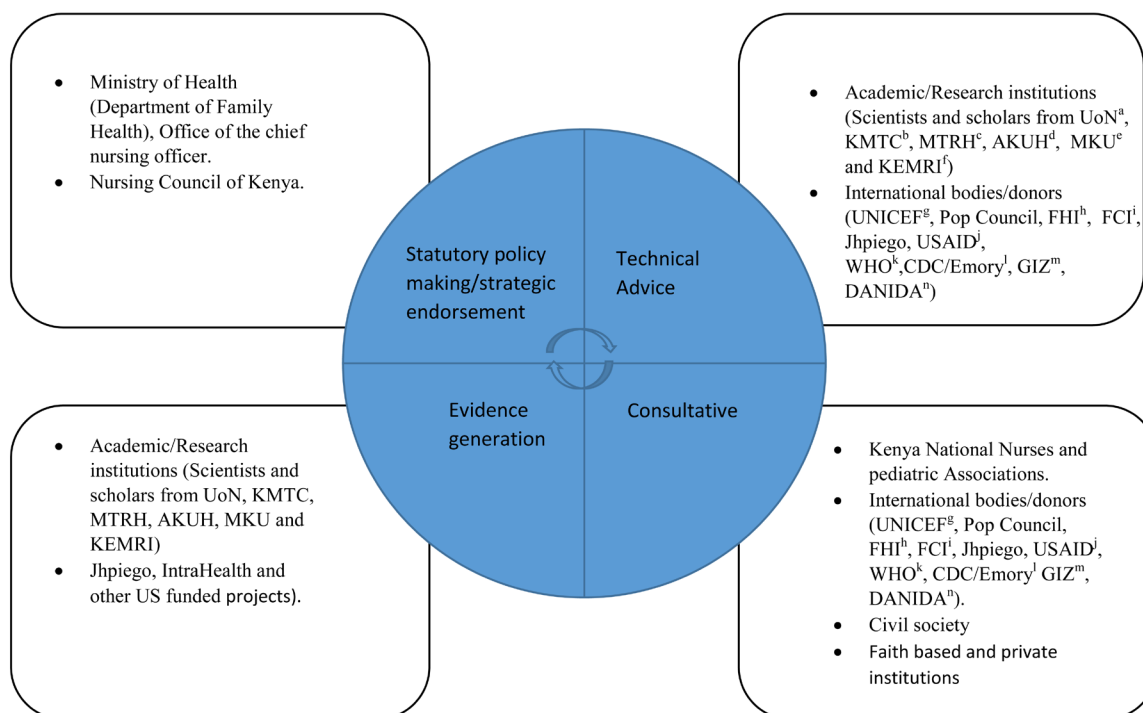
Nursing policy development

A total of 19 stakeholders were interviewed from 8 organizations (Table 2). The main roles of each organization in policy development are illustrated in Figure 1. The Ministry of Health (MoH) and the Nursing Council of Kenya (NCK) were confirmed by the interview participants and EAG members as holding formal positions in statutory policy making with technical advice being provided by national and international academic institutions and international agencies; evidence provided by national research institutions and nationally run projects; in consultation with national professional associations, civil society and faith-based and private health providers. In addition to providing technical support, the international bodies provide financial support to health projects and interventions in Kenya.

The stakeholder power-grid (Figure 2) demonstrates the relative influence and importance of each stakeholder in policy making. Stakeholders reported that while the MoH and NCK are

Table 2. Stakeholder interviews.

Institution	Number of representatives interviewed	Policy formulation: Number of times mentioned	Policy implementation: Number of times mentioned
Ministry of Health.	3	15	2
Nairobi City County.	2	1	6
Donor and international Organizations.	2	6	2
Training institutions.	4	3	3
Public Health facilities/front line providers	3	1	12
Nursing council of Kenya.	2	12	3
National Nurses Association of Kenya.	2	11	7
Kenya Paediatric Association.	1	1	2
Total	19		



Based on framework by Tesfazghi et al. 2015

^a University of Nairobi; ^b Kenya Medical Training Institute; ^c Moi Teaching and Referral Hospital; ^d Agakhan University Hospital; ^e Mount Kenya University; ^f Kenya Medical Research Institute; ^g United Nations Children's Fund; ^h Family Health International; ⁱ Family Centre International; ^j United States Agency for International Development; ^k World Health Organization; ^l Centre for disease control/Emory; ^m German Society for International Cooperation; ⁿ Danish International Development Agency.

