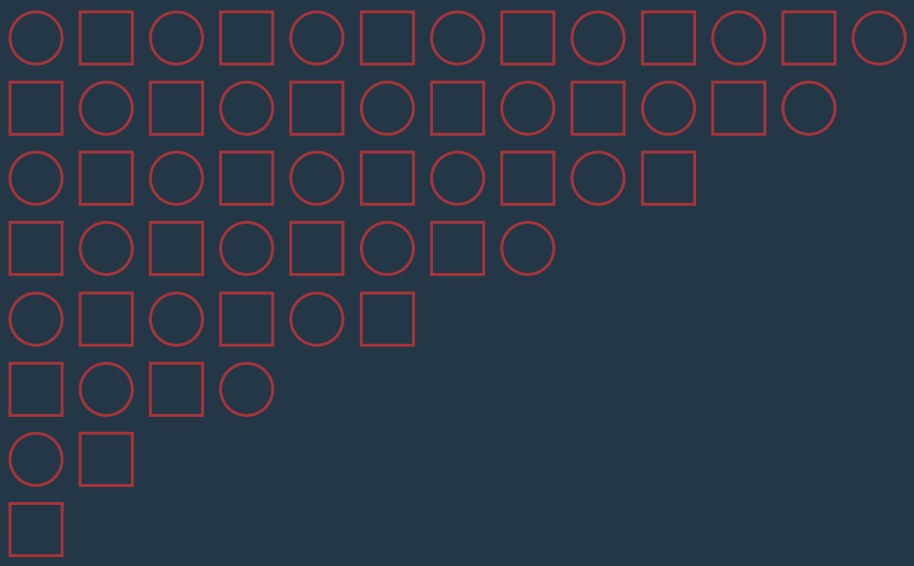
NUTRITION INTERNATIONAL

STRATEGY 2018–2024

NUTRITION INTERNATIONAL

Nourish Life



ACRONYMS

AA-HA!	Global Accelerated Action for the Health of Adolescents
ANC	Antenatal care
BCI	Behaviour change interventions
BFCI	Baby-Friendly Community Initiative
BFHI	Baby-Friendly Hospital Initiative
DALY	Disability-adjusted life years
DFS	Double fortified salt
DOHAD	Developmental Origins of Health and Development
FFP	Food Fortification Programme
GAVA	Global Alliance for Vitamin A
GTS	Global Technical Services
IFA	Iron and folic acid
IKA	In-Kind Assistance
IPTp	Intermittent preventive treatment of malaria in pregnancy
IYCN	Infant and Young Child Nutrition
KAP	Knowledge, attitudes, practices
KMC	Kangaroo mother care
LA	Landscape analysis
MDG	Millennium Development Goals
MIYCN	Maternal Infant and Young Child Nutrition
MMN	Multiple micronutrient
MMNS	Multiple micronutrient supplements
NBVAS	Newborn vitamin A supplementation
NI	Nutrition International
NIDEA	Nutrition Innovation Delivery Accelerator
NGO	Non-governmental organization
NLIFT	Nutrition Leverage and Influence for Transformation
NMNAP	National Multi-Sectoral Nutrition Action Plan
NTD	Neural tube defect
NTEAM	Nutrition Technical Assistance Mechanism
ORS	Oral rehydration salt
PDS	Public Distribution System
PINKK	Projet intégré de nutrition dans les regions de Kolda et de Kédougou
SDG	Sustainable Development Goal
SUN	Scaling Up Nutrition
TA	Technical assistance
TAN	Technical Assistance for Nutrition
TFNC	Tanzania Food and Nutrition Commission
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations International Children's Emergency Fund
USI	Universal salt iodization
VAD	Vitamin A deficiency
VAS	Vitamin A supplementation
VGD	Vulnerable Group Development
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme
WHA	World Health Assembly
WHO	World Health Organization
WIFA	Weekly iron and folic acid
WIFAS	Weekly iron and folic acid supplementation

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FOREWORD FROM THE CHAIR OF THE BOARD

Good nutrition is the critical ingredient every one of us needs to survive and to thrive. It fuels our bodies and our brains, it powers our immune systems and unlocks our potential. This truth was at the core of Nutrition International's founding over 25 years ago as a modest Canadian Initiative born out of the World Summit for Children. Today, Nutrition International is a global nutrition organization, headquartered in Canada, with operations around the world. It is advised by a diverse and engaged board which includes a former head of state, development and finance experts as well as scientists and academics from around the world.

Though Nutrition International's scope has broadened considerably its founding principle remains unchanged, to do the greatest good for the people it serves. It is that principle that underpins the Strategic Plan 2018-2024 and the Investment Case that accompanies it.

The goals and targets Nutrition International sets in both documents are ambitious, and they need to be if we are to achieve the Sustainable Development Goals. However, the Board is confident that with Nutrition International's dedicated staff, deep technical knowledge and innovative approaches, they are achievable.

In 2017, the Micronutrient Initiative became Nutrition International. This Strategic Plan is a milestone in that ongoing transformation. It serves as a guide to staff, partners and donors on the organization's direction over the next six years and defines in a concrete way how Nutrition International intends to improve the nutritional status and transform the lives of 1 billion vulnerable people, especially women, adolescent girls and children, by 2030.

Thanks to Nutrition International's work, and the support of its donors and partners, the vision of a world where everyone, everywhere, is free from malnutrition and able to reach their full potential is possible.

Best regards,

David de Ferranti

FOREWORD FROM THE PRESIDENT AND CEO

Good nutrition is essential for human growth and development. The right nutrition at the right time builds the capacity to dream, it fuels the power to achieve, and lays the foundation upon which to build a better world. At Nutrition International we believe that a better world is possible, but to build it we need to fundamentally change the way we approach development.

Our strategic planning process was an opportunity to define how we wanted to 'do development differently'. It was an opportunity to look at what worked and what didn't. It was an opportunity to leverage 25 years of experience, knowledge and partnerships to deliver on our core vision: a world where everyone, everywhere, is free from malnutrition and able to reach their full potential.

The resulting Strategic Plan 2018-2024, redefines how Nutrition International achieves impact. We continue to deliver **coverage**, the low-cost, high-impact interventions that Nutrition International is recognized for the world over. We are more intentional about our **leverage**, utilizing new delivery platforms as well as innovative technologies and financing. And we maximize our **influence**, through research, advocacy and knowledge dissemination. These pillars are underpinned by a systemic focus on **gender**, bringing a gender lens directly into our projects, programs and partnerships.

Most importantly, woven into the fabric of our Strategic Plan 2018-2024, is the passion and drive of our global team of over 400 people, located in 11 countries worldwide, without whom our health and human capital impacts could not be reached. Their expertise and constant focus on action, results and scale allows Nutrition International, and all our donors, to make a difference in the lives of millions of people around the world.

This strategic plan, and the investment case that accompanies it, marks an important moment in our evolution and growth. Though we have come a long way – from a specialized Canadian Initiative to a global nutrition organization – our purpose remains unchanged: we exist to do the greatest good for the people we serve.

Kind regards,

Joel Spicer

EXECUTIVE SUMMARY

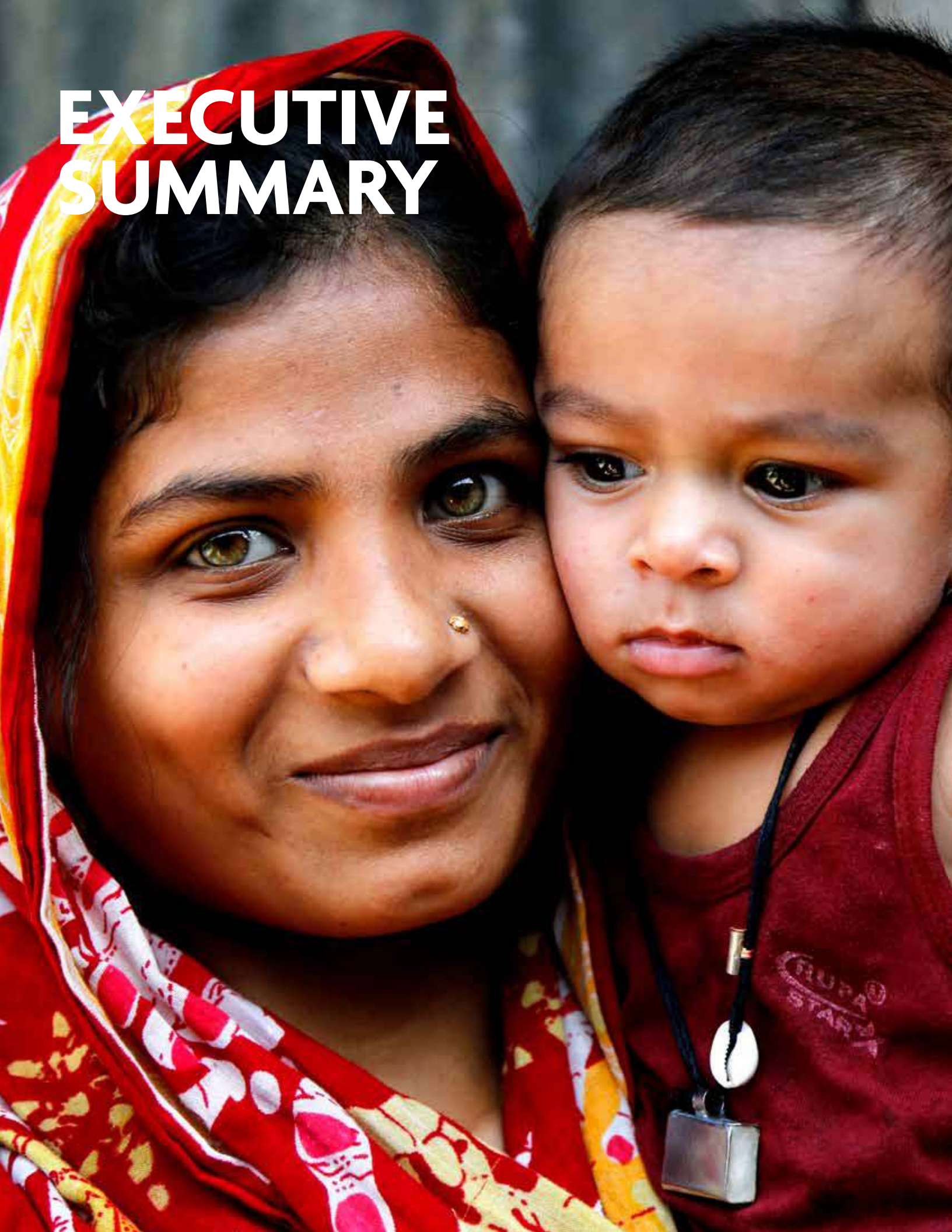


TABLE 1: NUTRITION INTERNATIONAL STRATEGIC PLAN 2018-2024 SUMMARY

VISION	A world where everyone, everywhere, is free from malnutrition and able to reach their full potential		
MISSION	To be a global leader in finding and scaling solutions to malnutrition through **coverage**, **leverage** and **influence**		
IMPACT	Improved survival, health and well-being of vulnerable people, especially women, newborns, children and adolescent girls		
TARGETS	**BY 2024:** • Reach 800 million people, including 450 million women and girls, with one or more interventions • Avert 1.2 million child deaths • Prevent 60 million cases of anaemia • Avert 4.4 million cases of stunting • Prevent 400,000 cases of low birth weight • Develop new multi-sectoral partnerships that draw in more than $50 million in matching funds • Continue to generate evidence and shape international and national policy and guidance • Lead global thinking and action on adolescent nutrition, focused on gendered needs of adolescent girls • Advise 25 high burden countries on their nutrition plans, guided by gender analysis, and/or transforming those plans into action **BY 2030:** Transform the lives of 1 billion vulnerable people, especially women, adolescent girls and children, by improving their nutritional status		
OBJECTIVES	**Coverage:** Scaling-up the delivery of low-cost, high-impact nutrition interventions, prioritizing women, adolescent girls and children in Africa and Asia **Leverage:** Integrating nutrition across sectors, strengthening local ownership and developing innovative approaches to scale **Influence:** Combining research, technical assistance, advocacy, and partnerships to improve policies, programs, and to increase resources for nutrition **Gender Equality:** Mainstreaming gender equality throughout all aspects of NI programs and business models to promote gender equality and women and girls' empowerment		
FOCUS	**POPULATIONS** • Adolescent girls • Pregnant women and newborns • Children under five • All populations	**GEOGRAPHIES** • 10 high-burden core countries[1] • Provision of technical assistance to ~20 countries • Maintain provision of vitamin A to 60+ countries	**CORE INTERVENTIONS** • Vitamin A supplementation • Salt iodization • Food fortification • Zinc & ORS for treatment of diarrhoea • Iron and folic acid (IFA) supplements for pregnant women • Weekly IFA for adolescents and nutrition education • Infant and young child nutrition • Birth package
BUSINESS MODELS	Right Start NLIFT NTEAM		

[1] Bangladesh, India, Indonesia, Pakistan, Philippines, Ethiopia, Kenya, Nigeria, Senegal, Tanzania

» By 2024, Nutrition International will reach more than 800 million vulnerable people, including 450 million women and girls, with at least one nutrition intervention.

Good nutrition is the foundation for human development. It is the critical ingredient every one of us needs to survive and to thrive. Without it, the brain will not develop fully, the body will not grow properly and the immune system will not function effectively. Nutrition is also one of the lowest cost, highest impact investments – creating a virtuous circle improving health, increasing education and lifetime earnings, and directly promoting gender equality and women's empowerment.

THE COST OF MALNUTRITION

Nearly one-third of the world's population is suffering from some form of malnutrition, resulting in millions of lost lives, lost productivity and increased health burdens that last lifetimes. The World Bank estimates that all forms of malnutrition cost the global economy $3.5 trillion per year. Yet funding for nutrition has continually remained low.

Almost all countries face a serious burden of either two or three forms of malnutrition, and in many cases, women and girls are disproportionately affected by the "double burden" of malnutrition. Thus, it is crucial to implement "double or triple duty" actions to address the short- and long-term negative effects of vitamin and mineral deficiencies while tackling other forms of malnutrition – such as obesity – at once.

VISION, MISSION & OBJECTIVES

For 25 years Nutrition International has remained committed to its core vision: *a world where everyone, everywhere, is free from malnutrition and able to reach their full potential*. In that time, we have expanded our scope as well as our role, and outlined a bold vision for the next 12 years to 2030. Our **Goal 2030** is to transform the lives of 1 billion vulnerable people, especially women, adolescent girls and children, by improving their nutritional status.

This 2018-2024 Strategic Plan represents our ambitious vision for the first six years of that period.

Nutrition International aims to be a global leader in finding and scaling solutions to malnutrition through coverage, leverage and influence, while mainstreaming gender equality throughout. Nutrition International delivers impact through **coverage** by delivering low-cost, high-impact interventions; **leverage** by utilizing new delivery platforms, innovative technology and financing; and **influence** through research, advocacy and knowledge dissemination. The interlocking nature of these three strategic components, guided by the cross-cutting goal of promoting **gender equality and women's empowerment**, is a new way of characterizing the impact that we seek to achieve.

The four objectives for the 2018-2024 Strategic Plan are:

Coverage: Scaling up the delivery of low-cost, high-impact nutrition interventions, prioritizing women, adolescent girls and children in Africa and Asia

Leverage: Integrating nutrition across sectors, strengthening local ownership and developing innovative approaches to scale

Influence: Combining research, technical assistance, advocacy and partnerships to improve policies and programs, as well as to increase resources for nutrition

Gender Equality: Mainstreaming gender equality throughout all aspects of NI programs and business models to promote gender equality and women and girls' empowerment

IMPACT

Nutrition International's approaches to coverage, leverage and influence do not work in isolation. In the countries where NI works, and at the global level, the results of these approaches are often carried out as part of a synchronized plan. Over the six-year period of this strategic plan, NI has established the following health and human capital impact goals:

HEALTH AND HUMAN CAPITAL IMPACT GOALS

IMPACT		SIX-YEAR GOALS (2018-2024)
Health impacts	Deaths averted	1.2 million (600,000 females, 600,000 males)
	Cases of anaemia averted	60 million (31M females, 29M males)
	Cases of low birth weight averted	400,000 (200,000 girls, 200,000 boys)
	Cases of stunting averted	4.4 million (2.2M girls, 2.2M boys)
	Cases of neural tube defects averted	10,000 (5,000 girls, 5,000 boys)
Human capital impacts	Total IQ points saved among children	85 million (42.5M for girls, 42.5M for boys)
	Children who gain a year of education	10 million (5M girls, 5M boys)
	Increase in future lifetime earnings	$51 billion (CAD) ($25.5B for girls, $25.5B for boys)

NUTRITION FOR GENDER EQUALITY

While malnutrition affects everyone, women and girls suffer disproportionately due to social, cultural and biological reasons. Gender equality underpins all of Nutrition International's programming. Over the next six years, gender analysis will inform all our work in order to identify inequalities and inequities in status, health and service access. We believe women and girls must be empowered advocates for their own health and nutrition. That is why we apply a gender lens directly into our projects and the program cycle of all our business models, programs and partnerships.










COVERAGE

Nutrition International's targeted interventions reach population groups with a heightened risk of nutrient deficiencies, including adolescent girls, pregnant women and newborns, and children under five. Through interventions such as weekly iron and folic acid supplementation, vitamin A supplementation and zinc and oral rehydration salt treatment for diarrhoea, we can best help those who suffer disproportionately, responding to inequities in access to quality services and burden of illness or care.

We are also committed to reducing malnutrition for all population groups, leading the way on salt iodization and food fortification initiatives that effectively combat widespread nutrient deficiencies.

COVERAGE SNAPSHOT: NUTRITION INTERVENTIONS IN NI'S CURRENT PORTFOLIO

POPULATION GROUP	INTERVENTION
Adolescent girls	Weekly Iron and Folic Acid Supplements (WIFAS) and nutrition education
Pregnant women & newborns	Iron and Folic Acid (IFA) and prenatal nutrition
	Birth package (incl. Kangaroo Mother Care, Early Initiation of Breastfeeding)
Children under 5 years	Vitamin A supplementation
	Diarrhoea treatment with Zinc + Oral Rehydration Salt (ORS)
	Infant and Young Child Nutrition (MN powders)
	Infant and Young Child Nutrition (breastfeeding and complementary feeding)
All populations	Food fortification
	Universal Salt Iodization (USI)

LEVERAGE

There are too many missed opportunities in nutrition, but we are working to change that. Nutrition International's leverage goal is to use non-nutrition platforms, innovative finance and technology to amplify impact and ensure there are no missed opportunities.

