



# THE REACH PROJECT

**Reducing Childhood Anemia in Caracol, Haiti**

**A Mixed-Method, Community-Based  
Action Study for Sustainable Improvement - Phase I  
Preliminary Report**

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# HAITI MEDICAL MISSION PARTNERSHIP CARACOL, HAITI

## Unique Partnerships

- Sea-A Trading Company
- Pusan National University Yangsan Hospital
- Haitian nurses, teachers, translators
- GWU School of Nursing



- Multi-disciplinary
- Multi-cultural
- Fourth year
- New secondary school
- Students on break
- Six days
- Patient lottery system
- Over 2,000 patients seen
  - 1549 Adults
  - 467 Children





# SETTING



# BACKGROUND



## Childhood Anemia

- Potential for life-long, irreversible deficits in cognitive, behavioral, motor function
- Increased demands limited resources
- Loss of human potential

## Where does Haiti Stand?

- Global anemia rate for children, 6-59 months of age: 42.6% (WHO, 2015)
- Childhood anemia rate in **Haiti** increased from 60.7% (2006) to 65% (2012).
- **Nord-Est** department, site of study >60%

## What Do We Know?

- Few studies, inconsistent findings, vary by communities, multi-factoral



# STUDY OBJECTIVE & AIMS

**Study Objective:** work in partnership with community stakeholders to expand understanding of factors associated with childhood anemia prevalence and severity and jointly develop a sustainable, community-based plan for reducing anemia in children.

**Aim 1:** Determine the prevalence and severity of anemia in children (6 months to 14 years) in Caracol, Haiti.

**Aim 2:** Evaluate factors affecting anemia prevalence and severity, using a multi-sectoral framework by U.S. AID<sup>1</sup>, including biophysical, social and environmental factors in this population.

**Aim 3:** Develop recommendations for a sustainable, community-based plan of action for reducing childhood anemia that is informed by both data collection and the contribution of mothers, children and stakeholders.



# METHODOLOGY

Mixed method, action research

Participatory, collaborative, multiple stakeholders

## Quantitative: Interview, Medical Records

### Inclusion Criteria:

Haitian-born, 6 months to 14 years old, accompanied by mother at clinic

### Exclusion Criteria:

Quantitative: Known co-morbid conditions, bleeding disorders, current infection

### Analysis:

- Chi-squared tests to examine the bivariate relationship between childhood anemia and the key risk factors
- Ordered logistical regression to further evaluate whether severity of anemia is related to key risk factors.

