

A photograph of a woman wearing a red headscarf and a black patterned top, smiling and holding a young child in a yellow shirt. They are sitting in front of a traditional structure made of stone and wood, with a woven basket and a yellow container visible in the background.

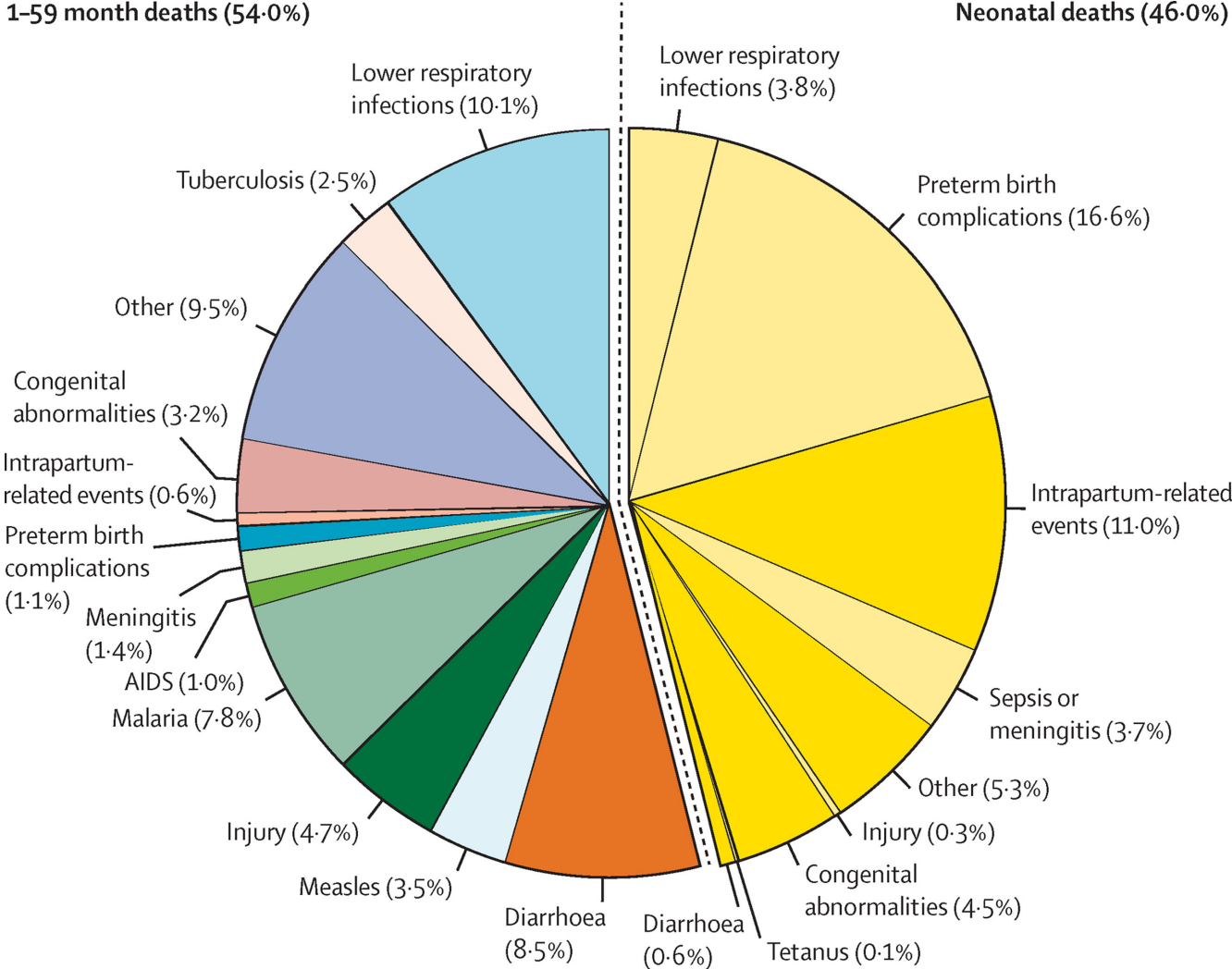
HaSET Program Overview

MCH Leadership Lab
Student Research Opportunities
September 2023



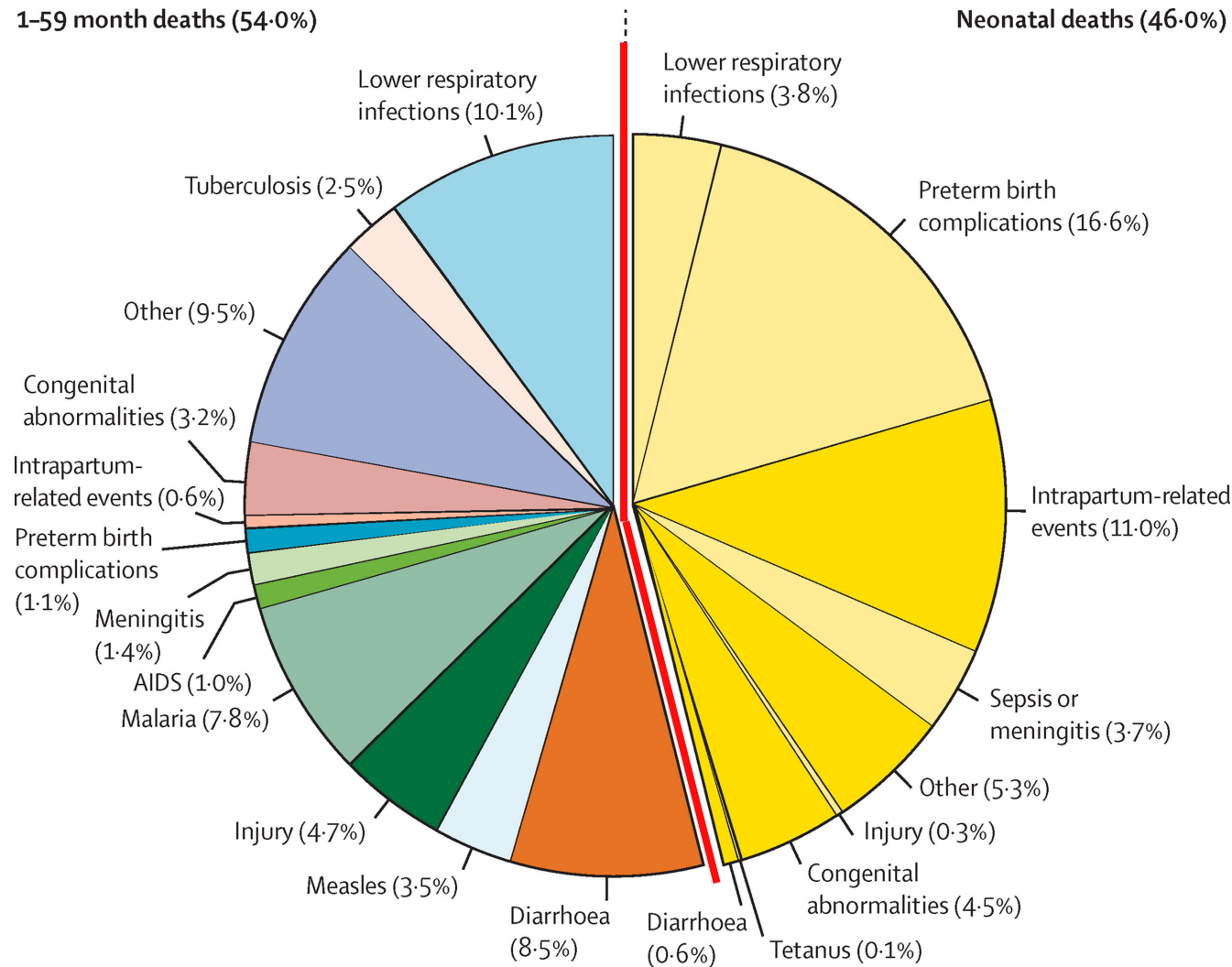
HaSET-ሀሴት
Maternal and Child Health
Research Program