NI's innovative business model Nutrition Leverage and Influence for Transformation (NLIFT) integrates gender-sensitive nutrition programming and education into existing infrastructure and programs. NLIFT aims to integrate nutrition programming into new and existing large-scale networks that have not previously focused on nutrition. By 2020, NLIFT aims to help countries reach over 7 million vulnerable women, newborns and children.

Over the next six years, NI will also seek to improve markets for nutrition products (for example, newborn vitamin A supplementation), explore innovative approaches to nutrition financing such as payment for results, work with governments and donors on common nutrition indicators, and continue to drive technological innovation for nutrition commodities, delivery platforms and gender-sensitive program monitoring.

INFLUENCE

It is clear that more funding, resources and knowledge are needed in the nutrition sector to see sufficient scale-up. Although many developing countries are committed to improving the nutritional status of their populations, the lack of context-specific, gender analysis informed evidence and technical capacity prevents countries from turning their vision into a reality.

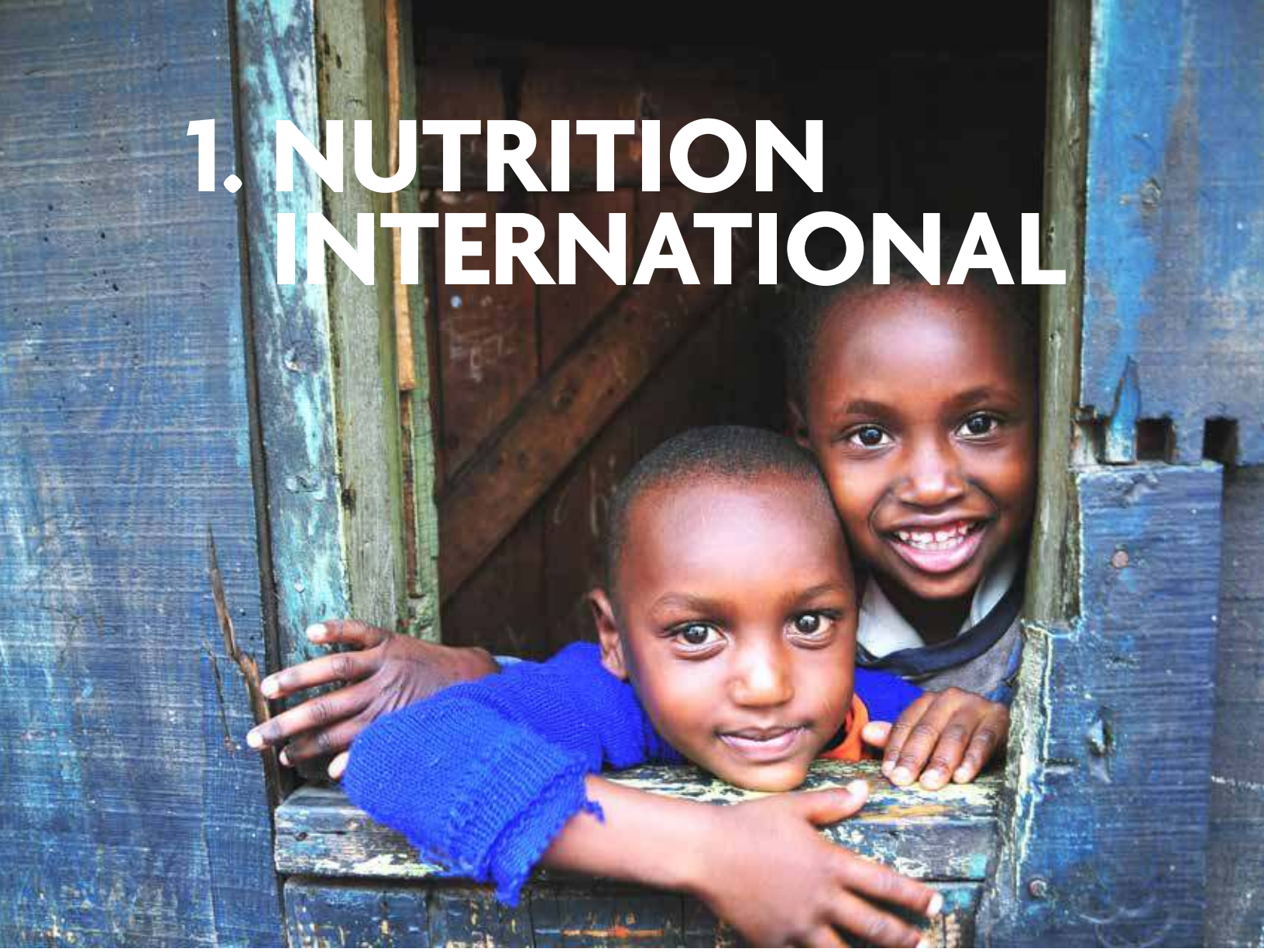
Nutrition International is a world-class centre of technical excellence and an expert global ally. We influence the nutrition landscape by making early investments, piloting new interventions, bringing them to scale and ultimately handing over program responsibility to individual countries.

Over the next six years, we will seek to increase international, national and local resources for nutrition through advocacy, improve the evidence base for programs through evidence generation, translation and dissemination (see table for new interventions), and improve nutrition planning, programs and local ownership through gender-sensitive technical assistance.

NEW INTERVENTIONS TO BE EXPLORED, BY BENEFICIARY POPULATION

BENEFICIARY POPULATION	NEW INTERVENTION(S)
Adolescent girls	School-based campaigns for adolescent girls
	Package of interventions for pregnant adolescent girls
Women 20-49 years	Weekly iron and folic acid supplementation (WIFAS) and nutrition education
Pregnant women and newborns	Newborn vitamin A supplementation
	Multiple micronutrient supplementation
Postpartum women and infants	Package of nutrition interventions for postpartum women and infants, including iron folic acid supplementation (IFA) and nutrition education
All populations	Double fortified salt (DFS) with iodine and folate

NI is fundamentally changing the way we approach development. We are breaking down silos, tearing down walls and lowering barriers, including gendered barriers. We are building up partnerships, increasing knowledge sharing and expertise, and investing more. In essence, we are doing development differently. Table 1 (page 5) summarizes the key elements of NI's global strategy 2018-2024.



1. NUTRITION INTERNATIONAL

1.1 A GLOBAL NUTRITION ORGANIZATION CREATED BY CANADA

Since 1992, Nutrition International (formerly the Micronutrient Initiative) has been building on our track record of success in vitamin A supplementation and salt iodization as well as in global advocacy, research and market shaping to address key micronutrient gaps, to include more direct support for the design and scale-up of nutrition programs at country level. NI continues to work in close partnership with governments, the private sector, international agencies, academia and non-governmental organizations (NGOs).

In 2015, NI launched a suite of new business models. The Right Start Initiative accelerates the scaling up of a comprehensive package of nutrition interventions aiming to reach at least 100 million infants, young children, adolescent girls, women, and pregnant women in nine high burden countries in Asia and Africa to improve their nutrition status. Nutrition Leverage and Influence for Transformation (NLIFT) works with non-nutrition organizations to integrate nutrition into existing programming, catalyzing greater investments, synergies and results. Both programs are funded by the Government of Canada.

Nutrition Technical Assistance Mechanism (NTEAM), with anchor funding from the United Kingdom, is a global hub of technical expertise that provides technical support to governments, particularly for the planning, budgeting, delivery, monitoring and evaluation of nutrition programs to increase countries' capacity to deliver nutrition. Since its inception in 2015, NTEAM has become one of the largest suppliers of technical support to countries in the Scaling Up Nutrition (SUN) Movement.

To better reflect what had become our broader mandate and mission, in 2017, the Micronutrient Initiative was reborn as Nutrition International. A leading global nutrition organization, headquartered in Ottawa, NI has registered offices in 10 core countries in Sub-Saharan Africa and Asia, including regional offices in India and Kenya. We deliver technical assistance in 20 countries and impact more than 60 countries, primarily via vitamin A supplementation.

In the last 25 years, NI has expanded its scope and role, but our essential vision remains firm: *a world where everyone, everywhere, is free from malnutrition and able to reach their full potential.*

1.2 OBJECTIVE AND PROCESS OF THE 2018-2024 STRATEGIC PLAN

NI has developed an ambitious vision for the organization, which is aligned with the United Nations' Sustainable Development Goals (SDGs). This Strategic Plan 2018-2024 outlines the actions we will undertake to implement the first phase of that vision. Approved by NI's Board of Directors, the Plan serves as a guide to staff, partners and donors on the directions and actions we will undertake from 2018 to 2024.

The development of this Strategic Plan spanned a year, starting with an external strategic formative evaluation. It involved nearly 100 NI staff as well as numerous partners, donors, stakeholders and subject matter experts. Developing the Strategic Plan involved reviewing the latest evidence in nutrition, taking a critical look at the lessons learned over NI's 25-year history and being clear about where we can add greatest value.

The Strategic Plan will be a living document, to be reassessed and updated regularly over the next six years. Any major changes to the Strategic Plan will need to be approved by the Board of Directors. NI will report progress against our goals on an annual basis and will strive for continuous programmatic and organizational improvement using both qualitative and quantitative metrics.

NI has also developed Country Strategies in our 10 current core program countries to adapt the global strategy into each country's regional context. Like the Strategic Plan, the Country Strategies will also have a six-year horizon – spanning from 2018 to 2024 – and will be reassessed on an annual basis.

1.3 VISION, MISSION AND PURPOSE

As part of the transition from the Micronutrient Initiative to Nutrition International in 2017, and to reflect the organization's updated mandate and scope of work, NI's management and Board developed new vision, mission and purpose statements.

Vision

A world where everyone, everywhere, is free from malnutrition and able to reach their full potential.

Mission

To be a global leader in finding and scaling solutions to malnutrition through:

Coverage: Scaling up the delivery of low-cost, high-impact nutrition interventions, prioritizing women, adolescent girls and children in Africa and Asia

Leverage: Integrating nutrition across sectors, strengthening local ownership and developing innovative approaches to scale

Influence: Combining research, technical assistance, advocacy, and partnerships to improve policies, programs, and to increase resources for nutrition

Purpose

To transform the lives of vulnerable people, especially women, adolescent girls and children, by improving their nutritional status.

2. OPPORTUNITIES FOR ACTION

2.1 THE DEVASTATING CONSEQUENCES OF MALNUTRITION

Malnutrition[2] remains a persistent barrier to improved prosperity, growth and human development.

Of the world's approximately 7.6 billion people, almost one-third lack key micronutrients, 151 million children are stunted and 2 billion adults are overweight or obese, resulting in millions of lives lost, developmental deficits and increased health burden that resonate throughout a person's life (Figure 1).[3] The World Bank estimates that all forms of malnutrition cost the global economy $3.5 trillion per year.[4]

Vitamin and mineral undernutrition remains a public health concern due to its magnitude and the well-established connections with poor health outcomes and development. However, it cannot be ignored that almost all countries face a serious burden of either two or three forms of malnutrition, making it crucial to implement "double or triple duty" actions, to address the short- and long-term negative effects of vitamin and mineral deficiencies while tackling other forms of malnutrition at once.

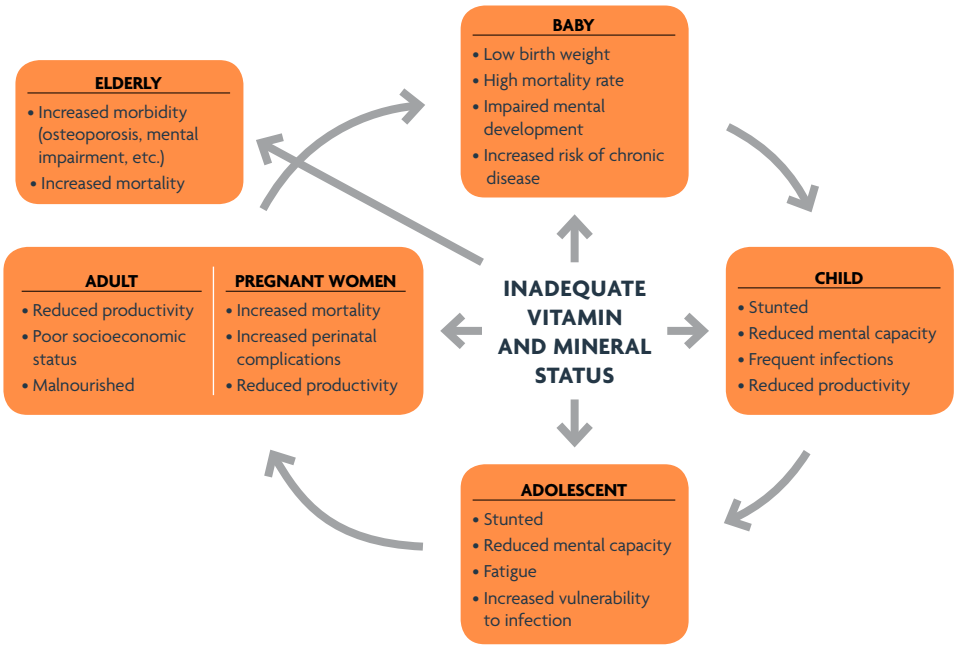
In particular, nutrition interventions must address the needs of children, girls and women, who are disproportionately affected by malnutrition due to both physiological factors and socially constructed

[2] Malnutrition refers to deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients.

[3] Development Initiatives 2017, Global Nutrition Report 2017: Nourishing the SDGs, Bristol, UK: Development Initiatives.; UNICEF, WHO, World Bank Group. 2018. Joint Malnutrition Estimates - Levels and trends.

[4] World Bank, 2017.

FIGURE 1: CONSEQUENCES OF INADEQUATE VITAMIN AND MINERAL STATUS THROUGHOUT THE LIFE CYCLE



inequalities and discrimination. For example, adolescent girls (10-19 years old) are at particular risk because of the onset of menstruation, which can contribute to iron deficiency, and social barriers that can restrict their access to, and the selection of, nutritious food during a period of rapid growth. Anaemia affects over 600 million women 15 to 49 years of age globally[5], while overweight affects 17 percent of the adolescent girls.[6] Many of them live with more than one form of malnutrition.

Adequate nutrition for all children during the 1,000-day window from conception through to the first two years of a child's life is critical for the survival, growth and development of children through their adult years.

Optimal nutrition is necessary for healthy brain and physical development; it underpins success in education, and is directly linked to poverty reduction, economic growth, peace and stability, and gender equality.

2.2 NUTRITION INTERNATIONAL'S COMPARATIVE ADVANTAGE

Through our unique combination of global, regional, and country capabilities, deep technical expertise, breadth of partnerships and trusted relationships developed over 25 years, NI is well placed to play a catalytic role in the achievement of the SDGs using nutrition as an entry point and connector to many interrelated issues.

A global influential actor

Since our inception in 1992, NI has developed long-term relationships with influential international organizations with whom we partner to deliver impact on a global scale. NI has also led efforts to generate nutrition-related evidence and to translate it into action. Our role spans the spectrum from advocacy among donors, partners and countries to strengthen their investments and prioritize nutrition, to strong

[5] Development Initiatives 2017, Global Nutrition Report 2017: Nourishing the SDGs, Bristol, UK: Development Initiatives.
[6] World Health Organization, 2017. http://apps.who.int/gho/data/view.main.BMIPLUS1CWBv?lang=en

research for generating practical evidence, to engagement in global policy formulation and adaptation of that policy to local guidelines, as well as supporting countries in the design and delivery of large-scale nutrition programs.

A trusted technical agency

NI has over 25 years of experience supporting national and sub-national governments, working to integrate nutrition interventions into health and market systems. We have cultivated strong relationships with national and subnational governments, regional bodies, the private sector and civil society, as well as development partners at all levels. NI is frequently sought by countries to serve on national technical advisory committees, to help draft national and sub-national plans and strategies for improving nutrition, and to recommend program indicators, guidelines, standards and training curricula.

A champion for women and girls

NI has a strong track record of reaching women and children with targeted high quality, affordable solutions that address their specific micronutrient deficiencies and resulting nutrition challenges, which disproportionately impact females. Over this six-year strategy, NI will reach almost 450 million women and girls with at least one nutrition intervention. Addressing nutrition through the life cycle of girls and women not only positively impacts their lives, it impacts their children and their families, and helps stabilize and strengthen their entire community. Better nutrition for women, children and adolescent girls lays the foundation for their current and future scholastic achievement, productivity and economic potential, and starts a virtuous cycle of inter-generational benefits.

A proven capacity for growth

As NI has grown, it has built stronger internal structures and processes to support program expansion and complexity. Based on our foundation in large-scale vitamin A supplementation, salt iodization and food fortification in the past 10 years, NI has developed programs to scale up zinc and oral rehydration salts (ORS) treatment, improve the supplementation of iron and folic acid (IFA) for pregnant women,

SNAPSHOT:

INTEGRATED INVESTMENTS IN NUTRITION FOR WOMEN AND GIRLS

Through the **Right Start** program, NI works to reduce anaemia in pregnant women in Bangladesh. During a 2017 visit to Jhilpar – one of many growing slums in Dhaka, adolescent girls described their daily reality. All were undernourished, struggled with domestic violence, and needed to find work. They saw few alternatives to life in the slum.

Fifteen-year-old Happy, who was five months pregnant, was asked what she dreamed of becoming and she said: "My dreams are over. All I have now is the hope that my child will have a better life."

In Bangladesh, 49 percent of girls get pregnant before their 18th birthday. They're under immense pressure, they have very limited choices or voice, and social services are not structured to support their health and nutrition — or that of their children.

Good nutrition is the foundation upon which Happy's hopes for her child can be built. It is also something she desperately needs for herself. Integrating good nutrition with improved education, sexual and reproductive health services, protection from early and forced marriage, and better awareness of men and boys of their important role in their families' health and nutrition, can help break the generational cycle of poverty.

NI won't give up on Happy, or the millions of girls like her. Scaled-up, integrated investments in nutrition for women and girls will help move the needle from barely surviving, to dreaming and thriving.

deliver targeted interventions for adolescent girls, and promote community-based maternal and newborn nutrition. NI is particularly well-positioned to harness our expertise in delivery science, evidence generation and policy influence to help inform global efforts to pilot and scale up newer and better nutrition interventions.

