



LSTM

CENTRE FOR MATERNAL
AND NEWBORN HEALTH

Centre for Maternal and Newborn Health Annual Report 2018





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The Centre for Maternal and Newborn Health

Every year, an estimated **303,000 women die due to complications during pregnancy and childbirth, 2.6 million babies are stillborn, and 2.7 million newborn babies die.** Most of these deaths can be prevented if effective, good quality care is available.

The Centre for Maternal and Newborn Health (CMNH) is an internationally recognised Centre of Excellence conducting research, teaching and technical assistance. Our vision is:

“To end preventable maternal deaths, stillbirths and neonatal deaths and improve the health of mothers and babies in low- and middle-income countries.”

CMNH conducts **implementation research**, to discover and share **what, why, and how interventions work in ‘real life’ settings**, to reduce maternal and neonatal mortality and stillbirths, and, to improve health and healthcare delivery. We work to strengthen existing data collection methods, the use of data, and, we develop new indicators and frameworks to **evaluate the effectiveness of single or complex interventions.**

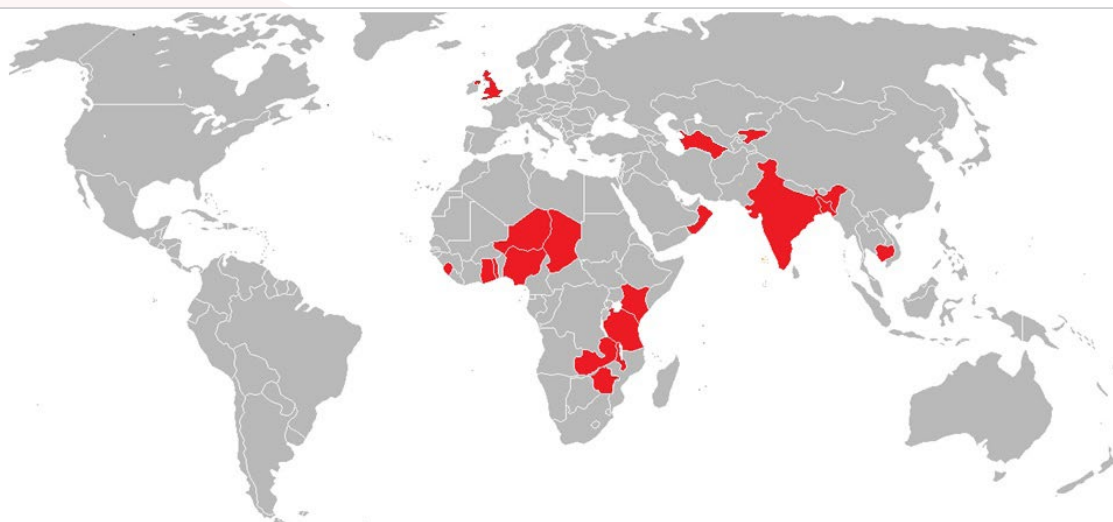
Between 2018 and 2023, our strategic objectives are to:

- Grow as a global leader in **implementation research** for maternal and newborn health.
- Discover and develop evidence-based, scale-able methodologies and approaches to **improve the availability and quality of healthcare for mothers and babies during and after pregnancy** such that this **meets their identified health needs**, results in **improved health outcomes**, and, a **positive experience** of that care.
- Ensure that **new knowledge and evidence generated is shared**, used to inform policy and practice, and, informs the global agenda for maternal and newborn health.
- **Expand and develop our partnerships** with governments, research institutions and global agencies to implement effective sustainable healthcare interventions and programmes.
- Ensure CMNH has a **‘first class’ operating environment**, and, is the **‘go to’ partner** for implementation research in maternal and newborn health.

The CMNH team is multidisciplinary, comprising more than 75 staff. In 2018, CMNH worked in partnership with 36 partners across 18 countries in sub-Saharan Africa, Asia and Europe. Our portfolio includes 18 live programmes, with grants from 12 donors totalling more than £15 million.



Photo Credit: CMNH



Implementation Research – What works, why and how?

CMNH works across the following areas of expertise:

Antenatal and Postnatal Care (ANC and PNC)

Globally, 83% of women attend for antenatal care (ANC) on at least one occasion during pregnancy and 64% attend four times or more. In practice, however, such visits constitute a series of **'missed opportunities'** for the identification and management of the health needs of not just the mother and baby, but, also the wider family. Although most neonatal deaths occur in the first week after birth, only 48% of mothers and babies receive postnatal care (PNC).