5.3 million under-5 preventable child deaths in 2019



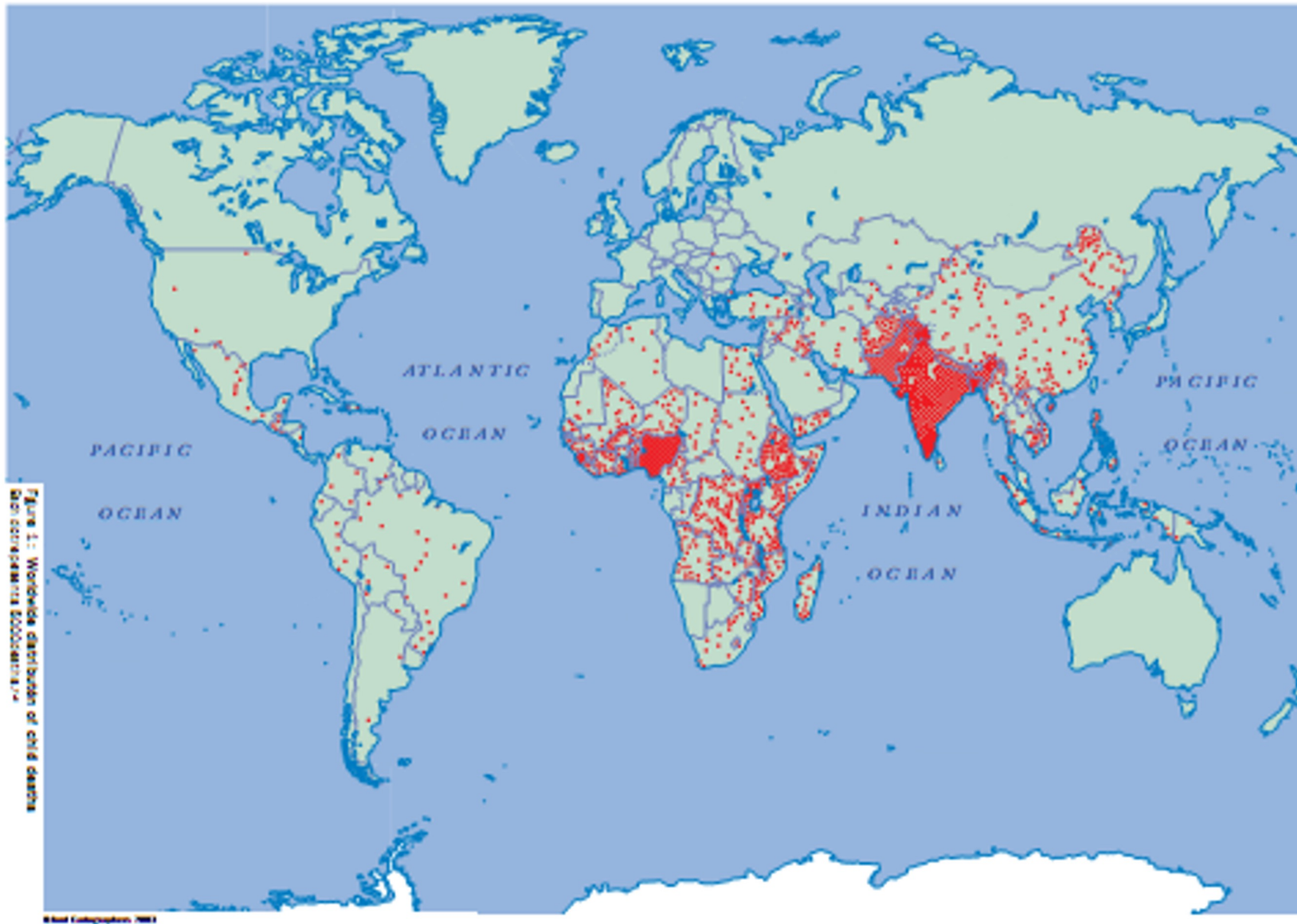
Jamie Perin, PhD, Amy Mulick, MSc, Diana Yeung, MSPH, Francisco Villavicencio, PhD, Gerard Lopez, MSPH, Kathleen L Strong, PhD, David Prieto-Merino, PhD, Prof Simon Cousens, MA, Prof Robert E Black, MD, Li Liu, PhD Global, regional, and national causes of under-5 mortality in 2000–19: an updated systematic analysis with implications for the Sustainable Development Goals *The Lancet Child & Adolescent Health* 2022 6106-115DOI: (10.1016/S2352-4642(21)00311-4)