We have successfully managed the growth in revenue over the last decade and continue to build and refine our systems and processes to accommodate further growth. Adequate staffing, a strengthened gender equality focus, thorough analysis of NI's value-add in each country, as well as updated corporate systems and planning tools have enabled us to manage the growth in revenue while maintaining the high-quality program delivery and results for which NI is known. The Right Start and NLIFT programs have been successfully incorporated into NI's portfolio through further evolution of our systems and tools, improvements that will enable us to manage additional growth over the coming six-year strategy period.

A track record of impact

Over the last 25 years, our interventions have helped save the lives of nearly 5 million children and improved the cognitive development of millions more. Over the same period, NI's advocacy, expertise and technical assistance contributed to major policy improvements at the national level in countries such as India, Senegal and Kenya, as well as at the international level, for example in helping shape World Health Organization guidelines and policies.

2.3 COST-EFFECTIVE, HIGH-IMPACT INTERVENTIONS

Fortunately, the devastating consequences of malnutrition are almost entirely preventable. A large body of evidence clearly shows that improving nutrition at critical life stages, and particularly during the first 1,000 days, has the potential to save lives, help millions of children develop fully and create greater economic prosperity.[7]

Nutrition interventions for women and their families are some of the most cost-effective investments for a healthier, more productive world. Well-nourished women have safer pregnancies and deliver healthier babies. Well-nourished infants and children are healthier with stronger immune systems, making them more resistant to disease and less prone to developing certain non-communicable diseases in adulthood.

Well-nourished adolescents with equitable access to nutrition interventions are more likely to stay in school and succeed in their studies. Education increases lifetime earnings, which in turn increases overall economic growth. Greater education and earnings for girls and women reduce inequalities, particularly gender inequalities, which increases female empowerment. Together, these factors help break the cycle of poverty for women and children and lay the foundation for a more equitable, just and sustainable world.

In Africa and Asia, an 11 percent boost in gross national product is achievable through the elimination of undernutrition. Evidence also indicates that scaling up nutrition interventions that target pregnant women and young children yields a return of at least US$16 for every US$1 spent.[8] The 2013 Lancet Series identified many interventions that are effective in improving maternal, child and adolescent nutrition. See Table 2 for a list of the most cost-effective nutrition interventions.

[7] World Bank, 2017.

[8] Horton and Steckel 2011; Haddad et al., 2014.

TABLE 2: COST-EFFECTIVE NUTRITION INTERVENTIONS[9]

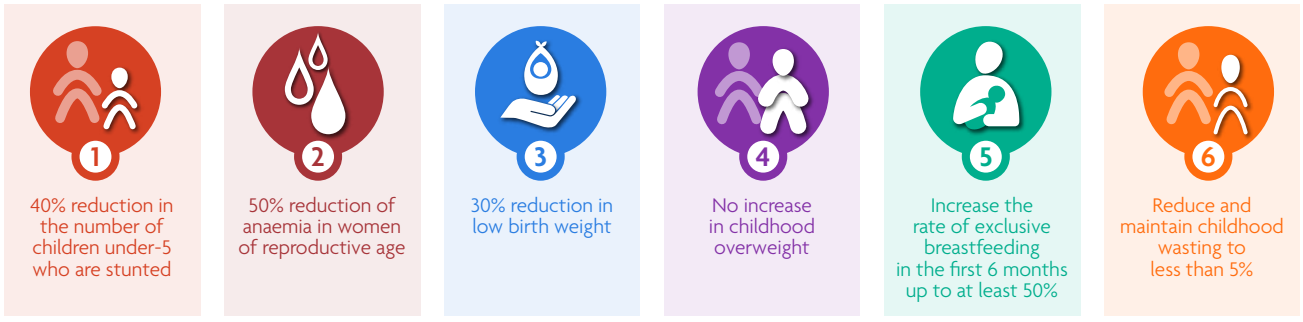
TARGET GROUP	INTERVENTION	IMPACT
Adolescent girls and women 20-49 years of age	Weekly iron and folic acid supplementation (WIFAS)	27% reduction in the risk of anaemia
Pregnant women and newborns	Iron and folic acid (IFA) supplementation	67% reduction in iron-deficiency anaemia
		19% reduction in low birth weight
	Early initiation of breastfeeding	45% reduction in all-cause neonatal mortality
	Salt iodization	8 IQ points (average) increase for children
		3.8-6.3% higher birth weight
	Kangaroo mother care	40% reduction in the risk of mortality of low-birth weight newborns
Children under 5	Vitamin A supplementation (VAS)	12% reduction in all-cause mortality Reduces incidences of diarrhoea by 15%; in turn, reduced diarrhoea incrementally reduces odds of child stunting (odds of stunting per episodes of diarrhoea: 1.025)[10]
	Zinc and oral rehydration salts (ORS) for diarrhoea treatment	87% reduction in mortality caused by diarrhoea[11, 12, 13]
	Multiple micronutrient powders	57% reduction in iron-deficiency anaemia
General population	Food fortification with iron and folic acid	41% reduction in the risk of anaemia
		46% reduction in risk of neural tube defects (NTDs)[14]

2.4 GLOBAL INITIATIVES AND GOALS

Nutrition's central role in development, coupled with the existence of high-impact, low-cost interventions, provides the international community with an opportunity to make significant improvements in the lives of millions of people. In fact, there has been growing global recognition of the importance of preventing malnutrition during the past decade. This has led to the establishment of a number of important initiatives and goals around which the international community is focusing its nutrition-related efforts.

The Scaling Up Nutrition (SUN) Movement was established in 2010 and is centred on the voluntary commitments of 59 SUN Countries to scale up nutrition solutions. NI helped shape the SUN Movement, collaborating with a number of agencies on the "Framework for Action" and "Road Map", and remains an active member of the Civil Society network.

FIGURE 2: WORLD HEALTH ASSEMBLY NUTRITION TARGETS



[9] WHO Essential Nutrition Actions and Bhutta et al. 2013. "Evidence Based Interventions for Improving Maternal and Child Nutrition: What Can be Done and at What Cost?", The Lancet, Volume 382, Issue 9890.

[10] Checkley W, Buckley G, Gilman RH, et al. Multi-country analysis of the effects of diarrhoea on childhood stunting. International Journal of Epidemiology. 2008;37(4):816-830. doi:10.1093/ije/dyn099.; Mayo-Wilson Evan, Imdad Aamer, Herzer Kurt, Yakoob Mohammad Yawar, Bhutta Zulfiqar A. Vitamin A supplements for preventing mortality, illness, and blindness in children aged under 5: systematic review and meta-analysis BMJ 2011; 343 :d5094

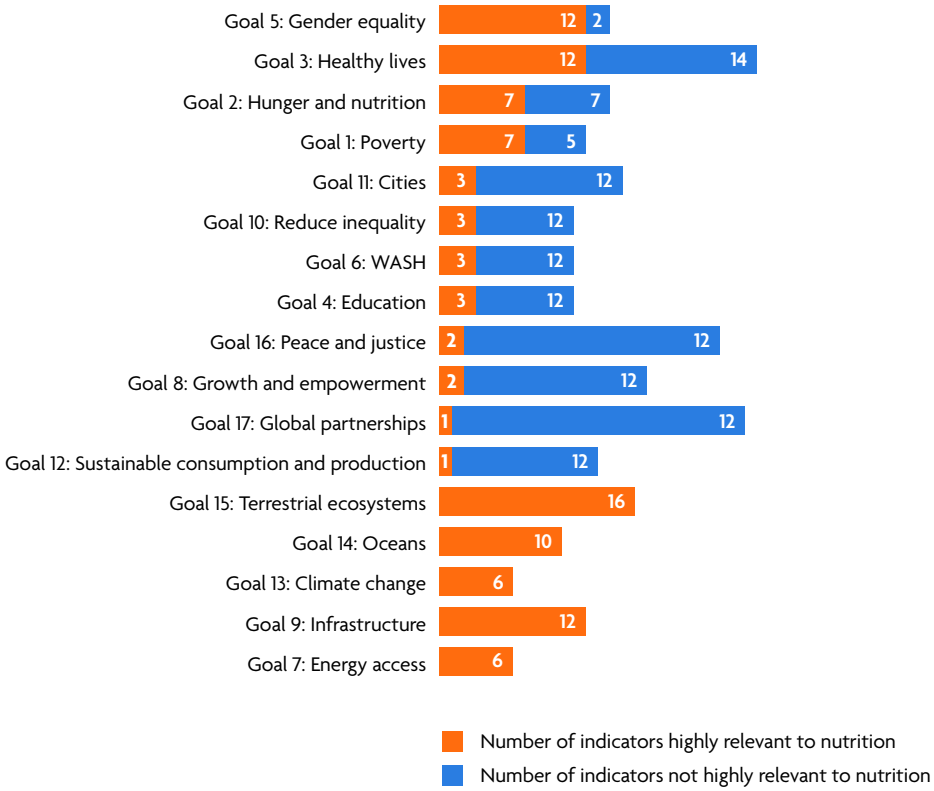
[11] The individual effect sizes for zinc and ORS are 23% and 83.7%, respectively as per references in footnotes 15 (Fischer Walker et al) and 16 (Munos et al).

[12] Fischer Walker CL, Black RE. Zinc for the treatment of diarrhea: Effect on diarrhea morbidity, mortality and incidence of future episodes. International Journal of Epidemiology 2010; 39(Suppl 1): i63-i69.

[13] Munos M, Fischer Walker CL, Black RE. The effect of oral rehydration solution and recommended home fluids on diarrhea mortality. International Journal of Epidemiology 2010; 39(Suppl 1): i75-i87.

[14] Blencowe H, Cousens S, Modell B, et al. Folic acid to reduce neonatal mortality from neural tube disorders. International Journal of Epidemiology 2010; 39(Suppl 1): i110-i121 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2845867/.

FIGURE 3: NUTRITION-RELATED INDICATORS WITHIN THE SDGs



In 2012, the World Health Assembly (WHA) adopted the Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition (MIYCN) and established six WHA Nutrition Targets that focused on stunting, anaemia, low birth weight, childhood overweight, breastfeeding and wasting. The WHA Nutrition Targets have become the internationally accepted goals to address malnutrition in mothers, infants and young children.

The 2017 World Bank Investment Framework for Nutrition provides a complementary analysis of the financing needed to attain the WHA targets for stunting, anaemia, breastfeeding and wasting, estimating the gap at $7 billion a year over 10 years, for a total of $70 billion.

In 2015, the member states of the United Nations (UN) agreed to organize their broader development efforts around a universal set of goals and targets, dubbed the Sustainable Development Goals (SDGs).

The 17 SDGs replace and expand upon the Millennium Development Goals (MDGs), which expired in 2015. Figure 3 shows that 12 of the 17 SDGs contain indicators that are highly relevant for nutrition, reflecting how foundational good nutrition is to development.[15]

Nutrition International is a leader and member of many international networks, interest groups and expert/advisory committees that advance the global nutrition agenda, within the context of the SDGs and WHA targets. For example, NI is a member of the WHO Guideline Development Group For Nutrition Actions – an expert panel that supports WHO in reviewing evidence and developing guidance on nutrition actions. NI is also the chair and host organization for the Global Alliance for Vitamin A (GAVA), a founding board member of the International Society for Implementation Science in Nutrition, member of the Independent Expert Group of the Global Nutrition Report and board member of the Micronutrient Forum. NI also participates on many advocacy and network groups, such as Women Deliver and the Canadian Partnership for Women and Children's Health.

[15] IFPRI, Global Nutrition Report, 2016.

3. IMPACT

NUTRITION INTERNATIONAL ACHIEVES impact by increasing **coverage** of low-cost, high-impact interventions for those who need them, by maximizing our **leverage**, utilizing new delivery platforms, and creating new partnerships, and by using our **influence** strategically to increase the priority and funding of nutrition through research, advocacy, and knowledge creation and sharing. The interlocking nature of these three strategic components, guided by the cross-cutting focus on **gender equality**, is a new way of characterizing the impact we seek to achieve and forms the foundation of our overall approach.

Through direct and large-scale programming, NI can deliver **coverage** of proven, effective and gender-sensitive nutrition interventions at a low cost to large beneficiary populations. These programs are often delivered through existing government service platforms and market channels, and NI's rigorous monitoring systems capture the *additional* coverage that was achieved as a result of our financial and technical support. NI uses this concept of additionality to model our health and human capital impact outcomes.

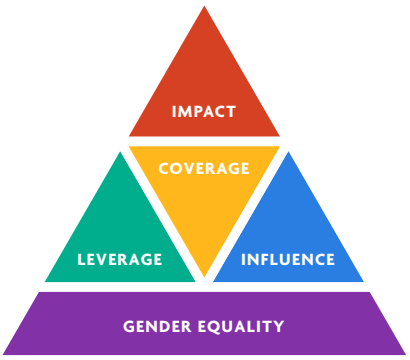
To connect with vulnerable populations that may not otherwise be reached by NI's specific nutrition interventions, we also aim to innovate and actively **leverage** partnerships with non-traditional partners, including the private sector, gender-responsive partners and through innovative financing models and technological innovation. This area of work is less traditional, and these types of innovative approaches can be perceived as higher risk, but they can also yield a high return.

We will continue to identify and fill research gaps, and contribute to the global knowledge base by partnering with leading experts (e.g. universities and research organizations) and disseminating and transferring best practices. NI will **influence** and support national and sub-national country governments, donors and other stakeholders and organizations by generating evidence, translating that evidence into knowledge useable by decision makers, and disseminating this knowledge more broadly; providing technical assistance to governments; and, advocating for increased investment and improved policies for nutrition that have potential to promote gender equality and women's empowerment.

The impact of this global influence is more challenging to quantify but can yield significant impact via improved gender-sensitive nutrition policy in countries, knowledge dissemination via peer-reviewed publications, strengthened support for nutrition from governments and donors, and participation on global technical groups that generate new guidelines.

Importantly, NI's approaches to increased coverage, leverage and influence, as well as to promote gender equality do not operate in isolation. In the countries and regions where NI works, and in global fora, the results of these three approaches are often carried out as part of a synchronized action plan.The following case study from Pakistan is a clear example of this interplay.

FIGURE 4: HOW NUTRITION INTERNATIONAL ACHIEVES IMPACT



CASE STUDY: FORTIFICATION IN PAKISTAN

HOW NUTRITION INTERNATIONAL ACHIEVES IMPACT THROUGH COVERAGE, LEVERAGE, INFLUENCE AND GENDER EQUALITY

The Pakistan Food Fortification Programme (FFP) is a five-year (2016-2021) DFID-funded program implemented by Mott MacDonald (overall lead) and NI (technical lead). It seeks to fortify wheat flour and edible oil/ghee nationwide. The project includes four components: 1) technical assistance to federal and provincial governments, 2) technical assistance to food industry, 3) public advocacy, and 4) targeted studies and research.

According to the National Nutrition Survey (2011), Pakistan has very high rates of micronutrient deficiencies with women and adolescent girls disproportionately affected; one in four women are anaemic, a proportion that rises to one in two for pregnant women. Pregnant women are also deficient in vitamin A (46 percent) and vitamin D (69 percent). By the end of the project, 53 million adolescent girls and women (148 million people total) are expected be reached by fortified oil and 1,080 wheat flour mills will produce fortified wheat to reach 35 million (total reach of 105 million people). The scale and scope of the project is expected to have a very meaningful impact on the nutrition of women in Pakistan and their families that will also contribute to gender equity by ensuring women are healthier and more productive and all stages of their lives.

The project is leveraging government and private sector resources and capacities, and existing markets, which will be crucial to the success of the program. For example, both wheat flour and edible oil millers are purchasing the premix themselves. A small subsidy to partially cover the cost of the premix is paid only if flour/oil is found to be adequately fortified (as determined by a third-party lab) on a sliding scale that goes to zero within two years.

NI's influence as the technical lead has already resulted in important changes in national and state-level legislation and policy. For example, on recommendation from NI (and other key stakeholders), fortification standards have been revised to meet international recommendations and the Punjab government has already made fortification of wheat flour and edible oil compulsory.

By 2030, Nutrition International aims to transform the lives of 1 billion vulnerable people, especially women, adolescent girls and children, by improving their nutritional status.

3.1 GOAL 2030

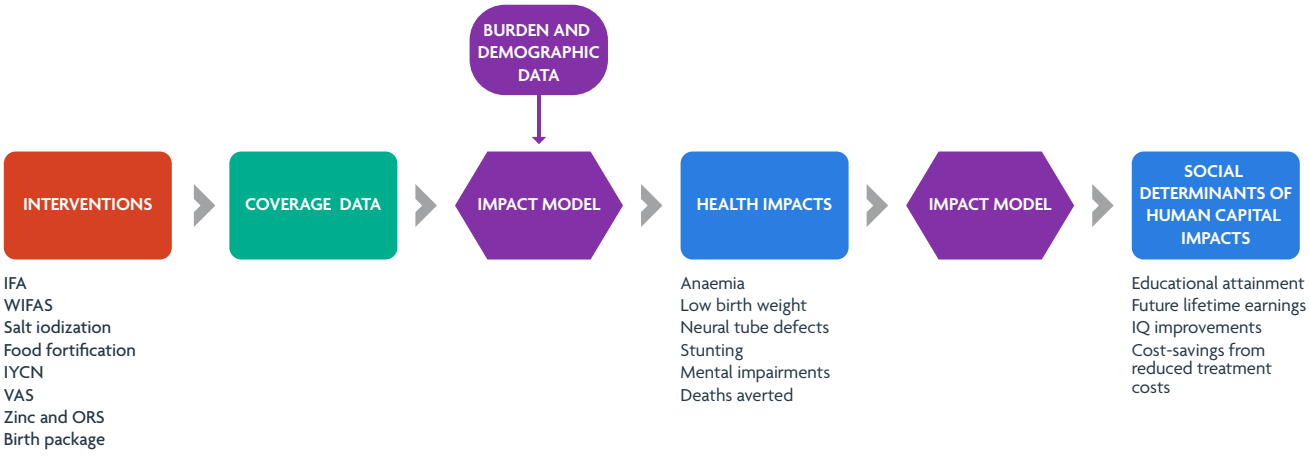
The SDGs and WHA Nutrition Targets are to be achieved by 2030 and have become the key reach objectives for the international development community. In consultation with our Board, staff and external stakeholders, NI has developed an ambitious but achievable Goal 2030, namely: transforming the lives of 1 billion vulnerable people, especially women, adolescent girls and children, by improving their nutritional status.

