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MEDICINE




ANNUAL NEWSLETTER 2024

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Vision

Evidence based best practice in maternal and child health



Mission

Produce cutting-edge health information for maternal and child health decision making at all levels



Core Values

Credibility, teamwork, respect, confidentiality, honesty, impartiality and accountability.

About Hararghe Health Research Partnership

Hararghe Health Research (HHR) Partnership is a joint program established between Haramaya University and the London School of Hygiene and Tropical Medicine in 2017. This partnership aims to strengthen surveillance capacity, ensure best practice in research and inform public health policy in maternal and child health in Eastern Ethiopia.

Hararghe Health Research operates in the eastern part of Ethiopia, in Oromia and Harari regional states. In Oromia regional state, Kersa and Haramaya woredas of East Hararghe zonal administration are under HHR catchment, and in Harari regional state, twelve kebeles (villages) are in the catchment area. HHR has 169 interdisciplinary professionals, a well-organized IT management system, and ISO/IEC 15189:2012 accredited laboratory.

Currently, twelve studies focusing on maternal and child health are being implemented under HHR. These studies are:

- Child Health and Mortality Prevention Surveillance (CHAMPS)
- Pregnancy Surveillance (PS)
- Invasive Bacterial Disease (IBD)
- Early Detection and Characterization of Viral and Bacterial Agents Causing Acute Febrile Illness (AFI) in Ethiopia
- Spine bifida and Anencephaly in Ethiopia, foLate for prevenTion (SALT)

- Pneumococcal Carriage Study (PCS)
- Meningococcal Antibody Study
- Enhancing Children's Lives with Biomarkers for Risk Stratification and Triage (EChiLiBRIST)
- Maternal Immunization Study (MI)
- Using seroprevalence of *Neisseria meningitidis* serogroups A and X to advance introduction of conjugate Meningococcal vaccine in Ethiopia (MSS)
- Assessing the Role of Micronutrients in Pregnant Women (ARM-CHAMPS)
- Respiratory Syncytial Virus (RSV) Surveillance.

Among these studies CHAMPS is the biggest and an umbrella for the emergence of other studies. CHAMPS seeks to identify definitive causes of stillbirths and child deaths through community engagement, mortality surveillance, diagnostic and laboratory innovation, and controlled access to data.

NEW PROJECTS

Assessing Micronutrient Deficiencies in Pregnancy: ARM CHAMPS study launches

ARM CHAMPS was launched on April 26th, 2024, with the aim of assessing the role of micronutrient deficiencies on pregnancy outcomes. The project focuses on assessing the role of essential micronutrients in pregnant women, with the goal of identifying the burden of micronutrient deficiencies and their correlation with adverse pregnancy and birth outcomes.

This study consists of two key components. In the first component, 1000 pregnant women will be enrolled before their 20th week. Nurses will collect blood and urine samples from these participants at least twice during their trimesters and closely follow them up until delivery. The second component of the study involves conducting a dietary survey with 200 pregnant women from the initial cohort. This survey aims to explore the association between food intake and micronutrient level, providing deeper insights

into dietary influence on maternal and child health. Sample collection for the study started on May 29th, 2024. ARM CHAMPS will take the CHAMPS investigation one step ahead in assessing how micronutrient deficiencies contribute to adverse fetal outcomes.



SALT project launches folate study

SALT project has launched a folate study in Kersa, Haramaya and Harar as part of efforts assessing the significant burden of neural tube defects (NTDs) in Eastern Ethiopia. CHAMPS identified neural tube defects (NTDs) as the third most prevalent underlying cause of death among stillbirths and children aged <5 years. In response to this finding, the SALT project was launched in 2023 to investigate population-based burden of

NTDs and inform evidence-based interventions.

Launched in mid-2024, the folate study focuses on determining the prevalence of folic acid deficiency and insufficiency among women of reproductive age (WRA) within the HHR Health and Demographic Surveillance System (HDSS) catchment area. Participants in this study are randomly select-



ed WRA; after obtaining informed consent, trained nurses collect blood samples for serum and red blood cell folate analysis, as well as finger-prick blood samples for hemoglobin measurement. Alongside the sample collection, participants' demographic, clinical, environmental, and dietary information through structured questionnaires and anthropometric measurements will be collected to understand the prevalence and determinants of folate deficiency in the study population.

