



CHAMPS

Building
Knowledge.
Saving
Children's
Lives.

HHR | HARARGHE
HEALTH
RESEARCH

CHAMPS Ethiopia

2017-2022

At the Hararghe Health Research
Partnership

Address

Haramaya University
College of Health and Medical Sciences

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We established CHAMPS in Ethiopia in 2017 through the Haraghe Health Research (HHR) partnership, a joint research initiative between Haramaya University (HU) and London School of Hygiene & Tropical Medicine (LSHTM).

The name Hararghe is adapted from the name of the area that covers the vast majority of the eastern Oromia, Harar and Dire Dawa areas in Eastern Ethiopia. This area is a home for highly populated dominantly agrarian society. Haramaya University is also located in the Hararghe area.

CHAMPS remains the biggest project under HHR and following the study findings a number of other studies were conducted and new studies emerged.

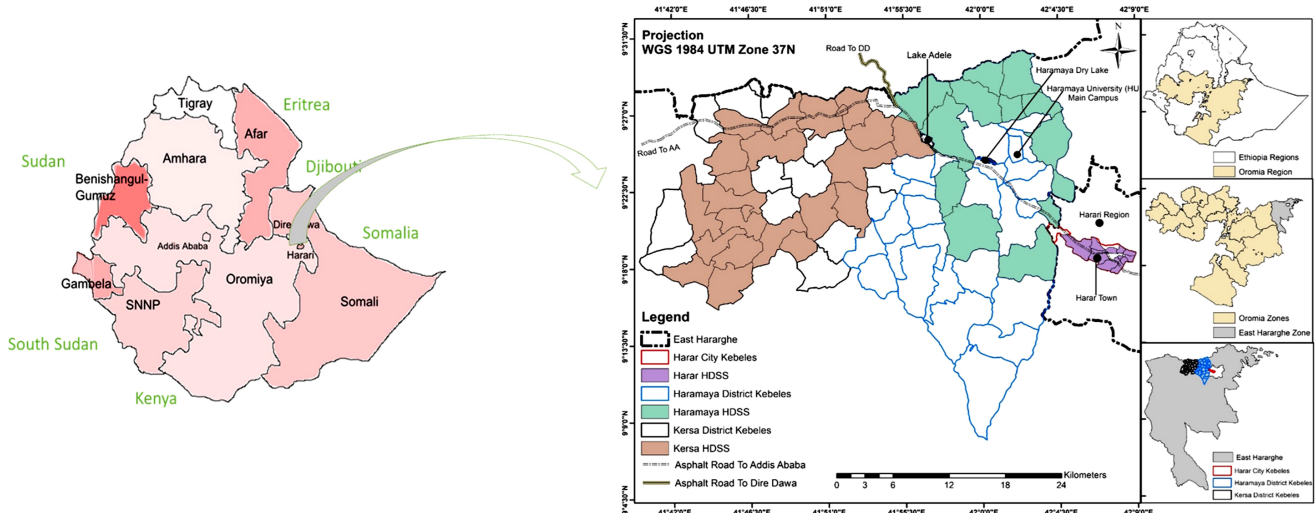
HHR works in the advancement of health sciences research through strengthening research and surveillance capacity, ensuring best practices in research and informing policy in maternal and child health in Ethiopia.

HHR is embedded in the College of Health and Medical Sciences at Haramaya University. Its field activities are going in the catchment population of predefined sub-districts in Harar, Kersa, and Haramaya districts in Eastern Ethiopia. In addition, it does its activities in all health facilities in the catchment area including Haramaya district hospital and Hiwot Fana Comprehensive Specialized University Hospital under Haramaya University.

The Sites

Harar is on a hilltop (1885m) around 500km from Addis Ababa. It is the capital of East Hararghe, a zone of Oromia Region, and the capital of the Harari Peoples Regional state, a small independent city region. Kersa is a rural district around 44km from Harar. The district population is around 173,000 (2007 census). Kersa contains highlands and lowlands, and

the area is semi-arid and prone to drought, with scarcity of food production. In 2020 Haramaya was added after receiving a lot of death notifications even though it was not in the catchment area. Haramaya HDSS focuses on 12 of the 39 kebeles (sub-districts).



Implementation sites

The First Two Years of CHAMPS (2017-2018)



Focus Group Discussions with community members in Kersa

The Social and Behavioral Science (SBS) team conducted essential formative research with-in these years. In the majority-Muslim community with a strong culture of respect for the dead body it was critical to conduct extensive formative research before being able to conduct research on cause of death using Minimally Invasive Tissue Sampling (MITS).

Topics like beliefs about a child's death, body preparation, body transportation, burial procedure, burial places and consoling

bereaved parents were assessed through interviews and focus group discussions. We engaged with different groups including religious and community leaders, lead mothers who are representatives of the women in the community who are representative of women in the community, Afocha ñ an Islamic community-based organization (CBO), and other CBOs and influential stakeholders.



