

# Adapting Health Systems to Protect Children from the Impact of Climate Change

Re-imagining the Package of Care for Children Subgroup March 29, 2023



**Co-Chairs:** 

Cara Endyke Doran, <u>cendykedoran@globalcommunities.org</u> Raoul Bermejo, <u>rbermejo@unicef.org</u>

Series Overview

#### **Session 4:**

### Protecting Children and Pregnant People from Heat Stress (March 29, 2023)

• Possible interventions and recommendations

### **Previous sessions:**

Session I: Framed the series (November 10, 2022)

• Shared an overview of the Healthy Environments for Healthy Children (HEHC) Framework and highlights from UNICEF's heat waves report

Session 2: Children's Climate Risk Index (CCRI) (December 13, 2022)

• Reviewed the CCRI methodology and its potential application

Session 3: The Impact of Climate Change on Newborn Health Outcomes: A Focus on Congenital Heart Defects (February 13, 2023)

•Review extreme heat and its contributions to congenital heart disease (CHD)



Approximately 1 billion children (nearly half of the world's children) live in extremely high-risk countries



**Note**: The CCRI is composed of many indicators across climate and environmental hazards, shocks and stresses, as well as child vulnerability. **Source**: UNICEF (2021), The Climate Crisis is a Child Rights Crisis: Introducing the Children's Climate Risk Index

### **Child Survival Action**

54 countries need accelerated action to meet the SDG target for under-five mortality.



## **Speakers**



Dr. Ana Bonell Medical Research Council Unit The Gambia at London School of Hygiene and Tropical Medicine, Clinical Fellow



**Professor Zulfiqar Bhutta** 

Aga Khan University &

SickKids Centre for Global

Child Health, Founding

**Director AKU Institute for** 

Global Health & Development

Swathi Manchikanti

Climate Adaptation for

Health Lead,

Healthy Environments

for Health Children,

UNICEF



Dr. Cecilia Sorensen Director of the Global Consortium on Climate and Health Education at Columbia University, Associate Professor of Emergency Medicine at Columbia Irving Medical Center









# Heat and maternal health: evidence of impact and options for adaptation



Dr Ana Bonell, MBChB, MSc, DTMH, MRCP, FRCA PhD candidate, Wellcome Trust Global Health Clinical Fellow London School of Hygiene and Tropical Medicine MRCG@LSHTM

> Ana.bonell@lshtm.ac.uk @BonellAna

## Context: Climate crisis





WHO. Climate and Health fact-sheet. https://www.who.int/news-room/fact-sheets/detail/climate-ch ange-and-health

# Inequality of a 1.5–2.0°C warmer planet





of global warming. Geophysical Research Letters, 45, 5030-5033



Exposure and outcome	Studies finding an association, No./total No.	Births/study, mean (SD)	Total births in millions	Increased risk, median (range), % <sup>a</sup>	Studies finding racial disparity, No./total No.	Notable findings <sup>b</sup>
Heat						
Preterm birth	4/5	192 625 (207 995)	0.8	15.8 (9.0-22.0) <sup>d</sup>	2/4	Preterm birth risk increased 11.6% per 5.6 °C increase
Low birth weight	3/3	902 277 (985 803)	2.7	31.0 (13.0-49.0) <sup>d</sup>	1/3	Term birth weight decreased 16 g per IQR temperature increase
Stillbirth	2/2	115 943 (115 933)	0.2	NA <sup>e</sup>	2/2	Stillbirth risk increased 6% per 1 °C increase the week before delivery during the warm season

# Preterm birth risk



Study	Odds ratio (95% CI)	Weight (%)	Odds ratio (95% CI)			
		<u></u>				
Wu 2019		8.3	1.05 (1.01 to 1.10)			
Walfisch 2016	<b>_</b>	15.1	1.06 (1.04 to 1.08)			
Ha 2017	<b>_</b>	16.7	1.06 (1.04 to 1.07)			
Schifano 2016 Barcelona	•	11.4	1.07 (1.04 to 1.11)			
Schifano 2013	<b>_</b> _	17.1	1.02 (1.01 to 1.03)			
Avalos 2017	<b>_</b>	16.3	1.02 (1.01 to 1.04)			
Schifano 2016 Rome	<b>_</b>	15.2	1.07 (1.05 to 1.09)			
Overall: P=0.000; I <sup>2</sup> =87.7%		100.0	1.05 (1.03 to 1.07)			
1	.12					
Odds of	Odds of preterm birth per degree increase in temperature					