In the past year, CMNH has designed, implemented and evaluated a number of **innovative intervention packages to guide a renewed focus on ANC and PNC**. These include:

- New tools to **measure the burden of physical, social and psychological maternal morbidity** during and after pregnancy. Cross-sectional surveys have been completed to assess the burden of disease in Kenya, Malawi, Pakistan and India, and are ongoing in Togo and Chad.
- A new **5-day competency-based ANC and PNC workshop package** for healthcare providers to identify and manage the health needs of mothers and babies during and after pregnancy with integration of care across three main diseases: HIV, TB and malaria. This training package has been introduced in Afghanistan, Ghana, Togo, Chad and Tanzania.
- Multi-country surveys to assess the **availability, content and quality of ANC and PNC** including in Afghanistan, Togo, Ghana, Chad, Niger and Tanzania.
- New protocols for robust implementation research, including using step-wedge design trial approaches to generate evidence for the effectiveness of quality improvement methods and competency-based training to improve availability and quality of ANC and PNC.
- A case control study is ongoing in Togo to evaluate the best screening tools for infection during and after pregnancy.



Photo Credit: Kirsty Lowe, CMNH

Viviana Mangiaterra, Senior Technical Coordinator, The Global Fund to Fight AIDS, Tuberculosis and Malaria: "Quality antenatal and postnatal care are crucial interventions. We are delighted to be working with CMNH in a number of countries across Africa to improve the availability and quality of ANC/PNC, to ensure care is integrated for HIV, TB and malaria, and to generate evidence of what works to improve the health of mothers and babies in these countries."

In 2018, our paper on the burden of physical, psychological and social ill-health during and after pregnancy among women in India, Pakistan, Kenya and Malawi was published in *BMJ Global Health*. McCauley M, Madaj B, White SA, Dickinson F, Bar-Zeev S, Aminu M, Godia P, Mittal P, Zafar S, van den Broek N. *BMJ Global Health* 2018;3(3):e000625. doi: 10.1136/bmjgh-2017-000625 Available at: <http://gh.bmj.com/content/3/3/e000625>

Our editorial outlining the challenges of eradicating female genital mutilation/cutting was published in *International Health*. McCauley M, van den Broek, N. *International Health* 2018; eprint ahead of pub doi: 10.1093/inthealth/ihy082 Available at: <https://academic.oup.com/inthealth/advance-article/doi/10.1093/inthealth/ihy082/5146303>

Skilled Birth Attendance (SBA)

To reduce maternal mortality, it is important that all women have access to professional skilled attendance at birth (SBA). CMNH has conducted studies to explore the **scope of practice, factors that enable or hinder healthcare workers providing SBA and solutions to providing an enabling environment**. We completed a multi-country study to assess the contribution of Community-based Health Workers in providing care during and after pregnancy and at the time of birth in sub-Saharan Africa and Southeast Asia.

In 2018, CMNH and the Foundation for Research in Community Health (FRCH) continued to work together on a programme to improve the **quality of care provided by Auxiliary Nurse Midwives in India**.



Photo Credit: Foundation for Research in Community Health

Dr Nerges Mistry, Director, Foundation for Research in Community Health

"No words are enough to describe the team and splendid volunteers who drove the programme to great success. We look forward to further interaction with CMNH."

Emergency Obstetric Care

Emergency Obstetric Care is an evidence-based care package designed to save lives and reduce preventable stillbirths, maternal and neonatal mortality and morbidity. CMNH's 'skills and drills' workshop package in Emergency Obstetric and Early Newborn Care is accredited by the World Health Organization (WHO) and the Royal College of Obstetricians and Gynaecologists and has been used to train over 30,000 healthcare providers in 20 countries.

In 2018, this package was delivered in Kenya, Tanzania, Nigeria, Malawi, Sierra Leone and Cambodia.

Our multi-country, longitudinal study found that knowledge and skills were retained for up to 12 months after EmOC&NC training. Ameh CA, White S, Dickinson F, Mdegela M, Madaj B, van den Broek. Retention of knowledge and skills after Emergency Obstetric Care training: A multi-country longitudinal study. *PLOS One* 2018;13: e0203606 doi: 10.1371/journal.pone.0203606 Available at: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0203606>



Photo Credit: Dr Charles Ameh, CMNH

In 2018, a **new complementary 5-day workshop package for Extended Comprehensive Obstetric and Newborn Care** was developed to improve the quality of care provided to women undergoing caesarean section, vacuum or forceps delivery (assisted vaginal birth). This new training package is aimed at healthcare providers, including theatre and maternity staff, anaesthetists, surgeons and medical officers. It has been delivered in Cambodia and Nigeria.