Discussion with Muslim leaders in Ethiopia, receiving Fatwa (ethical clearance) on sample collection from the body



Religious leaders discussing the research





Building Hararghe Health Research Laboratory

The Haramaya University College of Medical and Health Sciences developed the infrastructure needed at the university campus and restructured the Hospitalis pathology and university's microbiology laboratories. The site in Harar now also has three septic tanks, a generator, two large water tanks and an incinerator.

The microbiology and molecular laboratories are on the College of Health & Medical Sciences campus of Haramaya University, and the pathology laboratory is in Hiwot Fana Hospital. In the past five years the laboratory has analysed over 705 MITS, 3369 Maternal Infection Study MIS, 34,647 COVID-19 and 10,349 antenatal COVID-19 serum samples.





Generator construction for laboratory working 24 hrs



The latest laboratory instruments used to process samples





The First MITS

In February 2019 the first MITS was performed in Hiwot Fana Specialized University Hospital. The clinical team resides at the hospital and health center. We built a MITS room where we take samples and prepare the body for burial. From 2019 to December 2022, we have collected over 700 MITS from the hospital and community and we have 11 MITS practitioners. Next to the MITS room, we have a counseling room where we take consent and comfort families who are grieving.



Kersa MITS room and counseling room at Hiwot Fana Hospital

Community Engagement Activities

The SBS team has engaged with the community over the past five years resulting in increased acceptability of MITS and other CHAMPS activities.

Community Gatherings

We use small and large community gatherings as opportunities for engagement. On market days we can find a large number of community members, and we attend smaller gatherings like Afosha (an Islamic CBO helping the community during happy and sad moments) and Ider (a CBO that helps families when they are faced with the loss of one of their members).



Gathering of different community groups sensitization of CHAMPS activities

Theater For Development



In our Theater for Development (TFD) initiative, actors are selected from the community to play characters. We have covered topics ranging from sensitization to CHAMPS to child and maternal health. Currently we are using TFD to create awareness about the leading causes of death identified by the DeCoDe panel.



TFD performance on topics identified by DeCoDe panel

Death Notification System

We created a death notification system to improve the speed with which deaths in the community were notified. Community health volunteers (CHVs) were recruited and trained about CHAMPSi objectives, and how and when to notify according to CHAMPS eligibility criteria. (sub-districts).



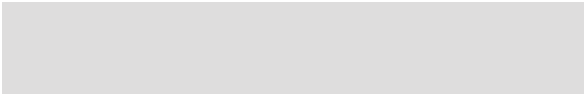
Community Health Volunteers taking refreshment training on DN system

Community Health Outreach Campaigns

We started community health outreach campaigns to offer medical care in the community and identify cases that needed referral. We offered a free clinical service every week with children and mothers given priority. As well as providing a much-needed service,

these campaigns also helped to improve awareness of CHAMPS and counter rumours about the study. One major concern in the community was a skin problem. Through our outreach, we were able to treat thousands of households. These campaigns continue to create a positive impact.





Health outreach campaigns at different kebeles of our catchment area

Open Laboratory Visits

We have invited religious leaders, lead mothers, CBO representatives, Afosha and death notifiers to our laboratory to see exactly what we do. Visitors have a chance to visit the microbiology, molecular and pathology laboratories and see the MITS room where

samples are taken and the counselling room where consent is taken. These visits are designed to develop trust, increase the understanding of the importance of the study and the acceptance of MITS within the community.



Religious leaders and influential people at the community visiting HHR lab and MITS room

Broadcasting CHAMPS

One of our most effective communications tools is a radio program in Amharic and Afan Oromo languages. At the beginning of CHAMPS, programs focused on introducing CHAMPS and its activities; highlighting the burden of child mortality and explaining how CHAMPS is helping address the problem. In the second phase of the program, we shifted our focus to the diseases that the DeCoDe panel has identified. We have invited experts to discuss selected topics on the nature of the disease and prevention mechanisms and held live sessions for people to ask questions and get more information.



Listening group at Kersa and Haramya listening to our programs

Health Promotion

The CHAMPS team educates mothers on topics such as breastfeeding, infant feeding, and danger signs during pregnancy in hospital waiting areas of pediatric, Antenatal Care (ANC), Postnatal Care (PNC) and Neonatal Intensive Care Unit (NICU) wards and health centers. We distribute information leaflets in Amharic and Afan Oromo languages.

