



**Statement of Dr. Yashodhara Rana, Associate Director for Research,  
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**Before the U.S. House Committee on Foreign Affairs –Subcommittee on Global Health,  
Global Human Rights and International Organizations**

**“Meeting the Challenges of Global Brain Health: Diagnosis and Treatment for the 21st  
Century”**

**November 20, 2024**

Chairman Smith, Ranking Member Wild, and distinguished members of this subcommittee, thank you for the opportunity to discuss the critical role of combating malnutrition in global brain health. I want to express my gratitude to Chairman Smith and Ranking Member Wild for their leadership in the fight against child malnutrition. Their commitment has raised awareness and mobilized resources for this urgent issue. I also want to specifically acknowledge Chairman Smith for his efforts in advancing the Global Food Security Act, which has shaped policies to enhance food security and ensured that vulnerable populations, especially pregnant women and children, receive the nutrition they need.

Furthermore, I extend my sincere appreciation to Ranking Member Wild for her strong advocacy and support of legislative action focused on tackling severe acute malnutrition, also known as child wasting. Her dedication to this cause has helped to shine a light on the devastating impacts of malnutrition and has driven forward initiatives aimed at providing effective solutions. I would also like to thank the members of the Foreign Affairs Committee for their bipartisan stewardship of the Global Malnutrition Prevention and Treatment Act, which was enacted into law two years ago.<sup>1</sup> Their collaborative efforts have laid a solid foundation for ongoing initiatives to prevent and treat malnutrition, demonstrating a united front in addressing this critical challenge.

Thanks to the leadership of the U.S. Government, we have witnessed a historic surge in treatment for wasted children. A recent UNICEF report, which was cited in *The New York Times* in October 2024, shared that in 2023, an estimated 1.2 million children’s lives were saved because of treatment for wasting.<sup>2,3</sup> This remarkable achievement underscores the impact of our collective commitment to addressing child malnutrition, and it would not have been possible without critical bipartisan Congressional support. It is imperative that we continue to build on this momentum and ensure that every child has access to the nutrition necessary for their growth and development.

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<sup>1</sup> <https://www.usaid.gov/nutrition/resources/usaid-resources/global-malnutrition-implementation-plan>

<sup>2</sup> [Nearly two million severely malnourished children at risk of death due to funding shortages for therapeutic food](#)

<sup>3</sup> <https://www.nytimes.com/2024/10/14/health/children-malnutrition-africa-unicef.html>

I serve as the Associate Director for Research at the Eleanor Crook Foundation, where I manage a multi-million-dollar portfolio of grants focused on maternal and child nutrition. I provide leadership both within the Foundation and across our network of partners. I have worked in the global health space for more than a decade, including supporting research in countries in South Asia and Africa. Additionally, I am a member of the Technical Advisory Group for the Power of Nutrition and serve on the Editorial Board of Maternal & Child Nutrition journal.

The Eleanor Crook Foundation (ECF) is a U.S.-based philanthropy dedicated solely to ending child deaths due to malnutrition. Founded in 1997 by Eleanor Butt Crook and her late husband, Ambassador William H. Crook, the Foundation is rooted in Eleanor's family legacy in the food industry. Her grandmother, Florence Butt, opened a small grocery store in 1905 that eventually grew into H-E-B, Texas' largest private retailer and one of the biggest private companies in the U.S. Eleanor Crook is driven by a singular vision: a world where every mother can nourish her children. The Eleanor Crook Foundation embodies that mission.

At ECF, we fund and support research that identifies effective prevention and treatment methods for malnutrition, conduct policy analysis to promote systemic reform, and engage in advocacy and policy leadership through dozens of partner organizations across academia, NGOs, and faith-based organizations. ECF is committed to scaling the most proven and cost-effective solutions to child malnutrition and has already invested over \$100 million to catalyze their scale-up with far-reaching results.

There are three takeaways from my remarks that I hope to leave you with today: 1) Malnutrition is harming the brain health of millions of children worldwide. 2) The crisis of malnutrition and its negative impacts on brain health are detrimental not only to individual children and their families – but also nations and economies. 3) Malnutrition is a solvable crisis. We have cost-effective solutions for malnutrition and brain development that are ready to be scaled. These include but are not limited to prenatal multivitamins for pregnant women, breastfeeding support for mothers, and a food supplement known as SQ-LNS, or small quantity lipid-based nutrient supplements. Currently, these malnutrition solutions are not being delivered at scale – but by investing in them, millions of children's lives – and livelihoods – will be saved.