Note: Weights are from random effects analysis

# Preterm birth & stillbirth risk from 14 LMICs



**Overall Effect of Extreme Heat and Preterm Birth Overall Effect of Extreme Heat and Stillbirth Risk Ratio Risk Ratio** N N Maximum Temperature (°C) Maximum Temperature (°C) **Risk Ratio Risk Ratio** N Diurnal Temperature (°C) Diurnal Temperature (°C)

McElroy et al (2022) Extreme heat, preterm birth, and stillbirth: A global analysis across 14 lower-middle income countries. Environment Internation

# Mechanisms?





# Effective interventions?



### **Tips for Avoiding Overheating in Pregnancy**



Verywell / Hilary Allison

# Lived experience: climate change impacts





What we normally farm, in the last three years, we don't gain much."

• *" for the previous three years, the amount of rain we received was not like normal"* 

# Lived experience: heat in pregnancy





• "When it is very hot..! feel like my body is burning."

• *"When the sun is really hot, it makes you feel tired, and dizzy."* 

# Lived experience: managing the heat





 "When it is hot, and I notice I'm tired and hot, I will use that water and drink, and sit under that tree for a while. In that time, I realize that the baby is free and comfortable, that's the time I will go and continue with my work." -Aisha, age 30.

# Female farmers in The Gambia



- All participants recognized a changing climate
- Almost all described difficulties with completing tasks when pregnant in the heat
- Intersecting social and economic factors determine adaptation strategies



# Protecting Children from Heat Stress: A Suggested Way Forward





IHME

# Climate change is causing more heat waves, and children will be increasingly exposed



In 2019 alone, **308,000 deaths** were attributable to exposure to high temperature

In 2020, around 740 million children (1 in 3 globally) lived in countries with 83.54 or more days per year exceeding 35 oC.

Child exposure to extreme high temperatures is **highest in Africa and Asia** currently and will also be highest in these two regions by 2050.

While only 10 per cent of children in Africa are exposed to high heatwave frequency currently, this will rise dramatically to 100 percent by 2050 under both scenarios explored.

2022 UNICEF Report: Coldest Year of Their Lives



### Children are uniquely vulnerable to heat stress



Infants and children are uniquely affected by heat stress compared to adults, leaving them more vulnerable to its short- and long-term effects because of:

- Higher heat production
- Greater body surface area
- Lower levels of sweat production
- **Poorer** practice of fluid replenishment
- Underdeveloped immune systems
- Slower adjustment to changes in weather
- Protein modification via foetal heat strain

21

- Odds of a preterm birth rose by 5% per 1 °C increase in temperature and by 16% during heatwave vs. non-heatwave days; therefore, the odds are sensitive to dose response i.e. greater risk with greater exposure and severity (<u>1</u>)
- A meta-analysis on stillbirths all showed associations between temperature and stillbirth, with stillbirths increasing 5% per 1 °C rise in temperature (2)
- **3**. Dehydration, which is more likely to occur during high heat periods, can lead to **serious complications during pregnancy** including low amniotic fluid, poor production of breast milk and birth defects, in addition to the above noted premature and stillborn birth risks (<u>2</u>)





### Protecting children from heat stress requires a primary health care approach

11

11

11

Т



Develop a national multi-sectorial response plan for mitigating the effects of and addressing extreme heat is in place



Caregivers and frontline workers can B.E.A.T. the heat: They can be aware, can easily identify heat related illness, act immediately to provide first aid and take people with severe symptoms to health facilities



# B.E.A.T. the Heat: A risk communication and first aid approach for caregivers and frontline workers



### Be aware

#### of heat stress

Everyone should be educated on and help promote awareness of the essentials of heat stress recognition.



### Easily

#### identify

Careshes Symphonices and frontline health workers need to be able to easily identify the symptoms of heat-related illnesses.



### Act immediately

#### to protect

Caregivers and frontline workers need to take action to bring body heat back to equilibrium in the short-term.



# Take to health facility

If the individual is presenting serious symptoms, particularly of heat stroke, the frontline worker should be able to help recognize those immediately and support taking the individual to the health facility.



