



Addressing Multifactorial Drivers of Anemia in Pregnancy

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from Global Initiatives and Case Studies**
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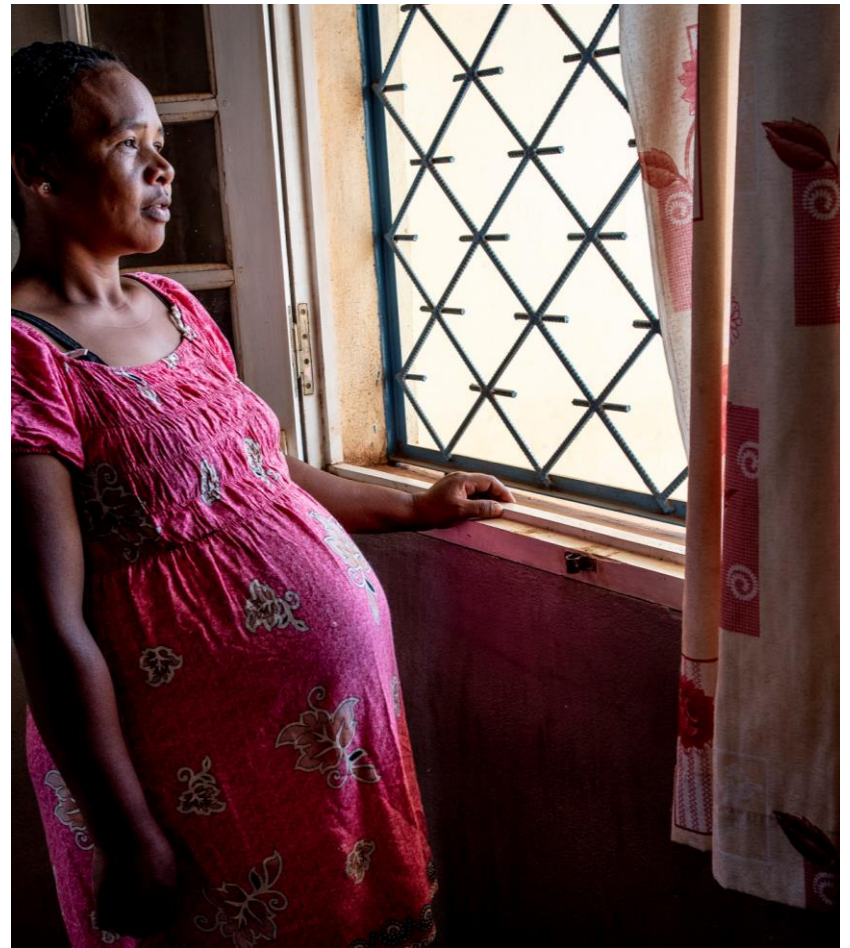


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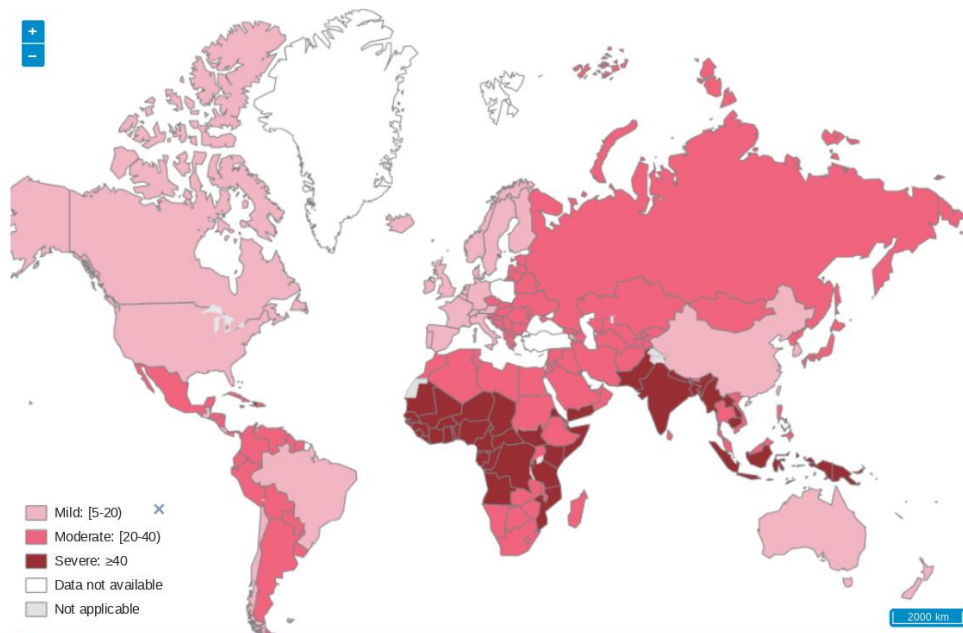
Anemia Prevalence in Pregnant Women