### **Global Malnutrition is Harming the Brain Health of Millions of Children**

Malnutrition is the leading cause of death for children worldwide. And for those who survive, malnutrition is a threat to brain development. Today, nearly 148 million children around the world are malnourished. An additional 45 million children are wasted – a disturbingly precise term for the deadliest form of malnutrition.<sup>4</sup>

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<sup>4</sup> <https://www.gatesfoundation.org/goalkeepers/report/2024-report/>

At ECF we focus on combating malnutrition because proper nutrition is crucial for children's physical growth, cognitive development, and future potential. Malnutrition leads to grave and long-lasting consequences. When a child suffers from malnutrition, they are deprived of essential resources. The condition weakens their immune system, leaving them up to 15 times more likely to die from common infectious diseases.<sup>5</sup> And if a child experiences malnutrition in the first five years of life, they can suffer from stunted growth and cognitive impairment – in other words, their brain health can be directly impacted.<sup>6</sup>

A child's brain grows rapidly from the time of conception until three years of age.<sup>7</sup> During this period, the developing brain is influenced by a range of environmental factors, including exposure to toxins and infections, the stimulation the child gets from interactions with people around them, and crucially, the nutrition the child receives.<sup>8</sup>

Brain development begins in the womb. At the fourth week of pregnancy, a fetus has 10,000 brain cells. This number expands to about 10 billion by the 24th week of pregnancy. Maternal nutrition, including essential nutrients like folic acid, iron, zinc, and protein, is the fuel that drives this development. A lack of these nutrients during pregnancy can lead to developmental delays and cognitive issues for children.<sup>9</sup>

After birth, exclusive breastfeeding for the first six months of a child's life, followed by continued breastfeeding for at least two years, provides strong protection against disease and malnutrition, supporting the health and well-being of both mothers and children. Breastfeeding directly contributes to a child's brain health.<sup>10</sup>

As toddlers, children's brains continue to develop quickly, reaching 80% of adult size by age three. At this stage, children are especially vulnerable to insufficient nutrient intake as they move from exclusive breastfeeding to eating family meals. Proper nutrition, particularly iron-rich foods, is necessary to support this growth and prevent deficiencies that can affect learning and behavior.<sup>11</sup>

The importance of nutrition to early brain development cannot be overstated. Proper nutrition supports a child's cognitive skills and future success – and malnourishment not only hampers

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<sup>5</sup> <https://www.endmalnutrition.org/>

<sup>6</sup> <https://www.who.int/data/nutrition/nlis/info/malnutrition-in-children>

<sup>7</sup> <https://pmc.ncbi.nlm.nih.gov/articles/PMC4981537/#R1>

<sup>8</sup> [https://archive.cdc.gov/www\\_cdc.gov/ncbddd/childdevelopment/early-brain-development.html](https://archive.cdc.gov/www_cdc.gov/ncbddd/childdevelopment/early-brain-development.html)

<sup>9</sup> <https://thousanddays.org/why-1000-days/building-brains/>

<sup>10</sup> <https://now.tufts.edu/2023/07/27/how-breast-milk-boosts-brain>

<sup>11</sup> <https://thousanddays.org/why-1000-days/building-brains/>  
<https://pmc.ncbi.nlm.nih.gov/articles/PMC4981537/#R1>

children's physical growth but also inhibits the development of their brains. And ensuring every child has access to proper nutrition is crucial for breaking cycles of poverty and fostering resilience. When a child is well-nourished, they are better equipped to learn and succeed academically, laying the groundwork for productive futures. When we commit to solving the crisis of malnutrition, we are committing to healthier communities and a brighter future.

### **Stunted Brains Today, Stunted Economies Tomorrow<sup>12</sup>**

The harmful effects of malnutrition on brain health undermine the prosperity of entire nations and economies – because children who survive malnutrition carry lifelong consequences. Research has shown that individuals who faced childhood hunger go on to earn 10% less over their lifetimes and are 33% less likely to escape poverty.<sup>13</sup> Studies have also found that a malnourished mother is more likely to give birth to a small and malnourished baby, which advances an intergenerational cycle of poverty and inequality.<sup>14</sup> In short, the toll of malnutrition can be felt for generations.

