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

Dorothy Oluoch, Georgina Murphy, David Gathara, Nancy Abuya, Jacinta Nzinga, Mike English, Caroline Jones

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

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

Conclusions: Task-shifting has the potential to help address human resource 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.
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Corresponding author: Dorothy Oluoch (doluoch@kemri-wellcome.org)

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Task-shifting are the subject of policy discussions intended to update the legal and regulatory framework guiding professional roles for health care providers. 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 studies. These documents and contacts helped identify initial important stakeholders with additional stakeholders identified through snowball sampling. Stakeholder sampling was further guided by a framework used previously in policy analysis 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 transcriptions 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 workers. Of five Technical Working Groups (TWG) supporting this policy process DO attended and observed the Legal and Regulatory committee meetings that were 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 studies 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 approach linked to the objectives was used to analyze the stakeholder interviews. To determine which stakeholders were likely to be ‘essential’, ‘important’, and or ‘necessary’ 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>
<thead>
<tr>
<th>Document</th>
<th>Newborn care/neonate content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Basic Paediatric Protocols for ages up to 5 years _Nov 2013</td>
<td>• 10 pages relating to newborn care/ and management guidelines</td>
</tr>
<tr>
<td>2. National Guidelines for Quality Obstetrics and Perinatal Care</td>
<td>• 80 pages relating to newborn care/ and management guidelines</td>
</tr>
<tr>
<td>4. Kenya Health policy 2014–2030</td>
<td>• 1993–2008 Newborn mortality trends in Kenya, identifies newborns as one of the lifecycle cohorts for which care is to be provided.</td>
</tr>
<tr>
<td>5. The Vision 2030_October 2007</td>
<td>• Health target indicators for infant and under five mortality</td>
</tr>
<tr>
<td>6. Kenya Health Sector Strategic and Investment plan</td>
<td>• 2012–2017 performance monitoring indicators and targets for newborns. It highlights and prioritizes newborn care intervention as an area of importance and investment.</td>
</tr>
<tr>
<td>8. Kenya National AIDS Strategic Plan November 2009</td>
<td>• Situation analysis of paediatric HIV infection and prevention of mother-to-child transmission of HIV.</td>
</tr>
<tr>
<td>11. Republic of Kenya Ministry of Health scheme of service for nursing officers and enrolled nurses</td>
<td>• 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.</td>
</tr>
<tr>
<td>12. Human Resources For Health Norms and Standards Guidelines For The Health Sector</td>
<td>• Ministry of Health document covers newborn services; assumptions and methods to derive annual targets.</td>
</tr>
</tbody>
</table>
new-born health as a priority for the country: The Vision 2030 - Kenya’s strategic road map for development and poverty reduction strategy\textsuperscript{22}; The Kenya Health Policy 2014 –2030\textsuperscript{23}; and the Kenya Health Sector Strategic and Investment plan\textsuperscript{24}. 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 strategies\textsuperscript{25}; the Kenya National Road Map for accelerating the attainment of the MDGs related to maternal and neonatal health in Kenya\textsuperscript{26}; the Child Survival and Development Strategy (CSDS)\textsuperscript{27}; and the Kenya National AIDS Strategic Plan (KNASP IV)\textsuperscript{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 Protocols\textsuperscript{29}; The National Guidelines for Quality Obstetrics and Perinatal Care\textsuperscript{30}; and the National Harmonized Emergency Obstetric and Neonatal Care (EmONC) Learning Resource Package\textsuperscript{31}. 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 Kenya\textsuperscript{32}. 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.

<table>
<thead>
<tr>
<th>Institution</th>
<th>Number of representatives interviewed</th>
<th>Policy formulation: Number of times mentioned</th>
<th>Policy implementation: Number of times mentioned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Health.</td>
<td>3</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>Nairobi City County.</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Donor and international Organizations.</td>
<td>2</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Training institutions.</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Public Health facilities/front line providers</td>
<td>3</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Nursing council of Kenya.</td>
<td>2</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>National Nurses Association of Kenya.</td>
<td>2</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Kenya Paediatric Association.</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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
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 polices 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 governments. 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 eh 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 quadrant 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 mortality. Key among these is tackling the deficit in human resources for health. 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 limiting.

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 work. Furthermore, introducing task-shifting to complex, multi-professional, facility environments such as hospitals raises different challenges to those experienced in deploying community health workers. 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 systems.

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 change 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 quality.

Changing health policy is recognized as a complex and context specific process. 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.

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.

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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