Figure 1. Functions of actors in nursing policy formulation.

both highly involved and have high influence, international debate, supported by a technical donor partner voice, was the most frequent stimulus for instigating nursing policy change.

“first of all the UN agency are very key like UNICEF and WHO. Then we also have the USAID and then we also have the bilateral agencies, DANIDA has been very active in terms of working directly, but most of the others may not work directly with us, and then training institutions, professional bodies like KPA, nursing council and then the regulatory bodies” (Policy stakeholder, PSH005)

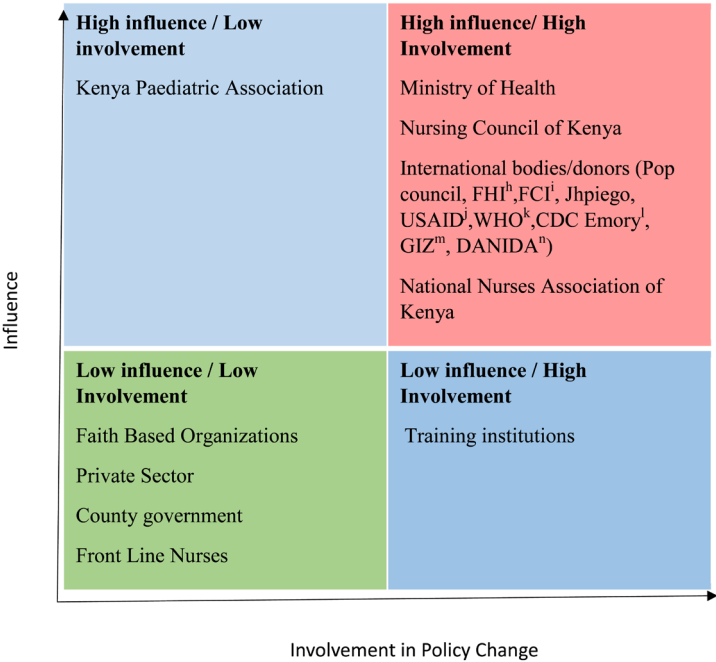
Once discussions around policy formulation have begun, the MoH takes the lead role, relying heavily on technical and consultative partners for advice and funding. The first step typically involves the leaders of the appropriate departments within the MoH convening one or more TWGs with participation from the stakeholders defined in Figure 1. The role of the TWGs, as described by the stakeholders and observed during TWG participation, is to examine existing evidence and solicit local

knowledge to help develop a draft policy document, standard or guideline. Drafts are subsequently sent to the designated Policy Advisory Committee within the MoH for ratification.

Although represented by officials from the National Nurses Association of Kenya (NNAK), frontline nurses appear to have little influence on the process or outcome of policy making. Even though there are a number of training institutions in the country, only two were mentioned as being involved in policy formulation. The important role of faith based organizations and the private sector in provision and running of health facilities was recognized by individual stakeholders and the EAG but these groups were rarely mentioned in discussions on inpatient neonatal nursing care policy formulation.

Nursing policy implementation

Once a policy has been promulgated at the national level, it is cascaded to the County governments who incorporate it into their strategic plans and, as the focus moves from policy formulation to policy implementation, there is a shift in the relative importance of several key stakeholders (Figure 3). Two of the



^h Family Health International; ⁱ Family Centre International; ^j United States Agency for International Development; ^k World Health Organization; ^l Centre for disease control/Emory; ^m German Society for International Cooperation; ⁿ Danish International Development Agency.

Figure 2. Nursing task policy change matrix.