2.4 million (46%) were among newborns less than 28 days of life



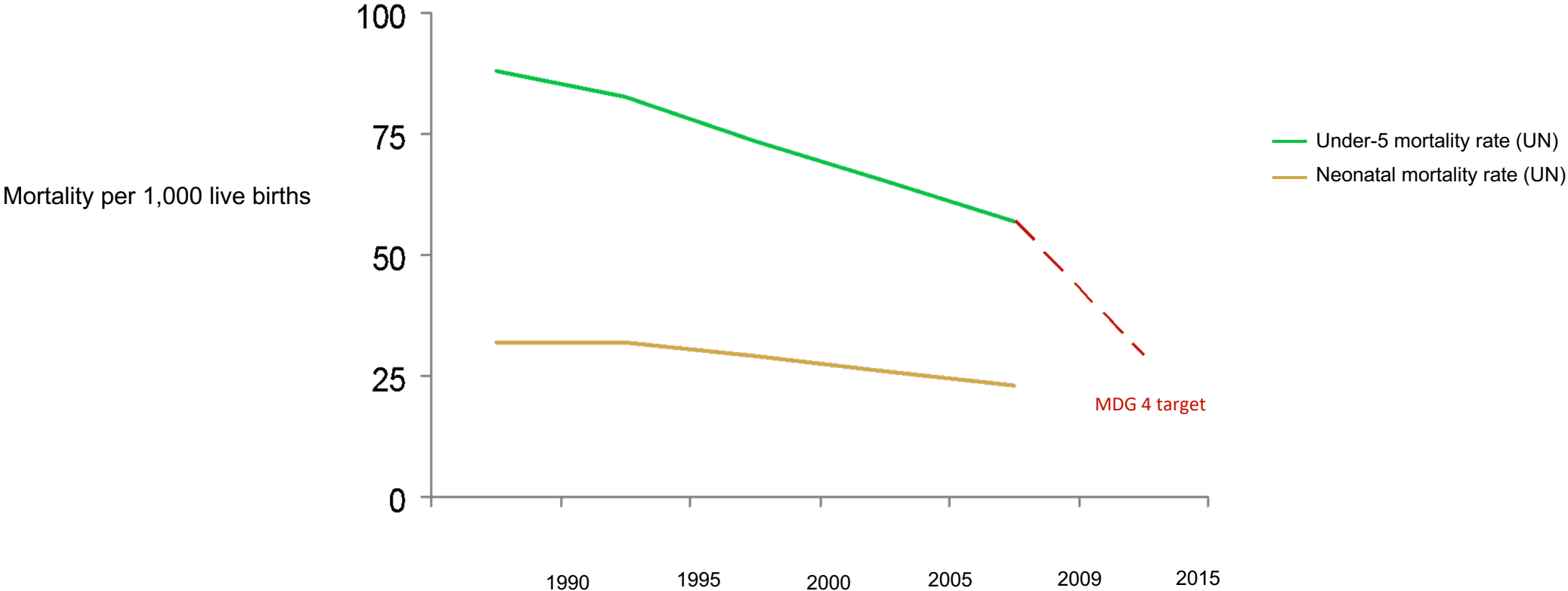
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Worldwide distribution of child deaths



Critical need to address newborn survival

Neonatal mortality is not dropping as fast as under-five mortality



<u>Average annual rate of reduction</u>	<u>1990–2010</u>	<u>2000–2010</u>
Under-five mortality rate	2.2%	2.5%
Children 1–59 months mortality rate	12.5%	2.9%

Source: UNData UN Population Division, *World Population Prospects 2012*; Institute of Medicine (US) Committee on Understanding and Reducing Premature Birth and Assuring Healthy Outcomes, "Preterm Birth: Causes, Consequences, and Prevention" National Academies Press, 2007.