3.2 HEALTH AND HUMAN CAPITAL IMPACTS

To maximize results from our evolution and broadened programmatic scope, NI has developed an impact model and six-year scale-up plan that advances key SDG and World Health Assembly (WHA) nutrition targets to a greater extent than ever before. The impact model (Figure 5), which has been validated and endorsed by external experts including from Johns Hopkins University, assumes that NI will mobilize approximately $700 million over the course of the six-year strategy (2018-2024).

To map NI's potential impact and create six-year goals, an optimal scale-up scenario (full packages of gender-sensitive interventions informed by gender analysisincluding behaviour change, training, policy and technical assistance, and a mix of countries) was created and modeled using validated impact pathways and effect sizes.[16] NI then used the health impacts to project the additional impact on human capital, such as IQ point losses averted, additional years of education and lifetime earnings.

FIGURE 5: NUTRITION INTERNATIONAL'S IMPACT MODEL



[16] Nutrition International. Doing what works: From evidence to impact for nutrition, 2017

The health and human capital impacts based on NI's success in leveraging new platforms and resources, and influencing others are difficult to quantify and do not have associated effect sizes. For this important reason, the six-year health and human capital impacts do not take this work into consideration. But clearly, if a national policy changes or more resources are made available for nutrition, it will have a human impact. This impact is assumed to be significant, but it is not reflected in the six-year goals set out below.

The resulting goals are ambitious but achievable. They will provide a focus and motivation for our Board, management and staff. They will help to galvanize and align partner efforts in this area while also clearly demonstrating NI's contribution to achieving the WHA targets and SDGs.

TABLE 3: HEALTH AND HUMAN CAPITAL IMPACT GOALS

IMPACT		SIX-YEAR GOALS (2018-2024)
Health impacts	Deaths averted	1.2 million (600,000 females, 600,000 males)
	Cases of anaemia averted	60 million (31M females, 29M males)
	Cases of low birth weight averted	400,000 (200,000 girls, 200,000 boys)
	Cases of stunting averted	4.4 million (2.2M girls, 2.2M boys)
	Cases of neural tube defects averted	10,000 (5,000 girls, 5,000 boys)
Human capital impacts	Total IQ points saved among children	85 million (42.5M for girls, 42.5M for boys)
	Children who gain a year of education	10 million (5M girls, 5M boys)
	Increase in future lifetime earnings	$51 billion (CAD) ($25.5B for girls, $25.5B for boys)
Fiscal Impact	Cost-savings from reduced health care treatment for diarrhoea due to VAS	$3 billion (CAD)

4. PROGRAM APPROACH

4.1 GEOGRAPHIC FOCUS

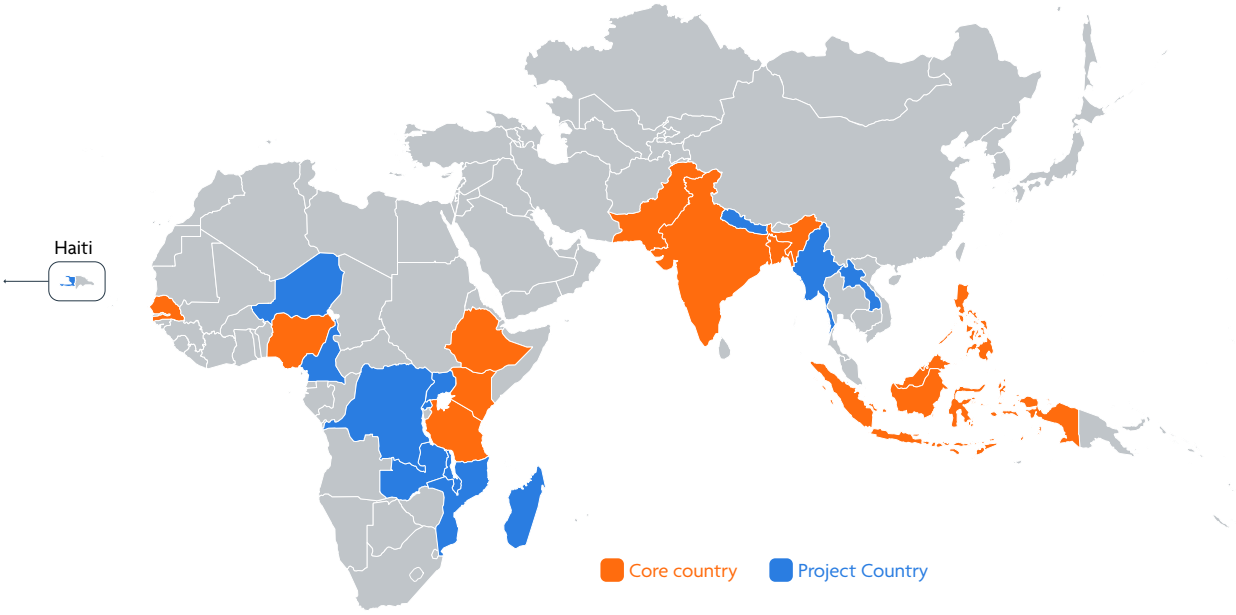
To ensure maximum impact with minimum cost, Nutrition International concentrates efforts on countries with high burdens of undernutrition. NI currently has offices and a range of nutrition programs in 10 core countries: Ethiopia, Kenya, Nigeria, Senegal, Tanzania, Bangladesh, India, Indonesia, Pakistan and the Philippines, and is actively providing technical assistance to an additional 11 countries via NTEAM.[17]

These countries were selected based on a number of criteria, including potential for impact and scope for NI to add value, country readiness and donor prioritization, as well as the general operating context, including factors such as infrastructure, operating environment, corruption index and security.

Taken together, these 21 countries comprise 37 percent of the world's population, 52 percent of the global burden of anaemia among adolescent girls (15-19) and women 20-49 years of age and 66 percent of under-five deaths.

[17] Technical Assistance is also provided to Burkina Faso, Democratic Republic of Congo, Malawi, Mozambique, Niger, Rwanda, Uganda, Zambia, Lao PDR, Myanmar and Nepal.

FIGURE 6: NUTRITION INTERNATIONAL'S FOCUS COUNTRIES



Additionally, in partnership with UNICEF, approximately 60 developing countries receive supplies of vitamin A capsules from NI, reaching 150-170 million children annually. Other countries benefit from our work on leverage and influence through business models such as NLIFT, which is not exclusively focused in NI core countries.

Expansion into additional countries may be explored in the second half of the six-year strategy, using NTEAM countries as pathfinders, while NI's management and Board will periodically assess our geographic focus. During the 2018-24 period, NI will aim to balance our portfolio evenly between Africa and Asia.

4.2 TARGET POPULATIONS

NI has traditionally targeted our efforts to pregnant women, newborns and children under five, with a focus on the 1,000-day window between conception and two years of age. Adequate nutrition during pregnancy and in the first years of a child's life provides the essential building blocks for brain development, healthy growth and a strong immune system, and helps prevent future non-communicable diseases associated with overweight

In this six-year strategy, we will address the nutrition gaps that exist in the desired health outcomes of additional vulnerable populations based on the most recent data and evidence. For example, adolescent girls – a population which has been underserved by the nutrition community – is a particular focus of this six-year strategy. Significantly, where data are available to inform gender analysis, NI also has interventions, such as weekly iron and folic acid supplementation (WIFAS) programming in India, that target both adolescent girls and boys, who in this context also suffer from the effects of iron deficiency. Increased focus on girls' inequitable access to delivery platforms, such as schools, has also been highlighted in gender analysis.

Urbanization is a growing trend with important implications on population health and nutrition. Where relevant and feasible, NI will work to address these issues by designing specific programs aimed at vulnerable populations living in urban areas. To ensure these programs reach the most vulnerable people, NI will also target hard-to-reach populations including marginalized groups, geographically isolated communities, and sub-populations that are not traditionally reached with government programs. NI does not specifically target populations affected by humanitarian crises and natural disasters, but these issues are often addressed as part of regular programming in core countries.

NI will work with grassroots, community and civil society organizations (especially groups that aim to empower women and girls) to leverage their existing reach and integrate nutrition into their platforms. For example, NI will explore how to reach pregnant adolescent girls outside the government health system with a package of nutrition-specific and nutrition-sensitive interventions, and when practical, how to address the double burden of malnutrition. NI will also explore how working with local women's rights organizations can highlight nutrition as a gender equality issue (and vice versa) in the countries where NI works.

4.3 DELIVERY PLATFORMS

NI defines a delivery platform as the system through which a beneficiary receives one or multiple interventions. Our interventions have generally been delivered through the health system, which typically offers a cost-effective opportunity for delivering nutrition interventions throughout the lifecycle in general and the 1,000-day window in particular. NI has also worked closely with the private sector and industry associations, which are the main platforms for the development and delivery of fortified foods, including iodized salt, fortified wheat flour, maize, rice and other staple foods (see text box).

INNOVATING FOR IMPACT:
NUTRITION INTERNATIONAL AND THE PRIVATE SECTOR

NI engages with the private sector in diverse ways. For example, we work with product developers and food producers to formulate appropriate micronutrient supplements and fortified foods, at affordable prices.

NI's long-standing program with Teck Resources reaches millions of children with zinc treatments to help save lives, and our emerging partnership with large salt processors in Bangladesh is paving the way for scaling up the use of Double Fortified Salt to address both iodine deficiency and anaemia.

In Senegal, NI works with Développement International Desjardins to improve access to financial and non-financial services for women and women's groups to improve their access to quality inputs for the production of micronutrient-rich foods.

Over the next six-year strategy, NI will also explore nutrition-sensitive platforms such as those in the education, Water, Sanitation and Hygiene (WASH), sexual reproductive health, social protection and agriculture sectors. Schools will be particularly important for reaching adolescent girls with an integrated package of interventions. Social protection programs offer a platform to reach millions of the world's poorest and most vulnerable people. Early childhood education programs will also provide an opportunity to reach children before they start school. Finally, reaching women at their workplace will be instrumental in improving their nutrition.

4.4 ONGOING AND NEW INTERVENTIONS

The evidence for nutrition science and program delivery is constantly evolving. While contributing to growing the body of knowledge, Nutrition International closely follows advances in nutrition science to ensure that the right interventions are being implemented as new evidence becomes available. The overarching principles by which NI makes decisions related to starting, continuing or modifying interventions are:

- **Safety and efficacy:** NI relies on the cumulative and most recent evidence from rigorous research for both new and long-standing interventions that demonstrate their safety and efficacy. NI also pays particular attention to contextual factors, such as existing programs and socio-cultural norms, and compares the cost-effectiveness of various approaches.
- **Potential scalability and sustainability:** NI delivers safe, low-cost, efficacious and feasible interventions that also demonstrate potential for impact, scalability and sustainability.

Our current interventions remain relevant and will continue to be part of core programming over the next six years. Some interventions, such as WIFAS for adolescent girls, are a growing priority and will receive a larger proportion of NI's budget. Others, such as vitamin A supplementation, are likely to remain stable, as some countries take on this responsibility themselves. For many of NI's target populations, there are also a number of new or emerging interventions that will be explored and piloted.

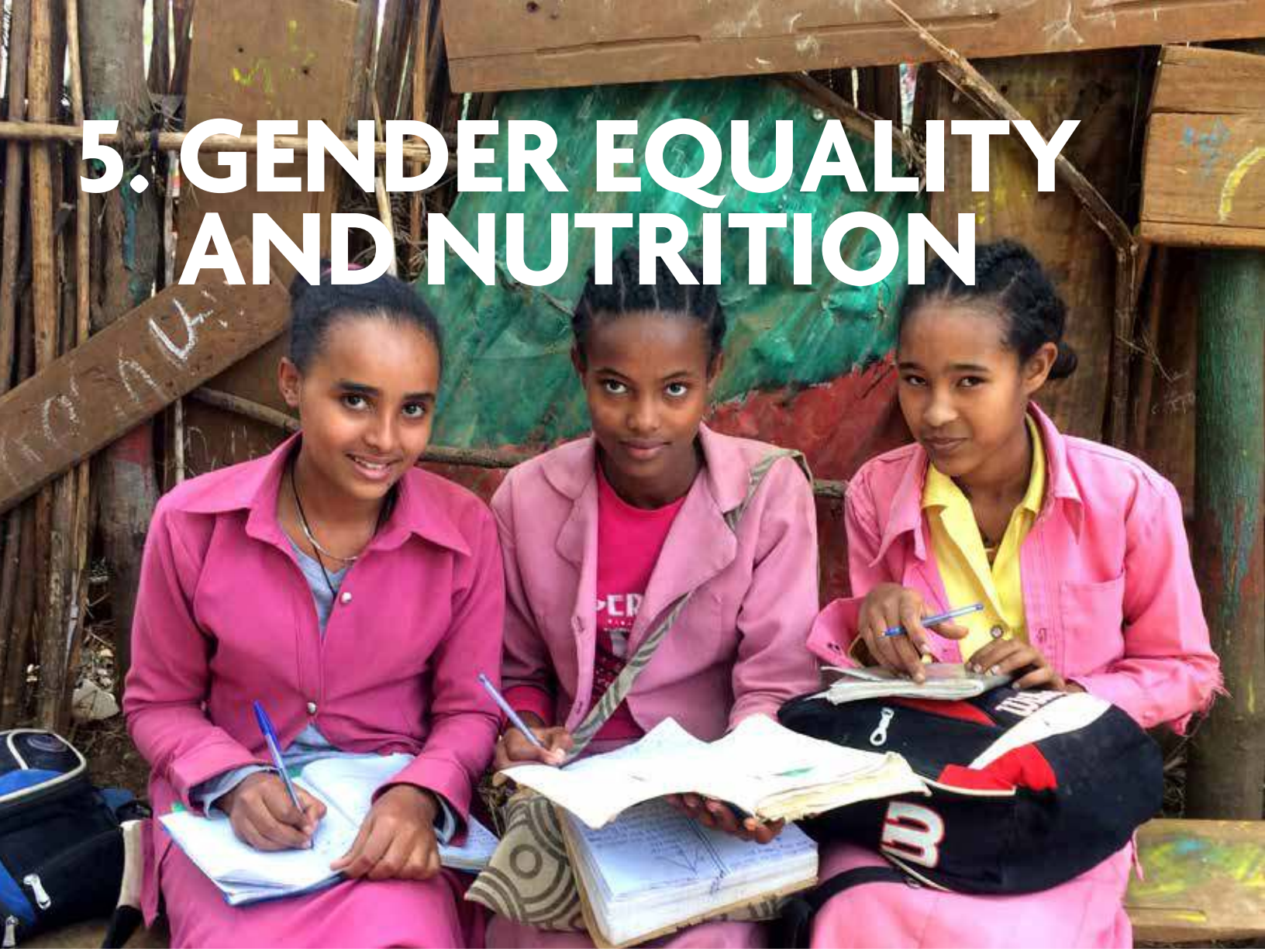
Table 4 summarizes NI's ongoing and new potential interventions, including the target population and delivery platform. Over the next six years, NI's management and Board will periodically assess the mix of interventions and delivery platforms and make adjustments as necessary.

Over the next six years, we estimate that approximately 80 percent of the total budget will be spent on "tried-and-true" interventions to reach the maximum number of people (namely, those listed in the Coverage section), 10 percent on activities that will help leverage resources, delivery platforms and new technologies, and 10 percent on NI's activities to influence others through nutrition surveillance, demonstration projects with new interventions, advocacy and technical assistance. This ratio allows NI to minimize financial risks of its investments, ensuring continued – and in some cases expanded - high coverage in proven and high-impact nutrition interventions, and to continue to explore new opportunities and mechanisms to reach the most vulnerable and make even more significant contributions in the global nutrition community.

TABLE 4: TARGET POPULATIONS, INTERVENTIONS AND DELIVERY PLATFORMS

TARGET POPULATION	ONGOING INTERVENTIONS			NEW POTENTIAL INTERVENTIONS	
	INTERVENTION	DELIVERY PLATFORM		INTERVENTION	PLATFORM
		ONGOING	NEW OR POTENTIAL (FOR DISCUSSION/ PILOTING)		
All populations	• Food fortification • Salt iodization	• Private sector	• Social protection programs	• Double fortifying salt with iodine and folate	• Private sector • Social protection programs
Adolescent girls (10–19 years of age)	• Weekly iron and folic acid supplementation (WIFAS) • Nutrition education	• Schools • Community outreach		• School-based campaigns for adolescent girls	• Schools
				• Package of nutrition interventions for pregnant adolescent girls	• Community health workers • Health facilities
Women (20–49 years of age)	• NI is not currently targeting this population	• N/A	• N/A	• Weekly iron and folic acid supplementation and nutrition education	• Workplaces • Savings groups
Pregnant women and newborns	• Iron and folic acid supplementation and nutrition counselling	• Health facilities • Community health workers	• Workplaces • Intermittent preventive treatment of malaria in pregnancy (IPTp) contact points	• Multiple micronutrient supplementation for pregnant women	• Health facilities • Community health workers
	• Birth package (including kangaroo mother care and exclusive breastfeeding)	• Health facilities		• Newborn vitamin A supplementation	• Health facilities
Postpartum women and infants (0–6 months)	• NI is not currently targeting this population	• N/A	• N/A	• IFA for postpartum women and nutrition counselling	• Health facilities • Community outreach
Children under 5	• Vitamin A supplementation	• Campaigns • Health facilities • Community outreach • Early childhood development centres			
	• Zinc and Oral Rehydration Salts for diarrhoea treatment	• Health facilities • Community outreach	• Private sector • Social marketing		
	• Infant & Young Child Nutrition	• Health facilities • Community outreach	• Child Health Days • Social protection programs		

GENDER MAINSTREAMING



5. GENDER EQUALITY AND NUTRITION

ACCESS TO GOOD NUTRITION is a universal right. However, for social, cultural, and biological reasons, malnutrition impacts girls and women the most. Women and girls are held back by malnutrition. Understanding and improving gender equality are essential to improving the nutrition of girls and women.

Girls with access to good nutrition are better able to learn. Well-nourished girls with access to education learn more and go on to earn more over their lifetimes.

When women have more decision-making power over resources, they tend to spend more on health and education, which helps to raise healthier, more educated children who in turn become more productive adults.

Women and girls can only have equal opportunities to earn, learn, grow and lead when they have adequate nutrition.