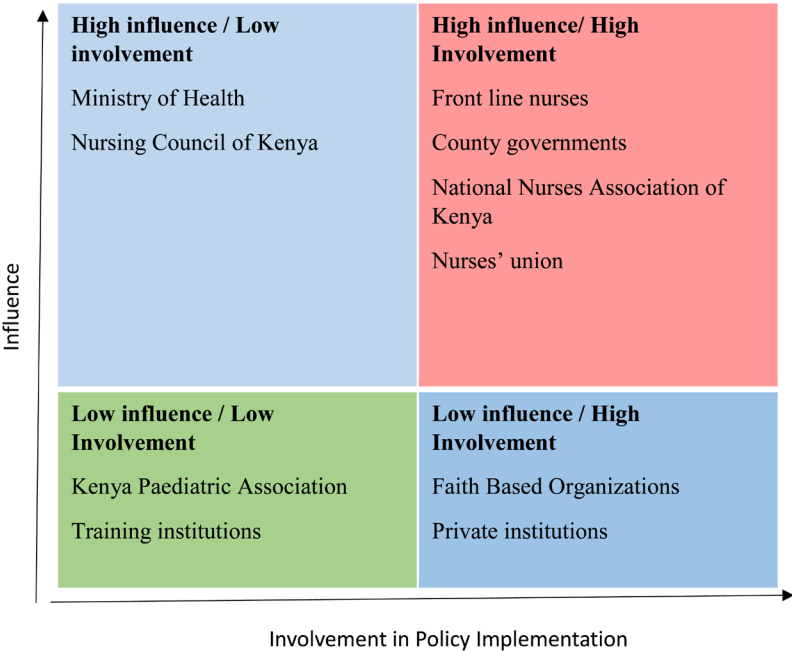


Figure 3. Policy implementation influence matrix.

groups (front line nurses and County governments) with low influence and low involvement in policy formulation join the NNAK as having high influence and involvement in policy implementation. The County governments, the NNAK and front line nurses have the potential to influence policy implementation in a variety of ways. Following devolution in Kenya the responsibility for implementing national health policies was devolved from National to County government. In theory, the County government receives policy advice from the national level (MoH) which they then adopt/adapt for implementation. Almost all resource allocation (budgeting and staffing) necessary for the running of health services is now undertaken by the County governments³³. County health officials also provide continuous supportive supervision to front line service providers working in the health facilities. Those at county level thus have considerable power to either promote or reject national policy.

“We domesticate health policies from the national level, and oversee their implementation in the county, and basically in coordination there are a lot of things, support supervision and ehh of course rationalizing placement of personnel within the county and also ensuring that the facilities are stocked with health commodities” (County official PSH001)

The NNAK is professional body that represents the welfare and practice of its members. As a registered national association it has the capacity to adopt a stance at odds with government policy if such policy appears not to be in its members’ interests; playing an important role in setting professional norms that may prevent or promote policy adoption. In extreme cases, it may call for strikes especially in cases where the members’ needs are not met or when the members are dissatisfied with work conditions, terms and policies.

Front line service providers, facility managers and mid-level managers, while playing little or no role in policy formulation, play the most important role when it comes to policy implementation. Clinicians and nurses provide care to the sick newborns. Their practice is guided by policy briefs, directives and codes of conduct formulated by the MOH and by the NCK. However, if these frontline providers of health care are not adequately trained or briefed on changes, if they disagree or are uncomfortable with what they are being asked to do, or if they are not provided with the means to undertake the required tasks, then implementation can be hampered.

Perspectives on task-shifting

The stakeholders were asked for their views on task-shifting as a potential strategy for addressing health workforce challenges in inpatient neonatal nursing care. The majority (16/19) supported the shifting of nursing tasks requiring low skill levels to lower cadre staff. Fourteen of the nineteen key stakeholders interviewed fell into the high influence/high involvement quadrants for either policy formulation or implementation. Of these high influence stakeholders, all except one supported the idea of a task-shifting strategy. The support for task-shifting as a solution to the human resources shortage appeared to be born

out of necessity linked to the strains on staff caused by inadequate existing human resources and reluctant acceptance that substantially increasing the recruitment of professional nursing cadres is a major financial challenge for the government.

“the reality is that nurses are probably either over worked because of the numbers that they have in the ward and all that they have to do, there are probably either two nurses who are caring for up to twenty or thirty newborns.” (Policy stakeholder, PSH002)

While supporting task-shifting as a pragmatic strategy, all participants emphasized the vulnerability and sensitivity of sick newborns, and were clear that shifting of tasks should not encroach on the provision of skilled clinical care. Tasks mentioned as having the potential for shifting included bathing (‘top tailing’), feeding, milk preparation, changing and sorting of linen. Shifting these tasks would allow the nurses time to concentrate on providing more knowledge intensive clinical nursing care, especially to the sickest newborns.

Respondents acknowledged the existence of some level of “informal task-shifting” already happening in public health facilities due to the shortage of qualified staff.

“Task-shifting is already taking place but in haphazard manner. There is nothing guiding it” (NCK official PSH008).

Even among those who supported task-shifting, concerns were expressed about the current informal way in which it was happening, with lapses in supervision and regulation providing leeway for some non-clinical staff to take on roles beyond their scope and mandate, with rising incidence of harm to patients. An example was given of a recent highly publicized case of malpractice in western Kenya to support such concerns. In this case errors in a procedure (injection) given by unqualified staff resulted in injuries to children affecting their mobility.

