

# Accelerating Child Survival

Evidence from  
a New Landmark Trial



# DELAY



ProCCM Model

# DELIVERING RAPID, UNIVERSAL HEALTH CARE



Care from  
Professional  
CHWs



Proactive  
Detection



Dedicated  
Supervision



Reinforced  
Primary Care  
Centers



No Point-of-  
Care Fees

# The ProCCM Trial



**3 Years  
(2017 - 2020)**



**135,149  
People**



**137 Village  
Clusters**



**Annual  
household  
surveys**

## Research Partners




## Implementing Partners



## Funding Partners



A young child with dark skin and short hair is sitting on a ground covered with light-colored, irregularly shaped stones. The child is wearing a bright orange t-shirt with black horizontal stripes. The child is looking directly at the camera with a neutral expression. The background is a dense field of similar stones, creating a textured, natural setting.

The ProCCM Trial  
STUDY GOALS

What is the impact of proactive home visits,  
one of the five parts of ProCCM?

# The ProCCM Trial STUDY DESIGN



A woman in a colorful patterned dress and headscarf carries a blue plastic basin on her head. She is walking through a narrow, unpaved path between two walls made of stacked, irregular stones. The scene is set in a rural, arid environment with some green foliage visible on the right.

The ProCCM Trial  
STUDY GOALS

To what extent can ProCCM work in remote rural areas, with a different geographic, linguistic, cultural, and economic context?



The ProCCM Trial  
STUDY GOALS

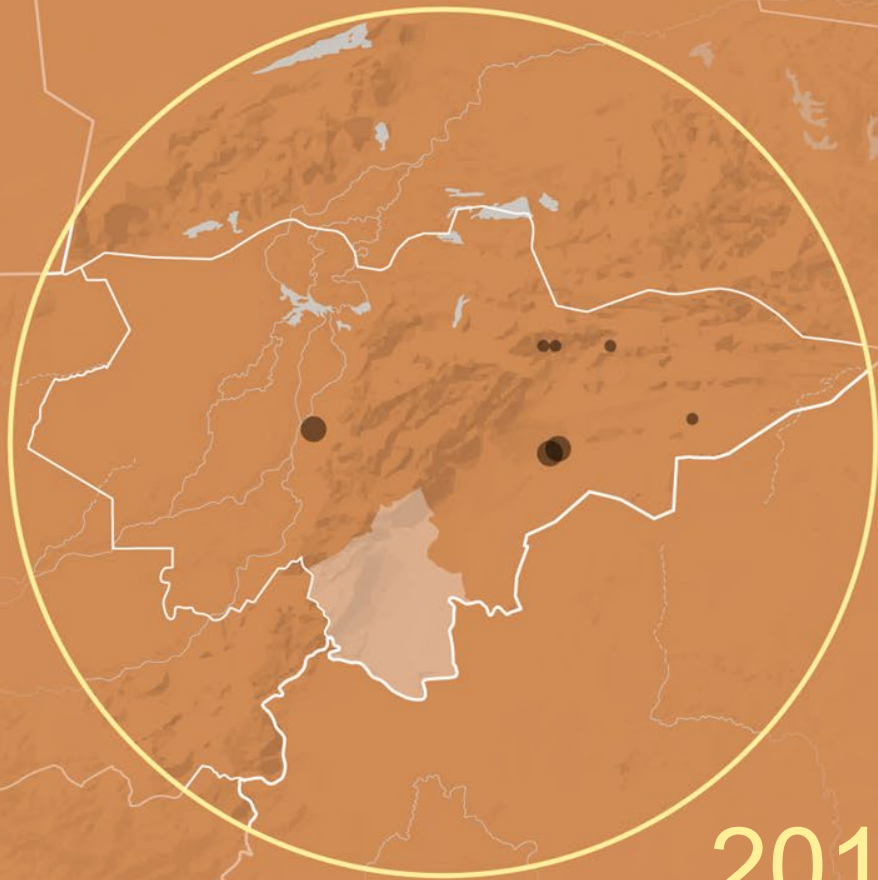
To what extent can this cure for delay work for patients in a conflict setting?