Gender equality is everyone's issue. When girls and women are held back, there are negative consequences for families, communities and countries. Boys and men are part of the solution to advancing gender equality and improving nutrition for women and girls. Nutrition International believes that gender equality and nutrition must be addressed universally, rather than within the silos of each Sustainable Development Goal. NI believes women and girls must be empowered advocates for their own health and nutrition.

That is why NI takes a gender mainstreaming approach to gender equality. This approach ensures that gender perspectives and attention to the goal of gender equality are central across all business models, programs, interventions and partnerships.

NI has developed a comprehensive Program Gender Equality Strategy which provides overall guidance to integrating gender equality and outlines specific commitments, standards and implementation mechanisms to ensure that NI (including its staff and partners) is intentionally contributing to gender equality.

NI is also developing tools and guidelines to support the implementation as well as an organizational Gender Equality Score Card to track implementation progress. Annually, NI will report on the score card indicators and gender-sensitive and responsive outcomes to track our own progress.

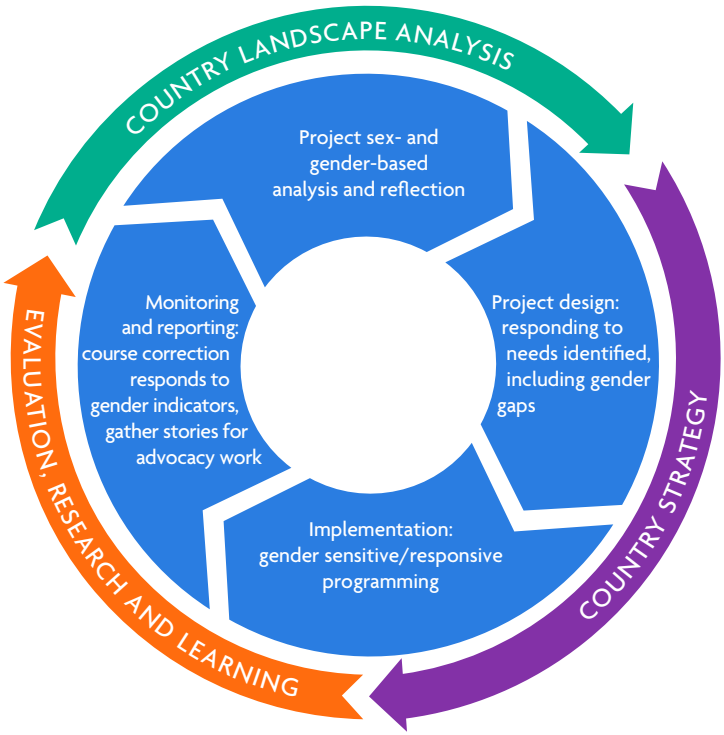
NI has considered evidence in four areas for the basis in developing our Program Gender Equality Strategy, which can be summarized as follows:

1. Social norms can lead to gender inequalities in nutrition.
2. Women and girls have increased nutritional needs during their life cycles and have a greater risk of food insecurity.
3. When women are empowered and educated, their families have better nutrition; adequate nutrition is essential to grow, learn, earn and lead.
4. Improving nutrition for women, girls and adolescent girls lays the foundation for current and future economic potential, productivity and prosperity – both for themselves and their families.

GENDER MAINSTREAMING IN NI PROGRAMS

Nutrition International will improve the mainstreaming of gender in order to strategically reach program goals. The objective of the NI Program Gender Equality Strategy is to ensure that NI implements gender-sensitive and responsive programs, informed by gender analyses, which contribute to gender equality and improved nutrition. Gender equality will be integrated into decision-making at every step of the project and program cycle, as depicted in Figure 7.

FIGURE 7: HOW NUTRITION INTERNATIONAL MAINSTREAMS GENDER EQUALITY INTO PROJECT CYCLE

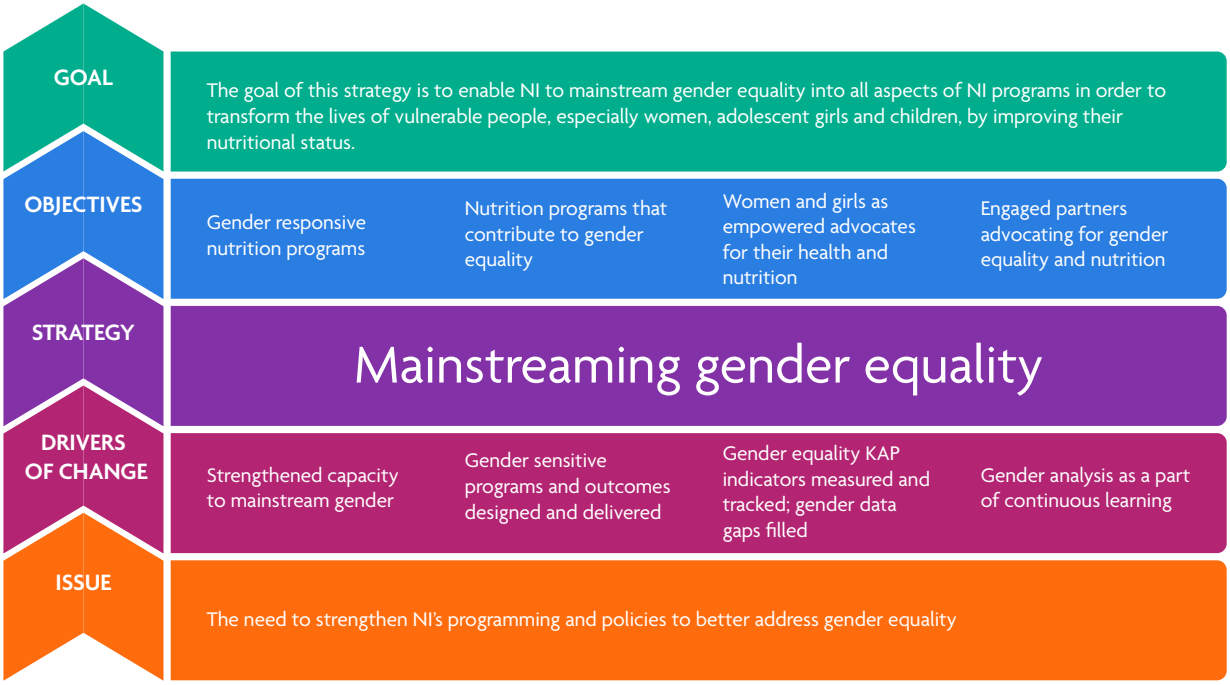


Building capacity of staff and partners to design and implement gender-sensitive and responsive nutrition programs is key to reaching this objective and will thus be prioritized. In addition, measuring NI's progress in incorporating gender programming best practices and incorporating gender analysis into ongoing learning will be critical to achieving results.

It is NI's intention for women and girls to be empowered advocates for their own health and nutrition and NI will continue to add our voice to those of our partners to advocate for improving gender equality through nutrition programs, for example, by participating in program design, monitoring and evaluation.

Figure 8 describes how the path to gender mainstreaming is aligned with the strategic objectives of NI's broader Strategic Plan 2018-2024.

FIGURE 8: PATH TO GENDER MAINSTREAMING

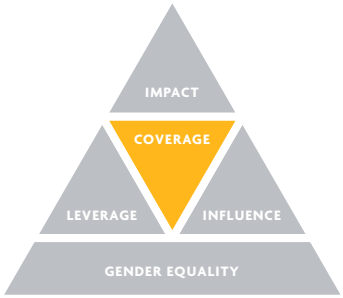


PRIORITIES

NI's implementation priorities for the NI Program Gender Equality Strategy over the next six years include:

- Support deeper integration of gender equality into all aspects of NI programs
- Strengthen capacity to mainstream gender through technical resources
- Design and deliver gender-sensitive nutrition programming at scale
- Deliver on gender-sensitive outcomes (at the intermediate and immediate level of the logic model)
- Measure and track knowledge, attitudes, practices (KAP) related to gender equality
- Include gender analysis as part of continuing learning
- Fill gender data gaps
- Encourage equitable participation
- Advocate for the importance of improving the nutrition of children, adolescent girls and women to advance gender equality

6. COVERAGE



NUTRITION INTERNATIONAL'S coverage objective is to scale up the delivery of low-cost, high-impact nutrition interventions, prioritizing women, adolescent girls and children in Africa and Asia.

For each beneficiary group outlined in the sub-sections below, the primary nutrition gaps are listed, and interventions NI is currently implementing are highlighted with the evidence-based justification for doing so, as well as the priority activities that NI will undertake over the six-year period. New potential interventions are covered in Section 8.1.

For each intervention, NI works through three key areas:

- **Enabling environment:** NI provides policy-relevant evidence, technical assistance and training to improve gender-sensitive nutrition and health policy and programs at national and sub-national levels.
- **Provision:** NI provides evidence, tools, training and procurement assistance to improve the quantity, quality, timeliness and equity of the provision of health and/or nutrition interventions, particularly for vulnerable people, especially women, newborns, children and adolescent girls.
- **Consumption:** NI provides gender analysis, BCI strategies, tools and training to improve the uptake of and adherence to the recommended scheme for health and/or nutritional interventions particularly by vulnerable people, especially women, newborns, children and adolescent girls.

6.1 ADOLESCENT GIRLS

Scope

After infancy, adolescence (10–19 years of age) is the most rapid period of growth, with the highest nutritional needs, providing a second window of opportunity for catch-up growth and improved nutrition. Menarche (onset of menstruation) also increases the nutritional needs of adolescent girls, for iron and other micronutrients related to growing bone and muscle mass, including calcium, zinc and vitamin D.[18]

It is estimated that approximately 30 percent of adolescents worldwide are anaemic, approximately half due to iron deficiency.[19] Adolescent girls who are anaemic suffer decreased school performance, loss of productivity and decreased current and future reproductive health.[20] The Global Accelerated Action for the Health of Adolescents (AA-HA!) released by WHO in 2017 lists iron deficiency anaemia as the top cause for disability-adjusted life years (DALYs) lost among adolescent girls (both 10–14 years and 15–19 years), and adolescent boys (10–14 years).[21]

Approximately 17 million adolescent girls, mostly from low- and middle-income countries, become pregnant annually, which is associated with a 50 percent increased risk of stillbirth and neonatal deaths, greater risk of preterm birth and low birth weight, and greater risk of maternal complications compared to older mothers.[22, 23] Girls that are born small, and later become mothers, are more likely to give birth to smaller infants themselves, thus adolescent pregnancies have greater risks for perpetuating the inter-generational cycle of undernutrition.[24]

There are also significant economic implications. Estimated lifetime opportunity costs related to adolescent pregnancy, measured by the young mother's foregone annual income over her lifetime, range from 1 percent to 30 percent of annual gross domestic product.[25] Additionally, adolescent mothers often miss out on academic opportunities, with future impacts for health, and economic empowerment.

Until recently, the health and nutrition of adolescent girls has been largely neglected in terms of funding, policy and programming. The second WHA nutrition target calls for a 50 percent reduction in anaemia in women 15–49 years of age by 2030. To reach this goal, the approximately 600 million adolescent girls living in developing countries must become a prime focus of anaemia reduction efforts, and anaemia must be prevented starting by including the younger adolescents. Programs that effectively target adolescent girls, including pregnant adolescent girls, and address the particular needs of younger adolescents (10–14 years) and older adolescents (15–19 years) and engage their parents and influencers will be key to breaking the inter-generational cycle of undernutrition and empower all women and girls.

NI can be a leader in this field via our weekly iron and folic acid supplementation (WIFAS) and nutrition education programs; however integrating approaches alongside nutrition-sensitive areas will be key to increasing impact and sustainability. For example, reaching adolescent girls in schools requires overcoming the gendered barriers to attendance, including Water, Sanitation and Hygiene (WASH) and menstrual hygiene management, as well as social pressures and safety concerns. Out-of-school girls are especially vulnerable to early marriage and adolescent pregnancy. These girls require targeted outreach and fresh approaches and partnerships, an area NI will continue to explore. Over the coming six-year

[18] Prentice AM, Ward KA, Goldberg GR, Jarjou LM, Moore SE, Fulford AJ, Prentice A. Critical windows for nutritional interventions against stunting. The American journal of clinical nutrition. 2013 May 1;97(5):911-8.

[19] UNICEF, Progress for Children: A report card on adolescents, 2012.

[20] Sawyer SM, Afifi RA, Bearinger LH, Blakemore SJ, Dick B, Ezeh AC, Patton GC. Adolescence: a foundation for future health. The Lancet. 2012 May 4;379(9826):1630-40.

[21] Global Accelerated Action for the Health of Adolescents (AA-HA!): guidance to support country implementation. Summary. Geneva: World Health Organization; 2017 (WHO/FWC/MCA/17.05). Licence: CC BY-NC-SA 3.0 IGO.

[22] WHO. Adolescent pregnancy Factsheet No 364. Geneva (Switzerland):World Health Organization; 2018.

[23] Dean SV, Mason EM, Howson CP, Lassi ZS, Imam AM, Bhutta ZA. Born Too Soon: Care before and between pregnancy to prevent preterm births: from evidence to action. Reproductive health. 2013 Nov 15;10(1):S3.

[24] Victora et al. (2008) "Maternal and child undernutrition: consequences for adult health and human capital", The Lancet 371, 9609.

[25] Chaaban, J and Cunningham, W (2011) Measuring the Economic Gain of Investing in Girls: the Girl Effect Dividend, World Bank Policy Research Working Paper 5753, The World Bank.

period, NI will significantly increase programming that targets adolescent girls. Including boys in the nutrition education can be a way to shift gender norms around nutrition and ensure boys also have access to knowledge, skills and information to support their nutrition, health and growth, as well as that of their female classmates.

Goals

Nutrition International will continue our leadership in this field via our WIFAS and nutrition education programs. In addition, integrating approaches alongside nutrition-sensitive areas will be key to increasing impact and sustainability.

If NI's six-year strategy is fully funded, an additional 10 million adolescent girls will be directly reached, and 3.4 million cases of iron-deficiency anaemia will be averted among adolescent girls by 2024 through the scale-up of WIFAS. Reducing anaemia on this scale will have a significant impact on the educational attainment, economic productivity and empowerment of these girls.

Ongoing interventions

WIFAS and nutrition education

Weekly iron and folic acid supplementation (WIFAS) has been shown to reduce the risk of anaemia among adolescent girls by 27 percent.[26] WHO recommends WIFAS as an effective strategy to prevent anaemia for menstruating adolescent girls and women.[27]

In 2015, Nutrition International began supporting the scale-up of WIFAS through the Right Start Initiative, funded by the Government of Canada. This built on NI's first experience supporting the Chhattisgarh government in India to implement a WIFAS pilot and to scale it up in that state. Australia is also providing complementary funding for our WIFAS work in Indonesia. Once the program in Indonesia is fully operational, NI expects to reach approximately 2.5 million adolescent girls per year, averting approximately 300,000 cases of anaemia annually. By including nutrition education for both boys and girls, this programming will also be a valuable entry point for addressing other nutrition issues affecting adolescent girls and boys, including "double-duty actions" that also address overweight and obesity.

The main delivery platform will continue to be schools. In addition to supplements, adolescent girls will benefit from education on nutrition, growth, and other areas relevant to their health and well-being to empower them and help them make healthy life decisions. Because almost one-third of adolescents of secondary school age in Sub-Saharan Africa, South Asia and West Asia are not attending school, other delivery platforms, including community outreach, will be crucial.[28] It will be important to recognize the underlying gender barriers that prevent adolescent girls from attending school and making healthy life decisions in the program design, implementation and monitoring.

The following activities are illustrative of NI's priorities for 2018-2024 for this intervention:

- Conducting demonstration projects to test the feasibility and effectiveness of different delivery platforms to reach both in-school and out-of-school adolescent girls with WIFAS and nutrition education.
- Training teachers and community health workers on the delivery of WIFAS and nutrition education.
- Building and strengthening collaborative relationships with ministries of health and education to prioritize adolescent nutrition and health.
- Continuing market shaping activities to help increase global supply of the appropriate formulation of WIFAS, making it more readily available and affordable.

[26] Bhutta et al. 2013.

[27] WHO. Guideline: Intermittent iron and folic acid supplementation in menstruating women. Geneva, World Health Organization, 2011.

[28] UNFPA Motherhood in Childhood: Facing the challenge of adolescent pregnancy, in UNFPA The State of World Population 2013, United Nations Population Fund, 2013.

- Developing and implementing behaviour change interventions (BCI) to overcome barriers to coverage and consumption, working with partners, families and communities to enable girls to attend schools and access health and nutrition services.
- Developing and strengthening systems for monitoring the delivery and consumption of WIFAS.
- Addressing global knowledge gaps, such as evidence on the amount of folic acid required in the weekly supplement to achieve the blood folate levels required to reduce the risk of neural tube defects in future pregnancies.

6.2 PREGNANT WOMEN AND NEWBORNS

Scope

A large body of evidence shows that improving nutrition during the critical 1,000-day window from a woman's pregnancy to her child's second birthday has the potential to save lives, help children develop fully, and deliver greater economic prosperity.

Conversely, maternal under-nutrition has a range of adverse effects on the health and well-being of both the mother and the child. Anaemia during pregnancy has been associated with maternal mortality and perinatal mortality.[29] In 2016, it was estimated that 35.3 million (40 percent) of all pregnant women worldwide were anaemic – an increase of more than 2 million women since 2011.[30] Insufficient levels of folate prior to conception and early in the first trimester leads to debilitating and sometimes deadly neural tube defects (NTDs), with an estimated 300,000 babies born each year with spina bifida and anencephaly – the two most common types of NTDs.[31]

Neonatal health and nutrition during the first month of life also requires urgent action to ensure that more infants survive and thrive. The global share of under-five deaths occurring during the neonatal period is increasing – now 46 percent of all child deaths occur in the first month of life, up from 41 percent in 2000.[32]

Ongoing interventions

Iron and folic acid (IFA) supplementation and nutrition counselling

Evidence has shown that adequate iron and folic acid (IFA) supplementation in pregnancy can reduce the risk of anaemia in pregnancy by approximately 70 percent.[33] Other impacts include a 19 percent reduction in the chances of having a low birth weight baby and an eventual reduction in stunting in young children.[34] Studies around the Developmental Origins of Health and Development (DOHAD) suggest that proper nutrition in pregnancy can even prevent cardiovascular diseases later in the child's life.[35] Supplementation and nutrition counselling for improved nutrition and appropriate weight gain during pregnancy are therefore both "double duty actions" for addressing under-nutrition and overweight/obesity.[36]

Nutrition International's current IFA programs, supported by Canada through the Right Start Initiative and 2014-2019 Institutional Support Grant, are projected to reach approximately 700,000 women per year over the course of the two grants, averting a total of 90,000 cases of anaemia and 30,000 cases of stunting.