“The only dilemma is it has to be clearly specified which tasks can be shared, so we don’t have like what happened in Busia Yeah to the kids injected wrongly, where someone decided that they have worked in the facility for quite some years, and now people know them as nurses and they start injecting babies”. (Policy stakeholder, PSH007)

Such examples were used by participants to emphasize that, if task-shifting were to happen, then at least it should be formalized in terms of training, a scheme of service, supervision and regulation.

A small minority of stakeholders (3/19) were strongly opposed to any task-shifting in newborn care, citing concerns about safety and levels of competency of “unskilled/untrained” low cadre staff. One was in the high influence/high involvement quadrant for policy implementation while two were from training institutions. These three stakeholders explained that nurses are recognized and regulated by the NCK while “lower cadre staff”, such as nurse aids or patient attendants are not; linking

the lack of regulation to poor quality care. Furthermore, their views appeared to be influenced by previous experiences of a lower cadre of nursing staff, abolished more than 10 years ago due to concerns about their providing health care services they were not qualified to deliver:

“No I don’t think we have a place for nurse aids, it is like taking house helps from the houses and bringing them to the hospitals, please no, they are not even allowed. They are not even recognized by the nursing body. Anybody using nurse aids you are using it at your own peril. Who are they? We used to have them, but they were causing more damage, harm to patients than good” (Training stakeholder, TSH004)

Discussion

In many low-income settings a number of health system bottlenecks exist, preventing the scale-up of essential interventions that are key to reducing neonatal morbidity and mortality³⁴. Key among these is tackling the deficit in human resources for health³⁵. Kenya has high-level policy goals for reducing neonatal mortality but few nurses in the country have special training in neonatal care. Even if more skilled nurses were to be trained, there is no guarantee that they would be employed in neonatal units as, paradoxically, the supply of generally skilled nurses is not the primary health workforce problem in Kenya, rather it is the ability (and perhaps the willingness) to finance a major expansion in the professional healthcare workforce overall that is limiting³⁶.

Task-shifting has been successful in expanding access to specific forms of care, but concerns have also been raised. A recent review of health workers’ experiences of task-shifting in sub-Saharan Africa found that the strategy had the potential to negatively impact health workers’ sense of agency and ability to perform their work³⁷. Furthermore, introducing task-shifting to complex, multi-professional, facility environments such as hospitals raises different challenges to those experienced in deploying community health workers³⁷. Success in the latter is felt to be more likely if task-shifting approaches are based on the values, preferences, knowledge and skills of all stakeholders, and on the feasibility and applicability of the intervention for particular settings and healthcare systems¹⁶.

In this study, among those stakeholders identified as playing a key role in neonatal nursing policy formulation there was broad acceptance of the concept of task-shifting. This acceptance was largely born of resignation that a major expansion of an increasingly professionalized nursing workforce was unlikely to be realized, and that there is an imperative for action to improve newborn survival. However, several respondents urged considerable caution, highlighting past and recent episodes of malpractice in which lower cadre staff had overstepped their roles resulting in patient harm. Negative past experiences of an intervention can slow the process of policy change³⁸ and it was clear that, particularly among stakeholders who would be involved in the implementation of a neonatal nursing task-shifting policy, previous negative experiences would be likely to hamper the acceptance of the introduction of a lower cadre

of staff. These concerns echo the challenges identified in a recent review of health-worker task-shifting where the relinquishing of tasks within more traditional, facility based health care settings was found to include a creeping expansion of roles taken on by less well qualified personnel, unclear accountability mechanisms and tension between expanding the quantity of service provision and maintaining quality³⁹.

Changing health policy is recognized as a complex and context specific process^{39–41}. In Kenya, moving beyond the acceptance, in principal, of task-shifting from professional nurses to lower-level cadres of worker as a solution to the shortage of nurses available to provide care to sick newborns will require careful navigation in a complex policy and implementation environment with different stakeholders important in different phases of this process. It is also important to learn lessons from prior efforts to develop task-shifting solutions; using a participatory process to ensure that key stakeholders are involved in characterizing the problems and designing potential task-shifting solutions to help address these challenges. In this study, important insights were gained that could inform the design of such a workforce solution in Kenya so that it addresses legitimate concerns (such as scope of practice) and the particular context of neonatal care where patients are both highly dependent and highly vulnerable (including establishing clear lines of accountability and related supervisory arrangements).

Study Limitations

While every effort was made to include prominent policy-making and implementation stakeholders some stakeholders may have been missed. Assigning institutional actors specific capacities (eg. level of policy influence) is potentially an oversimplification of the varied ways in which institutions, and individuals within them, may affect both policy making and policy implementation. However, the form of stakeholder analysis we employed is widely used to help provide a general framework to guide understanding of, and engagement with, what can be complex networks of actors and their roles, to ensure that their legitimate interests and concerns are addressed^{42–44}.