Prevalence of anaemia in pregnant women (aged 15-49) (%)

FILTERS

Year

2019



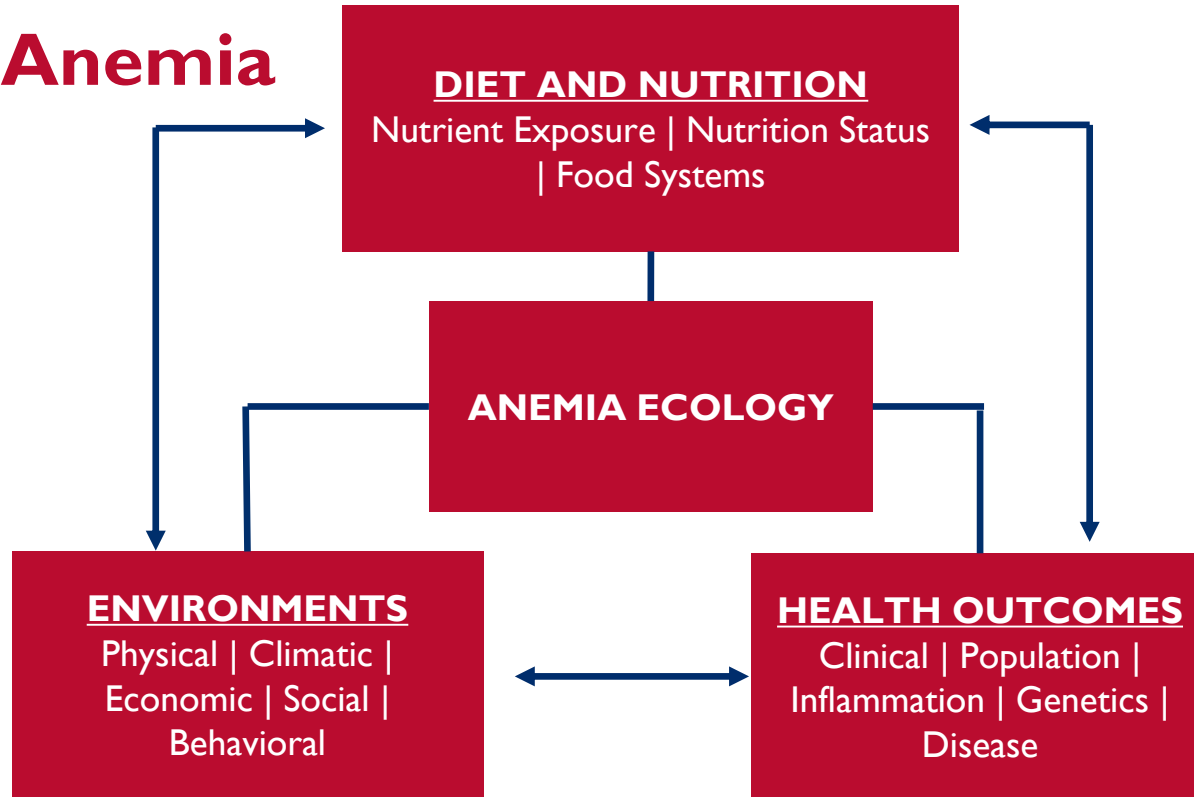
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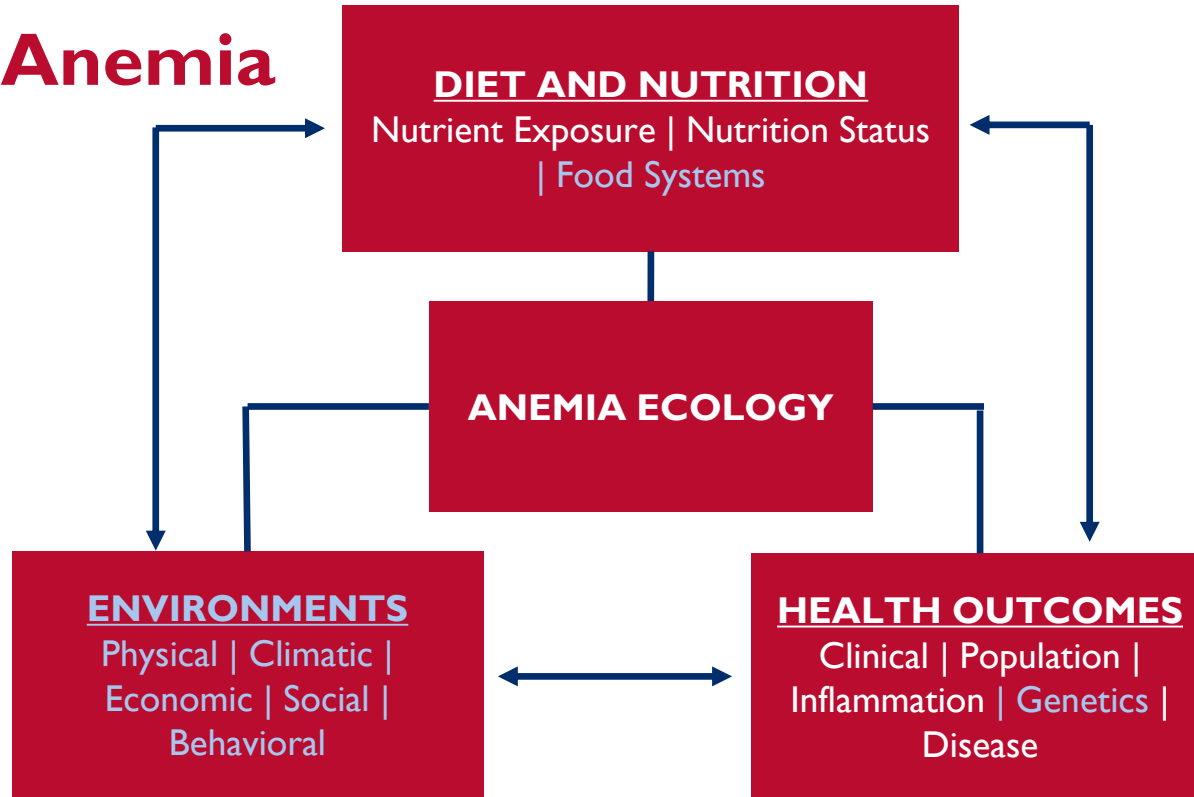
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Ecology of Anemia