Study Goals

# CONFLICT SETTING

Civilian Fatalities



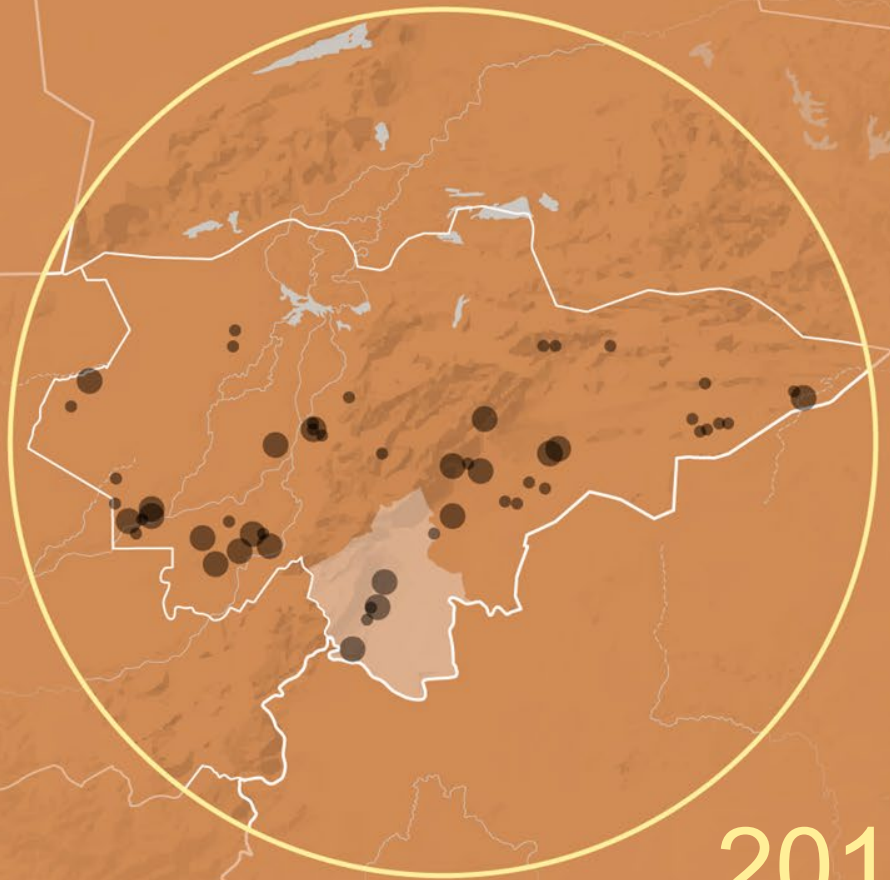
# 2017

Map created with © UCDP and ACLED datas'