Joy Marini, Global Director of Insights, Global Community Impact, Johnson & Johnson

"We believe, in partnerships, we can achieve so much more than what we can achieve alone. Because of partners such as Wellbeing Foundation Africa and CMNH, we believe we can achieve the aspiration of ending preventable maternal and child death."

Newborn Care

Neonatal mortality accounts for 45% of all under-5 child mortality. In 2018, CMNH was commissioned to conduct a performance assessment of UNICEF-supported Special Care Newborn Units (SCANUs) in Bangladesh. This study will assess **how SCANUs operate**, including how they integrate with newborn care services at other levels of the healthcare system and with maternity units. It will also identify facilitators and barriers to the running and expansion of SCANUs to inform further scale-up across the country. CMNH was also commissioned to undertake a performance assessment of UNICEF-supported Special Care Newborn Units (SCNUs) in India.

A population-based prospective cohort study is ongoing in Ghana and Zimbabwe to assess the **burden of neonatal and child diseases potentially preventable by maternal immunisation**. The study focuses on Group B streptococcus (GBS), Respiratory Syncytial Virus (RSV), Influenza and Pertussis (GRIP). Findings will be used to develop recommendations for the prioritisation of vaccines and inform the investment case for vaccines for GRIP organisms.

In Kenya, a study is ongoing to develop and test a novel package of community-based interventions targeting low birth weight babies. Studies on the availability and use of continuous positive airway pressure (CPAP) in India were completed in 2018.



Photo Credit: © 2015 John Gray

Our paper exploring healthcare workers' views on the use of continuous positive airway pressure (CPAP) in neonates: a qualitative study in Andhra Pradesh, India was published in *BMC Pediatrics*. Dewez JE, Chellani H, Nangia S, Metsis K, Smith H, Mathai M, van den Broek N. *BMC Pediatrics* 2018; 18:347 doi: 10.1186/s12887-018-1311-8 Available at: <https://bmcpediatr.biomedcentral.com/articles/10.1186/s12887-018-1311-8>

Quality of Care

Although progress has been made with regard to increasing the coverage of maternal and newborn health interventions over the past two decades, there is increasing recognition that further improvement in maternal and newborn health outcomes will depend on the ability to address the gap between coverage and quality.



Photo Credit: Barbara Madaj, CMNH

CMNH completed the **first national survey to assess the availability and quality of care provided across all levels of healthcare facilities in Niger**. 110 healthcare facilities across all eight regions of the country were assessed. Overall, 2,600 people were consulted (1,595 pregnant women and mothers, 914 healthcare providers and 110 managers), 461 consultations were observed and nearly 950 care records were analysed.

This national study is the first of its kind and covers the whole spectrum of the continuum of care including antenatal, intrapartum and emergency obstetric care, postpartum, and paediatric care services.

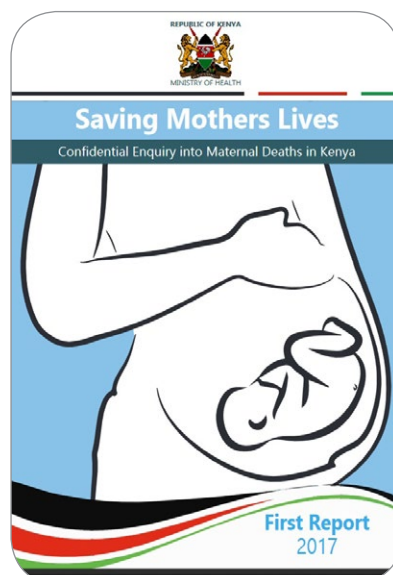


CMNH developed and published new manuals for improving the quality of ANC and PNC. The manuals outline the essential steps needed to conduct **standards-based audit** and set out **internationally agreed standards** including for women- and baby-friendly care, organisation of ANC, management of obstetric complications, PNC for both mother and baby and management and/or prevention of malaria, TB, HIV and other infections. Each standard has a clearly stated and measurable objective as well as criteria for what resources will be required to achieve the standards (structure), what actions will be needed (process)

and the expected results (outcomes). In Malawi, a step-wedge designed trial is ongoing to assess the effectiveness of standards-based audit in 44 healthcare facilities.