We also conduct mass campaigns, e.g. at the market, to raise awareness of topics including Neural Tube Defects, meningitis and sepsis. These have all been identified as causes of death in stillbirths and infants by the DeCoDe panel. We prepared billboards and hung them outside Haramya Hospital and Kersa and Water health centers. We use these boards as a focal point to gather people and teach them about what support is available at the hospitals and health centers. We distributed posters with information on leading causes of death to all health centers and health posts to share knowledge within the community. In addition, during health education sessions our clinical team gives free health checkups to attendees.



Health education session at the marketplace and Haramya hospital

Cooking Demonstrations

Malnutrition is the leading cause of death for older children in our sites. We selected lead mothers from the community and a nutritionist trained them on how to pre-

pare a balanced diet for their children and for pregnant women. These women teach other mothers and cascade the knowledge within the community.



Lead mothers cooking and presenting nutritious balanced food to other mothers

Data to Action



Presenting findings of the study for the hospital doctors of Hiwot Fana

The final stage in the CHAMPS ladder is using the data for public health action at all levels including local, national, and international.

At local level: families of the deceased are the first to learn about the cause of death of their child. Families receive the information through the CHAMPS result communication team which includes counselors, medical doctors and social science professionals.

They explain the result and offer case-specific health education for the mother. In addition, mothers who need medical attention are linked to the health centers and clinics for further investigation.

The DeCoDe panel has identified the cause of death for a total of 385 cases and 320 families have received the results. Sixty-five families did not receive the results, either because they declined or we have lost contact.

We offer reproductive health education club at Kersa and Haramaya high schools after identifying that teenage pregnancy was a contributing factor for stillbirths. The health clubs teach and empower young girls to make better health choices for considering their future.

At Regional level: our data is shared with stakeholders working on child health. Causes of child death identified through the study have been shared with hospital staff working in pediatric, maternity and NICU wards. We discussed Infection Prevention Control (IPC) with the hospital administration, and an intervention was initiated. We facilitated training for cleaners, guards, laundry and food catering staff. In addition, a deep cleaning campaign has been initiated in Hiwot Fana Hospital which hundreds of staff, including volunteers, participated in.. The program is planned to be repeated on a monthly basis.

We also share data with Haramaya Hospital health practitioners, nurses, midwives, and general practitioners including representatives from the district health bureau. Case studies were presented by a gynecologist and pediatrician.



Hospital staff deep cleaning of pediatric ward

One of the major causes of death of death we have identified is Neural Tube Defects (NTD). Folic acid was given to mothers who lost their babies due to this disease when our result communication teams visited them. Several packages were distributed to the health centers with posters that contain NTD information.

The leading cause of death among stillbirths is birth asphyxia and intra uterine hypoxia. We have given resuscitation training to nurses and midwives from Hiwot Fana and Haramaya hospitals and health centers in Kersa. This practical training aimed to strengthen health professionals' skills and knowledge on how to handle newborns and manage



Midwives and nurses of Hiwot Fana Hospital during resuscitation training

As malnutrition and nutritional deficiencies are another major cause of death or underlying condition for death, we initiated iNutrition Sensitive Agriculture (NSA). Families from Kersa and Haramaya were selected to cultivate their own food. Seeds were provided by Haramaya University. NSA experts have been actively working with agriculture offices of Kersa and Haramaya on nutrition-sensitive agriculture.

We have also shared our findings with journalists, NGOs, CBOs and other stakeholders.

National level: We share our findings quarterly with the Ethiopian Public Health Institute (EPHI). We also share data with Oromia Health Bureau, the Ministry of Health, and at national events, conferences, exhibitions and other platforms.