Study Goals

# CONFLICT SETTING

Civilian Fatalities

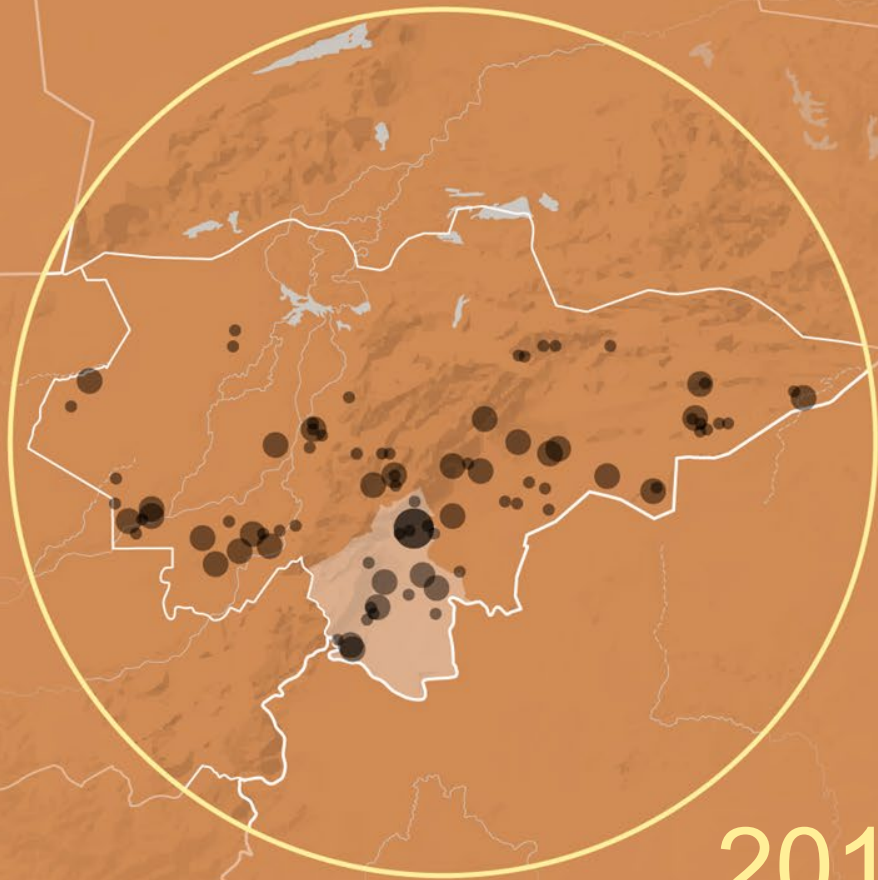


2018

Study Goals

# CONFLICT SETTING

Civilian Fatalities

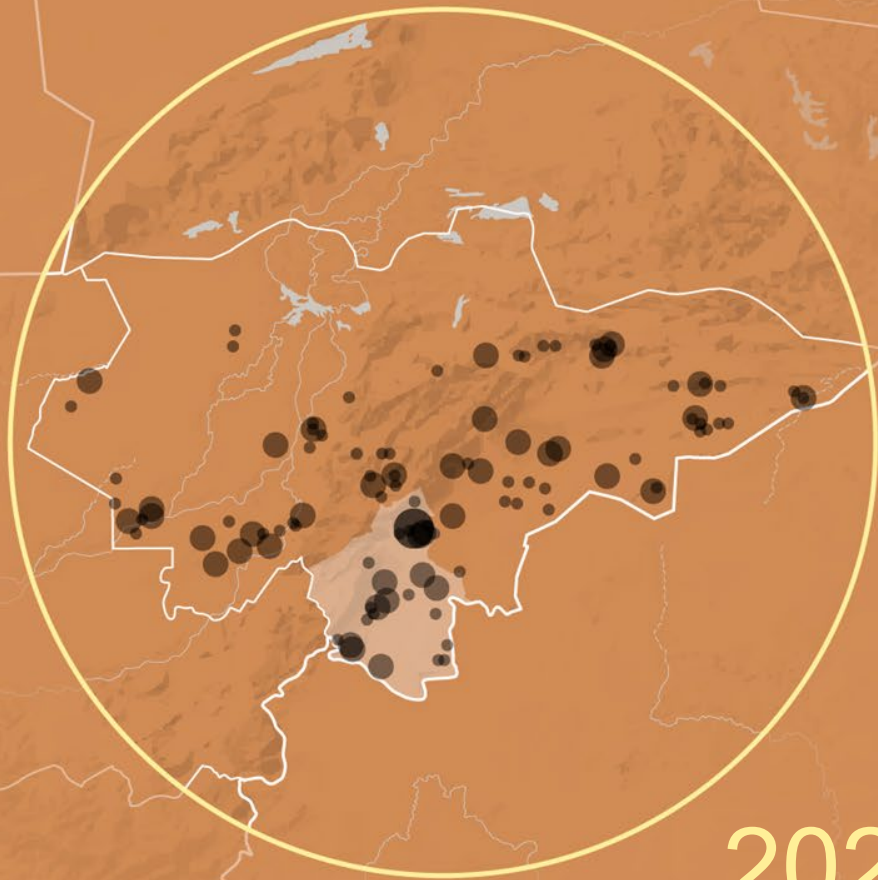


2019

Study Goals

# CONFLICT SETTING

Civilian Fatalities



2020



# The ProCCM Trial

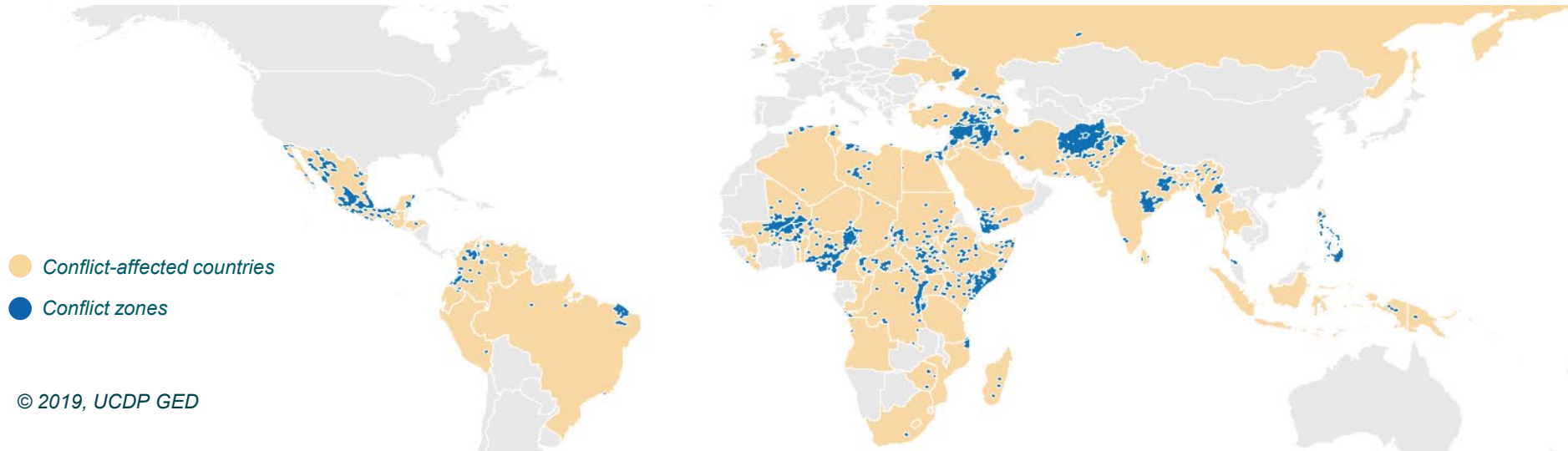
## GLOBAL IMPLICATIONS

**48%\***

48% of child deaths (\*>2 million)  
occur in fragile and conflict  
settings

**3x**

U5 mortality was 3x higher  
in conflict-affected and fragile  
countries




A close-up photograph of a woman with dark skin and a red headwrap, holding a young child. The woman is wearing a vibrant, multi-colored patterned dress with purple, red, and green floral motifs. The child is looking slightly to the left. The background is a blurred thatched roof made of dry sticks, suggesting a rural setting. The lighting is warm, likely from the sun.

