**Author’s response to reviews**

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

**Authors:**

Hazel Mumbo (hazelmmiseda@gmail.com)

Cirindi Murianki (annmuriank1@gmail.com)

Mutuku Milo (milomutuku@gmail.com)

Stephen Mutwiwa (Stephen.mutwiwa@jphiego.org)

**Version:** 1  **Date:** 24 Jan 2017

**Author’s response to reviews:**

Reviewer reports:

Comments and Answers for Reviewers

Reviewer #1:

This paper helps highlight the shortfall of health professionals in many countries, and underscores that geographic imbalances within countries exacerbate the problem of access to quality care. Methodologically the paper is fine, but there are things the authors can do to improve the paper. The most substantial comment is the need for a professional editor to review the paper. There are ways the authors can shorten the paper and make it easier to read. Examples include the following:

Q 1. Many of the descriptors such as the word "very" can be removed. For example, a sentence that reads "...a very important role" can be reduced to "...an important role"

Response

Page 2 The Abstract- In Kenya, health specialists play a very important role in easing the disease burden of the population.

The word “a very” has been removed to read “In Kenya, health specialists play an important role in easing the disease burden of the population”.


Page 3 Introduction- In Kenya health specialist play a very important role in easing the disease burden of the population.

In Kenya health specialist play an important role in easing the disease burden of the population.

Page 5-The guidelines greatly assist in rationalizing an equitable distribution of the health workforce across the different tiers/levels of healthcare delivery in the country so that there is fairness and equity.

The word greatly has been removed and the sentence reads “The guidelines assist in rationalizing an equitable distribution of the health workforce across the different tiers/levels of healthcare delivery in the country so that there is fairness and equity”.

Q 2. Some sentences and paragraphs that are not pertinent to the paper can be removed. For example, page 6 lines 35-38 could be deleted.

Response

Line 35-38 on page 6 which reads “The counties with the least number of medical officers of health employed in the county departments of health and in the public, FBO and private-for-profit health facilities were Nyandarua, Wajir and Uasin Gishu with 5, 6 and 7 medical officers of health employed against 80, 214 and 84 required as per the Norms and Standards respectively”. has been deleted.

This paragraph has been deleted.—“Shortages of health workers are particularly acute in sub-Saharan Africa. Progress toward the achievement of the health-related Millennium Development Goals (MDGs) is slow in sub-Saharan Africa, home to 11 per cent of the world population. The region accounts for 24 per cent of the global disease burden but has only 3 per cent of the world’s health workers. Measures to address this deficit are urgently needed in order to reach the MDGs by 2015”.

3. Formatting is sometimes inconsistent. For example, the words "country directors" are sometimes capitalized and sometimes not capitalized. Also, the phrase "According to the country directors" is used repeatedly and could be removed--perhaps just mentioning once or twice, but not repeatedly.

Response

15 “county director” phrase has been changed to County Director of Health
On page 7 line 1 under the title Medical Officers and Specialists

“As per the County Directors of Health” has been replaced with “From the study findings,”

Paragraph 2 started with the statement “According to the County Directors” and it now reads, “The Directors also stated that……”

Page 8 in paragraph 4 the Phrase “Similarly, according to the perception of the County Directors, Kilifi County (593) leads in the ideal number of clinical officers required for effective………….” has been rephrased to read “Similarly, Kilifi County (593) leads in the ideal number of clinical officers required for effective………….”

Page 9 line 1 under Nursing Officers and Specialists The Phrase “According to the County Directors of Health” has been replaced with the statement “The County Directors of Health stated that, a total of 18,674 nurses are currently………………………………………“

4. Detailed findings by medical specialty and county are summarized in the tables, so there is no need for a detailed review in the body of the paper. Perhaps share some numbers for illustration and interpretation, but the Results section could be shortened. The main value of this paper for readers is the opportunity for readers to try and replicate the study in their respective countries.

Responses to Reviewer 2

Introduction

It is possible to shape this around the problem this work is addressing? Is the problem that we don't have national-level information about the supply of particular types of health workers in Kenya and how these needs vary by county?

This is addressed in Pg 3 2nd paragraph-

In Kenya health specialist play a very important role in easing the disease burden of the population. They take care of very intricate cases in their various fields that are only understood by themselves and yet there are not enough to take care of the entire citizenry. Kenya did not have national-level information about the supply of particular types of health workers in Kenya to addressing population health needs and their equitable distribution and how these needs vary by county.
If so, this refers to the supply of a range of workers relevant to addressing population health needs and their equitable distribution. Perhaps this could be the stronger focus of the background section.