### Be aware of heat stress

Know for general populations	Know for infants, children and pregnant women
Being exposed to too much heat is dangerous for one's health. It can lead to mild health issues like dehydration and fever, and severe issues such as cardiovascular diseases, organ failure, muscle and nerve dysfunction, and even death.	<ul> <li>Infants and children:</li> <li>Too much heat can be more dangerous for babies and children than for adults, and dehydration in children can be dangerous or even deadly.</li> <li>A child's body temperature rises three to five times faster than an adult's body temperature. So even if an adult does not feel hot, a child may be at risk of heat stress.</li> <li>Pregnant women:</li> <li>Too much heat and dehydration now can create problems for the baby later by causing low birthweight, early birth and even stillbirth. It can also negatively affect the health of the pregnant woman, and her health during labour.</li> </ul>
<b>Dehydration can be very dangerous</b> , especially for the elderly, infants, children and pregnant women. Your body not only loses water, but it also loses important salts when sweating.	<ul><li>Infants and children: Infants and young children cannot speak for themselves so look for any sign of altered mental state.</li><li>Pregnant women: If a pregnant woman is having a high fever (39 C/102 F), having contractions too soon or fainting, take her to the hospital immediately! It could be because it is too hot outside, which could affect the health of the woman and her baby.</li></ul>

**Recognize the symptoms of heat stroke:** Confusion or inability to respond, seizures, a very high fever, or even loss of consciousness. **If you see it, take the person to the health facility immediately!** 

Vulnerable groups can be at danger even before it becomes too hot because their bodies have not had time to adjust to the heat.

**Trust your instincts!** If it seems like someone is not behaving normally when it is hot outside, take them to the health facility.

Know and use important contact information for your primary care provider, community health worker, or facility to receive help as soon as necessary.



### Be aware of heat stress

Do's and don'ts for general populations	Do's and don'ts for infants, children and pregnant women			
<b>DO the smart thing:</b> stay in the shade, drink water at regular intervals, and rest! If your community has a cooling center, use it.	<ul> <li>Infants and children:</li> <li>DO check regularly if your child is thirsty, sweating, feeling hot, vomiting, has a dry and sticky mouth, or experiencing headaches. If your child is not responding properly, has a high fever, is dizzy or is breathing fast, take them to the hospital immediately!</li> <li>DO make sure that infants are being exclusively breastfed for the first 6 months, and children are drinking some water regularly throughout the day. They may not be paying attention to their bodies, so adults need to help them stay hydrated.</li> <li>Pregnant women:</li> <li>DO sleep on the lower floors of the house or building when possible to avoid heat that rises.</li> </ul>			
<b>DO</b> keep an emergency kit at home: towels, oral rehydration salt (ORS) packets and a thermometer. Mix oral rehydration salts into water whenever there is extreme sweating, especially in children who might have played outside.	Infants and Children: DON'T give infants medication if they are showing signs of being overheated without consulting a health provider			
<b>DO</b> wear light and loose clothes and use sunscreen. Overdressing in the heat can make you dehydrated and hotter faster.	Infants and Children: DO make sure that they are wrapped loosely – this can help prevent heat rashes and becoming too hot.			
<b>DO</b> close the curtains during the hottest parts of the day, and open windows at nighttime to cool down the house if needed. Use fans and coolers when available. In the case of dry heat, fans can be used with wet towels or misting on the body.	<b>Infants and Children:</b> <b>DON'T</b> leave infants and children in closed spaces without ventilation, such as cars or rooms with closed windows.			
<b>DO</b> visit your neighbors to see if they are okay, especially if they are elderly, pregnant, or have young children.	<b>Infants and Children:</b> <b>DO</b> check on infants and children regularly to make sure that they are hydrated enough. They may not know what dehydration and heat stress feel like.			
Healthy Environments for Healthy Children	27			

### Be aware of heat stress

Do's and don'ts for general populations	Do's and don'ts for infants, children and pregnant women			
<b>DON'T</b> go outside during at the hottest times of the day if you don't have to. See if you can change your activity schedule to earlier or later in the day, if possible.	Infants and children: DON'T let your children play outside for long hours without keeping an eye on them. Have them rest every 30 minutes when exercising or playing outside. Exercising or playing in high temperatures can lead to dehydration and serious consequences quickly.			
	<b>DON'T</b> assume that infants and young children will know what dehydration and heat stress feel like. Check on them regularly and make sure they are drinking water.			
	Pregnant women:			
	<b>DO</b> schedule medical visits and chores for when it is less hot in the day to prevent exposure to yourself and the fetus/unborn baby.			
	<b>DON'T</b> do too much activity when it is hot outside. Resting now can help make the birth safer later. Try to avoid going out if it is over 104 F/40 C.			
<b>DON'T</b> eat immediately before going outside to exercise or play, and the same goes for children. Eat at least one hour before to give your body time and energy to digest the food	<b>Infants and children:</b> Infants under 6 months of age should be exclusively breastfeed, and young children and adolescents are encouraged to eat dark leafy greens and other high-water content vegetables and fruits			

**DON'T** drink alcohol, coffee, tea and sugary drinks like sodas too much, or give them to children and adolescents, because they will dehydrate the body further.