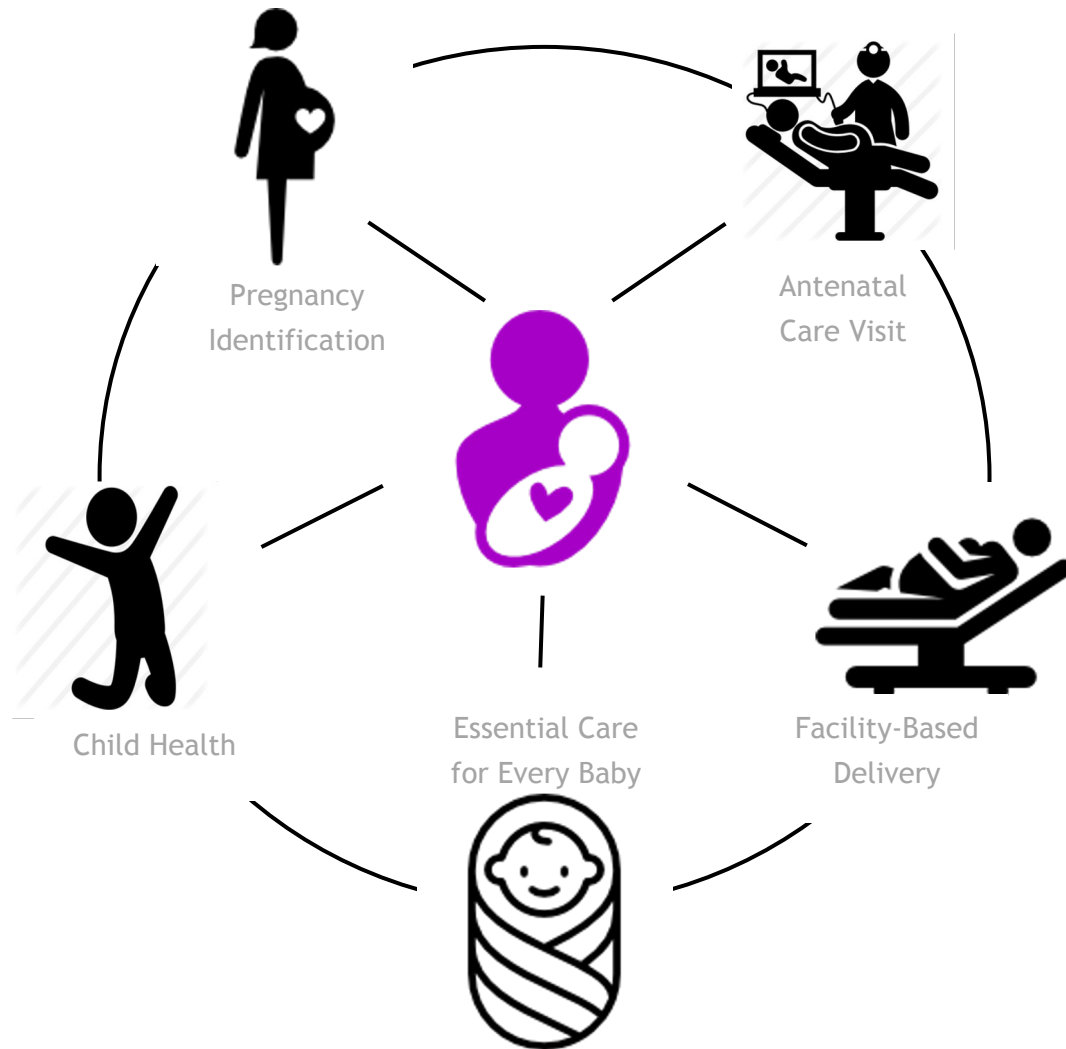


HaSET's Vision

To end all preventable child deaths globally by advancing health through research, development, testing, and scale of evidence-based interventions



HaSET Guiding Principles



DATA-DRIVEN.

Generate high quality evidence to direct and justify new maternal and child health investments.

USER-CENTERED.

Empowering mothers, families, and communities to make decisions using data. Designing projects based on the mother and family perspectives, environments, and needs.

INTEGRATED.