If supply is bench-marked, what will be gained - will it help target gaps better?

This response is found in pg 5 second paragraph that reads,

Benchmarking was essential as it enables the government to forecast its work force, thus knowing the current stock of active workforce, past inflow and expected inflow for effectively planning and distribution according to need of each county.

Please be specific about terms like "health specialist". Is the training needs assessment related to nurses, general doctors, and specialist doctors?

The objective of TNA has been modified to read in pg 3

To identify skills gap in various cadres of Health Specialists such as doctors, clinical officers and nurses and Management staff at postgraduate and post-basic levels needed for effective service delivery at all levels of the health system and provide recommendations on skills gap.

Perhaps introduce the idea that there are norms and standards you plan to apply in this work to assess the supply of different types of health workers and include the idea that you are benchmarking particular health workforce shortages using this tool.

But it is unclear if these areas were used to justify the focus of the health worker capacity review, and these may not include all the health worker types reviewed?

The background relates a bit to retention but the focus of this article appears to relate to the issue of supply (net number of different types of health workers) and distribution (by county).

It is assumed the counties surveyed have the appropriate facilities to support the health workers being evaluated, e.g. can surgery be performed at all facilities? Perhaps explain the health infrastructure includes a regional hospital with xx beds, maternity wards and operating theatres.
It is unclear as to where this tool is from. It would be useful to get some more specific information about how the health workers reviewed were justified. Is it based on population health need in Kenya, like access to surgery, maternal and child health services etc.. There is currently some mention of the Managed Equipment Services Program areas of service e.g. surgery, radiology, ICU.

Response: The above questions have been addressed on pg 4 last paragraph that ends in page 5 that reads

The authors included this in Methodology Pg 4 2nd paragraph

In line with the aspirations of the Kenya constitution, Vision 2030, the Kenya health policy 2014-2030, The Kenya Health Strategic plan 2014 2018, the health sector intends to offer services to highest attainable standards. The Kenya Health policy has 8 policy orientation in which health infrastructure is one of them. So as to provide a robust infrastructure, the Ministry of Health developed norms and standards based on a revision of the 2006 norms and standards which did not adequately address infrastructure needs for the country. It took to account that a community which is tier 1 covers a population of 5000 people, a dispensary covers 10000 people, a health Centre covers a population of 30,000 people, primary hospital 100,000 people and secondary care hospital cover a population of 1million while the national teaching and referral hospital covers a population of 5million people. It also took into consideration that the degree of specialization increases as the tiers increased These were also based on World Health Organization recommends a minimum of 23 doctors, nurses and midwives per 10,000 population across public and private sectors and to have appropriate infrastructure k into consideration the workload indicators of staffing Needs (WISN) in a facility was considered. By 2013, Kenya has achieved about 45% of the minimum recommendation (10.5 per 10,000)

Benchmarking was essential as it enabled the government to forecast its work force, thus knowing the current stock of active workforce, past inflow and expected inflow for effectively planning and distribution according to need of each county.

Response is on pg 4 in the second last paragraph under methodology that reads and what tier of the health system it applies to, in references to the health staffing being reviewed in this article.

The response to this question is pg 4 first paragraph that reads

“In order to offer better services, in their National Health Sector Strategic Plan II (2005–2010) the Ministry of Health grouped service delivery into 6 level namely; Level 1 – Community,
Level 2 – Dispensaries, Level 3 – Health centers Level 4 – District referral hospitals (47), Level 5 – Provincial referral hospitals (10) and Level 6 – National referral hospitals (2). This was later reviewed in Kenya Health Sector Strategic Plan III (2012–2017) to Tier 1: Community Tier 2: Primary Care level – Previous KEPH levels 2 and 3 Tier 3: County level – Previous KEPH level 4 Tier 4: National level – Previous KEPH levels 5 and 6 when Kenya adopted a devolved system of government”.