In February 2018, the first **Confidential Enquiry into Maternal Deaths (CEMD) Review** in Kenya was launched. CMNH supported the Ministry of Health, Kenya to carry out this enquiry and to set up a National Maternal and Perinatal Death Surveillance and Response (MPDSR) Committee and establish a National MPDSR secretariat. Massive haemorrhage was identified as the main cause of death for most women. Hypertensive disorders were also a significant contributor, as were pre-existing conditions such as HIV and anaemia. Recommendations for priority actions following this report have been agreed and will be used to develop policies to improve the quality of care for women.

Dr Mohammed Sheikh, Head, Family Planning Department, Ministry of Health, Kenya: "We received very welcome support from CMNH to conduct the CEMD. We now look forward to working together further to ensure that this doesn't end with a report – we must go beyond this and put into action the recommendations that the report generated."



In December 2018, CMNH coordinated and hosted a WHO capacity-building workshop in Liverpool on the implementation of perinatal death audit. This was targeted at healthcare providers from Europe and Central Asia and built on our earlier work in Turkmenistan and Uzbekistan. CMNH has also developed national guidelines for perinatal death surveillance and response for Malawi and in 2019, will support the implementation of perinatal death audit in Kenya.

In 2018, our paper, 'I thought they were going to handle me like a queen but they didn't': A qualitative study exploring the Quality of Care provided to women at the time of birth, was published in the journal *Midwifery*. Lambert J, Etsane E, Bergh A-M, Pattinson, van den Broek N. *Midwifery* 2018; in press. doi: 10.1016/j.midw.2018.04.007 Available at: <https://www.sciencedirect.com/science/article/pii/S0266613818301116>

In 2018, an LSTM Masters student's research project was published in *BMC Pregnancy and Childbirth*: McCauley M, Danna VA, Mrema D, van den Broek N. "We know it's labour pain, so we don't do anything": healthcare provider's knowledge and attitudes regarding the provision of pain relief during labour and after childbirth. *BMC Pregnancy and Childbirth* 2018;18:444. doi: 10.1186/s12884-018-2076-7. Available at: <https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-018-2076-7#Abs1>

Evaluation of programmes

CMNH has a successful track record of providing technical and methodological support to the design and delivery of evaluations of complex, large-scale health programmes in various countries in Africa and Asia. In 2018, CMNH conducted the independent evaluation of the **Health Development Fund (HDF) in Zimbabwe**. The HDF is a multi-donor pooled fund designed to improve reproductive, maternal, newborn, child and adolescent health (RMNCH+A) and nutrition in Zimbabwe between 2016 and 2020. The final review of the report stated: "The strong participatory approach used throughout the evaluation and the use of an evaluation technical committee composed of members from the Fund's steering committee is a great way to ensure that the evaluation design and findings respond to the needs of the users. This increases ownership of the evaluation and maximises the likelihood that recommendations will be used."

In early 2018, CMNH also supported UNICEF Kyrgyzstan to design a monitoring and evaluation framework for a UNICEF-supported programme aimed at improving perinatal health in the country.

Translating research into practice

In 2018, CMNH shared our work and engaged with the public and policy makers through events, blogs, media and webinars:

- The B!RTH project uses the power of theatre and scientific debate to highlight the issues and solutions surrounding global inequality in the availability and quality of care for women before, during and at the time of giving birth. CMNH has facilitated and taken part in scientific debates following the plays to discuss the problems and potential solutions to the issues raised by these thought-provoking plays. <https://www.birthebate.com/>
- Professor Nynke van den Broek, Head of CMNH delivered a seminar on **infections during and after pregnancy and stillbirths**.
- Dr Charles Ameh, Senior Clinical Lecturer presented a UNICEF-UNFPA-WHO webinar about **"Experiences implementing a confidential enquiry into maternal deaths (CEMD) in Kenya"**.
- Dr Mamuda Aminu, Senior Clinical Research Associate presented a UNICEF-UNFPA-WHO webinar about **stillbirth and neonatal death review**.