Conclusion

There was broad acceptance among key nursing policy makers in Kenya of the idea that addressing the deficit in neonatal nursing care may require some form of task-shifting. However, concerns about task-shifting were raised, particularly among key stakeholders involved in policy implementation. Any task-shifting strategy will need to be undertaken with considerable caution working in collaboration with key policy making and implementing stakeholders to navigate the complex policy and implementation environment with different stakeholders important in different phases of this process.

Ethics approval and consent to participate

Ethical approval was granted by the Kenya Medical Research Institute, Scientific and Ethics Review Unit (SSC No. 2897). All study participants signed a written informed consent form before participating in the study.

Data availability

The data that support the findings are not publicly available due to restrictions. Public availability of data could potentially compromise participant privacy. Participants did not consent to have their full transcripts or excerpts of transcripts made publically available.

Competing interests

No competing interests were disclosed.

Grant information

This work was also supported by the Wellcome Trust [109943].

This work was also supported by a Health Systems Research Initiative joint grant provided by the Department for International Development, UK (DFID), Economic and Social Research Council (ESRC), Medical Research Council (MRC) [MR/M015386/1].

The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Acknowledgement

We wish to thank all the stakeholders who participated in this study. We also thank Mr. Steve Adala who helped with contacting and liaising with the stakeholders. We acknowledge the support of KEMRI. This work is published with the permission of the director KEMRI.

Supplementary material

Supplementary File 1: Stakeholder interview guide.

[Click here to access the data.](#)

Supplementary File 2: list of EAG members.

[Click here to access the data.](#)

References

1. Victora CG, Requejo JH, Barros AJ, *et al.*: **Countdown to 2015: a decade of tracking progress for maternal, newborn, and child survival.** *Lancet.* 2016; **387**(10032): 2049–2059.
[PubMed Abstract](#) | [Publisher Full Text](#)
2. Gates M, Binagwaho A: **Newborn health: a revolution in waiting.** *Lancet.* 2014; **384**(9938): e23–e25.
[PubMed Abstract](#) | [Publisher Full Text](#)
3. World Health Organization: **Research for Universal Health Coverage: World Health Report.** 2013.
[Reference Source](#)
4. Bhutta ZA, Salam RA, Lassi ZS, *et al.*: **Approaches to improve quality of care (QoC) for women and newborns: conclusions, evidence gaps and research priorities.** *Reprod Health.* 2014; **11** Suppl 2: S5.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
5. Tuncalp Ö, Were WM, MacLennan C, *et al.*: **Quality of care for pregnant women and newborns-the WHO vision.** *BJOG.* 2015; **122**(8): 1045–1049.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
6. Koblinsky M, Moyer CA, Calvert C, *et al.*: **Quality maternity care for every woman, everywhere: a call to action.** *Lancet.* 2016; **388**(10057): 2307–2320.
[PubMed Abstract](#) | [Publisher Full Text](#)
7. British Association of Perinatal Medicine: **Standards for Hospitals Providing Neonatal Intensive and High Dependency Care.** (Second edition). 2001.
[Reference Source](#)
8. National Association of Neonatal Nurses (USA) Position Statement No. 3009: **Minimum RN Staffing in the Neonatal Intensive Care Unit.** 2014.
9. Chen L, Evans T, Anand S, *et al.*: **Human resources for health: overcoming the crisis.** *Lancet.* 2004; **364**(9449): 1984–1990.
[PubMed Abstract](#) | [Publisher Full Text](#)
10. World Health Organization: **The World Health Report 2006 - working together for health.** Geneva: WHO, 2006.
[Reference Source](#)
11. Wakaba M, Mbindyo P, Ochieng J, *et al.*: **The public sector nursing workforce in Kenya: a county-level analysis.** *Hum Resour Health.* 2014; **12**: 6.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
12. Kosgei R, Wools-Kaloustian K, Braitstein P, *et al.*: **Express Care: a clinician-nurse model for the management of high volume HIV clinics in Western Kenya.** In: *Oral Abstract Session: AIDS.* edn. 2008.
[Reference Source](#)
13. World Health Organization: **Task Shifting: Global Recommendations and Guidelines.** In: Geneva. edn.; 2008.
[Reference Source](#)
14. World Health Organization: **Practical guidance for scaling up health service innovations.** Geneva: WHO, 2007.
[Reference Source](#)
15. Dovlo D: **Using mid-level cadres as substitutes for internationally mobile health professionals in Africa. A desk review.** *Hum Resour Health.* 2004; **2**(1): 7.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
16. Lewin S, Munabi-Babigumira S, Glenton C, *et al.*: **Lay health workers in primary and community health care for maternal and child health and the management of infectious diseases.** *Cochrane Database Syst Rev.* 2010; (3): CD004015.
[PubMed Abstract](#) | [Publisher Full Text](#)
17. World Health Organization: **WHO Recommendations: Optimizing Health Worker Roles to Improve Access to Key Maternal and Newborn Health Interventions Through Task Shifting.** Accessed 24th January (2012).
[PubMed Abstract](#)
18. MoH: **Kenya Task Sharing Policy and Guidelines for Health Care services.** In: *Draft report.* 2015.
[Reference Source](#)
19. Yin RK: **Qualitative research from start to finish.** New York: The Guilford Press; 2011.
[Reference Source](#)
20. Tesfazghi K, Hill J, Jones C, *et al.*: **National malaria vector control policy: an**