The findings of this study will be crucial for informing policymakers and public health officials to implement targeted interventions, such as food fortification or supplementation programs, to improve folate intake and reduce the risk of NTDs.

The SALT project in general aims to contribute to the development of evidence-based strategies to prevent NTDs in Eastern Ethiopia.

Neoprecision Study: A study aiming to enhance neonatal healthcare in Eastern Ethiopia started

The Neoprecision study which aims to enhance neonatal healthcare in Eastern Ethiopia started on June 8th 2024, at Hiwot Fana Comprehensive Specialized University Hospital. This study aims at improving the diagnosis of critical neonatal conditions such as neonatal sepsis, neonatal meningitis, necrotizing enterocolitis (NEC), and perinatal asphyxia. These conditions are leading causes

of neonatal mortality and morbidity globally, with an acute burden in Ethiopia due to limited diagnostic infrastructure and overlapping clinical presentations.

The study mainly focuses on validating neonatal biomarkers to provide clinicians with tools for early and accurate diagnoses, enabling targeted and timely interventions.

This prospective cohort study combines advanced biomarker quantification techniques with clinical data analysis to enhance neonatal care practices.

By addressing diagnostic challenges in re-

source-limited settings, the Neopresicion Study aims to develop sensitive, specific, and actionable tools to reduce neonatal morbidity and mortality.

HHR launched a Respiratory Syncytial Virus (RSV) Surveillance Program at Hiwot Fana Comprehensive Specialized University Hospital

A Respiratory Syncytial Virus (RSV) Surveillance Program was launched at Hiwot Fana Comprehensive Specialized University Hospital in November 2024. RSV is the leading viral pathogen causing respiratory infections in young infants worldwide in which approximately 33 million cases of acute respiratory tract infections, 3 million hospitalizations, and 59,600 in-hospital deaths in children under 5 years of age. However, the burden of this disease in Ethiopia remains unknown. Therefore, this surveillance program focus-

es on assessing the prevalence, severity and seasonal burden of RSV infection among children under two years, admitted to the pediatric emergency department at Hiwot Fana Comprehensive Specialized University Hospital.

The surveillance program plans to collect at least 1000 nasopharyngeal swab samples within a year from children under two years old who are admitted to the pediatric emergency department.





TRAININGS

ARM-CHAMPS organized skills development training

ARM-CHAMPS conducted skills development training for health professionals in Kersa and Harar from 11th-15th March 2024. The training aimed to enhance the capacity of health professionals engaged in various phases of the ARM-CHAMPS study.

The training sessions focused on critical competencies, including blood sample taking techniques, dietary survey methods, anthropometric measurement processes, informed consent taking procedures and effective interviewing skills. The session was facilitated by Rochelle Werner, researcher and post-doctoral student from Emory University program office, and Mary



Omwalo, laboratory technician from Kenya's CHAMPS site.

ARM-CHAMPS staff members, midwives from pregnancy surveillance (PS), and lab technicians from public health centers in the HHR catchment area were the attendees.

Bridging the gap: Data to Action team conducted training on managing Pregnancy Induced Hypertension Disorder



HHR's Data to Action team conducted a training for 20 midwives currently working in five public health centers in Harar from March 20th -21st 2024. This

training addressed significant concerns of pregnancy-induced hypertension, which has been identified as a major contributing factor for Neonatal Asphyxia- a leading cause of stillbirth, as indicated by recent CHAMPS data.

The training was prompted by a skill and materials gap survey conducted in five randomly selected health facilities under the catchment revealing critical skills gaps in managing hypertensive disorder during pregnancy. The sessions focused on pregnancy-induced hypertension assessment and case management, and referral systems. Participants engaged in practical skills lab demonstration to solidify their learning. SR. Seble Mengistu, senior nurse in Data to Action team, facilitated the training which aims to reduce neonatal asphyxia caused stillbirths in health facilities.

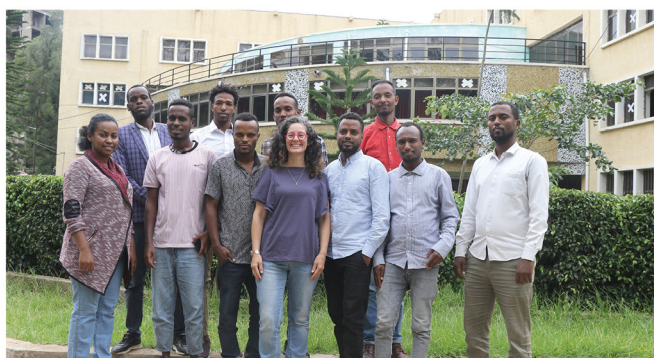
Social and Behavioral Sciences team organized a training on qualitative research

The HHR Social and Behavioral Sciences (SBS) team organized a training on qualitative research methods from June 16th-21st June 2024. This training was facilitated by Maria Maixenchs, a senior social scientist from CHAMPS Program Office.

