Maternal and Neonatal Health Research – A priority for us in Africa

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Journey so far to set MNH African research priorities

In September 2018, the African Academy of Sciences and UK's Academy of Medical Sciences organised a workshop to discuss progress in the Sustainable Development Goals era, discuss the improved implementation of proven interventions, brainstorm novel solutions, and strategise methods for supporting investment in maternal and newborn health (MNH) science and research leadership in Africa. 69 MNH researchers and other stakeholders from 15 African countries and other countries around the world attended.

This MNH expert convening identified four Grand Challenges as central to achieving the SDGs by 2030: These are

- Better care during pregnancy
- Better care at birth
- Better postnatal care for women and their newborns
- Better hospital care for sick newborns

The expert convening further identified the prioritisation of MNH research questions as a critical contribution towards the SDGs and corresponding targets among other issues in areas like research leadership in MNH, gaps between scientists and policymakers, gender disparities in MNH research, MNH multisectoral collaborations, and MNH research umbrella networks. A report summarising this meeting and providing additional details on proposed implementation and discovery science solutions, *"From minding the gap to closing the gap: science to transform maternal and newborn survival and stillbirths in sub-Saharan Africa in the Sustainable Development Goals era,"* is available through the AAS (online at https://www.aasciences.africa/sites/default/files/Publications/)

Methods using the CHNRI tool

Child Health and Nutrition Initiative (CHNRI) is a research prioritisation exercise, first used in 2008, that has been used over 100 times to set global, national, and regional research priorities in areas ranging from maternal, newborn, child health and nutrition, sexual health, disability,

and dementia. CHNRI uses the principles of the wisdom of the crowds to systematically collect and transparently score research options against pre-set criteria. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5481891/

During 2019, the African Academy of Sciences (AAS), together with the UK Academy of Medical Sciences (AMS), funded by the Bill &Melinda Gates Foundation (BMGF) through Grand Challenges Africa, conducted a CHNRI exercise to identify research priorities in maternal and neonatal healthcare in Africa. This work was supported by experts from the CHNRI creators. The exercise was divided into 3 major stages;

1. **Collection of research questions from MNH experts on the continent.**

Between 12th June and 5th August 2019, the Grand Challenges Africa team at the African Academy of Sciences collected 699 individual research questions and areas of priority from 251 MNH experts who work or have experience working

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on the continent using an online survey tool. This was further cleaned to combine similar questions and remove duplicates to achieve an aggregated 283 research priority areas. On 22nd August 2019, 8 affiliate members of the steering committee of the MNH experts convening 2019 for Africa met and individually voted on the top 46 research priorities. Further cleaning and rewriting of the questions were done to improve the fidelity of the research priorities.

2. Development of the weights to be used during the scoring process.

The steering committee of the MNH experts convening selected four criteria and 12 subquestions, in June 2019, that would be critical to assess the collected research options. These criteria were disease burden reduction, answerability, potential impact/equity, and deliverability. These four criteria and 12 subquestions were individually ranked by 56 MNH experts attending the MNH expert convening held in Nairobi on 25th June 2019. The combined score was used to build the weights to be applied during the scoring of the research options.

3. Scoring of the MNH research priorities collected

MNH experts with experience in Africa were invited to score the 46 research priorities. The criteria included 4 major areas and 12 sub-questions that had been developed in stage 2 above. Approximately, 9000 MNH experts on the continent were invited by email to participate in the scoring exercise using an online survey tool. As of 18th October 2019, we had 130 complete responses with an additional 290 incomplete submissions. There are dedicated MNH experts in the continent who sacrificed time to do this survey. We appreciate their support.

Scientific questions and survey participants

The top 46 questions that were put out for scoring address the four challenges above, and cover all types of science including discovery, development, and delivery research questions. Some examples are: diagnostics for maternal bacterial infections, or for neonatal sepsis, context-specific packages for MNH, maternal and neonatal nutrition, upskilling health personnel and task shifting, identification of high-risk pregnancies, monitoring of labour and it complications, care for preterms including management of respiratory distress, adherence to policy recommendations, uptake of known beneficial MNH behaviours by communities, breastfeeding, HMIS and data improvement.

We share the enthusiasm of the survey participants, that the 'final listed research priorities were very relevant, comprehensive and linked to root causes of MNH morbidity and mortality in Africa'. We have no doubt 'that if those MNH initiatives would be comprehensively and continentally implemented and mostly in remote and rural areas of Africa we can dream to celebrate the achievement of 2030 MNH commitments for this continent.'

We look forward to sharing the preliminary results and are excited to move forward to implement the top priorities and enable research leadership across Africa.

DON'T MISS!! Preliminary results will be shared in a round table

Grand Challenges Annual Meeting on 30th October 2019 from 11.30 am – 01.30 pm. UNCC Conference 2.

Join the conversation #grandchallenges2019 @ AASciences #maternal #everynewborn

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Grand Challenges Africa team at the African Academy of Sciences

Charles Mogone, Joy Lawn, Chinyere Ezeaka, Marleen Temmerman, Elizabeth Molineux, Pius Okong, Address Malata, Alex Hulme, Colette Adhiambo, Angeline Yalwala, Tom Kariuki, Moses Alobo. *https://acmedsci.ac.uk/more/news/maternal-and-newborn-survival-in-sub-saharan-africa*