The economic costs of malnutrition for nations around the world are therefore significant. Malnutrition is estimated to result in an annual productivity loss of up to US\$3 trillion, representing 3% to 16% (or more) of GDP in low-income countries – equivalent to a permanent global recession at 2008 levels.<sup>15</sup> The World Bank estimates that for every \$1 spent on combating undernutrition, there is a return of \$23, resulting in an estimated \$2.4 trillion in economic benefits. The advantages of these investments significantly surpass the costs of inaction, which are projected to be around \$41 trillion over the next decade.<sup>16</sup>

Ending malnutrition is often presented as a moral obligation – and for good reason. But ending malnutrition is also an economic imperative. As President Akinwumi A. Adesina of the African Development Bank noted: “Stunted children today will lead to stunted economies tomorrow.”<sup>17</sup> Each day without action to improve nutrition for children worldwide undermines the growth and prosperity of countries around the world and hinders our ability to create a more equitable, productive, and thriving world.

### **Malnutrition is a Solvable Crisis with Sustained U.S. Leadership**

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<sup>12</sup><https://www.afdb.org/en/news-and-events/speeches/agenda-setting-remarks-dr-akinwumi-adesina-president-african-development-bank-group-african-leaders-nutrition-addressing-malnutrition-catalyzing-africas-transformation-through-enhanced-multisector-investments-68756>

<sup>13</sup><https://www.gatesfoundation.org/goalkeepers/report/2024-report/#Introduction>

<sup>14</sup><https://www.unicef.org/reports/undernourished-overlooked-nutrition-crisis>

<sup>15</sup>[https://www.gatesfoundation.org/-/media/goalkeepers/reports/2024-goalkeepers-report\\_en.pdf?rev=e00724a8a95e476dbbce54cf4fccd70](https://www.gatesfoundation.org/-/media/goalkeepers/reports/2024-goalkeepers-report_en.pdf?rev=e00724a8a95e476dbbce54cf4fccd70)

<sup>16</sup><https://openknowledge.worldbank.org/entities/publication/2c0b8b5e-0f67-47fe-9eae-d4707d9ed195>

<sup>17</sup> Remarks by Dr. Akinwumi A. Adesina, President of the African Development Bank Group at TICAD7: Ending Malnutrition in Africa: Towards Nutrition

For all the dire statistics and challenging realities that I've thus far presented, there is also hope. Because proven, cost-effective solutions to malnutrition exist and are ready to be scaled. These solutions are targeted for each phase of the critical 1,000-day window – from pregnancy, to infancy, to early childhood. ECF currently funds a number of these preventative solutions, and also supports wasting treatment, which saves lives now.

Pregnancy & the impact of prenatal vitamins: Today, more than one billion women and girls are malnourished, and two out of every three women of reproductive age worldwide have micronutrient deficiencies. When a woman is malnourished during pregnancy, she is more likely to have serious complications, including a higher risk of giving birth to infants who are born too soon and too small.

In 2020, one in every four newborns was born small and vulnerable.<sup>18</sup> In addition to being at a greater risk for death or serious illness, babies born too small or too soon have been shown to suffer from worse neurodevelopment outcomes, and are likely to have worse cognitive and development outcomes throughout childhood and into adulthood.<sup>19,20</sup>

Fortunately, there is a cost-effective solution that can reduce the risk of a baby being born too soon or too small. Prenatal multivitamins – known as Multiple Micronutrient Supplements (MMS) – have a cost of around \$4 per pregnancy, making them one of the best buys in global development. These multivitamins have been proven to prevent anemia, support a healthy pregnancy, and reduce the risk of babies being born small and vulnerable.<sup>21</sup> MMS was also highlighted as a highly cost-effective intervention by the Copenhagen Consensus.<sup>22</sup>

In high-income countries, pregnant women have long been advised by medical professionals to take multivitamins to guard against a range of nutrient deficiencies that can occur during pregnancy. Paradoxically, in low- and middle-income countries, where the prevalence of malnutrition is much higher, pregnant women typically receive a supplement containing only two nutrients: iron and folic acid.<sup>23</sup> An American philanthropist and friend of ECF, Spencer Kirk – of the family philanthropy Kirk Humanitarian – has been the leading champion of this intervention over the last two decades, and has worked closely with American manufacturer

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<sup>18</sup>[https://impekacdn.s3.us-east-2.amazonaws.com/hmhbconsortium.org/content/user\\_files/2024/05/09103452/MMS-Investment-Roadmap-Digital-B-9-July.pdf](https://impekacdn.s3.us-east-2.amazonaws.com/hmhbconsortium.org/content/user_files/2024/05/09103452/MMS-Investment-Roadmap-Digital-B-9-July.pdf)

