

# First Global Blueprint for Nutrition Research

A *Global Research Agenda for Nutrition Science* is the culmination of a two-year initiative to identify the most critical knowledge gaps in the field of nutrition. The initiative supports the ongoing unprecedented effort to accelerate global commitment, cooperative work, and funding to uncover and implement scientific and evidence-based solutions to malnutrition.

Initiated by The Sackler Institute for Nutrition Science at the New York Academy of Sciences, this blueprint is the result of the collaboration between leading NGO/IGOS, academic researchers, and the World Health Organization (WHO).

This *Agenda* identifies research gaps, across industry and geography, around the three following Focus Areas:

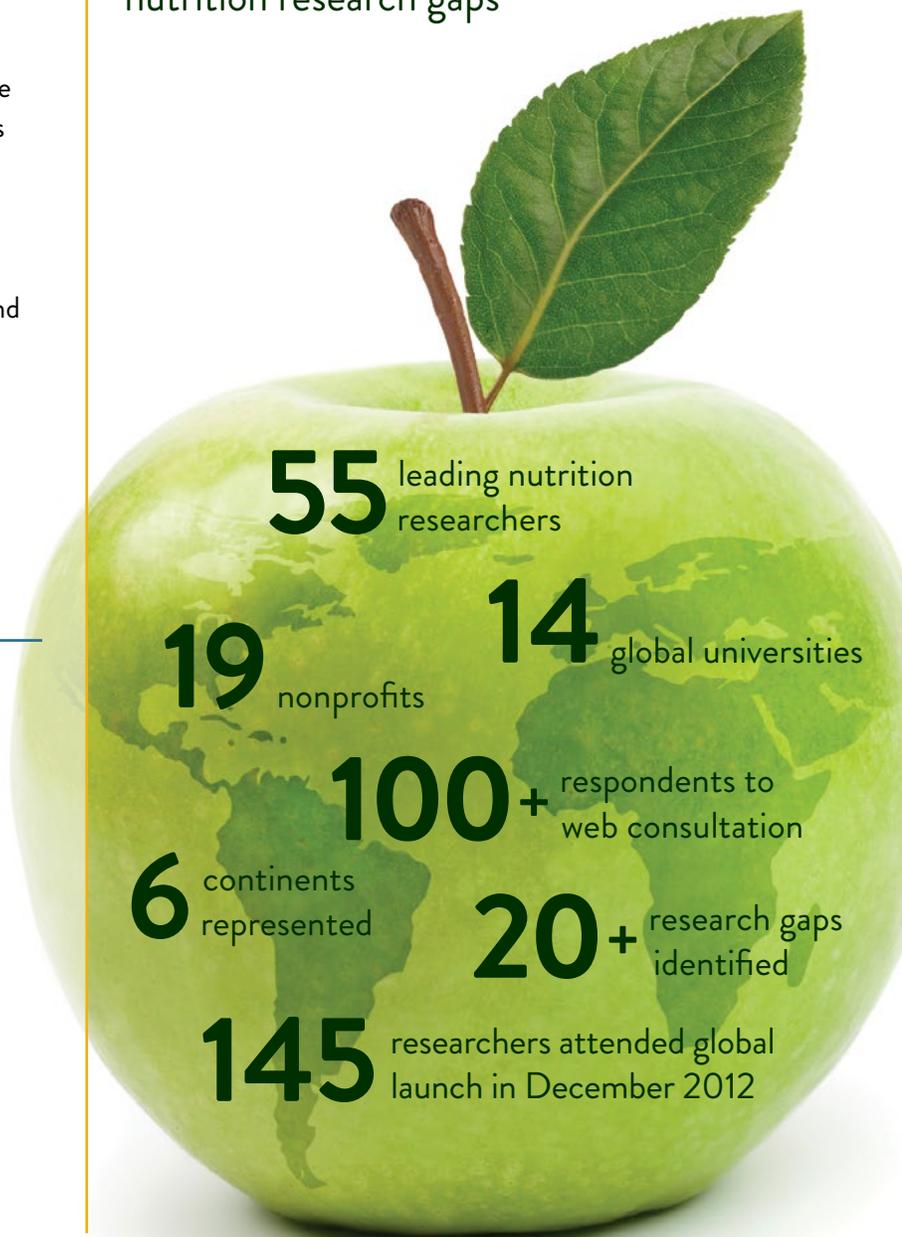
- Environmental and Societal Trends Affecting Food and Nutrition Among Vulnerable Groups
- Unresolved Issues of Nutrition in the Lifecycle
- Delivery of Intervention and Operational Gaps

“Nutrition is essential to public health and is an interdisciplinary science that faces diverse and complex challenges at the global level. We need very different knowledge sets, skills and underlying theories to address them; and we need a vision to engage the entire range of disciplinary players.”