The primary focus of this training was to enhance the research skills of the social and behavioral science team. In the session, several topics have been covered including qualitative research methodologies and ap-

proaches, data collection and management as well as the use of Dedoose software for data analysis.

In addition to the training sessions, Maria Maixenchs visited HHR's on-site social and behavioral science activities. During her visit, she had a discussion with an on-site SBS team to identify strategies to improve community engagement activities, and HHR's impact for improving child and maternal health.



CONFERENCES

HHR team participated in Maternal Immunization Consortium meeting

A team from HHR participated in the Maternal Immunization (MI) consortium meeting which was held in South Africa. The meeting focused on standardization and creating consortium documents for all MI countries including Pakistan, Kenya, Ethiopia, Uganda, South Africa, and Ghana.

The Ethiopian team was represented by Prof. Nega, Dr. Bersabeh and Dr. Irene from HHR, Mr. Melkamu from the Federal Ministry of Health, Dr. Mahlet from Black Lion Hospital and Dr. Sandra from UNICEF-Ethiopia.



HHR participated on Haramaya University's 41st Annual Research and Community Engagement Review Workshop



HHR participated in Haramaya University's 41st annual research and community engagement review workshop from 29th-31st May 2024 organized at Haramaya University main campus. The workshop was conduct-

ed under the theme "Enhancing the Alignment of Research and Community Engagement Programs at Haramaya University to Address Grand Societal Challenges." In the workshop, HHR presented research findings emphasizing on maternal and child health in eastern Ethiopia, and community engagement activities. In a parallel session, there was an exhibition where HHR team presented various research activities, community engagement strategies and impacts for the University's administrative board, delegates from Ministry of Health and the wider community.

The annual workshop was instrumental for promoting HHR's activities for the wider public and advocate for child and maternal health.

VISITS

Haramaya University's administration board visited HHR activities

Haramaya University's administration board visited HHR activities in June 2024. The delegation discussed with site leads and researchers regarding HHR's engagements in maternal and child health research.

During the visit, Prof. Nega Assefa, Principal Investigator of HHR, provided a comprehensive briefing on ongoing research projects on maternal and child health. He highlighted efforts and collaborations to strengthen

Besides, the delegation visited HHR's laboratory, noted for being one of the few facilities in Ethiopia accredited with the ISO/IEC 15189:2012 standard. This state-of-the-art laboratory is equipped to conduct a wide array of tests, including microbiology, molecular diagnostics, histopathology examinations. The laboratory provides clinical microbiology diagnostic services for severely ill children admitted at Hiwot Fana Comprehensive Specialized University Hospital, supports national epidemic surveillance, and serves as an advanced laboratory attachment-training center for undergraduate and postgraduate students of Haramaya University, the London School of Hygiene & Tropical Medicine and Amoud University, Somaliland.



research and surveillance capacities, ensure adherences to best practices, and inform maternal and child health policy in Ethiopia.



Exploring Impact: CHAMPS Program Office Impact and Engagement team visited HHR

Impact and Engagement team from CHAMPS Program Office, led by Portia Mutevedzi, Senior Director for Impact and Engagement, visited HHR in June 2024.

The team's visit aimed at observing advancements and accomplishments in Data to Action (DtA) initiatives as well as ongoing social science and community engagement activities. During their stay, the team conducted a comprehensive review of HHR's activities,

visited HHR's laboratory, reviewed DtA activities in HHR catchment areas, and discussed with SALT study team on study progress, and impacts so far.

The visit was concluded with a strategic dialogue on future direction of CHAMPS's impact and engagement activities, in collaboration with the Health and Demographic Surveillance System (HDSS), the Social and Behavioral Science (SBS) and Data to Action teams.



International Vaccine Institute (IVI) and HHR discuss possible collaboration

A delegation from International Vaccine Institute (IVI), a South Korean based institute focusing on vaccine development, had a three-day visit at HHR facilities. The delegation had discussions with HHR site leads and researchers on the prospect of initiating an observational study on the burden and economic cost of Group A Streptococcus (GAS) infection.