<sup>19</sup><https://obgyn.onlinelibrary.wiley.com/doi/10.1002/uog.11112>

<sup>20</sup><https://pmc.ncbi.nlm.nih.gov/articles/PMC5740123/>

<sup>21</sup>[https://impekacdn.s3.us-east-2.amazonaws.com/hmhbconsortium.org/content/user\\_files/2024/05/09103452/MMS-Investment-Roadmap-Digital-B-9-July.pdf](https://impekacdn.s3.us-east-2.amazonaws.com/hmhbconsortium.org/content/user_files/2024/05/09103452/MMS-Investment-Roadmap-Digital-B-9-July.pdf)

<sup>22</sup><https://copenhagenconsensus.com/sites/default/files/2023-03/Nutrition%20Best%20Investment%20Manuscript%20230211.pdf>

<sup>23</sup>[https://impekacdn.s3.us-east-2.amazonaws.com/hmhbconsortium.org/content/user\\_files/2024/05/09103452/MMS-Investment-Roadmap-Digital-B-9-July.pdf](https://impekacdn.s3.us-east-2.amazonaws.com/hmhbconsortium.org/content/user_files/2024/05/09103452/MMS-Investment-Roadmap-Digital-B-9-July.pdf)

Contract Pharmacal Corp (CPC) based in New Jersey, which is currently the world’s leading provider of high-quality, low-cost MMS.

For a total cost of \$1.1 billion, we could reach 260 million women with MMS by 2030. This investment would save 600,000 lives, improve birth outcomes for more than five million babies, and prevent anemia in over 15 million pregnant women.<sup>24</sup> Global momentum for MMS introduction and scale-up is now at an inflection point, and in several countries, delivering MMS to pregnant women has been identified as an urgent priority. ECF and other philanthropies are committed to unlocking private funding to meet this need.

Infancy & the impact of breastfeeding through two years of age: Breastmilk is nature’s superfood. It protects mothers' health and newborns from malnutrition, infections, disease, and death. Mothers who breastfeed experience lower risks of cancer, diabetes, and high blood pressure, while their children benefit from improved health, cognitive development, and long-term economic outcomes likely due to the rich nutrients in breast milk and the enhanced caregiving it fosters.<sup>25</sup> Research shows that breastfeeding is linked to higher performance in intelligence tests during childhood and adolescence.<sup>26</sup>

Yet only 41 percent of babies around the world are exclusively breastfed. Breastfeeding-friendly policies – such as paid maternity leave, restrictions on the marketing of breast-milk substitutes, and skilled breastfeeding counseling, among others – can help close this gap.<sup>27</sup> When breastfeeding is well-supported and safeguarded, women are more than twice as likely to breastfeed their babies.<sup>28</sup>

Early childhood & the impact of SQ-LNS: In early childhood, children require a diverse, nutritious diet to support their bodies and brains to grow. Many global efforts, including USAID’s Feed the Future initiative,<sup>29</sup> are working diligently to improve the quality of children’s diets available through food systems around the world. Education programs on infant and young child feeding practices, long supported by USAID’s Global Health programs,<sup>30</sup> help families to make good choices when nutritious foods are available to them.

However, many vulnerable families in low- and middle-income countries are still not able to access or afford foods to meet the nutritional needs of their young children. To help address this

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<sup>24</sup> *ibid*

<sup>25</sup> <https://openknowledge.worldbank.org/entities/publication/2c0b8b5e-0f67-47fe-9eae-d4707d9ed195>

<sup>26</sup> [https://iris.who.int/bitstream/handle/10665/79198/9789241505307\\_eng.pdf?sequence=1](https://iris.who.int/bitstream/handle/10665/79198/9789241505307_eng.pdf?sequence=1)

<sup>27</sup> [https://www.endmalnutrition.org/img/nourishthefuture\\_paper\\_v13.pdf](https://www.endmalnutrition.org/img/nourishthefuture_paper_v13.pdf)

<sup>28</sup> <https://www.unicef.org/press-releases/world-breastfeeding-week-unicef-and-who-call-equal-access-breastfeeding-support>

<sup>29</sup> [https://cg-281711fb-71ea-422c-b02c-ef79f539e9d2.s3.us-gov-west-1.amazonaws.com/uploads/2021/10/Global-Food-Security-Strategy-FY22-26\\_508C.pdf](https://cg-281711fb-71ea-422c-b02c-ef79f539e9d2.s3.us-gov-west-1.amazonaws.com/uploads/2021/10/Global-Food-Security-Strategy-FY22-26_508C.pdf)

<sup>30</sup> See, e.g., <https://www.iycn.org/>,

need, small quantity lipid-based nutrient supplements, or SQ-LNS, are food-based supplements designed for vulnerable infants and young children. SQ-LNS contains the daily recommended intake of necessary micronutrients and can be mixed with foods or consumed as is. Evaluations indicate that these supplements decrease anemia for children, as well cases of severe wasting and severe stunting,<sup>31</sup> and are proven to reduce developmental delays.<sup>32</sup> SQ-LNS was also highlighted as a highly cost-effective intervention by the Copenhagen Consensus.<sup>33</sup> Within a growing global supply base, American manufacturers such as Edesia and Mana Nutrition produce SQ-LNS using peanuts, milk, and other ingredients sourced from farmers across the United States.