- analysis of the decision to scale-up larviciding in Nigeria. *Health Policy Plan.* 2016; **31**(1): 91–101.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
21. Gilson L, Erasmus E, Borghi J, *et al.*: Using stakeholder analysis to support moves towards universal coverage: lessons from the SHIELD project. *Health Policy Plan.* 2012; **27** Suppl 1: i64–76.
[PubMed Abstract](#) | [Publisher Full Text](#)
 22. Government of Kenya: Kenya vision 2030. Kenya; 2007.
[Reference Source](#)
 23. MoH Kenya: Kenya Health Policy 2014–2030-Towards attaining the highest standard of health. 2014.
[Reference Source](#)
 24. MoH Kenya: Accelerating attainment of Health Goals: The Kenya Health Sector Strategic and Investment Plan – KHSP July 2012 – June 2017.
 25. Ministry of Public Health and Sanitation: National Reproductive Health Strategy 2009–2015. 2009.
[Reference Source](#)
 26. Ministry of Public Health and Sanitation: Kenya National Road Map for accelerating the attainment of the MDGs related to maternal and neonatal health in Kenya. 2010.
[Reference Source](#)
 27. UNICEF Kenya Office: Child Survival and Development Strategy.
[Reference Source](#)
 28. National AIDS Control Council Kenya: Kenya National AIDS Strategic Plan. 2009.
[Reference Source](#)
 29. Kenya MoH: The Basic Paediatric Protocols. 2013.
[Reference Source](#)
 30. Ministry of Public Health and Sanitation MoMS: The National Guidelines for Quality Obstetrics and Perinatal Care.
[Reference Source](#)
 31. Ministry of Public Health and Sanitation: National Harmonized Emergency Obstetric and Neonatal Care (EmONC) Learning Resource Package.
 32. Ministry of Public Health and Sanitation: Scheme of Service for Nursing Officers and Enrolled Nurses in Kenya. 2013.
 33. Government of Kenya: The constitution of Kenya. 2010.
[Reference Source](#)
 34. Deller B, Tripathi V, Stender S, *et al.*: Task shifting in maternal and newborn health care: key components from policy to implementation. *Int J Gynaecol Obstet.* 2015; **130** Suppl 2: S25–31.
[PubMed Abstract](#) | [Publisher Full Text](#)
 35. Simen-Kapeu A, Seale AC, Wall S, *et al.*: Treatment of neonatal infections: a multi-country analysis of health system bottlenecks and potential solutions. *BMC Pregnancy Childbirth.* 2015; **15** Suppl 2: S6.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
 36. Ministry of Public Health and Sanitation: Kenya Nursing Workforce Report. The Status of Nursing in Kenya. 2012.
[Reference Source](#)
 37. Mijovic H, McKnight J, English M: What does the literature tell us about health workers' experiences of task-shifting projects in sub-Saharan Africa? A systematic, qualitative review. *J Clin Nurs.* 2016; **25**(15–16): 2083–2100.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
 38. Cliff J, Lewin S, Woelk G, *et al.*: Policy development in malaria vector management in Mozambique, South Africa and Zimbabwe. *Health Policy Plan.* 2010; **25**(5): 372–383.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
 39. Buse K, Mays N, Walt G: Making Health Policy. In. Milton Keynes, UK: Open University Press, 2012.
[Reference Source](#)
 40. Gilson L, Raphaely N: The terrain of health policy analysis in low and middle income countries: a review of published literature 1994–2007. *Health Policy Plan.* 2008; **23**(5): 294–307.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
 41. Woelk G, Daniels K, Cliff J, *et al.*: Translating research into policy: lessons learned from eclampsia treatment and malaria control in three southern African countries. *Health Res Policy Syst.* 2009; **7**: 31.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
 42. Kammi S: Stakeholders analysis guidelines. *Analysis.* 1999; **15**: 338–345.
 43. Brugga R, Varvasovszky Z: Stakeholder analysis: a review. *Health Policy Plan.* 2000; **15**(3): 239–246.
[PubMed Abstract](#) | [Publisher Full Text](#)
 44. Hyder A, Syed S, Puvanachandra P, *et al.*: Stakeholder analysis for health research: case studies from low- and middle-income countries. *Public Health.* 2010; **124**(3): 159–166.
[PubMed Abstract](#) | [Publisher Full Text](#)