**DON'T** use non-breathable materials for bedding. Cotton sheets are ideal during hot days to help reduce heat rashes and catch sweating.



### **Easily identify** the symptoms in infants, children, and pregnant women

Population	Milder symptoms (Treat at home)	<b>Severe symptoms</b> (Take to hospital immediately)		
General signs	<ul> <li>Dry lips/sticky mouth</li> <li>Excessive thirst</li> <li>Excessive sweating</li> <li>Weakness /dizziness</li> <li>Nausea/vomiting</li> <li>Small blisters/rashes</li> <li>Heat rashes</li> <li>Heat rashes</li> <li>Mild fever</li> <li>Cramps, usually in arms and legs</li> </ul>	<ul> <li>Confusion/not responding clearly/seizures/coma/not waking up (MOST SEVERE)</li> <li>Very high body temperature for longer than 2 hours</li> <li>Fainting</li> <li>No urine in more than 8 hours or dark urine</li> <li>Rapid heartbeat and breathing</li> <li>May not be sweating but has wet/damp skin</li> </ul>		
Infants and children under three years	<ul> <li>Heat rashes in diapered area</li> <li>Irritated and/or crying</li> </ul>	<ul> <li>May cry without tears</li> <li>May be extremely irritable</li> <li>Fewer wet diapers</li> </ul>		
Older children and adolescents	<ul> <li>Expresses nausea</li> <li>Expresses having headaches</li> <li>Muscle cramps may occur (especially after exercising outside, which is common for this age group)</li> </ul>	<ul> <li>Expressions of deep or severe muscle pain possible (especially after exercising outside, which is common for this age group)</li> </ul>		
Pregnant women	<ul> <li>Heat rashes in body areas that are rubbing against each other are common</li> <li>Muscle cramping is possible in stomach</li> </ul>	<ul> <li>Expresses extreme nausea</li> <li>Contractions before they are expected</li> <li>Swelling of body parts during heat season</li> <li>Severe muscle cramping</li> </ul>		



### Act immediately to help the body cool, rehydrate, and recover

Step 0 Cool and rush to health facility if severe	It is important to cool first, transport second, if symptoms are severe. Do not wait to remove the clothes of the individual before trying to cool down the body. Arrange transport to the facility at the same time. If showing only mild symptoms, continue to Step 1
Step 1 Reduce temperature	Infants and children: Apply wet towels or cool water to the body, particularly at head, neck, armpits, and groin. Keep changing the cloths or dipping them in cool water every few minutes and can have fan or AC on in room to help cool the body at the same time. Ask caregiver about what symptoms have been no- ticed if child is young.
	DO NOT immerse the bodies into very cold water. You can use a fan and a misting spray to spray lukewarm water onto the body or ice/wet towels, and dry it off with the fan. Help fan the body if no fan present.
	Pregnant women: Apply wet towels or cool water to the body, particularly at head, neck, armpits, and groin. Keep changing the cloths or dipping them in cool water every few minutes, and can have fan or AC on to help cool the body at the same time. Can also recommend a shower or bath with cool water. Check for swelling at hands wrists ankles and feet. Elevate legs if swelling there. Can also immerse feet in cool water for 20 minutes.
Step 2 Rehydrat	Infants and children: Recommend more frequent breastfeeding to mother for infants 6 months and under, and mother can use towel or cloth to separate skin from baby while hot outside. Breast feeding mother to also drink more water.
е	For older infants and children, supply water or support the family in sourcing water from the nearest supply (well, borehole, tap). Ensure that the infant or child is given water in small amounts, to help them become used to it.
	If the child has sweat a lot or is sweating a lot, have the caregiver add some ORS to the water for the child. Pay special attention to the directions on the packet. <b>Pregnant</b>
	women: Supply water or support the family in sourcing water from the nearest supply (well, borehole, tap). Help add ORS to water if excessively sweating. If the affected
Step 3 Remind	Finish providing first aid by sharing a list of recommendations on how to prevent future heat stress, and what to include in a first aid kit