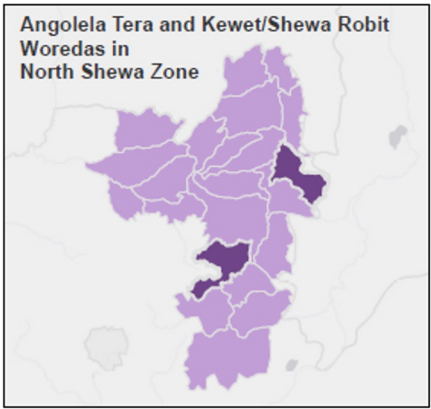
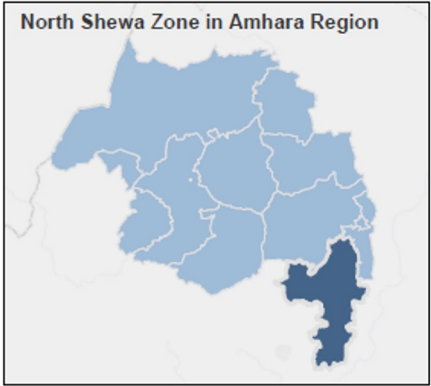
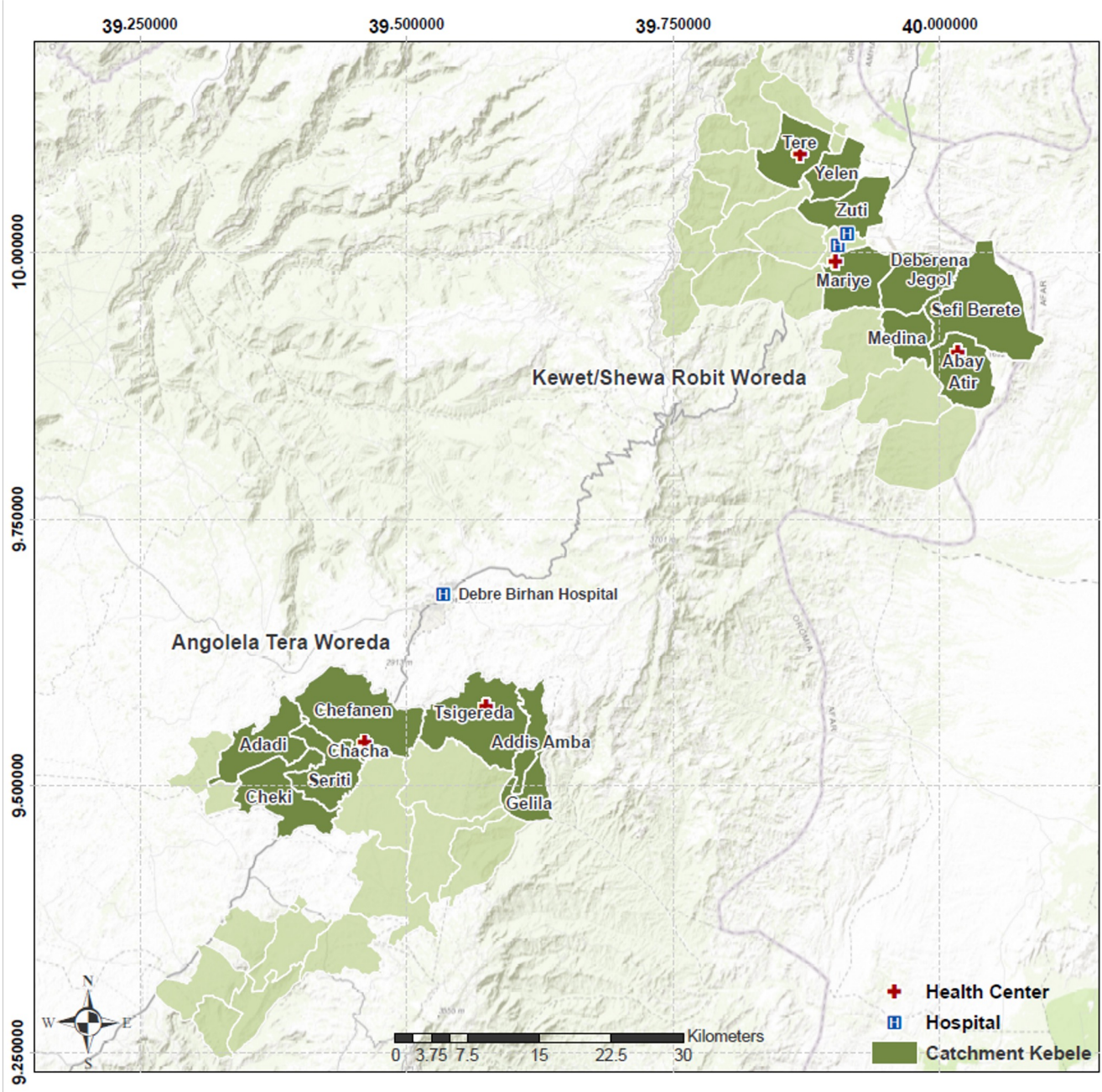
Integrating research questions and the delivery of interventions across a continuum (e.g. from pregnancy through childhood - the first 1000 days of life).

