Author’s response to reviews

Title: The implication of the shortage of health workforce specialist on Universal Health Coverage in Kenya

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Reviewers Comments and responses

Reviewer reports:

Reviewer #1: This paper addresses an important topic and methodologically the paper seems sound and the content is fine. My primary concern is presentation and wording. Despite the authors using the services of an editor, some of the language still seems awkward and inconsistent. Each individual instant is a small thing, but together they make the paper appear less professional than what would be ideal for publication. Here are a couple examples: Usually the term "Health workers" is used, but other times "Healthcare workers." Capitalization seems odd. For example, on page 4 line 55 why is "Needs" capitalized? Why is the word "Health" always capitalized, as in "Health workers"?

The term Health workers and Health work force has been replaced with Health care workers in the entire manuscript.

Reviewer #3: A very relevant article given the shortage of health workers and the SDGs, particularly Universal Health Coverage. Such assessments will help in planning to improve the health workforce situations not only in Kenya but also globally.

Thank you
Specific comments:

1. The results doesn't reflect the "skills gap of various cadres of health specialists" that the objectives of the TNA has highlighted. Results only highlight the gaps that exist in the numbers as compared to national norms and standards and the perception of the County Director. It would have been important to look at the skills gap of health workers if the paper were to argue for efficient use of existing health workers and task shifting as short term solutions as highlighted in the paper and the abstract. Detailed discussions on this aspect is also lacking.

Response is found in page 6

Gaps in Specialists

i. Medical Officers Specialists

The skill gaps among the medical officers’ specialists is significant when compared to national guideline and the reported ideal numbers suggested by the County Directors of Health (CDH). Findings of sampled specialty areas are detailed as follows: Neurosurgeons had a gap of 100% and 60% against the guidelines and as suggested by CDH respectively; there was no significant difference between the gap as reflected by the guideline as compared to the perceived number by the CDH (95% and 99 %). The shortage of urologist is 70% and 97% against the Norms and Standards Guidelines and the ideal numbers by the CDH respectively while Neurologists had a shortage of 99% against the Norms and Standards Guidelines and 96% against the ideal numbers by CDH. Paediatric Surgeons had a shortage of 20% against the Norms and Standards Guidelines and 94% against the ideal number by CDH respectively.

Overall, there is a big variance in the gaps between the Norms and Standards Guidelines and the ideal numbers by CDH that need to be interrogated. The Cardiologist and Endocrinologists both had a shortfall of 99% of the Health workforce against ideal number suggested by CDH while the cardiologists have a shortage of 95% against the Norms and Standards Guidelines. Endocrinologist like chest specialists are not reflected in the Norms and Standards Guidelines. Gastro-enterologists had a shortfall of 96% against the ideal number of workforce suggested by CDH while the shortage against Norms and Standards Guidelines is 80%. The Ortho Surgeons had a short fall of 90% Health workers against the Norms and Standards Guidelines and 85% against the ideal number suggested by CDH. Ear, Nose and Throat surgeons had a shortage of 85% against the ideal number suggested by CDH and 89% against the Norms and Standards Guidelines, and lastly Anesthetist had 82% shortage of the Health workforce against the Norms and Standards Guidelines and 73% against the ideal numbers suggested by the CDH. It is interesting to note that there is inconsistency in the required number of Plastic Surgeons against the Norms and Standards Guidelines in which there are 14 times more Plastic Surgeons against the ideal number suggested by CDH while against the Norms and Standards Guidelines, there is a surplus of four specialists.
The gaps amongst other health workers who are working closely with medical officers are as detailed below:

ii. Clinical Officer (Medical Assistant) Specialists

A sample of specialized skills was analysed for this cadre. The findings revealed skill gaps among the Clinical Officers in the Country as follows: in overall the gap for clinical officers who had undertaken a post graduate specialized training was 80% against the national guidelines compared to 48% against the ideal numbers suggested by the CDH. Specifically the gap for Ear Nose and Throat (ENT) at 92% against the national guideline compared to 78% against the ideal numbers suggested by the CDH while Lungs and Skin speciality at 89% and 61% against the guidelines and as perceived by CDH respectively. Regarding ophthalmology/cataract surgery the gap against the guideline was 92% and 73% as perceived by CDH. Regarding specialization in Paediatrics gaps of 90% according to the Norms and Standards Guidelines and at 76% as perceived by CDH were noted.