**Gretel Pelto, PhD**, Graduate Professor,  
Cornell University

## A Global Research Agenda for Nutrition Science

A global, collaborative process to identify nutrition research gaps





## A Quarter of the World is Suffering

Malnutrition, which includes both under- and overnutrition, affects more than a quarter of the world's population. Poor nutrition causes a range of serious and costly health problems, from impaired cognitive and physical development to illness, disease, and death. The implications extend far beyond health outcomes, affecting workforce capacity, political stability, and economic progress.

While efforts to understand the underlying causes of malnutrition exist, many questions remain unanswered—from the role of complex biological mechanisms to the exact influence of environmental factors. In addition, many nutritional interventions lack research-based evaluations. Solutions and challenges evolve in nutrition science because of its constantly growing body of evidence in such diverse fields as agriculture, the environment, social and behavioral sciences, and economics.

## Critical Need for Scientific Solutions that Work

This *Agenda* offers a scientific problem-solving approach that will help inform decision-making about research and maximize resources that lead to solutions.

Specifically, this *Agenda* calls for multi-disciplinary, concerted, and coordinated research on:

### Environmental and Societal Trends Affecting Food and Nutrition Among Vulnerable Groups

Research is needed to define tools that will describe the complex interactions among environmental and societal trends and nutrition, including population growth, aging, and geographical distribution; climate change and potential threats to agriculture and food security; increased global demand for food and feeds; shifting demand to store-bought processed foods;

growing rates of overweight and nutrition-related non-communicable diseases (NCDs); and increased gaps in health and nutrition between countries and social classes.

### Unresolved Issues of Nutrition in the Lifecycle

Research is needed to better understand the interplay between mother and child, with a linkage to the wider themes of women's health in general; and with the recommendation of particular attention to double burden contexts (where high rates of overweight and obesity coexist with stunting and micronutrient deficiencies). There are three interconnected themes: Preconception to Early Childhood (First 1,000 Days and Beyond); moving from single nutrients to a systems biology food-based approach; and malnutrition, infection, developmental, and functional outcomes and their interaction with nutrition interventions.

### Delivery of Intervention and Operational Gaps

Deeper understanding is needed to assess and support the delivery capacity for nutrition interventions in addition to the cost effectiveness of delivery conduits. These include critical context-specific issues as they relate to decision making and implementation of scaling up nutrition programs. Specific research is needed around: The burden of undernutrition and the role of direct and indirect interventions; better understanding around demand creation for interventions (services/product) at civil society levels; the study of staff competencies and ways to measure and validate behavior and behavior change; and work on implementation and impact pathways to improve agriculture-nutrition programs.