OUTCOME-FOCUSED.

Increase maternal survival and proportion of children surviving and thriving in the first 1,000 days.

Birhan Field Site

North Shewa Zone, Ethiopia



Gelila Village



Yelen Village



MCH Outcomes

- Clinical diagnoses of illnesses and illness severity at each level of the health system
- Adverse birth outcomes LBW, preterm births, SGA
- Stillbirths, neonatal deaths (early, late, total), child mortality <2 years old, maternal mortality (pregnant women to 42 weeks postpartum)



Research Opportunities

Research opportunities are designed to achieve the following goals:

- Develop research skills to design and implement studies, analyze data, and write manuscripts
- Join a research team and engage in a research project
- To learn how to implement studies of high quality in low-resource settings within complex health systems in collaboration with local partners and stakeholders
- To develop local collaborations (paired with local collaborator)
- Apply for student research funding/grant opportunities

Research Opportunities – Child Morbidity Study

Study Objectives

- Estimate the incidence and prevalence of childhood morbidities (pneumonia, diarrhea, febrile illnesses, etc.) among neonates (0-27 days), post-neonatal to infant (28 days to 12 months) and post-infancy age (1 to 2 years of age)
- Investigate risk factors associated with the top three child morbidities
 - Include sociodemographic, obstetric, maternal factors, neonatal/child factors
 - Characterize trends and time varying exposure to risk factors

Research Opportunities – Child morbidity

Analytical position – secondary data analysis

- Describe prevalence of child morbidities
- Develop DAGs to explore the relationships between exposures and top three child morbidities
- Conduct bivariate and multivariate logistic regression to determine factors associated with each cause of morbidity
- Co-author on manuscript
- Prepare policy brief for dissemination with Ministry of Health

Masimo Study



Masimo Study Goal

- Evaluate diagnostic performance of a non-invasive hemoglobin test in pregnant women

What does that mean?

- Hemoglobin tests for pregnant women help detect anemia

Why is it important?

- Testing usually requires blood draws, but this test doesn't - saving time, resources, and pain



THE MASIMO DEVICE OFFERS SIGNIFICANT ADVANTAGES OVER OTHER METHODS OF SCREENING ANEMIA.



	Easy to Use	Appropriate for ANC	Non-invasive	Inexpensive
Masimo	✓	✓	✓	✓
Beckman Coulter	✗	✓	✗	✗
HemoCue	✗	✓	✗	✓

My Team at HaSET



**GRACE
CHAN**



**DELAYEHU
BEKELE**



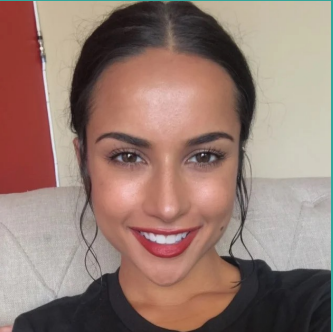
**MESFIN
HUNEGNAW**



**CLARA
PONS DURAN**



**ANNE
SITES**



**ARIA
CHITTURI**



**ANUM
HUSSAINI**



**RAFFI
PONTES**



**ZIQING
LUO**



**SOPHIE
KNUDSON**

Join us!