iii. Nurse Specialists

Skill gaps among the nurses for sampled specialized health service delivery areas were also noted in the following areas; Anaesthetist nurses at 96% against the Norms and Standards while at 91% as suggested by the CDH; Trauma & Emergency Care nurses at 100% against the Norms and Standards and at 97% by CDH; on the contrary Bachelor of Science in Nursing (BSN) has exceeded the Norms and Standards by 1% but in short supply by 60% as perceived by the CDH; KRCHN has a shortage of 79% against the guideline while it has a deficit of 60% according to the CDH; Cardiology nurses had a shortage of 99% and 100% respectively against the Norms and Standards and the ideal numbers by the CDH respectively. There were no nurse oncologists in the Counties.

2. It would have been a better if a clear picture of the health workforce situation- categories, their roles and numbers could have been provided in the background/introduction so that international readers could have an understanding of health human resource problem Kenya faces. Further, a little more explanation on how the grouping of service levels into 6 initially and 4 tiers later was expected to improve service delivery would have been good. In this regard, the mention of these levels would fit more in the introduction rather than in the methodology.

Response to this comment is found in page--2
In Kenya, the total number of the health worker currently employed in the county departments of health as well as in the public, FBO and private-for-profit health facilities is estimated at 31,412 (Training Needs Assessment (2016). These numbers are below the required of 138,266 healthcare workers as per the norms and standards guidelines by the Ministry of Health.

In order to offer better health services in Kenya, the Health Sector Strategic Plan III (2012–2017) structured service delivery into four main tiers; Tier 1: Community Tier 2: Primary Care level – Tier 3: County level; Tier 4: National level. The Kenya Health Policy defines eight policy imperatives including health infrastructure. To guide the development of a robust health infrastructure, the Ministry of Health reviewed and developed Norms and Standards for infrastructure of Human Resource for Health based on defined population coverage by tiers. Tier 1 covers a population of 5000 people, a dispensary covers 10,000 people, a Health Centre covers a population of 30,000 people, primary hospital 100,000 people and secondary care hospital cover a population of one million, while a national teaching and referral hospital covers a population of five million people. It also took into consideration that the complexity and the degree of specialized care reflected the level of the defined tier.

3. Another thing which needs to come out clearly is the need for the TNA in the introduction - whether it is because there were no improvement of services after introduction of service levels or to find out the exact shortage of health workers, or for county departments to have a clear understanding of their HR requirements. The description of governance and administration system doesn't really fit in the methodology section.

Response

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In the wake of devolution health service delivery became a function of the County government and so there was need to establish the capacity of the counties human resource requirement to effectively and efficiently deliver these services.
The above have been moved from methodology to the introduction- see page 3

4. There has been limitations in the methodology I think if respondents were mainly county directors and other heads of facilities and institutions, as skills gaps are difficult to identify, if identification of skills was an objective. Noninvolvement of other other health workers and specialists as respondents has limited the argument about skill gaps as well factors affecting retention and sharing of health workers.

The County directors of Health are the technical managers of the County department of Health and therefore have records of all employees in the County by cadre.

5. The justification regarding exclusion of Baringo County not affecting the results could be made in the discussions rather than in the methodology section.

Justification of Baringo has been moved to the discussions- see page 2nd last paragraph of page 8

6. The recommendations under para 3 and 4 in the Results section would fit better in the discussion or conclusion section.

This comment is not very clear to me as these para 3 &4 in results are the findings

The study also revealed that the General Internist/ Physicians are 57% less than the ‘ideal’ number suggested by County Directors of Health but thrice as much the recommended number by Norms and Standards Guidelines. There is need for further studies to shed more light on the reasons for the variance in shortage across the entire cadre spectrum as revealed by the perception of the County Directors of Health and the national Guidelines.

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7. It would have been good if the differences in health worker shortage in the counties could be discussed in the results or discussions in addition to highlighting shortages in the various category of specialists since data is apparently available. This could give pointers for prioritization for action, short as well as long-term.

The first manuscript I submitted had very huge tables presenting all cadres in each of the 46 counties and was advised to compress them to one table that shows the general picture to the world. Otherwise, the TNA is report is accessible and can be found in the Ministry of Health and on line