During the visit, the IVI delegation conducted assessments at Hiwot

Fana Comprehensive Specialized University Hospital and Haramaya Hospitals and visited HHR's on-field activities at Kersa site.



IMPACT AND COMMUNITY ENGAGEMENT

Hiwot Fana Comprehensive Specialized University Hospital now has a dedicated Outpatient Department for NTD patients

The Spina Bifida and Anencephaly in Ethiopia; FoLate for PrevenTion (SALT) project successfully collaborated with Reach Another Foundation and hospital administration to establish a Center of Excellence for Spina Bifida and Hydrocephalus (SBH) at Hiwot Fana Comprehensive Specialized University Hospital in 2023. This significant achievement has enhanced the hospital's capacity to provide specialized care and improve patient outcomes.

In working towards providing the best possible care to children with SBH, the first step was to send one of the nurses working on the SALT project to be trained in the care of children with SBH, including Clean Intermittent Catheterization (CIC). The training was also given for a hospital nurse. This has enhanced the care given to such patients significantly.

After that, the project made efforts in creating a welcoming and supportive environment for NTD patients by opening a separate out-

patient department (OPD). The OPD features child-friendly elements including colorful pictures, dolls, and sweet candies, aiming to reduce stress and anxiety for patients. Currently as part of the Centre of Excellence, another OPD is provided by the hospital for a Multi-Disciplinary Team clinic which we have made child-friendly and changed the previous OPD to a CIC counselling and training room. As part of Reach Another Foundation collaboration with SALT project to improve evidence based after care, the SALT team is actively involved in health education sessions held every two weeks in the hospital. SALT project nurses coordinate the sessions preparing a coffee ceremony and providing health education. The phone follow-up for children after being discharged has now been made more formal as one of RAF's Evidence Based Aftercare plan.

Besides, the SALT study provides folic acid to high-risk mothers, counselling parents, specifically the mothers as they are forced to believe that it is their fault such a child is born.

All efforts are done to provide the best care possible and have proven to be effective as the outcome of patients have improved significantly. These accomplishments highlight the team's dedication to improving healthcare services and making a positive impact on the lives of our patients and their families beyond doing research.



From Heartbreak to Hope: Kenya Suleyman's Journey in Motherhood

For years, Kenya Suleyman's journey in motherhood was filled with heartbreak. At just 28 years old, she had endured the unimaginable—six pregnancies, but only two live births. The losses came late in her pregnancies, at seven, eight, and even nine months, each one deepening the grief and uncertainty for her and her family living in the Haramaya District.



When she became pregnant for the fifth time, Kenya was introduced to the **Child Health and Mortality Prevention Surveillance (CHAMPS)** program. Through CHAMPS, she consented to **Minimally Invasive Tissue Sampling (MITS)**, a procedure that helped identify the cause of her pregnancy losses. This led to a critical turning point—she was connected to a private maternal and child health clinic for further tests and specialized care.

By the time she conceived for the sixth time, things were different. This time, Kenya had **access to regular antenatal care (ANC)**, with

all associated costs covered by CHAMPS. She was seen by a renowned maternal-fetal specialist, ensuring she received the attention she needed. But it was not just medical care that made the difference—Kenya also received grief counselling and emotional support to help her heal from past trauma and navigate the anxiety of pregnancy after loss.

On May 28, 2024, Kenya's journey reached a beautiful milestone—she gave birth to a healthy baby girl, whom she named Nairobi. Holding her daughter in her arms, she finally felt the joy she had long yearned for.

Kenya's story is more than just one of survival; it's a testament to the power of **accessible healthcare, compassionate support, and evidence-based interventions**. CHAMPS did not just help her carry a pregnancy to term—it **restored her hope and confidence in motherhood**.

For mothers like Kenya, Programs like CHAMPS are **not just changing lives; they are saving them**.