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# Results



A woman with a red headwrap and a colorful patterned top is holding a baby. They are in front of a wall made of vertical wooden poles. The image has a warm, orange-tinted overlay.

The ProCCM Trial  
RESULTS

BASELINE

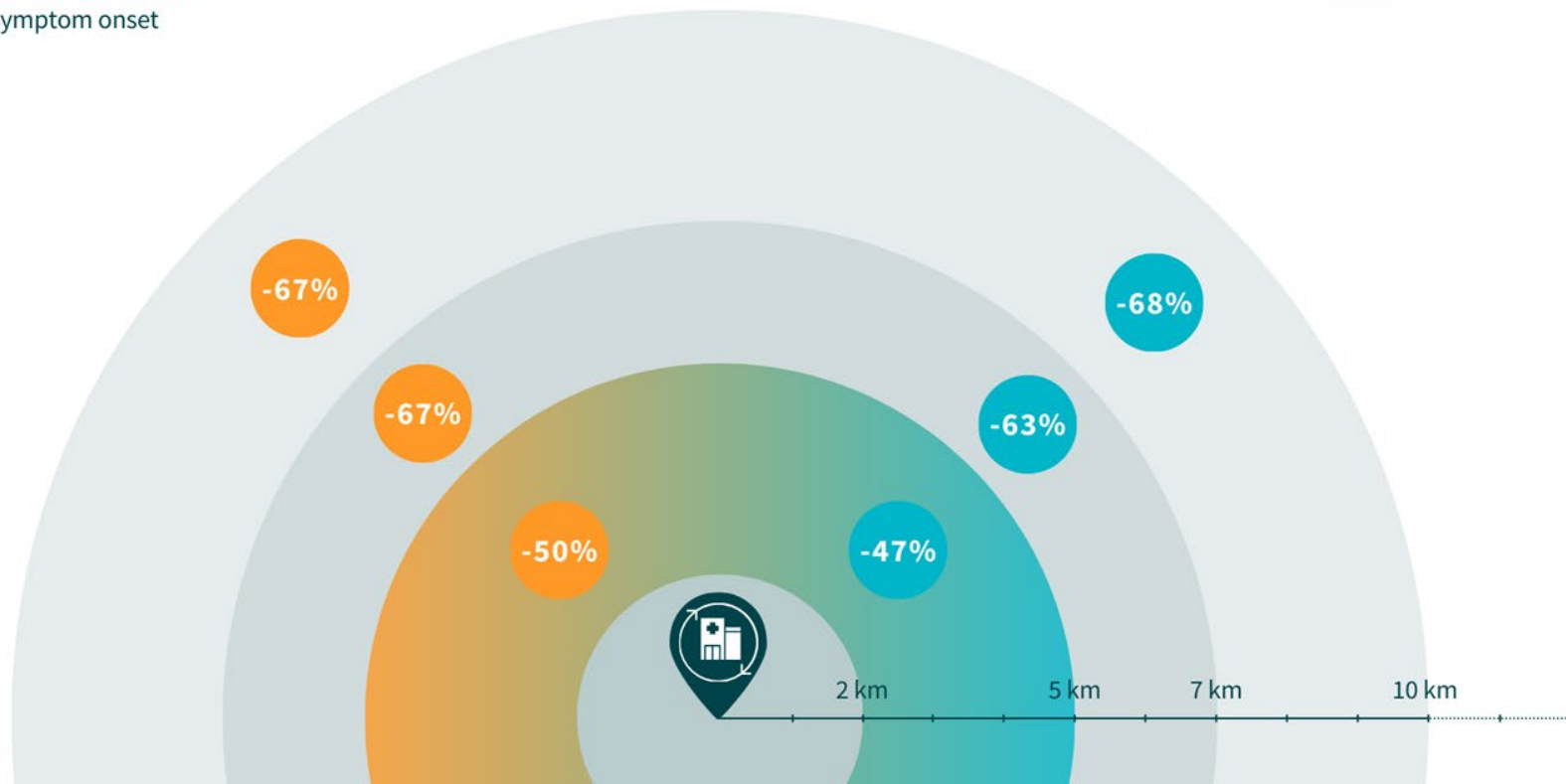
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## RESULTS: BASELINE

- Contraceptive use by women
- Children under 5 treated within 24 hours of symptom onset

Health Center

1 km



A photograph of a woman and a young child in a rural, possibly African, setting. The woman is wearing a colorful, patterned top and a red headscarf. The child is wearing a simple necklace. The background consists of a wall made of woven sticks or reeds. The entire image is overlaid with a semi-transparent orange filter.