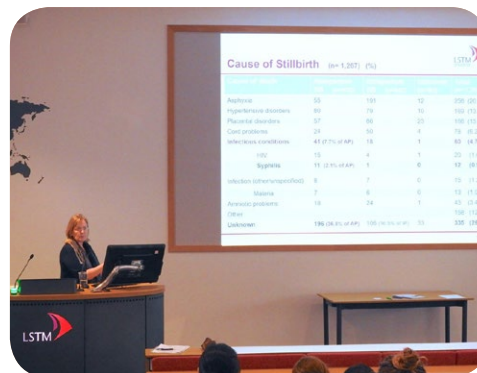


Photo Credit: LSTM

Dr Aminu's research on this topic has been published in *BMC Pregnancy and Childbirth*: Halim A, Aminu M, Dewez JE, Biswas A, Fazhar Rahman AKF, van den Broek N. Stillbirth surveillance and review in rural districts in Bangladesh. *BMC Pregnancy and Childbirth* 2018;18:224. doi: 10.1186/s12884-018-1866-2 Available at: <https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-018-1866-2>

- CMNH published a series of blogs on obstetric fistula, adolescent maternal mortality, quality of care and identifying the cause of stillbirth in low resource settings.
All blogs are available on the CMNH website: <https://cmnh.lstmed.ac.uk/news/blog>
- CMNH research is also disseminated via peer-reviewed publications. All publications can be accessed via the CMNH website: <https://cmnh.lstmed.ac.uk/publications>

Partnerships

The Centre for Maternal and Newborn Health works in partnership with an increasingly wide range of stakeholders. Our work would not be possible without the support from our donors, partners, volunteers and supporters. We work in **genuine partnership** with:

Ministries of Health in each country we work, including:

- Ministry of Health and Family Welfare, Bangladesh
- Ministry of Health, Cambodia
- Ministère de la Santé Publique, Chad
- Ministry of Health, Ghana
- Ministry of Health and Family Welfare, India
- Ministry of Health, Kenya
- Ministry of Health, Kyrgyzstan
- Ministry of Health, Malawi
- Ministère de la Santé Publique, Niger
- Federal Ministry of Health, Nigeria
- Ministry of Health, Oman
- Ministry of Health and Sanitation, Sierra Leone
- Ministry of Health and Social Welfare, Tanzania
- President's Office Regional Administration and Local Government, Tanzania
- Ministère de la Santé et de la Protection Sociale, Togo
- Ministry of Health, Turkmenistan
- Ministry of Health, Zambia
- Ministry of Health and Child Care, Zimbabwe

Partner organisations including:

- Biomedical Research and Training Institute, Zimbabwe
- Centre de Support en Santé Internationale / Centre de Recherche en Anthropologie et Sciences Humaines (CSSI - CRASH), Chad
- Centre for Injury Prevention and Research (CIPRB), Bangladesh
- Direction de la Santé de la Mère et de l'Enfant (DSME), Niger
- Foundation for Research in Community Health, India
- GFA Consulting Group, Germany
- Institut Nationale de la Statistique (INS), Niger
- Jaramogi Oginga Odinga Teaching & Referral Hospital (JOOTRH), Kenya
- Parent and Child Health Initiative Trust (PACHI), Malawi
- Public Health England (PHE), UK
- School of Nursing, Nigeria
- Solutio Global, India
- The Centre for Sexual Health and HIV/AIDS Research (CeSHHAR), Zimbabwe
- The Kintampo Health Research Centre (KHRC), Ghana
- The Wellbeing Foundation Africa
- University of Lomé, Togo
- Wits University's Respiratory and Meningeal Pathogens Research Unit (RMPRU), South Africa


CMNH is:

- A WHO collaborating Centre for Research and Training on Maternal and Newborn Health
- A member of the Network for Improving Quality of Care for Maternal, Newborn and Child Health
- A member of the Partnership for Maternal, Newborn and Child Health
- A member of the global Maternal and Perinatal Death Surveillance Response Technical Working Group

Thank you to our 2018 funders:

- Accuro Trust, Switzerland
- British Maternal & Fetal Medicine Society
- Department for International Development – UK AID
- European Commission
- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
- Global Fund to Fight AIDS, Tuberculosis and Malaria
- HT Parekh Foundation
- Initiatives Inc
- Johnson & Johnson
- UNICEF
- Women and Children First, UK
- World Health Organization, Geneva





Centre for Maternal and Newborn Health
Liverpool School of Tropical Medicine
Pembroke Place, Liverpool L3 5QA UK

Tel: +44(0)151 705 2501 **email:** cmnh@lstm.ac.uk

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www.cmnh.lstm.ac.uk