Theater for Development

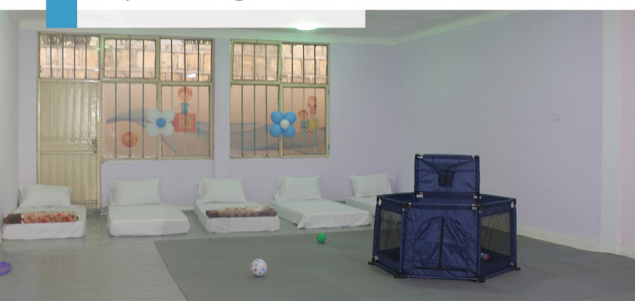
2024 in Photos



Community Advisory Board members-Harar



Daycare inaguraton



Deep cleaning campaign at Haramaya Hospital



Laboratory activities



Pre-service training for Haramaya University students



A mother supported in nutrition sensitive agriculture program



Community health outreach campaign



Social Support Group members discussing at Kersa Site



Sexual and Reproductive Health training for adolescent girls at Haramaya



Pre-service training on Neonatal Resuscitation and Infection Prevention



Data sharing for journalists

HHR in numbers

61134 Catchment Households

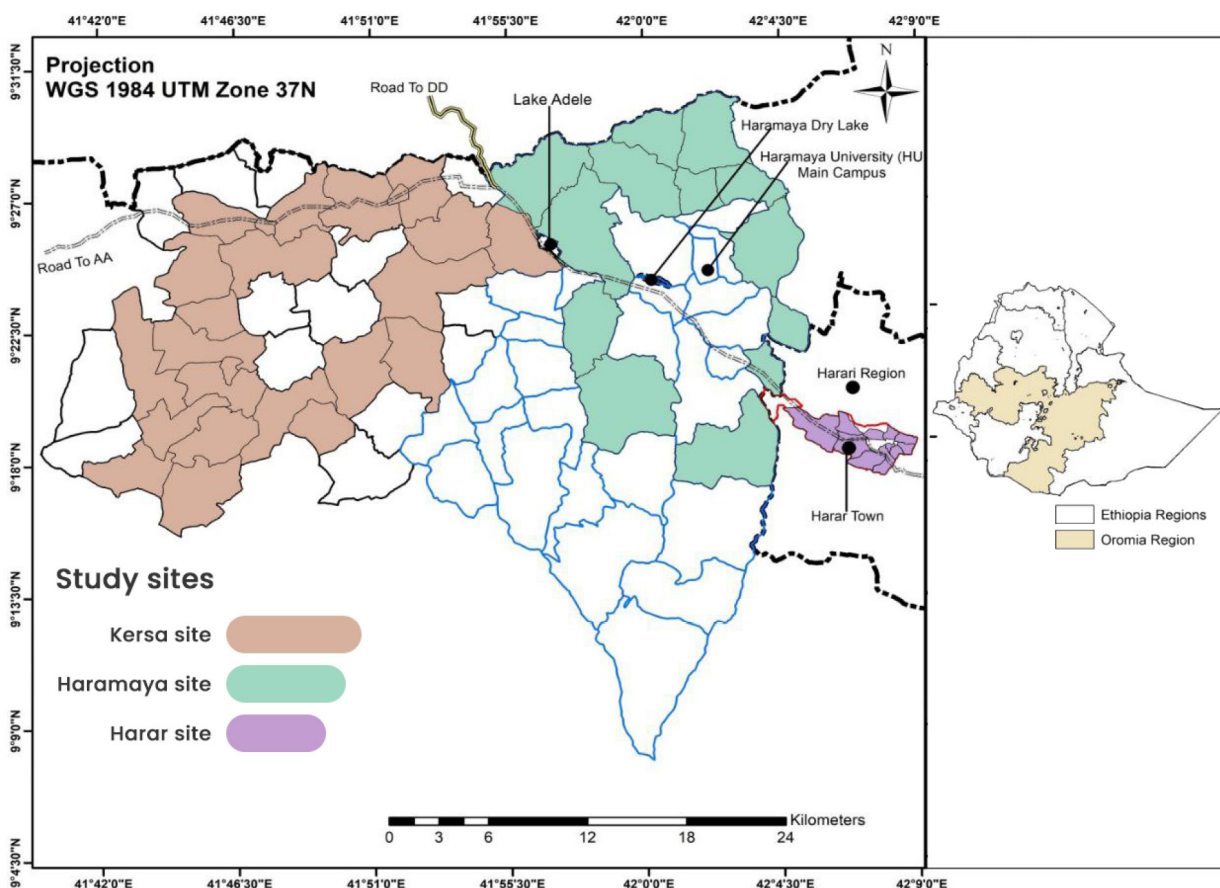
164 Employees

12 Active Studies

9 PhD Candidates



HHR | HARARGHE HEALTH RESEARCH Study Sites



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