The ProCCM Trial  
RESULTS

INTERVENTION ARM vs. CONTROL ARM

# The ProCCM Trial

## RESULTS: INTERVENTION/CONTROL

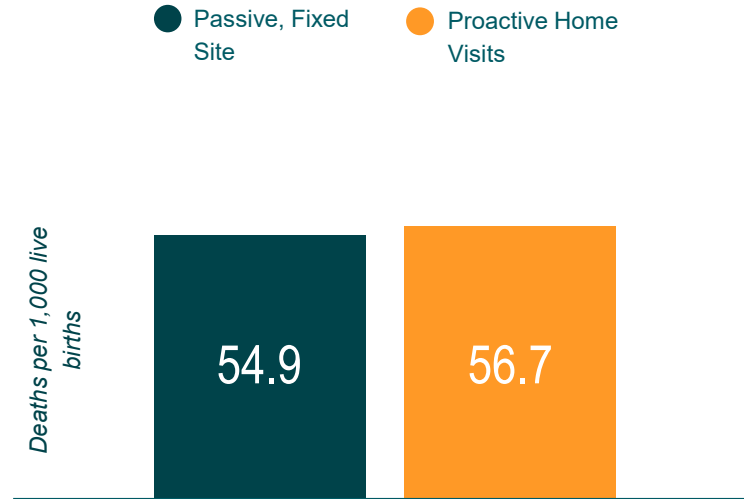


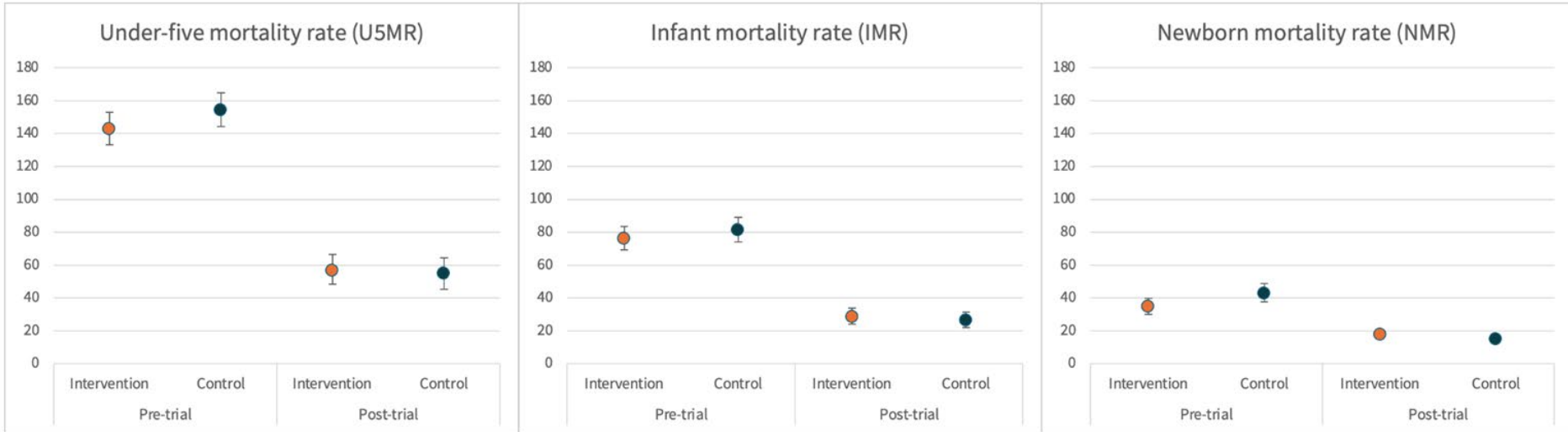
Figure 1: U5MR Intervention versus control arm

(IRR = 1.06, CI: 0.91-1.24, P-value: 0.45)

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## RESULTS: INTERVENTION/CONTROL

● Passive, Fixed Site    ● Proactive Home Visits



The ProCCM Trial  
RESULTS: INTERVENTION/CONTROL



**+25%**

Patients in the proactive arm were **25% more likely** to receive 4 or more prenatal visits compared to those in the passive arm.