## Qualitative: Focus Groups

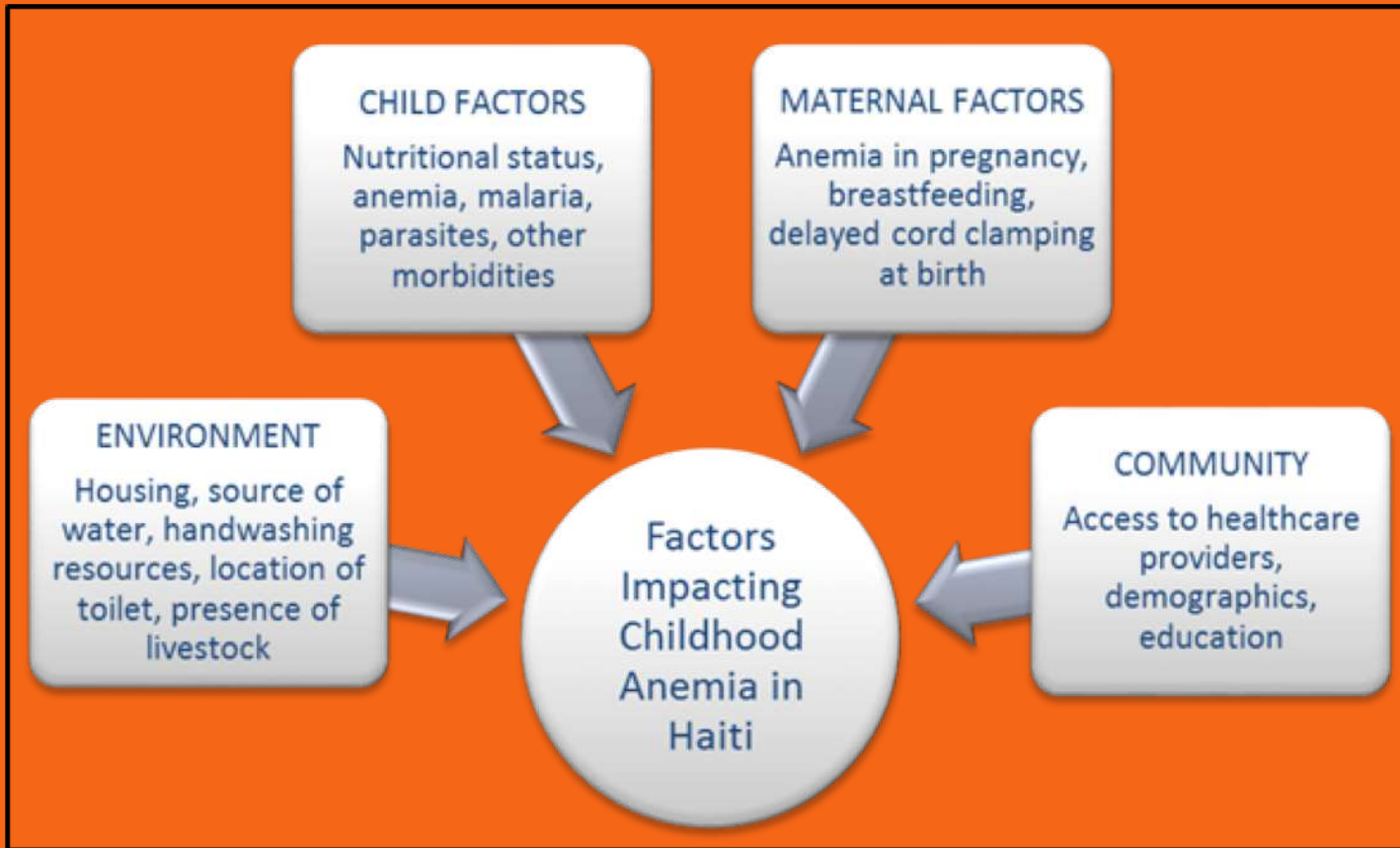
### Inclusion Criteria:

Any Haitian attending or working at clinic (no exclusion)

### Analysis:

- Descriptive, constructivist approach with situational analysis as described by Clark
- Iterative process, coding and emergent themes analysis by two researchers
- Validity (trustworthiness) using peer review debriefing, external audits, and when possible, member checks
- Emergent themes triangulated with quantitative analysis for holistic view of study

# QUANTITATIVE DATA COLLECTION



**Hemoglobin testing of all children,  
treatment as indicated**

**Survey interviews:**

Housing, food, supplements, water, handwashing, environment, toileting,, maternal factors, socio-economic factors, access to healthcare (card)

**Medical record review:**

Demographics, height, weight, hemoglobin, medical hx (BMI, growth status)

# QUALITATIVE DATA COLLECTION

**Setting:** Private room, closed door

**Capture:** Recorded with informed verbal consent

**Translation:** Not interrupting flow of ideas

**Set-Up:** You know, I don't know; your children, your community, humor

- "What causes anemia in the children?"
- "What can be done to have less anemia in children?"
- "What is needed to help the children have less anemia?"
- "Anything else?"