Open Peer Review

Current Peer Review Status:  

Version 1

Reviewer Report 10 May 2018

<https://doi.org/10.21956/wellcomeopenres.15552.r32671>

© 2018 McAuliffe E et al. This is an open access peer review report distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.



Eilish McAuliffe

Health Systems Group, School of Nursing, Midwifery and Health Systems, University College Dublin, Dublin, Ireland

Purity Mwendwa 

Centre for Global Health, Trinity College, University of Dublin, Dublin, Ireland

This is a well-written piece that explores the potential of task-shifting as a policy option to address the acute human resources for health (HRH) shortage to address constraints in the provision of sick new-born care in Kenya. The article makes an important contribution to on-going policy discussions on task-shifting by highlighting the potential for non-professionals to work alongside health professionals within hospitals. Based on the literature the authors make the case that, given a substantial increase in the nursing workforce in these settings is unlikely to be realised, the use of non-professionals is a pragmatic approach to addressing the human resources challenges in the health sector in Kenya. The study is motivated by an understanding of the complexity of policy change in this area and the many vested interests that can influence the advancement of policies that support task shifting. The authors also rightly allude to the negative impacts of poorly formulated or poorly implemented task-shifting policies. There was concern that these past negative experiences may impede efforts to realise a policy shift. The greatest strength of this article is that it highlights perceptions of key stakeholders in neonatal nursing policy formulation and the complexity that comes with any (health) policy change.

Methods Section:

The study uses a variety of data collection methods to facilitate a deeper understanding of the issue under study. However, this section could benefit from amendments in the following aspects;

Document Review

It is not quite clear how the document review was carried out; For example

1. Why was the literature search restricted to Google Scholar?
2. What were the main questions driving the analysis, apart from the identification of key stakeholders?
3. What was the specific protocol and approach to documentary analysis?

4. Were particular terms applied to the search?
5. What were inclusion/exclusion criteria, specific search terms.
6. How many documents were retrieved using these terms? -These could be presented in a flow chart for more clarity.
7. Analyzing documents incorporates coding content into themes similar to how focus group or interview transcripts are analyzed (Bowen, 2009). Did the authors employ content analysis to identify meaningful and relevant passages (p.32) or thematic analysis to recognize patterns in the documents' data (2009).

Stakeholder interviews

1. How stakeholders were specifically selected following the categorization exercise? (What may have influenced participation?).
2. *A framework approach linked to the objectives was used to analyze the stakeholder interviews.* This typically suggests 7 steps (Ritchie and Lewis 2003). I would have liked to see evidence for how they approached this process.
3. The authors have captured verbatim statements; but I believe the paper could benefit from further interpretation of the data. As qualitative analysis entails a range of processes and procedures from data collection, organization, data reduction to themes and sub-themes, and interpretation, there is need for further work. It would be helpful for readers to see how the themes and concepts emerged from the data and what relationships were explored in the analysis
4. Who was involved in the data analysis – have any quality or inter-rater reliability checks been performed? If so these should be reported in the paper.
5. What were the steps taken to integrate documentary and interview data in creating the frameworks? It would be important to document these in the paper in order to inform studies of a similar nature that may be undertaken in other countries.

Observation

What observation protocol was used to carry out observations? What information was collected and how did this feed into the results.

Results Section:

The results section is nicely structured and the results are clearly presented. However, the section on perceptions of task-shifting is disappointing in its brevity, particularly given that 19 interviews were conducted with highly relevant stakeholders. As suggested in the methods comments above, we feel a more systematic and thorough analysis of the interview data could add richness and depth to these results.

The paper by Agyapong et al. (2016)¹ on task shifting in Ghana may be helpful as an example.