(RR=1.25, CI 1.08, 1.43)

**Prenatal Care**



**8x**

Patients in the proactive arm were **8 times more likely** to reach eight or more prenatal care contacts

\*CHW App data

**Prenatal Care**



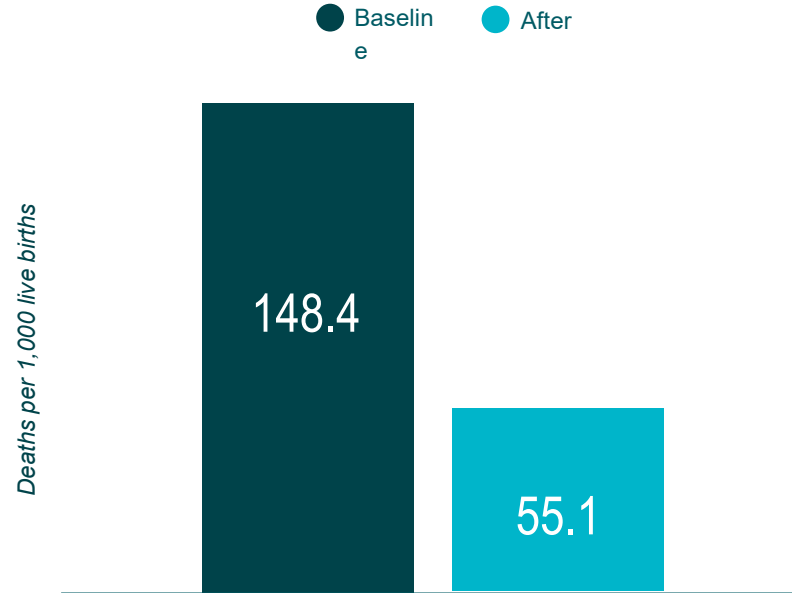
A woman in traditional African attire, including a red headwrap and a colorful patterned dress, is shown holding a young child. The background features a thatched roof, suggesting a rural setting. The entire image is overlaid with a semi-transparent orange filter.

The ProCCM Trial  
RESULTS

PRE INTERVENTION PERIOD vs.  
POST INTERVENTION PERIOD

# The ProCCM Trial

## RESULTS: PRE/POST



Under-five mortality rate in study area  
3 years before and 3 years after  
launch

Liu & Treleaven et al. 2024 *Bulletin of the World Health Organization*



The ProCCM Trial  
**RESULTS: PRE/POST**



**3.4x**

Higher chance of using 3+  
doses of malaria  
prophylaxis during  
pregnancy

(RR=3.42, CI 2.98, 3.84)

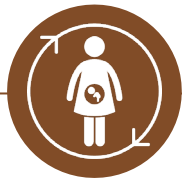
**Maternal Health**

Kayentao & Ghosh et al. 2023 *BMJ Global Health*



# The ProCCM Trial

## RESULTS: PRE/POST



**54%**

Higher chance of delivering  
in a health facility

(RR=1.54, CI 1.41, 1.66)