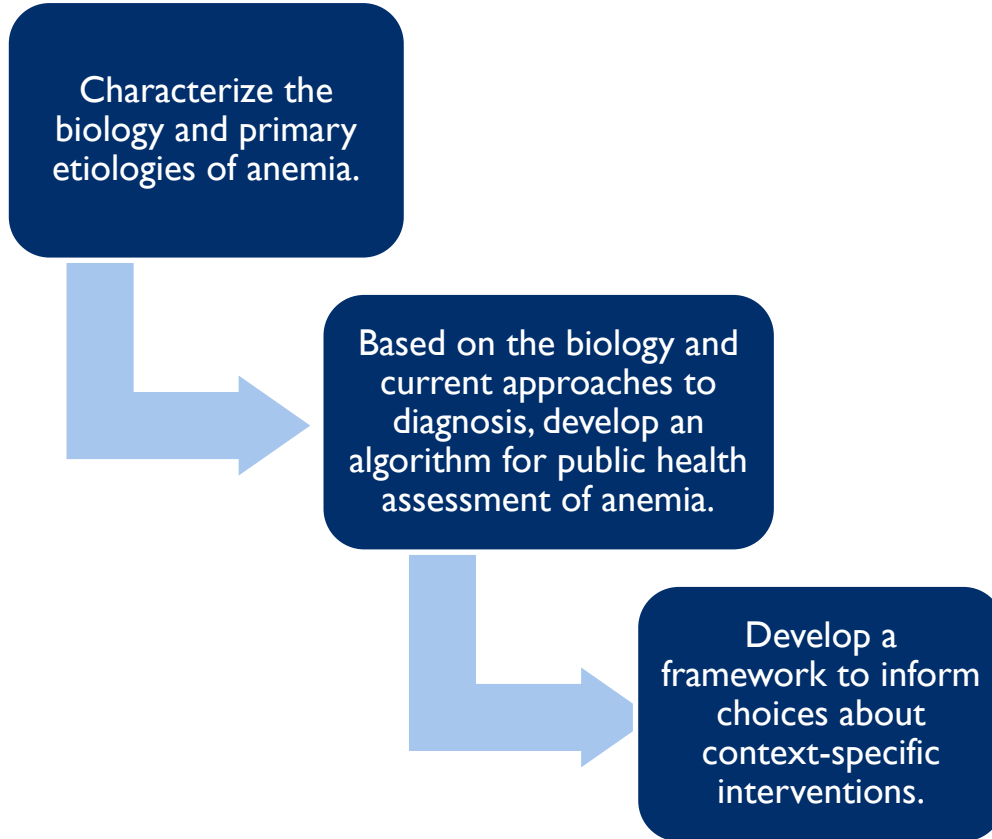
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Ecology of Anemia