### Health facilities can effectively triage, diagnose, care for, and treat HRIs

unicef 🔮 for every child

Target populations	Heat Stroke	Heat Exhaustion	Heat Syncope	Heat Cramps	Heat Edema	Heat Rashes	Dehydration
All populations	Altered mental state (inappropriate behavior, seizures, delirium, slurred speech, extreme lethargy, coma/loss of consciousness) Very high core body temperature for longer than 2 hours (40 ° C/104 °F) Nausea Rapid heartbeat/breathing Hot and dry or damp skin Sweating may or may not be present	No altered mental state Core body temperature high (under 40 °C/104 °F) Increased thirst Heavy sweating Headache Cool and/or damp skin Weakness and tiredness Muscle cramps Nausea or vomiting	Brief loss of consciousness, usually in person standing for a prolonged period or rapidly changing positions in a warm environment	Painful and involuntary contractions of skeletal muscle Flushed and/or moist skin	Swelling of hands, feet or other dependent areas	Tiny bumps on skin, usually in chest or upper back Could result in tiny blisters	Dry mouth and tongue Sticky lips/mouth Drowsy or sleepy Little urine Dark urine Dizziness Sunken eyes
Infarrend children und regere years	No urine in more than 8 hours or dark urine No tears when crying	Very irritable (unable to express specific symptoms)		Mild fever may be present (less than 39.5 ° C/102.5 °F) Very irritable (unable to express specific symptoms)		Can occur in diapered area or if baby is overclothed/dressed	Sunken soft spot (fontanelle) on baby's head and cheeks No tears when crying Irritable (unable to express specific symptoms)
add the second s		Muscle cramps (expressed by older children) Nausea (expressed by older children)				May feel like prickly pins and needles in older children	
Pre Omen Healthy Enviro for Healthy Chi	Very high body temperature (above ninents normal of the second second second second second second normal second se	Increase in core body temperature (under 102 °F/39 ° C)		Involuntary contractions may affect calves, arms and stomach area	Swelling most often seen around lower legs and feet	Tiny bumps on the skin, in particular in the crease between and beneath the breast, crease where bulge of lower abdomen rubs against	Inadequate breastmilk production 32 False labor

### Health facilities can effectively triage, diagnose, care for, and treat

#### Case Management of HRIs in Pediatric Populations



### **Clinician Checklist for Discharge**

#### Checklist for Discharge of Infants, Children, and Adolescents

- D Discuss co-morbidities and social factors with caregiver that may increase child's risk
- Review recommendations to PREVENT future heat-related illness and schedule any follow-ups during cooler parts of the day, week or month.
- Ensure patient has a cool environment to return home to OR access to a nearby cooling facility; if not, advise on how to stay cool using fans, towels, baths, sprays, curtains, etc.
- Review signs and symptoms of heat-related illness in children (see table) and 'B.E.A.T. the Heat' with caregiver to treat mild symptoms at home; advise caregiver to return to health facility if they observe any severe symptoms
- Ensure family is being visited by a community health worker and has their contact information (if relevant to the community)
- Write prescription with advice for caregiver and other family members to keep handy



### Patient Counseling Checklist for Caregivers (aligned with risk communication messaging)

#### Individual

- **DO** keep an eye on the daily weather forecast and temperature; you can find it in the newspaper, TV, radio, from friends and from your community health worker knowing is half the battle!
- **DO** always supervise children when very hot outside and keep water near them throughout the day; they become overheated faster than adults and need extra attention
- **DO** monitor for symptoms such as: excessive sweating, thirst, or confusion/seizures; if you see this, IMMEDIATELY take them to a shaded area and start cooling down their body
- **DO** dress children in lightweight clothing, avoid bundling infants
- **DO** give infants and children cool showers or baths; if needed, can spray water or place wet towels on their body and fan them to cool down
- **DO** limit physical activity to morning and evening encourage water intake and rest in the shade every 30 minutes while exercising
- **DO NOT** assume that infants and young children will know what dehydration and heat stress feel like. Check on them regularly and make sure they are drinking water.
- **DO NOT** give infants and children paracetamol if they are showing symptoms of heat stress