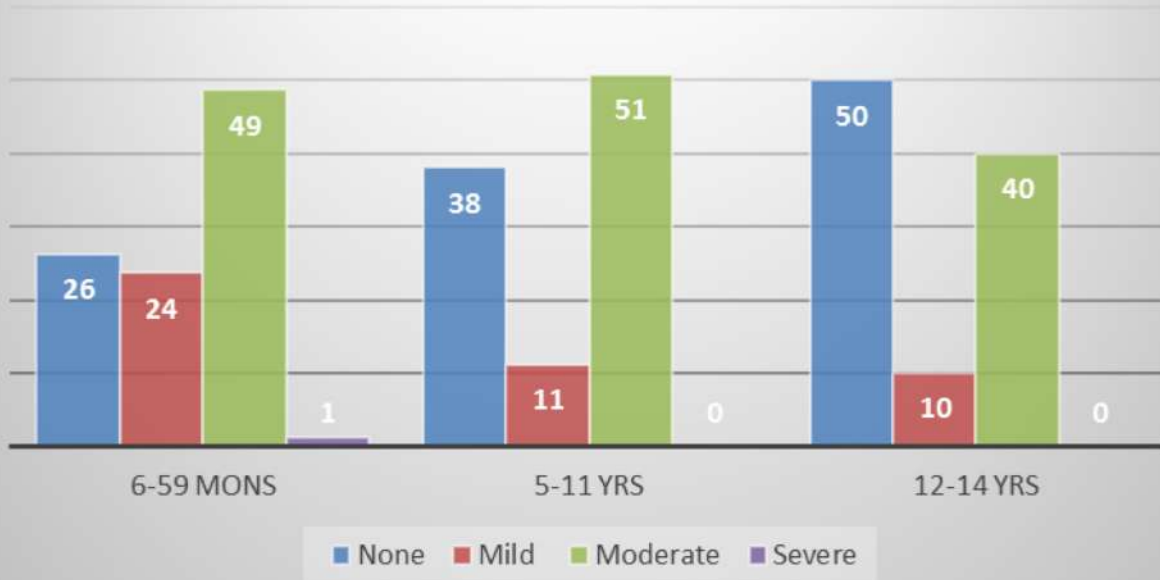
**Thank you gift (lotion)**





# PRELIMINARY RESULTS: QUANTITATIVE

**ANEMIA (% , n=149)**



- 149 children, 6 months to 14 years

- Anemia rate: 67%

- Key risk factors, bivariate:

- Vitamin A food intake per week (-)
- a Road to Health Card (-)
- Maternal education (-)
- # of bednets at home (-)

- Significant factor after multivariate ordered logistic model:

- # of bednets at home
- OR=0.67, 95% CI (0.45-0.99)

Hemoglobin Concentration for Diagnosis of Anemia, g/dL (WHO)

Population	Mild	Moderate	Severe
6-59 mons	10.0-10.9	7.0-9.9	< 7.0
5-11 yrs	11.0-11.4	8.0-10.9	< 8.0
12-14 yrs	11.0-11.9	8.0-10.9	< 8.0

# QUOTES

- “We know we get sick but we can’t understand it well. Because a long time ago there those types of things didn’t exist ...That makes us stay this way... Sometimes I can’t eat all day and I don’t drink anything. I’m anemic and I can’t eat anything. There was a time when I didn’t feel those things.”
- “We need help... If you have anemia... you want to eat, you want to give your body what it needs you don’t have money you can buy food. We don’t have the possibility to take care of illnesses that we get....”

The majority of people in Haiti are scared of anemia.  
Because anemia is a bad. It can kill you.

# PRELIMINARY FINDINGS: QUALITATIVE

## 12 FOCUS GROUPS – 164 PARTICIPANTS

### “What causes anemia in the children?”

- Food mainly, other factors not described well, myths

### “What can be done to have less anemia in children?”

- Better food; water, sanitation ... ‘I could have worked harder...’

### “What is needed to help the children have less anemia?”

- Money, jobs, help

### Impressions

- People love their children, know what anemia is, feel responsible
- Opportunity for education on multifactorial strategies
- Anger. What’s goin to be different?
- **Leadership** naturally emergent and partnership wanted





# NEXT STEPS

- Transcription and qualitative analysis
- Extended quantitative analysis
- Review with collaborative partners at Sea-A Corporation and Pusan University
- Initiating conversations with community leaders, stakeholder organizations - discussing results
- Draft community-based action plan
- Review by all stakeholders
- Finalize and design Phase II Study
- Funding for Phase II
- Implementation Fall 2018 or Spring of 2019