USAID Advancing Nutrition Anemia Task Force Supplement



Sponsored Supplement Publication

Exploring the Anemia Ecology: A New Approach to an Old Problem

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Improving Anemia Assessment in Clinical and Public Health Settings

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Biology of Anemia: A Public Health Perspective

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Approaches to Address the Anemia Challenge

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USAID Advancing Nutrition Brief—Anemia in Pregnancy



Anemia Briefs

Brief: Anemia in Pregnancy

Anemia remains a daunting global health challenge. USAID promoted the creation of an Anemia Task Force (ATF) to advise its project USAID Advancing Nutrition. The ATF developed a report characterizing key elements of the biology, assessment, and approaches to interventions to address this challenge. The comprehensive report conceptualized anemia as a multifactorial condition that represents an “ecology” of interacting internal (biology, genetics, health) and external (social, behavioral, demographic and physical) environments.¹ The complexity of this ecology and its implications for diagnosis and treatment is exemplified by the intersection of anemia and pregnancy.

As highlighted in the ATF report, the etiology of anemia can be either nutritional or non-nutritional. The following is a brief review of approaches to addressing this dichotomy focused on pregnancy.

Nutritional Causes of Anemia in Pregnancy

Increased Iron Requirements during Pregnancy

Key Messages

- The net iron requirement in pregnancy is 0.5–1 grams (g).
- World Health Organization (WHO) guidelines recommend daily iron and folic acid supplementation. Thus far, use of multiple micronutrient supplements (MMS), containing iron and folic acid, is recommended only under rigorous research conditions (WHO 2020b).
- Infections during pregnancy pose unique challenges with regards to treatment.
- Anemia during pregnancy can increase the risk of postpartum hemorrhage (PPH), the most common cause for maternal death globally.

Anemia Briefs



Characterize the biology and primary etiologies of anemia.

Based on the biology and current approaches to diagnosis, develop an algorithm for public health assessment of anemia.

Develop a framework to inform choices about context-specific interventions.

Anemia in Pregnancy—Biology

- Differentiate absolute iron deficiency (ID) (insufficient iron stores) or functional ID (inadequate iron mobilization despite adequate iron stores).
- Biology
 - Nine-fold increase in iron absorption/30 percent expansion of the hemoglobin mass
 - Net pregnancy iron requirement is 500 milligram [mg] to 1 grams [g]—dietary supply insufficient
- Risk factors for iron deficiency
 - Increased iron requirement not met by increased absorption
 - Maternal diabetes, excessive bleeding during childbirth not treated with transfusion, infection or inflammation, soil-transmitted helminth infections
- Risks from iron deficiency
 - Mortality (in cases where hemoglobin < 70 g/Liter [L])
 - Increased postpartum hemorrhage, preeclampsia, and transfusion (hemoglobin < 110 g/L)
 - Increased fatigue, cognitive problems, and mental health

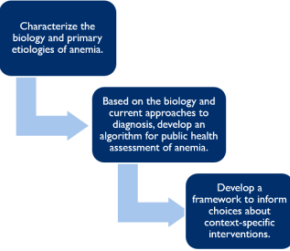
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Anemia in Pregnancy—Assessment

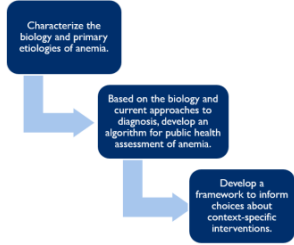
- American College of Obstetricians and Gynecologists recommends universal screening for anemia and treating those with iron deficiency anemia with supplemental iron, in addition to iron-containing prenatal vitamins
- World Health Organization (WHO) lacks guidance on universal screening for anemia or iron deficiency—individual countries are expected to adapt the WHO guidance to their local context and develop clinical guidance on anemia screening policies, depending on available resources.
- Cutoffs in the 2016 WHO recommendations on antenatal care
 - Trimester-specific (1st <110 g/L; 2nd : <105 g/L; 3rd: <110 g/L)
- Etiology
 - Micronutrient biomarkers
 - Malaria
 - Soil-transmitted helminths