#### Environment

- Cool living spaces with fans or air conditioning, while keeping curtains and windows closed during the day
- Locate a cooling center or a well-air-conditioned space (is there a shopping center nearby? Can they sit in the waiting room of the hospital for a bit?) or practice evaporative cooling at home
- If you live in an area prone to extreme heat, consider investing in improved insulation in your home structure, and plant more trees near your house – this will help you in the future!
- Check on infants and children of friends and neighbors and have someone do the same for you. Connect with a community health worker and their services if available.
- Establish an emergency contact system in the event of power outages

i.e., empowered caregivers and communities, primary care and multisectoral action

> Implement a risk communication campaign raising awareness on **B.E.A.T.** is implemented

Staff are trained at schools and early childhood development centers to **B.E.A.T.** the heat and with adaptive mechanisms to handle extreme heat

Health facilities are prepared to respond to heatwaves with skilled staff, infrastructure and governance mechanisms





i.e., empowered caregivers and communities, primary care and multisectoral action

Pregnant women, infants, children and other vulnerable populations are protected from extreme heat Health facilities can effectively Caregivers and frontline workers can B.E.A.T. the heat:

They can **be** aware, can **easily** identify heat related illness, act immediately to provide first aid and take people with severe symptoms to health facilities

triage, diagnose, care for, treat, and discharge patients with heat-related illnesses

Implement a risk campaign raising awareness on B.E.A.T.

i E

1.1

11

Staff are trained at schools and early childhood development centers to B.E.A.T. the heat and with adaptive mechanisms to

handle extreme heat

Health facilities are prepared to respond to heatwaves with skilled staff, infrastructure and governance mechanisms

Local or regional governments implement heat adaptation measures

Develop a national multi-sectorial response plan for mitigating the effects of and addressing extreme heat is in place

Local or regional governments implement heat adaptation measures



i.e., empowered caregivers and communities, primary care and multisectoral action

> Develop a national multi-sectorial response plan for mitigating the effects of and addressing extreme heat is in place





### The technical note is a product of UNICEF's Healthy Environments for Healthy Children Programme. We gratefully acknowledge the contributions of the following experts to this technical note:

- Dr. Cecilia Sorensen, Director of the Global Consortium on Climate and Health Education at Columbia University, Associate Professor of Emergency Medicine at Columbia Irving Medical Center
- Dr. Shiu-Lin Tsai, Pediatric Emergency Medicine at Columbia Irving Medical Center
- Dr. Blair J. Wylie, Maternal & Fetal Medicine, OBGYN at Columbia Irving Medical Center



# Looking forward to your comments!



## We have compiled a collection of resources for you

**Resource Pack for Protecting Children from Heat Stress** 

The panelists of the heat stress webinars and the facilitators together developed a short but helpful list of key selected resources as part of a Heat Stress Resource Pack that can help you quickly read up on the impact of heat stress on maternal, infant, and child populations and also see examples of plans and guidelines currently being implemented in healthcare settings across countries.

🔗 Resource Pack for Protecting Children from Heat Stress

CHTF Events page: <u>https://www.childhealthtaskforce.org/events/2022/11/adapting-health-sy</u> <u>stems-protect-children-impact-climate-change-series</u>



## Climate Change and Child Health Discussion Series



Engage with the co-chairs:

- Cara Endyke Doran: <u>cendykedoran@globalcommunities.org</u>
- Raoul Bermejo: <u>rbermejo@unicef.org</u>

Reach out to the Child Health Task Force Secretariate:

childhealthtaskforce@jsi.com

### Healthy Environment Healthy Children Framework:

https://www.unicef.org/media/91631/file/Healthy-Envi ronments-for-Healthy-Children-Global-Programme-F ramework-Summary.pdf

### CCRI:

https://www.unicef.org/reports/climate-crisis-c hild-rights-crisis

Subgroup information, recordings and presentations from previous webinars are available on the subgroup page of the Child Health Task Force website: <u>www.childhealthtaskforce.org/subgroups/expansion</u>



The Child Health Task Force is managed by JSI Research & Training Institute, Inc. through the USAID Advancing Nutrition project and funded by USAID and the Bill & Melinda Gates Foundation.

This presentation was made possible by the generous support of the American people through the United States Agency for International Development (USAID), under the terms of the Contract 7200AA18C00070 awarded to JSI Research & Training Institute, Inc. The contents are the responsibility of JSI and do not necessarily reflect the views of USAID or the U.S. Government.