**Maternal Health**

Kayentao & Ghosh et al. 2023 *BMJ Global Health*



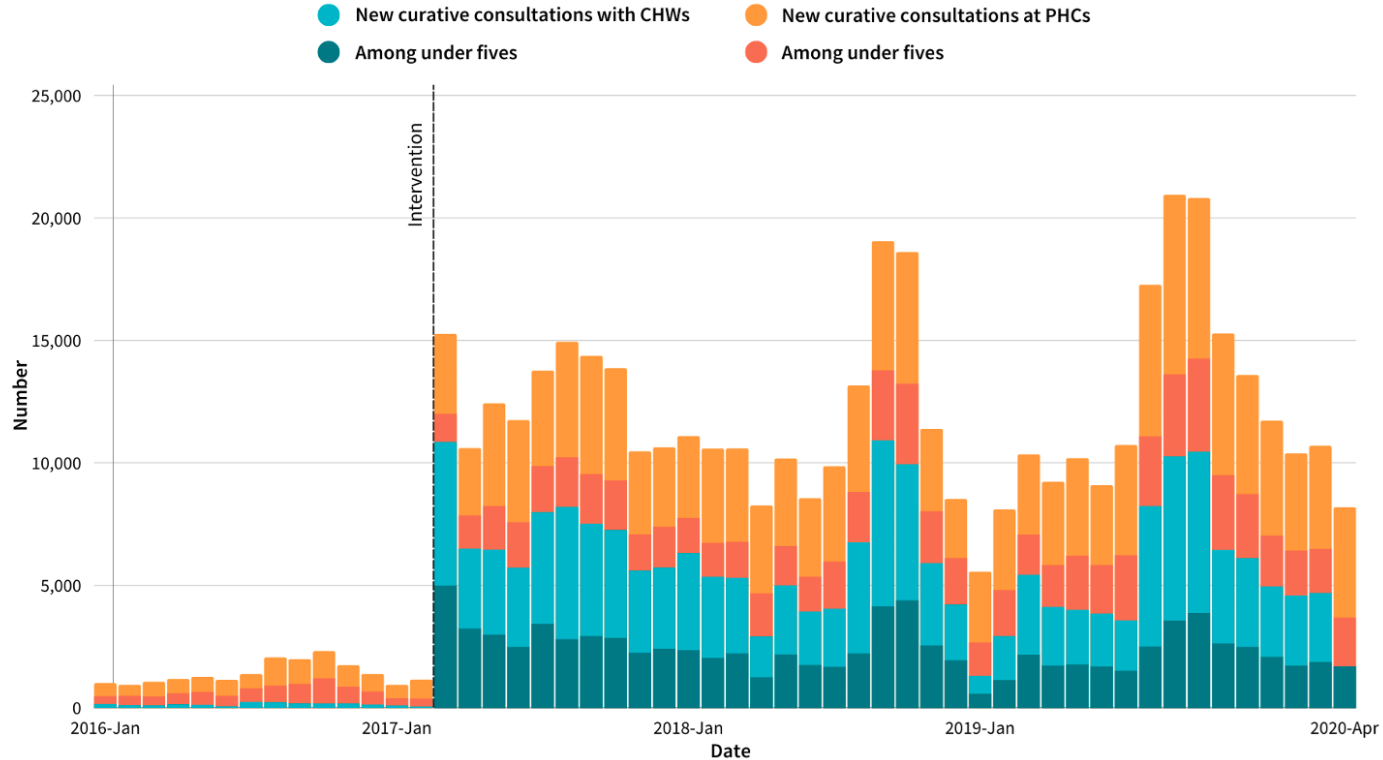
A photograph of a woman and a young child in a rural, possibly African, setting. The woman is wearing a colorful, patterned top and a red headscarf. The child is in the foreground, looking towards the right. The background shows a field of tall, dry grass or reeds. The entire image is overlaid with a semi-transparent orange filter.

The ProCCM Trial  
RESULTS

# REALIST PROCESS EVALUATION

# The ProCCM Trial

## PROCESS RESULTS: ACCESS TO CARE



Number of PHC and CHW new curative consultations during the 14 months prior to ProCCM launch and the 3-year

## 1) PHC and CHW care available without fees enabled care-seeking without delay


- “Now, even if your husband is not there, you have the possibility to go to the health centre because it’s free. Plus, we benefit from certain services at home from our CHW”  
- female participant, intervention arm
- “If the husband is nearby, it would be good to inform him, this is normal. If not, the ideal is to go without informing him because [...] some diseases require a quick intervention”  
- female participant, control arm
- “We used to sensitize pregnant women to come to the centre for ANC, but they told us their husbands didn’t have the money. [...] Now if a woman gets pregnant, she gets up of her own accord to come and see us”  
- male community health representative

## 2) Systems support enabled respectful, quality PHC and CHW care that motivated utilization

- Being seen in order of arrival... “prevents frustration between people, discrimination, and encourages us to seek care”
  - female participant, control arm
- “Before, our health centres were not well equipped. [...] When you meet the patient she will say that you are not welcoming, but she doesn’t know all the problems you are going through. [...] We are more welcoming now that we have everything we need to do our job”
  - PHC midwife
- “Everyone knows that if you go hunting today and find game, you’ll go back tomorrow. It’s the same thing. When people are well received at the health centre and the treatments are effective, they will go every time they are sick”
  - CHW supervisor

### 3) Proactive CHW home visits facilitated service delivery and utilization in an already facilitated context

- “We cover the village searching and if we find a case, we don’t abandon them. Whereas fixed CHWs, as long as patients don’t come to them, they don’t go to patients”
  - proactive CHW
- “Because people have other occupations, they often wait until after work to come, and in the meantime the illness gets worse. Whereas proactive CHWs consult them even while they are working at home”
  - fixed CHW
- “I find that the one that comes to you accords you an importance”
  - female participant, intervention arm
- “It’s easier for a proactive CHW to gain someone’s trust since they communicate together every day, than a fixed CHW who people see only when they’re sick”
  - - female participant, control arm

A photograph of a woman holding a baby, overlaid with a semi-transparent orange filter. The woman is wearing a colorful, patterned top and a red headscarf. The background shows a thatched roof made of dried sticks. The text 'The ProCCM Trial RESULTS' is positioned at the top center, and 'COST EVALUATION' is centered in the middle of the image.