In line with the aspirations of the Kenya constitution, Vision 2030, the Kenya health policy 2014-2030, The Kenya Health Strategic plan 2014 2018, the health sector intends to offer services to highest attainable standards. The Kenya Health policy has 8 policy orientation in which health infrastructure is one of them. So as to provide a robust infrastructure, the Ministry of Health developed norms and standards based on a revision of the 2006 norms and standards which did not adequately address infrastructure needs for the country. It took to account that a community which is tier 1 covers a population of 5000 people, a dispensary covers 10000 people, a health Centre covers a population of 30,000 people, primary hospital 100,000 people and secondary care hospital cover a population of 1million while the national teaching and referral hospital covers a population of 5million people. It also took into consideration that the degree of specialization increases as the tiers increased These were also based on World Health Organization recommends a minimum of 23 doctors, nurses and midwives per 10,000 population across public and private sectors and to have appropriate infrastructure into consideration the workload indicators of staffing Needs (WISN) in a facility was considered. By 2013, Kenya has achieved about 45% of the minimum recommendation (10.5 per 10,000)

Benchmarking was essential as it enabled the government to forecast its work force, thus knowing the current stock of active workforce, past inflow and expected inflow for effectively planning and distribution according to need of each county.

Methods

It is important to clearly specify how you invited participants to the survey.

Was ethics clearance obtained?

This study did not touch on the human life but staffing numbers of the health work force and so does not require ethical approval.

TNA is a policy requirement that is to be done every 2 years all government Ministry and hence approval is granted.
Please use the same term for the people who responded to the survey, e.g. county directors of health, rather than calling them different titles.

Response to the above question

Note that the titles vary with the position interviewed. There were Medical Superintends of Public County Hospitals, there are directors of faith based and private hospitals as well as referral hospital hence the inconsistency in titles.

Explain why this person would know the information about the health workers they have and be good at judging service gaps in their population.

The response is found in pg 5 third paragraph which reads

“A total of 99 respondents participated in the TNA. These comprised of medical superintendents from the public health facilities, faith based organizations (FBO) and private hospitals. The other respondents were directors of Moi and Kenyatta referral hospitals as well as Medical superintendent of Mathari referral hospital. These respondents were included in the assessment because they are in charge of the various hospitals they run and have accurate information on establishments in their institutions. The others interviewed included the County directors of Health of 46. It should be noted that the respondents were from 46 out of the 47 counties in Kenya with exception of Baringo County which was left out due to logistical conditions. The County Directors of Health are the technical officers that run the County Department of Health and has all information of the health facilities within their Counties. The assessment used structured questionnaires that were sent to respondents for familiarization followed by an interview by the Enumerators”.

Provide a sentence or two about the content of the survey (how long it took to undertake), how many open versus closed questions.

Were surveys done face to face with data collectors?

RESPONSE: The response of the above questions is in pg 5 paragraph 4 which reads

“The TNA collected primary data and desktop review was conducted for secondary data. Seven structured questionnaires were developed and self-administered to collect relevant information according to TNA objectives. The data collection took a period of one month all at once. The Ministry divided the Country into 11 clusters of between 3 to 10 counties depending on the geographical distribution namely; Lake Basin, Western, North Rift, South Rift, Central, Eastern, North Eastern. Coast, Central and Eastern were divided into two because of the distance between County and another. Each cluster had a supervisor in charge of data collection while each county
department provided 2 enumerators to collect the data. Collection of data in each County took 2 to 3 days depending on the availability of the respondents”.

Explain the norms and standards - are these a legitimate benchmark for supply of health workers and are they relevant to African nations? A reference is needed as to where they come from. Do they apply to the health workers that you looked at?

The authors included this in Methodology Pg 4 2nd paragraph

In line with the aspirations of the Kenya constitution, Vision 2030, the Kenya health policy 2014-2030, The Kenya Health Strategic plan 2014 2018, the health sector intends to offer services to highest attainable standards. The Kenya Health policy has 8 policy orientation in which health infrastructure is one of them. So as to provide a robust infrastructure, the Ministry of Health developed norms and standards based on a revision of the 2006 norms and standards which did not adequately address infrastructure needs for the country. It took to account that a community which is tier 1 covers a population of 5000 people, a dispensary covers 10000 people, a health Centre covers a population of 30,000 people, primary hospital 100,000 people and secondary care hospital cover a population of 1million while the national teaching and referral hospital covers a population of 5million people. It also took into consideration that the degree of specialization increases as the tiers increased These were also based on World Health Organization recommends a minimum of 23 doctors, nurses and midwives per 10,000 population across public and private sectors and to have appropriate infrastructure into consideration the workload indicators of staffing Needs (WISN) in a facility was considered. By 2013, Kenya has achieved about 45% of the minimum recommendation (10.5 per 10,000)

Benchmarking was essential as it enabled the government to forecast its work force, thus knowing the current stock of active workforce, past inflow and expected inflow for effectively planning and distribution according to need of each county.