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[29] Peña-Rosas, J.P., De-Regil, L.M., Garcia-Casal, M.N. & Dowswell, T. (2015). Daily oral iron supplementation during pregnancy. Cochrane database Syst Rev.

[30] Development Initiatives 2017, Global Nutrition Report 2017: Nourishing the SDGs, Bristol, UK: Development Initiatives.

[31] Christianson A, Howson CP, Modell B, March of Dimes Global Report on Birth Defects: The Hidden Toll of Dying and Disabled Children, March of Dimes Birth Defects Foundation, 2006

[32] UNICEF (2017) . Levels and trends in child mortality, 2017. New York, UNICEF.

[33] Peña-Rosas, J.P., De-Regil, L.M., Garcia-Casal, M.N. & Dowswell, T. (2015). Daily oral iron supplementation during pregnancy. Cochrane database Syst Rev.

[34] Lancet series and https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4772031/

[35] Hanson, et al. The International Federation of Gynecology and Obstetrics (FIGO) recommendations on adolescent, preconception, and maternal nutrition: "Think Nutrition First", International Journal of Gynecology and Obstetrics: 2015

[36] World Health Organization. Double Duty Actions for Nutrition Policy Brief, 2017

In the 2018-2024 period, NI will substantially increase our investment in IFA supplementation and prenatal nutrition counselling for pregnant women to fill large unmet needs. If our six-year strategy is fully funded, approximately 11 million pregnant women will be reached with IFAs and nutrition counselling, averting 1.5 million cases of anaemia, 400,000 cases of low birth weight and 300,000 cases of stunting. Nutrition counselling and weight management during pregnancy will also have long-term effects on reducing non-communicable diseases associated with overweight and obesity.

The following activities are illustrative of NI's priorities for 2018-2024 for this intervention:

- Helping ensure an uninterrupted supply of IFA supplements by advocating that governments prioritize funding for the adequate and timely procurement of these critical supplements.
- Improving adherence to daily IFA supplementation and overall nutrition counselling by improving the interpersonal counselling skills of frontline health workers to provide gender-sensitive messages with respect, and messages that recognize the gender barriers that prevent a woman from accessing prenatal care and that engage fathers in a supportive role.
- Testing the impact of mobile phone-based technologies on improving adherence.
- Working with governments to increase alignment with applicable WHO ANC guidelines, including dosage recommendations.
- Testing market-based approaches, which could include selling IFA supplements as opposed to providing them free of charge.
- Improving the evidence base by conducting research; topics could include the cost-effectiveness of IFA supplementation versus multiple micronutrient supplements.
- Exploring the inclusion of IFA supplementation in the Global Financing Facility's performance-based financing platform.
- Exploring a strategic partnership with the Global Fund, including potential synergies with intermittent preventive treatment of malaria in pregnancy programs
- Advocacy at the global and local levels to give a voice to women in nutrition policy and programming that seeks to serve their needs.

Birth package

Through the Right Start Initiative, Nutrition International is currently supporting the scale-up of a package of newborn care interventions designed to decrease neonatal mortality and enhance the health and nutrition of newborns. Elements of the package vary but include at least two of the following interventions: timely initiation of breastfeeding; Kangaroo Mother Care (KMC) for low birth weight and preterm babies; chlorhexidine application and clean cord care; optimally timed cord clamping and nutrition counselling.

These interventions increase the survival and health of newborns and may have lasting positive effects on their health and well-being later in life. Early and exclusive breastfeeding is associated with reductions in the prevalence of overweight and diabetes as well as protection against childhood infections[37] and is considered a "double duty nutrition action".[38] Research suggests that if early and exclusive breastfeeding were scaled up to near universal levels, the lives of 823,000 children under the age of five would be saved annually in 75 low- and middle-income countries.[39] The 2013 Lancet Series found that KMC for preterm babies was associated with a 40 percent reduction in the risk of mortality, as well as weight loss for the mother when exclusively breastfeeding.

[37] UNICEF (2016) Committing to child survival: A promise renewed – Progress report 2015. New York, UNICEF.

[38] Global Nutrition Report 2017

[39] UNICEF (2016) Committing to child survival: A promise renewed – Progress report 2015. New York, UNICEF.

Over the course of the five-year Right Start Initiative, NI expects to reach approximately 500,000 newborns with these interventions, averting approximately 5,000 neonatal deaths per year. During 2018-2024, absolute spending on the birth package will significantly increase, allowing NI to reach approximately 1.1 million newborns over the six years, averting 10,000 deaths. To maximize impact and ensure value for money for donors, we are considering strengthening our focus on KMC and breastfeeding support, which evidence indicates are the two most effective interventions.

The following activities are illustrative of NI's priorities for 2018-2024 for this intervention:

- Advocacy aimed at policy-makers to prioritize the inclusion of an evidence-based package of birth practices in national policies and allocation of sufficient resources.
- Implementing evidence-informed BCI strategies to increase demand for skilled attendants at birth, including the development and distribution of gender-sensitive BCI materials and recognition of the barriers that affect a woman's access to quality birth care and engage fathers and other family members as supporters.
- Training frontline health workers, including using gender-sensitive on-the-job training to enhance and maintain knowledge and skills.
- Establishing global strategic partnerships on KMC.
- Engaging as an active member of the Global Breastfeeding Collective, led by WHO and UNICEF.
- Supporting governments to reinvigorate the Baby-Friendly Hospital Initiative (BFHI).

6.3 CHILDREN UNDER FIVE

Scope

Despite significant recent accomplishments made in reducing child mortality, every year over 6 million children die before their fifth birthday.[40] Within the context of nutrition, important causes include inadequate infant and young child nutrition (IYCN), diarrhoea, and deficiencies in micronutrients such as vitamin A and iron.

Approximately 45 percent of deaths of children under five years of age can be attributed to malnutrition,[41] and are often associated with inappropriate feeding practices during the first years of life.[42] Recent assessments indicate that although most countries have national IYCN policies in place, there remain many gaps in action.[43, 44] As a result, almost half of the world's under-five children are considered anaemic and 151 million are stunted.[45] Data suggests there are no significant gender differences between boys and girls under 5 years, but that gender imbalance exists at the level of the caregiver and their supporter/enabler. Men play an important role in a mother's ability, time, capacity and financial ability to feed their child (both in terms of breastfeeding and complementary feeding) but are often not adequately engaged in IYCN programs.[46]

[40] Black RE et al. Maternal and child undernutrition and overweight in low-income and middle-income countries. The Lancet. 2013; 382(9890):427-451

[41] Black RE et al. Maternal and child undernutrition and overweight in low-income and middle-income countries. The Lancet. 2013; 382(9890):427-451

[42] Sankar MJ, et al. Optimal breastfeeding practices and infant and child mortality: a systematic review and meta-analysis. Acta Paediatr. 2015 Dec;104(467):3-13

[43] UNICEF. Infant and Young Child Feeding Programming Status. Results of 2010 - 2011 assessment of key actions for comprehensive infant and young child feeding programs in 65 countries. April 2012

[44] Arun Get al. The status of policy and programs on infant and young child feeding in 40 countries. Health Policy Plan 2013; 28 (3): 279-298

[45] Stevens et al. Global, regional, and national trends in hemoglobin concentration and prevalence of total and severe anaemia in children and pregnant and non-pregnant women for 1995–2011: a systematic analysis of population-representative data. Lancet Glob Health. 2013;1(1):e16–25.

[46] USAID, The roles and influence of grandmothers and men: Evidence supporting a family- focused approach to optimal infant and young child nutrition, Washington, DC; 2011

Similarly, despite significant gains since 1991, vitamin A deficiency (VAD) remains a global health problem. VAD is associated with significant morbidity and mortality from common childhood infections and is the world's leading preventable cause of childhood blindness.[47, 48] In 2013, approximately 29 percent of children 6-59 months of age in low- and middle-income countries were vitamin A deficient.[49]

Finally, diarrhoea continues to be a leading cause of child deaths. Recent analysis by Li Lui et al. determined that 9 percent of all child deaths under five years of age are due to diarrhoea.[50] In the post-neonatal period, this is second only to pneumonia, and equivalent to malaria and HIV/AIDS combined. This results in over 1,400 young children dying each day, totaling over 500,000 children a year.

Ongoing interventions

Vitamin A supplementation (VAS)

Vitamin A supplementation (VAS) has long been recognized as a highly cost-effective way to improve child survival and reduce stunting. Twice-yearly supplementation of children 6–59 months of age with vitamin A contributes to an all-cause mortality reduction of up to 12 percent among deficient children and a significant reduction in stunting (through the effect that VAS has on reducing cases of diarrhoea). Bio-fortification (to increase vitamin A levels in certain foods) and fortification of staple foods with vitamin A are promising avenues for VAD reduction strategies, but both take time to scale up, and adoption and adherence at the country level may be patchy. VAS remains an important strategy for filling the gap in the meantime.

Since 1994, with funding from Canada, Nutrition International has been a driving force behind improvements in the provision and consumption of VAS for children. Through the In-Kind Assistance (IKA) program, NI procures approximately 500 million high-dose vitamin A capsules every year for onward donation to approximately 60 countries through UNICEF. NI also provides operational support for the delivery of VAS in a number of our focus countries. Over the years, NI has also done significant work on product development and market shaping around VAS, including improving specifications and quality by working with private sector suppliers.

As a result of our work on vitamin A, global coverage for children 6-59 months ranks among the highest of the essential nutrition actions (along with IFA for pregnant women).[51] With support from Canada, in 2016 NI helped 60 countries reach approximately 174 million children with two VAS doses, averting approximately 140,000 child deaths and 700,000 cases of stunting. Over the course of the next six years, NI expects that the number of children reached with VAS will be between 150-180 million per year, averting about 1 million child deaths and 4.2 million cases of stunting.

[47] WHO. Indicators for assessing vitamin A deficiency and their application in monitoring and evaluation intervention programs. Geneva, World Health Organization, 1996. http://www.who.int/nutrition/publications/micronutrients/vitamin_a_deficieny/WHONUT96.10.pdf

[48] WHO. Serum retinol concentrations for determining the prevalence of vitamin A deficiency in populations. Vitamin and Mineral Nutrition Information System. Geneva, World Health Organization, 2011 (WHO/NMH/NHD/MNM/11.3) (http://www.who.int/vmnis/indicators/retinol.pdf, accessed 11/7/2017).

[49] Stevens, Gretchen et al., Trends and mortality effects in vitamin A deficiency in children in 138 low-income and middle-income countries between 1991 and 2013: a polled analysis of population-based surveys. The Lancet Global Health 2015 , Volume 3 , Issue 9, e528 - e536

[50] Liu L et al. Child Health Epidemiology Reference Group of WHO and UNICEF. Global, regional, and national causes of child mortality: an updated systematic analysis for 2010 with time trends since 2000. Lancet. 2012;379 (9832):2151-61.

[51] Development Initiatives 2017, Global Nutrition Report 2017: Nourishing the SDGs, Bristol, UK: Development Initiatives

The following activities are illustrative of NI's priorities for 2018-2024 for this intervention:

- Supporting governments to improve planning, implementation and monitoring of VAS programs, in particular to ensure that high and equitable two-dose coverage is achieved in high-burden areas and countries.
- Maintaining coverage will be a challenge, as previously utilized platforms such as polio immunization campaigns are phased out, so strengthening new platforms will be important as well as ensuring gender barriers for mothers in accessing platforms are considered.
- Continuing to collect and report sex-disaggregated data for VAS coverage, as well as working with UNICEF and government partners to strengthen program monitoring.
- Providing guidance on evidence-based decision-making regarding scaling back VAS when the evidence suggests it is warranted.
- Supporting UNICEF for high quality forecasting of annual supply needs.

Zinc and ORS for the treatment of diarrhoea

When combined with oral rehydration salts (ORS), zinc has been shown to reduce the duration and severity of childhood diarrhoea in zinc-deficient populations, thus helping avert child deaths.[52] For this reason, WHO recommends this treatment for the management of acute diarrhoea.[53]

With support from Canada, Australia and Teck Resources (a Canadian mining company), in 2016 Nutrition International helped eight countries (Ethiopia, Kenya, Nigeria, Senegal, Bangladesh, India, Indonesia and Pakistan) treat approximately 3 million children suffering from diarrhoea with zinc and ORS, averting approximately 15,000 deaths.

In the coming six years, NI plans to substantially increase our investment in the treatment of childhood diarrhoea with zinc/ORS. If the six-year strategy is fully funded, approximately 26 million children with diarrhoea will be reached with zinc and ORS, averting 190,000 deaths. While boys may be at greater risk of contracting diarrhoea based on social norms and gender differences in some contexts, treatment for girls may be sought later. Context-specific gender analysis will inform this work.

The following activities are illustrative of NI's priorities for 2018-2024 for this intervention:

- Increasing care seeking for childhood diarrhoea though behaviour change interventions informed by gender analysis. This includes recognizing practices that cause inequitable rates of prevalence and treatment between boys and girls, and gender barriers that mothers face in accessing care for children and taking care of sick children.
- Assessing the benefit of helping develop better access to – and demand for – purchased products delivered via the private sector, and investing in the total market approach, including social marketing and working with the private sector and the WASH sector.
- Assisting countries to ensure the sustained availability of supplies.

[52] Zinc for the treatment of diarrhoea: effect on diarrhoea morbidity, mortality and incidence of future episodes. Fischer Walker et al Int. J. Epidemiol. (2010) 39 (suppl 1): i63-i69.

[53] WHO, UNICEF. Clinical Management of Acute Diarrhoea. World Health Organization (Geneva), United Nations Children's Fund (New York).

Infant and young child nutrition (IYCN)

Nutrition International's IYCN interventions aim to reduce the burden of infant and under-five mortality, stunting and anaemia among children under two years of age. To maximize impact and ensure value for money for donors, NI is considering focusing on the promotion of exclusive breastfeeding and optimal complementary feeding.

There is strong evidence that breastfeeding protects against pneumonia and diarrhoea, the two leading causes of death for children under five; improved breastfeeding has the potential to prevent nearly half of all diarrhoeal episodes and a third of all respiratory infections.[54] Mothers benefit from delayed ovulation and return of menstruation,[55] and exclusive breastfeeding also improves mother-baby bonding and can enhance the formation of neural pathways.[56]

NI's work on complementary feeding involves the promotion of adequate meal frequency and dietary diversity. This includes promoting the consumption of available animal-based foods such as locally available meats, eggs and nutrient dense dairy products. Some of the areas where NI has added value include establishing appropriate technical working groups to elevate IYCN at the national level, training health workers and community health volunteers to increase their capacity to provide effective respectful counselling for both mothers and fathers, and improving the way IYCN services are monitored and reported.

Through the Right Start Initiative, which is funded by Canada, NI implemented IYCN activities in six countries (Ethiopia, Kenya, Tanzania, India, Pakistan and the Philippines) in 2016. These programs reached approximately 400,000 women with counselling on breastfeeding and complementary feeding, which averted 4,000 deaths. During 2018-2024, the proportion of funding that NI commits to IYCN will remain stable. However, as NI's total budget is expected to increase, the absolute spending in the area will increase proportionally, allowing NI to reach approximately 3.3 million children, avert 30,000 deaths and 500,000 cases of anaemia in children.[57]

The following activities are illustrative of NI's priorities for 2018-2024 for this intervention:

- Supporting national strategies to roll out the principles of the Baby Friendly Community Initiative (BFCI). Building on the Baby Friendly Hospital Initiative (BFHI), which is facility-based, the BFCI is a framework primarily to promote, protect and support exclusive breastfeeding in the community, and can be expanded to also include the necessary gender-sensitive community support for optimal IYCF practices.
- Strengthening behaviour change interventions (BCI) for both providers and caregivers (male and female), informed by gender analysis.
- Partnering with community-based organizations, including women's organizations, local governments and early childhood education programs to carry out the priority activities.

[54] Victora, C.G., et al., Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. Lancet, 2016. 387(10017): p. 475-90.

[55] Rollins, N.C., et al., Lancet Breastfeeding Series Group., Why invest, and what it will take to improve breastfeeding practices? The Lancet, 2016. 387(10017): p. 491-504.

[56] World Health Organization and UNICEF, Global Strategy for Infant and Young Child Feeding. 2003, Geneva: World Health Organization.

[57] It is expected that IYCN interventions will also have an impact on stunting, however insufficient evidence exists to determine an effect size. For this reason, the impact of IYCN interventions on stunting has not been modeled, but NI will work in partnership with others over the six-year strategy to generate additional evidence, and will re-assess.

6.4 ALL POPULATION GROUPS

Scope

Anaemia is a global public health problem that affects all population groups, but disproportionately impacts menstruating girls and women. WHO estimates that around the world, roughly 43 percent of children, 38 percent of pregnant women and 29 percent of non-pregnant women have anaemia.[58] While women and children suffer disproportionately, WHO estimates suggest that 13 percent of men and 24 percent of elderly men and women are also affected by anaemia.[59] Failure to reduce anaemia results in ill health as well as impaired economic and social development.

With 2 billion people globally at risk, iodine deficiency is a similarly widespread problem. Iodine deficiency can have far-reaching effects on both maternal health during pregnancy and cognitive development during early childhood. Studies have shown a direct causal relationship between foetal brain development, a child's cognitive abilities and the iodine status of his/her mother during pregnancy.[60] Severe iodine deficiency in pregnant mothers can result in lower IQ scores for their future school-aged children. Iodine deficiency also has adverse effects for adult women and men, including low energy levels and decreased capacity for work.[61]

Ongoing interventions

Food fortification

Fortification of centrally processed staple foods like wheat/maize flour, cooking oil, rice and condiments like soya sauce are simple, affordable and effective approaches to reach large proportions of the population with iron, folic acid, zinc and other essential micronutrients. In fact, fortifying different food staples, oil and condiments with essential micronutrients is an intervention identified by WHO, the Copenhagen Consensus, and the Food and Agriculture Organization, as one of the top strategies for decreasing micronutrient malnutrition at the global level.[62]

Food fortification has a long history and is widespread in both developed and developing countries. Eighty-seven countries worldwide have legislation for mandatory fortification of at least one industrially milled cereal grain. It is estimated that 28 percent of the world's industrially milled wheat flour, 58 percent of industrially milled maize flour, and 1 percent of industrially milled rice is fortified with at least iron or folic acid through mandated and voluntary efforts.[63]

In 2016, Nutrition International worked in seven countries to fortify five different food vehicles (see Table 5). The largest program is the Food Fortification Programme (FFP) in Pakistan, a partnership with Mott MacDonald, which is funded with UK aid from the UK Government. The largest program of its kind in the world, FFP supports the fortification of wheat flour with iron, folic acid, zinc and vitamin B12 and edible oil/ghee with vitamins A and D. By the end of the five-year project, it is expected to reach approximately 150 million people per year. See Section 3 for a case study about FFP.