Discussion:

The discussion is considered and main points are clearly articulated, but the reader gets little sense of the weight of support or opposition to task shifting in this context. Again, there is a sense that the data from 19 interviews with key stakeholders should give a stronger sense of how challenging a task it would be to develop policies on task shifting in this context.

Limitations

This section should be expanded to include any methodological limitations that may emerge arising from the questions we have posed in the Methods Section in this review.

In addition, one of the main limitations of this paper is its' exclusive focus on the national policy level. The authors acknowledge the important role of the county level in the translation of policy to practice. It is surprising therefore that the study did not include any analysis of policies or guidelines developed at the county level. For an insight into the potential differences at different levels of the healthcare system, we would recommend the authors see Lobis et al. (2011)².

In summary, this is a well written paper on a topic of considerable importance. Revision of the methods and limitations sections as recommended above would, in our opinion, bring it to an acceptable standard for indexing.

References

1. Agyapong VI, Farren C, McAuliffe E: Improving Ghana's mental healthcare through task-shifting-psychiatrists and health policy directors perceptions about government's commitment and the role of community mental health workers.*Global Health*. 2016; **12** (1): 57 [PubMed Abstract](#) | [Publisher Full Text](#)
2. Lobis S, Mbaruku G, Kamwendo F, McAuliffe E, et al.: Expected to deliver: alignment of regulation, training, and actual performance of emergency obstetric care providers in Malawi and Tanzania.*Int J Gynaecol Obstet*. 2011; **115** (3): 322-7 [PubMed Abstract](#) | [Publisher Full Text](#)

Is the work clearly and accurately presented and does it cite the current literature?

Yes

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

Partly

If applicable, is the statistical analysis and its interpretation appropriate?

Not applicable

Are all the source data underlying the results available to ensure full reproducibility?

No

Are the conclusions drawn adequately supported by the results?

Yes

Competing Interests: No competing interests were disclosed.

We confirm that we have read this submission and believe that we have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however we have significant reservations, as outlined above.

Reviewer Report 23 April 2018

<https://doi.org/10.21956/wellcomeopenres.15552.r32672>

© 2018 Kenner C. This is an open access peer review report distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

**Carole Kenner**

¹ School of Nursing, Health, and Exercise Science, The College of New Jersey, Ewing, NJ, USA

² Council of International Neonatal Nurses (COINN), Ewing, NJ, USA

Kenyan neonatal nursing care is difficult due to a shortage in trained neonatal health professionals - especially nurses. One strategy to combat this problem is task shifting to other health care workers. This exploratory/descriptive study examined neonatal nursing policies and the practice of task shifting in Kenya. Data collection included interviews with stakeholders, examination of policies, and process meetings. The results demonstrated that neonatal care guidelines are used but they do not address staffing ratios, nurses are not well prepared for neonatal care - especially for the very sick and small baby. Task shifting to health care workers rather than health professionals could work but their training, regulation, and supervision of these personnel would be needed. Partnerships with governmental and non-governmental organizations are needed to address this problem and improve quality of care.

In light of the SDGs and the recognition that to decrease neonatal mortality by 2020 better preparation of the workforce including nurses is needed, this study addresses a most important topic. The study is just the beginning of looking at all the factors that impact quality neonatal care and should include in the future, strengthening the health care system including financing of this care. Inclusion of parent voices would strengthen the argument for improved care as parental support will improve health outcomes both in the hospital and the community. Recommendations for nursing education/training is another aspect that should be carefully examined in the future using a competency framework.

The manuscript is well written and addresses a very important topic. References are up to date. The work clearly and accurately presented and does cite current literature. The study design is appropriate and technically sound. There are generally sufficient details of the methods and analysis provided to allow replication by others. The article would be strengthened if there was an explanation of how the document reviews were done and was just one person doing the reviews; the same holds true for stakeholder interviews - one person or more than one. If in either of these cases there was more than one then was inter-rater reliability established? The data sources are publicly available. The conclusion drawn do support the results. There are only three questions that if answered would strengthen the article.

1. What is the definition of an enrolled nurses - not all readers will know?
2. Did more than one researcher conduct the interviews - if so was inter-rater reliability established?
3. How were interviewees selected?

I support the approval of this manuscript.

Is the work clearly and accurately presented and does it cite the current literature?

Yes

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Yes

Are all the source data underlying the results available to ensure full reproducibility?

Yes

Are the conclusions drawn adequately supported by the results?

Yes

Competing Interests: No competing interests were disclosed.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.