Results

The results for each type of health workers (nurses, doctors, medical specialists etc.) could possibly be tabulated. Presenting results by county is not necessarily information to the international audience. This information and that in the tables is currently too detailed. Perhaps the most relevant material is the shortage and total lack of some workers according to the benchmarking tool, and broadly by county or region of Kenya.

This has been addressed in pg 6 and 7 of the manuscript discussing the findings. We have worked on a new table to show the national picture on the shortage of specialists.
Discussion

Important gaps are noted, that Kenya is well behind on supply of particular specialist health workers. Perhaps consider suggesting some of the reasons why?

The above question is addressed on Page 10, paragraph 2 –

From evidence, important gaps are noted, that Kenya is well behind on supply of particular specialist health workers. According to UNICEF, shortages of skilled health workers arise from many factors, including underinvestment in training and recruitment, weak incentives for health-care workers, low remuneration and high levels of stress. Heavy migration of skilled health workers from developing countries to industrialized nations – spurred by the burgeoning demand for health workers in industrialized countries with ageing populations – has also taken its toll.

UNICEF (2009). A survey of 10 African countries showed that the number of locally trained doctors now working in eight Organization for Economic Co-operation and Development countries was equivalent to 23 per cent of the doctors still domestically employed in those countries. UNICEF (2009) and Kenya is not an exception.

Why it is that shortages appear to vary by county. Is there sufficient funds to employ enough workers?

This has been addressed on pg 9 of the manuscript

Most of the rural set up of Kenya lacks adequate social amenities and infrastructure. This has resulted into skewed distributed of health worker force as they all strive to be deployed in the urban set ups. This has caused severe imbalances between rural and the urban set up. With the devolved system of Government, the health workers also seem to prefer working in their home Counties therefore letting the Counties with fewer health workforce from their regions to be disadvantaged

Are there enough workers?

Does Kenya train all these workers?

While majority of Kenyan Health work force are locally trained, quite a number are get their post graduate training oversee although when they come back to the country the take a local exams before there are registered by their respective regulatory bodies.
What sort of conditions do the workers face in these counties that could explain the low numbers in some areas?

Human Resource management issues have contributed to many counties shortage of the workforce. As this paper is written the entire health workforce in all the 47 Counties are on strike demanding for better remuneration package while their counterparts in the private sector have promised to join the strike if the government does not honor its promise in two days.

Are specialty workers in these counties supported by other similar doctors and staff if they work there?

Currently through the intergovernmental forums, the Human resource Committee has come up with a policy on sharing of the specialists among counties which has been adopted by some counties while others are still struggling with the same.

It might be useful to suggest some clear options for improving supply, like focusing on training, development and retention. Also improving retention?

Limitations should include discussion about your perceptions as to how viable the benchmarking tool was?

The response to the above question is on Page 5, last paragraph of the manuscript

Limitation of the Study

The ideal number of health workforce suggested by the County Directors of Health were based on perception and could have had some bias while Baringo County was left out of the study due to logistical conditions.

It is not clear what "paradigm shift" refers to since the current state of training is not described.

This respond is found Pg 10 last 3 paragraph
This calls for a paradigm shift in the training of these Specialists and adoption of residence training and innovation of technology assisted trainings as there are gaps in Specialists in all cadres that need to be trained in order to turn around health indicators in Kenya.

From these findings, the focus on the training of Specialists should be: Cardio-surgeons, Neurosurgeons, Oncologists, Nephrologists, lung and skin Clinical Officers and Anaesthesics Clinical Officers; Cardiology Nurses, Forensic Nurses, Dental Nurses, Accident and Emergency Nurses and Oncology Nurses. This calls for a paradigm shift in the training of these Specialist groups to address the gaps. These training approaches may include, residence training and employment of technology assisted training.

Please also take a moment to check our website at http://hrhe.edmgr.com/l.asp?i=9700&l=RISHHU8 for any additional comments that were saved as attachments. Please note that as Human Resources for Health has a policy of open peer review, you will be able to see the names of the reviewers.

Yes I did check the website.