

Addressing Physiological Barriers to Micronutrient Absorption from Fortified Foods



Before applying to this Grand Challenges request for proposals (RFP), applicants should familiarize themselves with the supporting documents, including the [terms and conditions of the Gates Foundation](#), the [Rules and Guidelines](#), [Application Instructions](#), and [Frequently Asked Questions](#).

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micronutrient bioavailability through competitive uptake, reduced endogenous vitamin synthesis, and amplification of mucosal inflammation. These physiological barriers are particularly salient in low-resource contexts where infection and undernutrition co-occur.

The Challenge

We are soliciting, through this Grand Challenges RFP, applications that advance innovative approaches to better understand, measure, and mitigate infection, inflammation- and microbiome-mediated constraints that limit the impact of fortification interventions. The goal is to overcome key biological barriers and unlock the full potential of fortification programs to accelerate equitable gains in nutrition and health. Solutions could include novel biomarkers to identify populations with impaired nutrient utilization, fortificant formulations optimized for inflammatory states, adjunctive strategies to restore gut function, or integrated interventions that address infection, gut health, and micronutrient delivery simultaneously. Addressing these biological barriers is essential to unlocking the full potential of fortification programs and accelerating equitable gains in nutrition and health.

The challenge aims to:

- Identify the physiological parameters that can be modulated to improve micronutrient absorption.
- Offer a solution for delivery and effective absorption of micronutrients such as iron in a target population where nutritional interventions have not been effective.
- All stages of development would be accepted provided the potential impact is clearly defined. We will particularly consider new innovative product ideas, proof of concept and discovery of new approaches to achieve more effective fortification. The solution is not limited to a product; it can also be a strategic approach and is open to discovery R&D program proposals to address unanswered scientific questions.

Funding Level

We will consider proposals for awards of up to \$250,000 USD for each project, with a grant term of 18 months. Application budgets should be commensurate with the scope of work proposed. Indirect costs will be considered and should be included in the budget for the up to \$250,000 USD award (subject to the [Gates Foundation's indirect](#)

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- **Strong biological rationale**
 - Mechanistic understanding (e.g., hepcidin-mediated iron blockade, impaired fat absorption, microbiome–nutrient interactions).
 - Clear linkage between proposed solution and the underlying physiological barrier.
- **Innovative and testable solution**
 - Novel fortificant formulations, delivery approaches, or adjunctive therapies.
 - Microbiome-modulating, anti-inflammatory, or gut-repair strategies integrated with fortification.
 - Development or validation of practical biomarkers to identify or stratify affected populations.
- **Feasibility and scalability**
 - Practical pathway for integration into existing fortification platforms or delivery systems.
 - Cost-effective design appropriate for low-resource settings.
 - Consideration of regulatory, manufacturing, and supply chain implications.
- **Measurement and evaluation plan**
 - Clearly articulated theory of change with appropriate outcomes related to micronutrient absorption, status, and functional impact.
 - Inclusion of inflammation and/or gut function biomarkers where appropriate.
 - Rigorous study design with defined milestones and go/no-go criteria.
- **Equity and context relevance**
 - Focus on populations with high burdens of infection, undernutrition, or systemic inflammation.
 - Engagement with local partners and alignment with national nutrition strategies.
- **Risk assessment and mitigation**
 - Consideration of potential unintended consequences (e.g., microbiome disruption, pathogen proliferation, adverse nutrient interactions).
 - Defined strategy for mitigating and managing scientific and implementation risks.
- **Team capability**
 - Multidisciplinary expertise as required for the topic (nutrition, immunology, microbiome science, implementation science, product development).
 - Demonstrated ability to translate discovery into scalable impact.

We will not fund proposals that focus on:

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-  Strategies to Improve Fortification Programs RFP - French
-  Strategies to Improve Fortification Programs RFP - Korean
-  Strategies to Improve Fortification Programs RFP - Portuguese
-  Strategies to Improve Fortification Programs RFP - Spanish
-  Strategies to Improve Fortification Programs - Rules and Guidelines
-  Strategies to Improve Fortification Programs - Application Instructions
-  Strategies to Improve Fortification Programs - Budget
-  Strategies to Improve Fortification Programs - Webinar Slides
- Strategies to Improve Fortification Programs - Webinar Video
- Strategies to Improve Fortification Programs - Frequently Asked Questions (FAQs)

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