NI plans to increase the proportion of funding of food fortification programs during 2018-2024 due to their significant cost-effectiveness and proven health impacts. We aim to reach approximately 118 million people by the last year of the six-year strategy (beyond those reached via FFP) and avert 52 million cases of anaemia (including approximately 26 million among women of reproductive age) and 10,000 neural tube defects over the six-year period.

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[58] WHO – The Global Prevalence of Anaemia in 2011. Geneva, World Health Organization; 2012 p. 9. http://apps.who.int/iris/bitstream/10665/177094/1/9789241564960_eng.pdf?ua=1&ua=1

[59] WHO – The Global Prevalence of Anaemia in 2011. Geneva, World Health Organization; 2012

[60] Zimmermann, MB. The Effects of Iodine Deficiency in Pregnancy and Infancy. Paediatric and Perinatal Epidemiology, 2012, 26 (Suppl. 1), 108–117 (accessed, March 27, 2017).

[61] Kochupillai et al. Neonatal thyroid status in iodine deficient environments of the Sub Himalayan region. Indian J Med Res. 1984;80:293–299.

[62] Copenhagen Consensus – Post 2015 Viewpoint, Feb 2015. Benefits and costs of the Food Security and Nutrition Targets for the Post 2015 Development Agenda. GAIN. http://www.copenhagenconsensus.com/sites/default/files/food_security_and_nutrition_viewpoint_-_gain_0.pdf

[63] Food Fortification Initiative. http://www.ffinetwork.org/global_progress/index.php (accessed - March 21, 2017)

TABLE 5: NUTRITION INTERNATIONAL'S CURRENT FORTIFICATION PORTFOLIO

FOOD VEHICLE	FORTIFICANTS	COUNTRIES
Wheat flour	Iron and folic acid	Ethiopia, Senegal, India, Indonesia
	Iron, folic acid, zinc and B12	Pakistan
Rice	Vitamin A, vitamin B1, vitamin B12, folic acid, iron and zinc	Bangladesh
Maize	Iron and folic acid	Kenya
Salt (double fortified)	Iodine and iron	India
Vegetable oil	Vitamins A and D	Pakistan

The following activities are illustrative of NI's priorities for 2018-2024 for this intervention:

- Exploring the possibility of fortifying additional food vehicles such as bouillon cubes, noodles and milk, with sex and age-related consumption data informing potential access and consumption.
- Exploring the possibility of working with large companies in Asia that export rice to Africa to fortify milled rice.
- Identifying gender inequalities in the workplace, such as adequate sanitation facilities and wage parity.
- Exploring opportunities to deliver fortified foods through social protection programs, such as the Vulnerable Group Development (VGD) program in Bangladesh, as well as emergency assistance operations, in collaboration with partners such as the World Food Programme (WFP), with gender analysis of potential reach.
- Helping enact legislation, policies and standards in target countries where these are either non-existent, weak, or not aligned with international guidelines or best practice.
- Providing technical assistance in developing guidelines, data systems, enforcement mechanisms, and quality control and quality assurance systems.
- Carrying out gender-sensitive formative research to determine consumer awareness of fortification and to help develop compelling public health messages.

Universal salt iodization (USI)

The last few decades have seen tremendous progress in addressing the risks of iodine deficiency through successful salt iodization programs worldwide. This effort has resulted in a sharp drop in the number of iodine deficient countries from 113 in 1993 to only 15 in 2016. However, approximately 28 percent of the global population, including 240 million school children, continue to be at risk of iodine deficiency and its consequences.[64, 65]

With support from Canada, NI has been working for more than a decade to scale up universal salt iodization (USI) around the world. In 2016, approximately 427 million people gained access to adequately iodized salt due at least in part to NI's work. During 2018-2024, absolute funding for USI will increase, although the proportion devoted to USI remains the same within the overall budget. This will allow NI to reach approximately 500 million people, improving the cognitive development of millions of children.

[64] Iodine Global Network. http://ign.org/p142002288.html accessed on December 21, 2015.
[65] Addressing the Challenge of Hidden Hunger | Chapter 03 | 2014 Global Hunger Index.

HOW NUTRITION INTERNATIONAL'S PROGRAMS ADDRESS GAPS IN FOOD SYSTEMS

A food system includes all those activities involving the production, processing, transport and consumption of food. Food systems should help people make more nutritious food choices – but often, they do not. While educating the consumer is a key part of improving nutritious diets, in many countries there is insufficient availability and affordability of nutritious foods, especially fruits and vegetables.

Global and local food systems are increasingly making less healthy, highly processed foods more available and affordable. Some solutions to modify food systems that Nutrition International is working on include:

- Fortification of staple foods, such as through the FFP in Pakistan, and the Right Start Initiative.
- Nutrition education and counselling, for example in prenatal check-ups and infant and young child growth monitoring in the Right Start Initiative.
- More nutrition provided through social safety net programs, such as providing double fortified salt through India's Public Distribution System (PDS).
- Gender-sensitive training in how to prepare more nutritious foods with consideration for equitable access, which is an important component of the PINKK project in Senegal.
- Policy changes to promote better diets, for example the elimination/reduction of duties on pre-mix used to fortify staple foods, or legislation to mandate fortification.
- Financial and technical support for the development of Healthy Diets and Physical Activity guidelines and their dissemination to national and county stakeholders in Health, Education and Agriculture.

The following activities are illustrative of NI's priorities for 2018-2024 for this intervention:

- Strengthening the capacity of small- and medium-scale salt processors, with consideration for advancing gender equity in employment opportunities.
- Strengthening the enabling environment, including supporting policy development and strengthening both legislative and regulatory systems.
- Improving enforcement of regulations, including monitoring and external quality control.
- Supporting consolidation of the small-scale industry, lowering iodization costs and making monitoring and enforcement easier.
- Supporting innovative, market-driven approaches to improving the supply chain.
- Exploring the possibility of leading a campaign to eliminate iodine deficiency in West Africa and/or East Africa, using Senegal and Kenya as export hubs.

SUMMARY

Delivery of these interventions (and packages of interventions) at scale will achieve significant impact between 2018-2024, and will set Nutrition International on the path to achieve Goal 2030. Table 6 summarizes the coverage approach of NI's strategy, outlining the projected trajectory for each intervention, as well as the expected impact based on externally-validated models for the next six years.

TABLE 6: SUMMARY OF COVERAGE INTERVENTIONS AND EXPECTED IMPACT

POPULATION GROUP	INTERVENTION	2018-2024 TRAJECTORY (REACH + IMPACT)	2018-2024 IMPACT (6 YEARS)
Adolescent girls	Weekly Iron and Folic Acid Supplements (WIFAS)	↑	4.8M cases of anaemia averted (WIFAS and food fortification combined)
Pregnant women & newborns	Iron and Folic Acid (IFA)	↑	1.5M cases of anaemia averted in pregnant women 400,000 cases of low birth weight averted 300,000 cases of stunting averted 10,000 newborn deaths averted
	Birth package	↑	
Children <5	Vitamin A	→	1.2M deaths averted $3B CAD in cost-savings from reduced health care treatment for diarrhoea due to VAS 4.2M cases of stunting averted 500,000 cases of anaemia averted 85M IQ points saved (VAS, IYCN and USI combined) 10M children who gain a year of education (VAS, IYCN and USI combined)
	Zinc + ORS	↑	
	IYCN (MN powders)	↓	
	IYCN (breast and compl. feeding)	↑	
All populations	Food fortification	↑	52M cases of anaemia averted (26M among adult women) 10,000 neural tube defects averted
	USI	→	10M children who gain a year of education (VAS, IYCN and USI combined) 85M IQ points otherwise lost (VAS, IYCN and USI combined) $51B CAD in future lifetime earnings (all interventions across all populations)

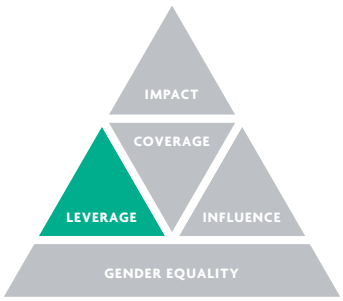
7. LEVERAGE

THE GLOBAL DEVELOPMENT ARCHITECTURE is not yet fit for purpose; it creates and perpetuates far too many missed opportunities to reach and improve lives, especially among women, children and adolescent girls. For instance, in many developing countries,the rainy season (when malaria peaks) and the hunger season (when farmers are between harvests and malnutrition peaks) are the same. So, when efforts are made to reach people with malaria services without considering nutrition, we miss opportunities to save lives and protect children.

There are also a range of missed opportunities related to inefficient and uncompetitive markets for nutrition products (including micronutrient supplements). On the demand side, those who would benefit most from products are often women and children living in poverty with little purchasing power and barriers to access – including gendered barriers to access. On the supply side, developers may not see enough demand to develop a new product, manufacturers may not know how much to produce, and distributors may not see enough profit to justify delivery.

The lack of financial innovation within the nutrition sector, which has been slower than other sectors to adopt innovative financing models, further highlights opportunities for better leveraging of limited resources.

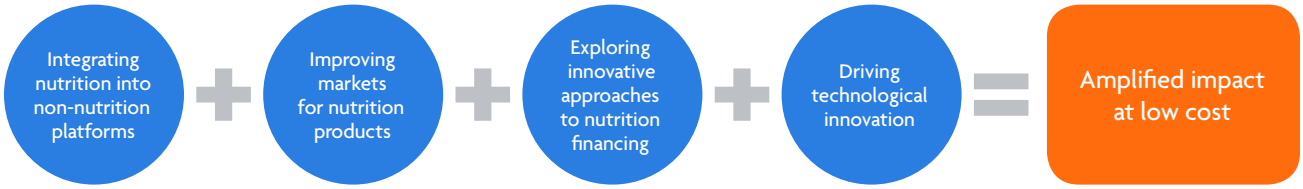
Finally, there exists a range of technological bottlenecks to the supply of, and demand for, nutrition interventions. This leads to further missed opportunities for impact.



NI's leverage objective is to integrate nutrition across sectors, strengthening local ownership and developing innovative approaches to scale. This will be achieved through the pursuit of the following (see Figure 9):

1. Integrating nutrition into non-nutrition platforms
2. Improving markets for nutrition products
3. Exploring innovative approaches to nutrition financing
4. Driving technological innovation

FIGURE 9: NUTRITION INTERNATIONAL'S FOUR LEVERAGE OBJECTIVES



7.1 INTEGRATING NUTRITION INTO NON-NUTRITION PLATFORMS

If the SDGs are to be achieved, those aiming to make meaningful contributions must transcend the current approach, which is siloed by mandate, structure and financing. By integrating nutrition into existing delivery platforms that are not currently being used for nutrition, NI aims to break some of these silos and help to close the missed opportunities gap. This is particularly acute in the space between public health and nutrition, where interventions are often delivered vertically.

NUTRITION LEVERAGE AND INFLUENCE FOR TRANSFORMATION (NLIFT)

Established in 2015 with an anchor investment of $25 million from Canada, Nutrition International's NLIFT business model seeks to expand the reach and impact of evidence-based nutrition interventions by increasing resources for nutrition and harnessing missed opportunities for nutrition impact. NLIFT aims to develop initiatives to advance the integration of nutrition programming into new or existing large-scale networks and delivery platforms that reach large target populations. This business model is the first of its kind, and NI is pioneering the investment in nutrition-sensitive and non-traditional platforms to leverage significant reach for nutrition interventions. From 2015 to 2020, NLIFT aims to help countries reach over 7 million vulnerable women, newborns and children. During the period of the 2018-2024 strategic plan, NI will expand NLIFT by enabling new partnerships, expanding successful ones and leveraging more partnership contributions.

Lessons learned thus far:

- NLIFT fills a crucial gap; many additional opportunities to co-invest exist.
- NLIFT allows NI to take risks and work with other sectors to integrate nutrition into the work of non-nutrition actors, especially partners with a gender equality focus and mandate.
- The sum is greater than its parts; investments achieve both gender and nutrition outcomes at marginal costs.
- NLIFT enables non-nutrition funding to flow to nutrition.
- Non-nutrition partners need NI's nutrition technical expertise, including research on process/methodologies to measure non-health impact, with consideration for gender equality.

BREAKING SILOS BY WORKING WITH OTHERS:
PARTNERSHIPS WITH AMREF AND UNFPA

In Africa, an NLIFT investment with Amref Health Africa will improve the organization's capacity to deliver nutrition interventions while enabling Nutrition International to reach target populations using existing health service delivery platforms, particularly at the community level. As the largest health-focused NGO in Africa, Amref reaches 10 million people in more than 30 countries, providing an established and effective platform to leverage for amplified impact.

In Nigeria and Senegal, NI will work with the United Nations Population Fund (UNFPA) to incorporate nutrition components into existing gender-sensitive sexual and reproductive health services in order to increase the benefits to women and girls reached by these interventions. This partnership has the potential to scale up to reach 15 million women and girls annually throughout all of UNFPA's target countries.

The integration of cross-sectoral strategies and nutrition-sensitive interventions[66] is needed. This will increase the impact of our interventions and promote sustainability. Through our Nutrition Leverage and Influence for Transformation (NLIFT) program, for example, NI aims to develop initiatives to advance the integration of nutrition programming into new or existing large-scale networks and delivery platforms that reach large target populations.

During 2018-2024, NI will intensify its efforts to integrate nutrition into non-nutrition platforms. Doing so will ensure:

- Increased coverage and impact at a low cost
- Improved outcomes for beneficiaries (stacked benefits)
- Improved cross-sectoral knowledge and partnerships

NI's success in this area will be measured by factors such as the number of people reached and the amount of funding leveraged via these non-nutrition platforms. We will also seek to qualitatively assess the contribution to gender equality through these platforms. Currently, we are in the process of developing a model for measuring the human capital impact through the NLIFT platform.

7.2 IMPROVING MARKETS FOR NUTRITION PRODUCTS

Nutrition International has a long history of shaping global markets to accelerate access to – and use of – life-saving nutrition commodities. For example, NI's development of the VAS program has created a competitive market where none previously existed. Currently, NI procures and distributes 75 percent of the global VAS supply.

Building on this expertise, over the next six-year period, we will continue focusing on product development and market shaping to help improve the availability and reduce the cost of life-saving commodities for adolescents and women of reproductive age. One high priority is likely to be around the products needed to deliver newborn vitamin A supplementation (NBVAS), should upcoming WHO recommendations support this intervention (see Section 8.2 for further information on NBVAS).

NI's success in this area will be measured for example, by the number of nutrition products whose availability has improved and/or price has decreased.

[66] Nutrition-sensitive interventions are those whose primary objective is not nutrition, but that have the potential to improve the food and nutrition security of beneficiaries (as defined by the SUN framework). Most often these are activities that impact nutrition by addressing the underlying causes of undernutrition (e.g. agriculture and food security, education, sexual and reproductive health, and water and sanitation, etc.)

7.3 EXPLORING INNOVATIVE APPROACHES TO NUTRITION FINANCING

Progress in financial innovation has been slower in the nutrition sector but is quickly gaining momentum. The key components in taking nutrition financing to the next level include innovative approaches such as paying for results and removing the risks of private sector investment to attract social investors and draw private capital flows in as part of the solution. NI's analytical work with the World Bank has led to the development of a toolkit for Task Team Leaders for application of performance-based funding approaches in different areas of the Bank's portfolio to the design of new nutrition operations, and the inclusion of nutrition in agriculture, social protection and other operations. In addition, NI's investment in the Power of Nutrition is scaling and institutionalizing high-impact, evidence-based and gender-sensitive nutrition interventions in support of the Government of Ethiopia's National Nutrition Program. Through payment for results, the investment is incentivizing health system performance in maternal and child health and nutrition while also directly supporting critical technical assistance and capacity building activities. It is estimated that this investment will help reach approximately 13 million women and children through gender-sensitive investments and interventions.

During the coming six years, NI will seek to develop new opportunities in innovative finance for nutrition and will scale up successful investments as well as develop or partner in the creation of new models. Our success in this area will be measured by the number and scope of projects implemented with innovative financing elements, both in terms of dollars leveraged and people reached. We will aim to co-develop a common set of indicators across all nutrition funding, in collaboration with donors and with considerations for gender-sensitive budgeting.

7.4 DRIVING TECHNOLOGICAL INNOVATION

Nutrition International has a strong track record of technological innovation. For instance, NI worked with the University of Toronto to develop the technology through which salt can be double fortified with both iodine and iron. This intervention helps overcome the gender gap in anaemia, which is disproportionately experienced by women and adolescent girls. As well, NI has carried out research and product testing for rapid-test kits for detecting iodization levels in salt. We also partnered with Cornell University to advance the development of Nutriphone to accelerate the measurement of biomarkers through mobile phone technology, and we are funding the extension of the application to include vitamin A, iron, and a C-reactive protein, which will better inform public health programs.

Through NLIFT, NI co-invested with Springster, a leader in targeted social media communication and girls' empowerment, to develop dedicated nutrition content targeting a new generation of social media-savvy adolescent girls in a way that directly engages the girls in developing the content. Springster will help inform NI's behaviour change strategy using digital data generated from the girls' browsing behaviours.

NI's success in this area will be measured, for example, by the number of nutrition commodities or technologies created or improved.

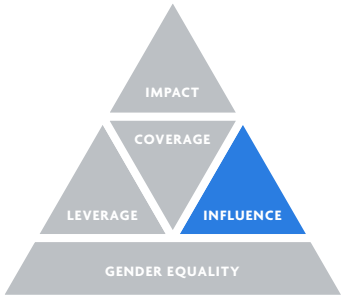
8. INFLUENCE

NUTRITION, A TRADITIONALLY neglected development sector, has been attracting increased attention and resources in the past decade. However, the resources, evidence, policies and programs for nutrition scale-up remain insufficient.