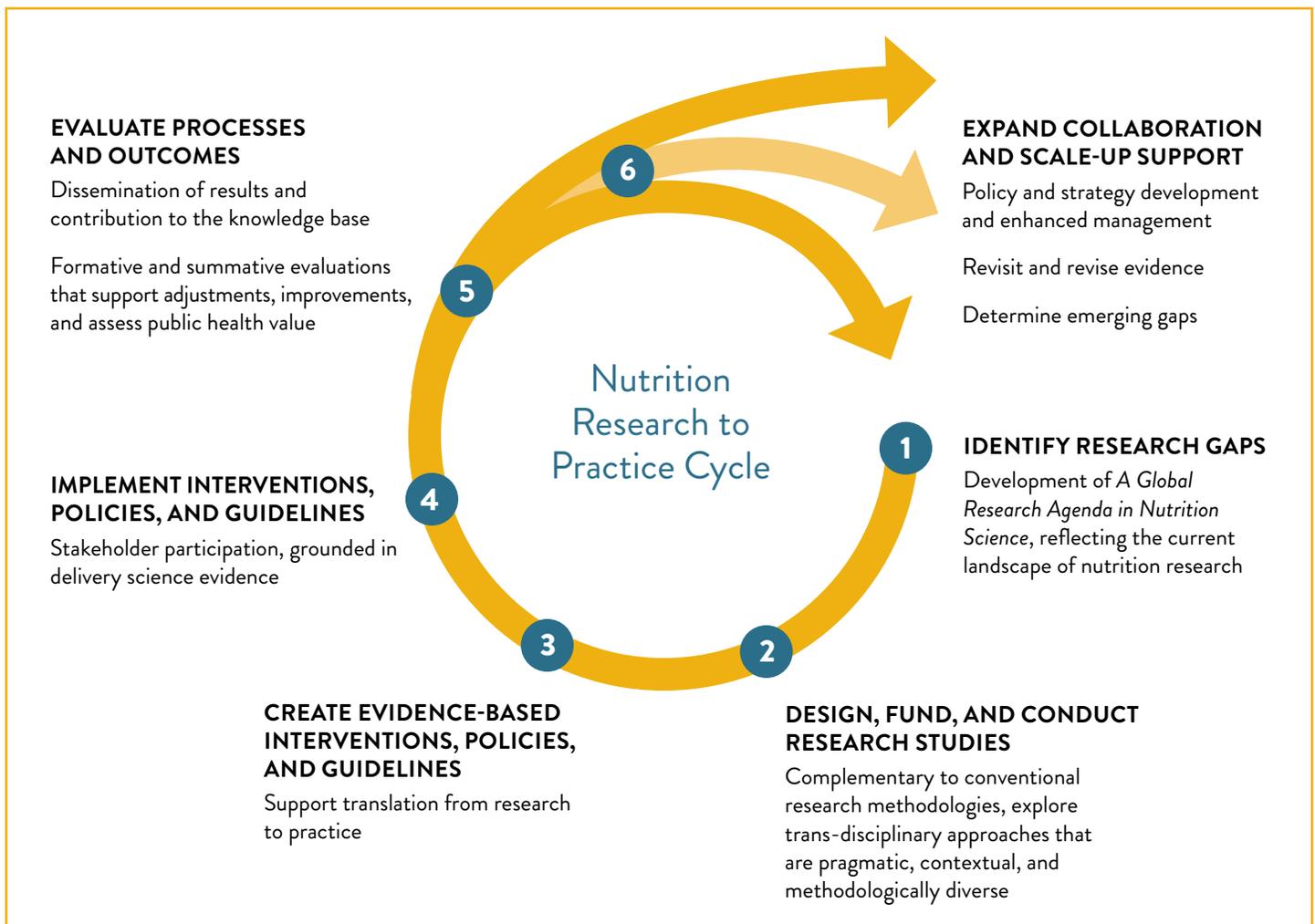


## Combating Malnutrition: Ongoing Research Cycle of Nutrition

While this *Agenda* successfully does what the organizations and experts involved set out to accomplish – it is in no way an end-point. Rather, this *Agenda* serves as a necessary starting point for a larger process: A cycle to fill research gaps and turn new knowledge into practice and policy to optimize nutrition.

This *Agenda* will kick-start a research to practice cycle, drawing on the work of vital nutrition science

stakeholders, including researchers, funders, implementation specialists, and policy makers, which is needed to move nutrition science forward. By collaboratively activating this *Agenda*, stakeholders have the potential to change the global nutrition landscape; ultimately tipping the scales from malnutrition to optimal nutrition. This dynamic process, depicted in the figure below, shows how this *Agenda* can be utilized as a basis for a coordinated, transdisciplinary effort in nutrition sciences.



## About Us

### The Sackler Institute for Nutrition Science

The New York Academy of Sciences, in partnership with The Mortimer D. Sackler Foundation, established The Sackler Institute for Nutrition Science to create a coordinated effort to support and disseminate nutrition science research. The Sackler Institute for Nutrition Science is dedicated to advancing nutrition science research and knowledge, mobilizing communities, and translating this work into the field. The Sackler Institute is generating a coordinated network across sectors, disciplines, and geographies that promotes open communication; encourages exchange of information and resources; nurtures the next generation of scientists; and affects community intervention design and public policy changes. Visit us online at [www.nyas.org/nutrition](http://www.nyas.org/nutrition).

### The New York Academy of Sciences

The New York Academy of Sciences is an independent, not-for-profit organization that since 1817 has been committed to advancing science, technology, and society worldwide. With 25,000 members in 140 countries, the Academy is creating a global community of science for the benefit of humanity. The Academy's core mission is to drive innovative solutions to society's challenges by advancing scientific research, education, and policy. Please visit us online at [www.nyas.org](http://www.nyas.org).

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“Nutrition is integral to some of the most severe global challenges of our time. The shrewd application of science to understanding the complexities of human nutrition helps establish the maps that guide us as we move forward.

This *Agenda*, being developed by The Sackler Institute and WHO, in conjunction with many other scientists and practitioners worldwide, should serve as a basis for the application of science to develop solutions for the critical issues in nutrition and development.

It is bound to be an ever-growing *Agenda*—and ever-changing *Agenda*—because that is how science is.”

**David Nabarro, MD**

*Special Representative of the  
UN Secretary General for Food  
Security and Nutrition*