The ProCCM Trial  
RESULTS

# COST EVALUATION





The ProCCM Trial  
**RESULTS: COST ANALYSIS**



**\$12.15**

Estimated direct cost  
per person per year

*In peer review*

# The ProCCM Trial

## RESULTS: COST-EFFECTIVENESS

	CHW Perspective ICER	Full ANC Program Perspective ICER
Incremental cost per additional ANC visit	-\$21.39	-\$1.70
Incremental cost per additional person who initiated ANC in the 1st trimester	-\$79.20	-\$6.30
Incremental cost per additional person with at least one ANC visit	-\$38.71	-\$3.08
Incremental cost per additional person with at least 4 ANC visits	-\$32.54	-\$2.59

\*Negative values indicate lower costs (or effects) in the treatment arm compared to the control arm. In our analysis, all Bootstrap scenarios that included negative effectiveness also included negative costs, therefore the negative ICERs reflect true cost savings.



A photograph of a narrow alleyway in a traditional village. The buildings are made of mud-brick and have small, dark doorways. Some windows are covered with wooden shutters. In the background, a rocky hillside is visible, and a person wearing a blue and black patterned shawl is walking away from the camera down the dirt path. The scene is lit with warm, golden light, suggesting late afternoon or early morning.

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# Implications for Policy & Practice

The ProCCM Trial  
**POLICY & PRACTICE IN  
MALI**



Professional  
CHWs



Dedicated CHW  
Supervision



Care without fees  
pilot at community  
health centers



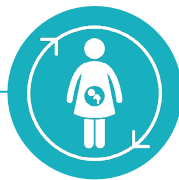
# The ProCCM Trial

## RECOMMENDATIONS



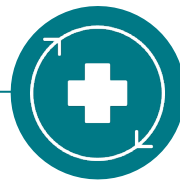
### Distance & Access

Policies must address barriers to care even within proximity of health facilities. Patients face significant barriers to care **even within 5km** of the nearest clinic.



### Maternal Health

Proactive home visits should be integrated by national health care systems to improve **access to prenatal care**.



### Care in Conflict

We must respond to conflict **not with retreat** or temporary relief, but with investments in strategies that can improve health outcomes and pave the way for transformation.



### A model for UHC

A suite of interventions including professional CHWs, reinforced primary care, and care without fees can achieve **major improvements** across a range of health outcomes



The ProCCM Trial

## WHAT'S NEXT FOR MUSO



ProCCM for more than half a million patients



Population level research on ProCCM in Côte d'Ivoire



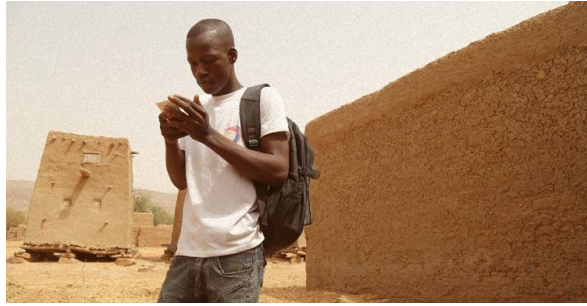
Technical Assistance to Government & Institutional Partners



## Contact Muso Technical Assistance



For technical assistance partnership inquiries, contact Dr. Christian Rusangwa, Director of Technical Assistance at Muso:  
[crusangwa@musohealth.org](mailto:crusangwa@musohealth.org)





# The ProCCM Trial

## ENDNOTES

1. Østby, Gudrun; Siri Aas Rustad & Andreas Forø Tollefsen (2020) [\*Children Affected by Armed Conflict, 1990–2019, Conflict Trends\*](#), 6. Oslo: PRIO.

2. United Nations Inter-agency Group for Child Mortality Estimation (UN IGME), *Levels & Trends in Child Mortality: Report 2020, Estimates developed by the United Nations Inter-agency Group for Child Mortality Estimation*, United Nations Children's Fund, New York, 2020.

3. Jawad M, Hone T, Vamos EP, Cetorelli V, Millett C (2021) [\*Implications of armed conflict for maternal and child health: A regression analysis of data from 181 countries for 2000–2019\*](#). PLoS Med 18(9): e1003810.

4. Wagner, Zachary & Heft-Neal, Sam & A Bhutta, Zulfiqar & E Black, Robert & CEO Burke, Marshall & Bendavid, Eran. (2018). *Armed conflict and child mortality in Africa: a geospatial analysis*. The Lancet. 392. 10.1016/S0140-6736(18)31437-5.

Map slides 13 - 16: Datas of violent incidents from *The Armed Conflict Location & Event Data Project (ACLED) and the Uppsala Conflict Data Program (UCDP)* filtered with Mopti region, from Q1 2017 to Q1 2020, events involving civilians only. Interactive map [here](#)

Map slides 35 - 38: Østby, Gudrun; Siri Aas Rustad & Andreas Forø Tollefsen (2020) *Children Affected by Armed Conflict, 1990–2019, Conflict Trends, 6 Figure 1*. Oslo: PRIO.