At Kersa Seed distribution for Farmers

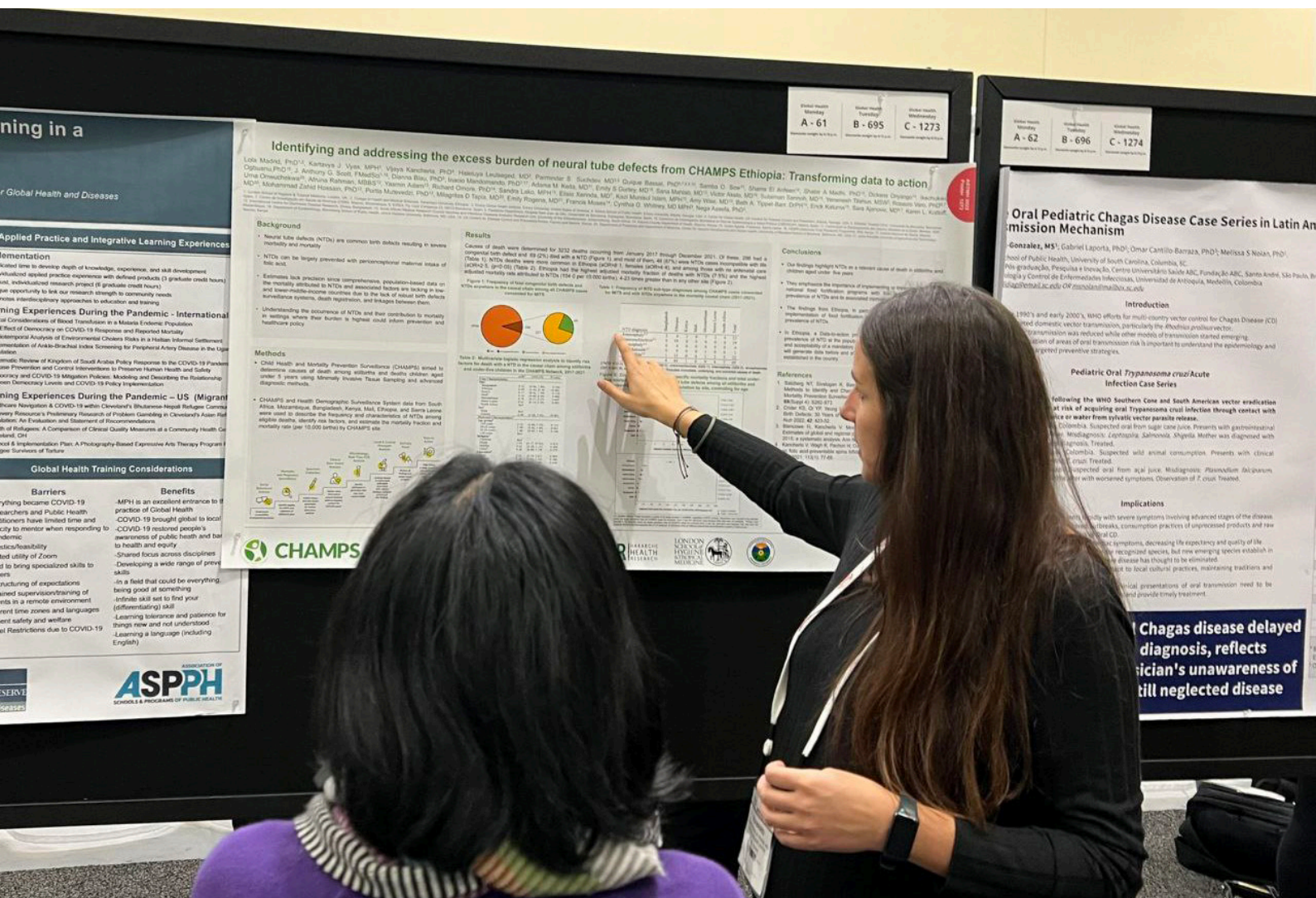


Data sharing with Ormoia Health Bureau

International level: We have represented CHAMPS Ethiopia at international conferences.



CHAMPS participating on March 8 celebration by the regional government and exhibition organized by HU



Presenting findings at American Society of Tropical Medicine and Hygiene (ASTMH)

Pregnancy Surveillance (PS)

Pregnancy surveillance was initiated in 2020 to strengthen the ANC practice within the community as the DeCoDe panel identified that many deaths could have been averted using proper ANC follow-up and health institution deliveries. Most stillbirth cases result from not attending a proper ANC follow up.

Over the last year, pregnant women were recruited in the study and follow ups were administered by the midwives until the birth. We visit the mother after delivery until day 42. We have trained midwives and nurses for these activities and PS detectors from the community link pregnant women to the health centers.

Haramaya University has also provided ultrasounds, beds, adult and baby weight and height measurements, blood pressure measurement instruments, wheelchairs and blood level testing machines to health centers located in the three sites.



PS staffs conducting health check ups within the community and at the health center

Other Studies in HHR

CHAMPS was the first and remains the largest study in the HHR. However, we are increasingly expanding our research into other focus areas. For example, we have the maternal infections study (a study that investigates the association between maternal infection and stillbirth or early neonatal deaths), Anti-microbial Resistant Study in babies under the age of five admitted in a hospital (this study quantifies the association between AMR and clinical outcomes (mortality and length of hospital Stay) for inpatients with proven Gram-negative bacteraemia (all Enterobacteriaceae except *Salmonella* species), Invasive Bacterial Diseases (a study that determine the etiology, drug susceptibility, treatment outcome and associated factors among children below five years admitted in hospital), and Neural Tube Defects (NTD) study that focus on assessing the burden of NTD and folic acid deficiency in the CHAMPS catchment areas.

HHR Strengthening Research Capacity

Strengthening capacity for research and research management is a core ambition of the Hararghe Health Research Partnership. So far, we have recruited seven PhD and four master candidates who are registered for study at LSHTM. We have also conducted training on manuscript writing, leadership, effective communication, and supported attendance of national and international conferences.



HHR staff gathering event



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