Despite the effectiveness of these low-cost, high-impact interventions, many families in LMICs do not have the access they need to these solutions. Addressing this gap is crucial to improving health outcomes for pregnant women – and the health outcomes and brain health of infants and young children. Support and investment for these interventions is essential.

### **Together We Can Be Bold and Achieve a Healthier Future for the World’s Children**

The U.S. has historically been the largest donor in the fight against malnutrition. This commitment reflects a broader recognition of the critical role that nutrition plays in fostering economic development and global stability. By investing in sustainable agricultural practices, enhancing maternal and child health, and promoting nutrition education, the U.S. aims to create lasting impacts in vulnerable communities. Continued bipartisan support ensures that these efforts continue, addressing both immediate needs and long-term solutions to malnutrition and food insecurity globally.

My birth country of Nepal offers a notable example of the benefits from U.S. government investments in nutrition. In 1995, Nepal had the highest stunting rate in the world. Nearly two million children in the country were stunted – which meant that seven out of 10 children had significantly delayed growth, and were too short for their age. But over the past 20 years, with strong government policies and donor support, Nepal has reduced stunting prevalence by nearly half.<sup>34</sup> One important contributor was the USAID-funded Suaahara program, a 2011 to 2023 initiative that ultimately targeted maternal and child nutrition in nearly half of the country.<sup>35</sup> The program promoted better dietary practices, increased access to health services, and encouraged community engagement. Impact evaluations showed significant improvements in maternal nutrition and feeding practices. Despite challenges like the 2015 earthquake and the COVID-19 pandemic, the program has led to healthier mothers and children, contributing to long-term

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<sup>31</sup> <https://openknowledge.worldbank.org/entities/publication/2c0b8b5e-0f67-47fe-9eae-d4707d9ed195>

<sup>32</sup> <https://pubmed.ncbi.nlm.nih.gov/34590116/>

<sup>33</sup> <https://copenhagenconsensus.com/sites/default/files/2023-03/Nutrition%20Best%20Investment%20Manuscript%20230211.pdf>

<sup>34</sup> <https://www.exemplars.health/topics/stunting/nepal>

<sup>35</sup> <https://www.usaid.gov/sites/default/files/2023-01/Nepal%20Snapshot%20HO%2003%20Suaahara%20II.pdf>

public health improvements in Nepal.<sup>36</sup> These advancements have been vital for children's development in Nepal, and have helped to ensure a stronger future generation.

This example is but one of many that illustrates the direct impact of U.S. government funding for nutrition, and how transformative it has been on one population.

The importance of continuing to champion programming for malnutrition is underscored by a recent report from UNICEF, which highlighted that one in four children today is living in severe food poverty. Put simply, that means 181 million children do not have the equal opportunity to grow, develop, and learn.<sup>37</sup> Without intervention, these children won't have the chance to reach their full potential. 181 million children – that is about half the population of the United States.

It is not easy to comprehend a number like 181 million. But I urge you today to remember that every one of that colossal figure stands for a child – a child who deserves to have ambitions, and dreams, and who, with the right nutrition and care, can grow and prosper, and make their country, and our world, a better place. Because malnutrition not only threatens children's lives – it harms their brain health, and it has devastating impacts for countries and their economies.

We know that progress is possible. We've seen it over the past decades, and we've seen it in just the last two years, when – as noted earlier – historic funding for malnutrition from the U.S. government and other public and private donors led to the rapid scale-up of treatment for children worldwide. Simple, cost-effective solutions for malnutrition and brain development exist, and need only be scaled. And now we must stay the course. Each of these children depend on our commitment to them. Thank you again for inviting me to testify, and I look forward to your questions.

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<sup>36</sup> [https://pdf.usaid.gov/pdf\\_docs/PA0213DW.pdf](https://pdf.usaid.gov/pdf_docs/PA0213DW.pdf)

<sup>37</sup> <https://news.un.org/en/story/2024/06/1150706>