Anemia in Pregnancy—Interventions

- Nutritional approaches to anemia reduction
 - Dietary approaches
 - Supplementation
 - Daily iron-folic acid (60 mg elemental iron and 0.4 mg folic acid)
 - Multiple micronutrient supplements
- Non-nutritional approaches to anemia reduction
 - Infection control
 - Intermittent preventative therapy for malaria in pregnancy (sulfadoxine-pyrimethamine or artemisinin-based combination therapy with dihydroartemisinin-piperaquine)
 - Deworming with albendazole (2nd or 3rd trimester)
 - Heavy menstrual bleeding—use of oral contraceptive pills and intrauterine device
 - Contraceptive methods for preventing unintended pregnancies, prolong birth spacing, limit number of pregnancies
 - Delayed cord clamping
 - Management of postpartum hemorrhage

Going Beyond Health and Nutrition

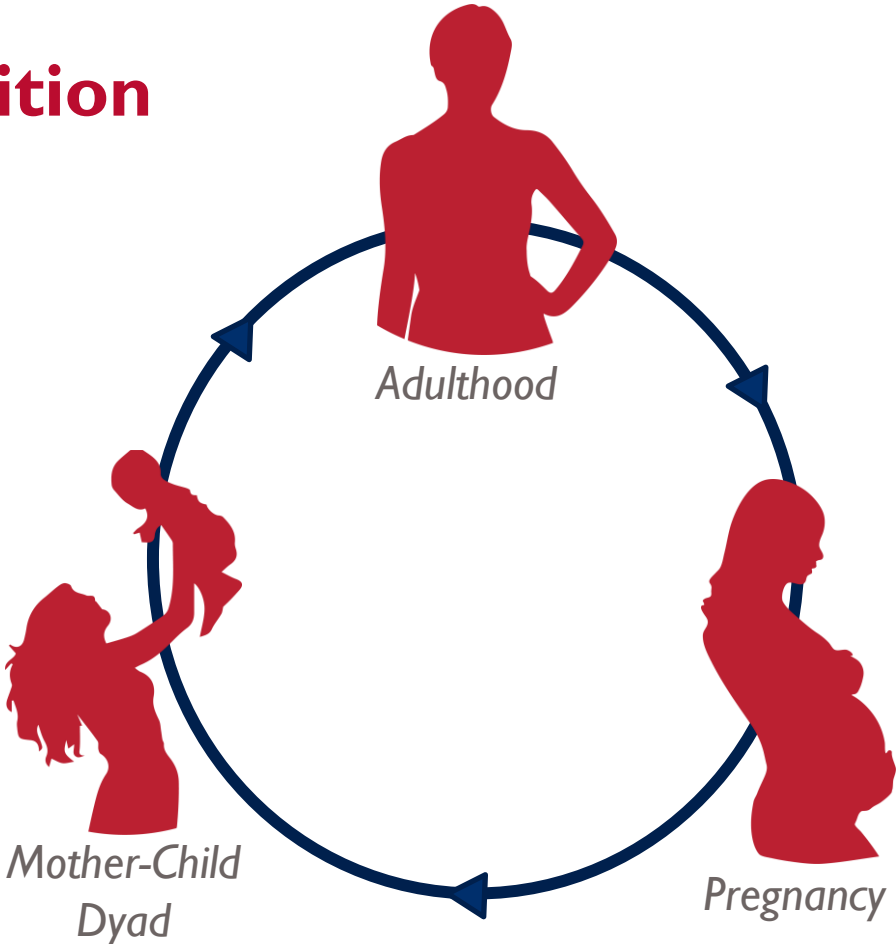


- No silver bullet—integrate interventions based on context
- Data fidelity—information on facility-based management of antenatal care
- Multi-sectoral governance—going beyond health and nutrition to the environments (economic, social, behavioral)
- Equality and equity in the approach to anemia

Women's Nutrition



Adolescence



Mother-Child
Dyad

Pregnancy

Takeaway Messages

- Iron deficiency—absolute iron deficiency—remains the most important cause in pregnancy.
- There are many available intervention options for anemia in pregnancy—choose one or more based on context.
- In “women’s nutrition,” it is the woman which should take precedence, not the nutrition (vis-à-vis focus of interventions).



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