For instance, global financing for nutrition is scant when compared to need. At present, governments in low- and middle-income countries and donors spend $3.9 billion per year on nutrition-specific interventions. To reach the global WHA targets for stunting, wasting, anaemia in women and exclusive breastfeeding, the World Bank estimates that an additional $7 billion per year is needed over the next 10 years.[67]

Nutrition policies and programs are often less than optimal due to gaps in the evidence base, including around nutrition information systems, programs (what works, where?) and knowledge dissemination.

Finally, although many developing countries are committed to scaling up nutrition, a lack of technical capacity to design, deliver and track the progress of gender-sensitive multi-sectoral nutrition plans and programs can often make it very challenging to turn their vision into reality.



[67] World Bank. An Investment Framework for Nutrition. 2017

NI's influence objective is to combine research, technical assistance, advocacy, and partnerships to improve policies, programs, and to increase resources for nutrition. This will be achieved through the pursuit of the following (see Figure 10):

1. Increasing international, national and local resources through advocacy
2. Improving the evidence base and programs through evidence generation, translation and dissemination
3. Improving nutrition plans, programs and local ownership through gender-sensitive technical assistance, which engages girls and women in the process

FIGURE 10: NUTRITION INTERNATIONAL'S THREE INFLUENCE OBJECTIVES

8.1 INCREASING INTERNATIONAL, NATIONAL AND LOCAL RESOURCES THROUGH ADVOCACY

Nutrition International will continue to work with partners to advocate for increased international resources for nutrition. This will include showcasing nutrition's contributions to the SDGs; generating new evidence to increase the impact of nutrition interventions; and influencing and shape the strategy and practice of other actors in the nutrition ecosystem. By shining a light on the gender inequities that exist in nutrition (in terms of nutrition status, access to services and empowerment) and what NI is doing to address them, we will help advocate for a gender equality lens on investments in nutrition, and empower women and girls to be informed advocates for their own health and nutrition.

NI will also advocate that national and local governments, who are ultimately responsible for financing and delivering health and nutrition interventions in their countries, increase their funding for nutrition. In fact, NI is increasingly focused on ensuring that the outcome of our investments in countries is their willingness and capacity to scale up their own budgets for nutrition. For example, NI hosted a roundtable with 21 country representatives for health and nutrition to discuss the decentralized budget process and what is needed to overcome limitations in domestic nutrition funding at country level. In addition, NI will be exploring how to more explicitly connect our future investments with commensurate increases in domestic investment for nutrition.

NI's success in this area will be measured for example, by the number of countries (or sub-national governments) with increased investments and/or commitments in nutrition.

8.2 IMPROVING THE EVIDENCE BASE AND PROGRAMMING THROUGH EVIDENCE GENERATION, TRANSLATION AND DISSEMINATION

Nutrition International is a world-class centre of technical excellence in nutrition. NI's Global Technical Services (GTS) unit supports research, evidence generation and delivery science in support of our nutrition mandate and programming. GTS also works externally in support of national and sub-national country governments, as well as other stakeholders and organizations that wish to add, design and implement nutrition programming to maximize impact and reach. Priority areas under this objective include:

- Nutrition information systems
- Implementation research for new interventions
- Program evaluation
- Networked governance

Nutrition information systems

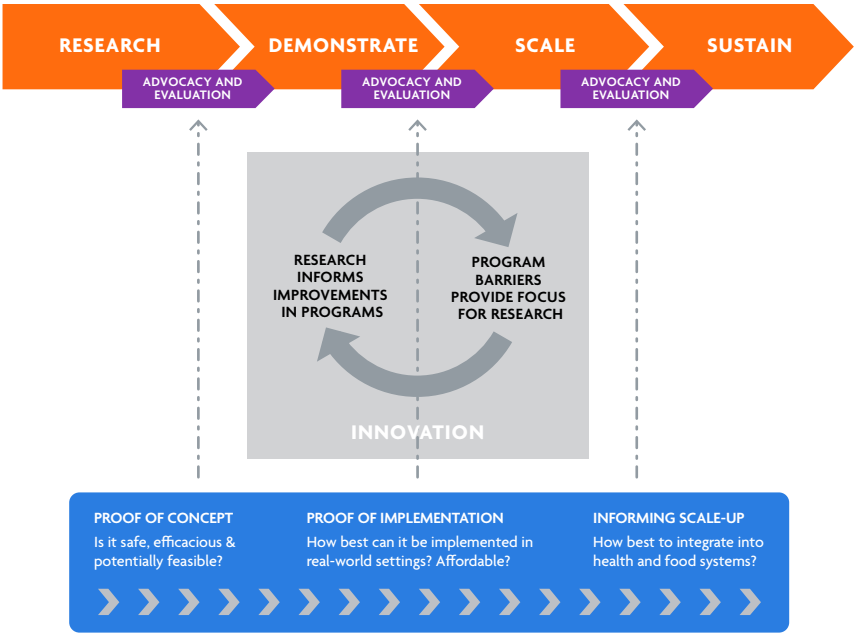
To improve nutrition, governments and their partners first need to understand the scope, distribution and severity of the problem. This means exploring causational factors, such as food security, the social context, the environment and population groups that are most affected, including gender analysis.

NI works with partners to conduct micronutrient and food consumption surveys, and supports the maintenance of global databases that help paint a clear picture of the nutrition status of target populations. For example, NI supports WHO's Vitamin and Mineral Nutrition Information System, a database that tracks progress towards eliminating vitamin and mineral deficiencies in populations. Ensuring sex disaggregated data is collected and available is an important element to implementing a gender mainstreaming approach throughout NI's programs.Assessing equitable access to health and nutrition services, or the platforms where interventions are delivered, is also part of the surveys.

Implementation research for new interventions

Implementation research aims to unblock barriers to successful program implementation. Its objective is to understand what, why, and how interventions work and are sustained in real settings, in order to improve NI's reach and equity in access to nutrition interventions and to inform government and partners who can scale-up these new interventions. Figure 11 indicates how NI uses implementation research to improve our programs.

FIGURE 11: IMPLEMENTATION RESEARCH FOR IMPROVED NUTRITION PROGRAMMING



Building on our history of pioneering new interventions based on the latest research and findings, NI's priorities over the course of the six-year strategy include pursuing, in lockstep with emerging evidence, the following new interventions (or a package of interventions) that show most promise for impact for adolescent girls, pregnant women and newborns, postpartum women and their infants, and women 20-49 years (see Table 7). Implementation research will also include gender analysis for how nutrition programs can contribute to gender equality as well as how gender barriers and any strategies to overcome them can contribute to nutrition impact.

TABLE 7: NEW INTERVENTIONS TO BE EXPLORED, BY BENEFICIARY POPULATION

BENEFICIARY POPULATION	NEW INTERVENTION(S)
Adolescent girls	School-based campaigns for adolescent girls
	Package of interventions for pregnant adolescent girls
Women 20-49 years	Weekly iron and folic acid supplementation (WIFAS) and nutrition education
Pregnant women and newborns	Newborn vitamin A supplementation
	Multiple micronutrient supplementation
Postpartum women and infants	Package of nutrition interventions for postpartum women and infants, including iron folic acid supplementation (IFA) and nutrition education
All populations	Double fortified salt (DFS) with iodine and folate

Adolescent girls

When designing and testing new interventions or delivery platforms targeted to adolescent girls, NI will involve both in-school and out-of-school girls to help ensure effectiveness, ownership and empowerment. The differences between rural and urban contexts will also be taken into consideration.

School-based campaigns for adolescent girls

School-based platforms are the most promising means to reach large numbers of girls with WIFAS and nutrition education. Current efforts in this regard are being hampered by low attendance of adolescent girls in some countries or sub-regions, which is the result of a range of gender-related factors.

To help address the range of challenges facing adolescent girls, NI will explore the feasibility of delivering a package of school-based interventions in addition to WIFAS and nutrition education. While the cost of reaching girls with multiple interventions is likely higher than a single intervention, the potential impact, including reducing anaemia and improving school attendance, and performance is also much higher.

Nutrition interventions for pregnant adolescent girls

To help address the multiple vulnerabilities affecting pregnant adolescent girls, NI will develop a package of nutrition interventions for this group, including multiple micronutrient supplementation and calcium, education on nutrition and sexual and reproductive health, and post-natal support. Identifying and reaching this vulnerable and marginalized group is known to be expensive and challenging. It will involve specialized community outreach and adolescent-safe health services, with a focus on respectful care. However, the combination of approaches also provides an opportunity to make a meaningful impact on the lives of adolescent girls and future generations by reducing maternal and neonatal mortality, stillbirths and childhood stunting.

Women 20 to 49 years

In the coming six-year period, NI aims to deliver WIFAS to women aged 20-49. The WIFA supplement is identical to the one provided to adolescent girls and has the same impact on reducing anaemia, birth outcomes (if a woman becomes pregnant) and improving overall health, energy and productivity.

The key difference between the two populations is the delivery platform. Women 20-49 years of age will be reached largely through workplaces, women's savings groups, government and post-secondary institutions. Although working through these new platforms may have a higher relative cost (at least initially), they also provide the potential to reach large numbers of women.

Pregnant women & newborns

Newborn vitamin A supplementation (NVAS)

Emerging evidence suggests that providing newborns with oral vitamin A supplementation in the first 48 hours of life may be effective in reducing infant mortality, particularly in Asia.[68] It is anticipated that WHO will release guidance on this intervention in the period covered by this strategy.

Even with neutral WHO guidance, NI will coordinate efforts with strategic partners to advance research, policy, product development in NVAS. NI's deep experience in vitamin A supplementation, coupled with an expanding portfolio of maternal and newborn interventions, suggests that NI is well-placed to play a role in the development and delivery of this emerging intervention.

[68] Bhutta et al. 2013.

Multiple micronutrient supplementation for pregnant women

While nearly 50 percent of anaemia in pregnancy is caused by iron deficiency, many other micronutrient deficiencies exacerbate the issue. Recent findings have demonstrated that addressing multiple deficiencies with one intervention is more efficient and effective at improving birth outcomes.

A meta-analysis of 12 randomized controlled trials that compared the use of multiple micronutrients with the use of daily IFA supplementation during pregnancy found that the use of multiple micronutrient supplements (MMNS) resulted in a 12 percent reduction in the risk of low birth weight, a 10 percent reduction in the risk of small-for-gestational age births and a 9 percent reduction in the risk of stillbirth, in addition to the benefits of IFA.[69]

NI will work to identify populations where MMNS may result in better maternal and birth outcomes compared to IFA supplements alone. NI will improve the evidence base and test the cost, acceptability and feasibility of MMN supplementation by conducting demonstration projects in select countries.

Postpartum women and infants under 6 months

Anaemia and iron deficiency in the postpartum period are associated with increased mortality and reduced cognitive performance as well as poorer mood and mental health, including postpartum depression.[70] Anaemic mothers spend less time caring for their infants and the quality of the interaction with their infants is lower.[71]

In general, there is limited evidence on nutrition interventions for postpartum women – an indication that this is a neglected area. The available evidence shows that postpartum iron supplementation reduces the risk of anaemia by 65 percent (from one trial), and the risk of iron deficiency by 70 percent (from two trials).[72] Because this is a high-risk population, WHO has had a long-standing recommendation for postpartum women to take iron (or iron and folic acid) supplements.[73]

NI will conduct demonstration projects in one or two countries to test the cost, acceptability and feasibility of the intervention. The main delivery platform will be health facilities, supported by gender-sensitive community outreach. NI will design and implement this new intervention in partnership with organizations who have existing implementation capability through community health centres and other infant development programs.

All populations

Double fortified salt (DFS) with iodine and iron

NI has been a pioneer in the double fortification of salt, wherein both iodine and iron are added to salt. Award-winning research undertaken by NI and the University of Toronto, with financial support from Canada and the World Bank, resulted in the creation of an iron compound that can be easily added to iodized salt.

Salt can potentially be fortified with nutrients other than iodine, such as iron, folic acid, vitamin A or zinc. If fortifying iodized salt with folic acid, for example, proves to be technologically viable, NI's experience in universal salt iodization (USI) and DFS make us ideally suited to play a role in the piloting and scale-up of this high impact intervention.

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[69] Hiader, B, and Bhutta, Z.A. Multiple micronutrient supplementation for women during pregnancy. The Cochrane Library, 2012.

[70] Beard et al. (2005) Maternal iron deficiency anemia affects postpartum emotions and cognition. J Nutr 135:267–272, and Corwin EJ, Murray-Kolb LE, Beard JL (2003) Low hemoglobin level is a risk factor for postpartum depression. J Nutr 133:4139–4142

[71] E.g. Rita Azizi-Egrari , Charlotte G. Neumann, Linda B. Bourque, Gail G. Harrison& Marian D. Sigman. Maternal anemia and postpartum weight change associated with decreased maternal-infant interaction in a rural Kenyan population. Ecology of Food and Nutrition Volume 43, 2004 - Issue 5

[72] Rogers LM, Dowswell T, De-Regil LM. Effects of preventive oral supplementation with iron or iron with folic acid for women following childbirth. Cochrane Database Syst Rev. In press

[73] Guideline: Iron supplementation in postpartum women. Geneva: World Health Organization; 2016.

Program evaluations

NI is dedicated to ensuring the quality and impact of our interventions through regular collection, analysis and dissemination of program evaluation data. For example, in 2016 NI commissioned a study to compare the cost-effectiveness of delivering VAS through distinct events (campaigns) versus routine systems. The cost-effectiveness of delivering VAS through routine systems is often the rationale for advocating for the transition away from delivery through a campaign approach, but there was no data to support this assumption. The study was carried out in two settings (Ethiopia and Senegal) with the results published in two peer-reviewed articles journals in 2017. Over the next six years, NI is also committed to ensuring a gender lens is applied to program evaluations carried out, as well as to assessing the impact of NI's programs on gender equality (and vice versa).

Networked governance

NI has a commitment to, and culture of, collaboration with global partners. As a leader in the design and provision of large-scale global nutrition programs for over 25 years, NI knows how to effectively engage and leverage partners, countries, donors and implementers to improve the nutritional status of millions of people. Our extensive experience hosting and convening conferences and technical meetings, and our active participation on the boards and steering committees of partner organizations, allows NI's Global Technical Services (GTS) team special insight into the broader issues around nutrition, and the ability to contribute NI's expertise to the issues.

NI's success in this area will be measured, for example, by the number of policies enacted or improved, the number of peer-reviewed journal articles published, the number of demonstration projects that are taken to scale (by NI or by others) and the number of outputs from coordinated global gatherings.

8.3 IMPROVING NUTRITION PLANS, PROGRAMS AND LOCAL OWNERSHIP THROUGH TECHNICAL ASSISTANCE

Nutrition International actively seeks to identify gaps and provide timely, coordinated and expert support to build the capacity of countries to scale up nutrition interventions. We use a country-driven, coordinated approach to ensure that all partners committed to improving nutrition outcomes – whether they are donors, national governments, civil society, or community groups – are connected and consulted, and that all systems for nutrition delivery are harmonized to achieve maximum impact.

For example, through our Technical Assistance for Nutrition (TAN) project, funded with UK aid from the United Kingdom government, NI is currently providing technical assistance (TA) to 20 countries that have joined the SUN Movement, as well as to the SUN Movement Secretariat directly. We have a network of over 650 technical experts available to provide TA – and we are continually expanding that roster. To promote local ownership and sustainability, NI is supporting SUN countries in building local nutrition capacity. See text box on NI's TA to Tanzania as an example of the type of TA NI has already provided to countries.

The main focus areas for the TA provided include **capacity building, policy, planning, research, delivery and tracking and surveillance of multi-sectoral nutrition programs** for improved coverage and reach. Increasing gender equality of TA has also been a priority for NI.

NUTRITION INTERNATIONAL'S TECHNICAL ASSISTANCE TO TANZANIA

Malnutrition is one of the most serious public health problems in Tanzania, affecting mostly infants, children, pregnant and lactating women, adult women in general and adolescent girls. With the National Nutrition Strategy coming to its end in 2016, the Tanzania Food and Nutrition Commission (TFNC) launched a roadmap to guide the development of the National Multi-Sectoral Nutrition Action Plan (NMNAP) 2017-2021. This document was to be a multi-sector collaboration strategy, aimed at securing the country's nutritional future through a series of technical and social interventions.

In 2016, NI's TAN project provided initial TA to support the Micronutrient Task Force develop, cost and finalize the National Scale-up Plan for Micronutrients 2016/17-2020/21. Of note, expertise in gender provided through the TA led to productive discussions on gender equality (including planning for early interventions on anaemia to improve adolescent girls' health) that were incorporated into the micronutrient scale-up plan.

This micronutrient component eventually became part of the broader NMNAP process, coordinated in-country as part of a subsequent TA also provided through the TAN project, at the request of the TFNC.

The NMNAP 2017-2021 was officially launched by the Government of Tanzania in September 2017 and is now being used to guide program and budget planning for nutrition in Tanzania. NI is also providing additional support through TAN to develop national anaemia prevention and control guidelines, as well as micronutrient guidelines.

Some examples of TA support include:

- **Policy:** development of evidence-informed policies, guidelines, regulations, standards or curricula.
- **Planning:** development of nutrition strategies and costed national nutrition plans; development of rolling annual operational and commodity supply plans.
- **Delivery:** management of program implementation and monitoring with a particular emphasis on nutrition-specific interventions provided during the 1,000-day window, the pre-school period (2-5 years of age), adolescent girls (10-19 years of age) or women throughout their reproductive years (15-49 years of age).
- **Problem solving:** use of implementation or operations research to identify ways of overcoming barriers to scale up where appropriate.
- **Tracking progress:** national surveillance and program monitoring systems; qualitative and quantitative metrics; population-based micronutrient surveys; assessment of coverage and adherence.

Over the course of 2018-2024, we will continue to expand and add value as a world-class centre of excellence in technical assistance for nutrition and will seek to build a culture and practice of continuous quality improvement for program design and impact.

NI's success in this area will be measured, for example, by the number of national and local governments with costed nutrition plans, the number and type of TA assignments delivered, and the quality and rigour of the TA delivered.

9. CONCLUSION

WITHOUT GOOD NUTRITION, real, equitable progress and development cannot happen. This is why increasing investments in nutrition and spending them effectively and equitably is crucial. Awareness and leadership are important, but without the appropriate resources and action, they do not lead to the change people desperately need. Investing in nutrition is not only the right thing to do, it's also the smart thing to do to ensure a sustainable future.

We are united in a common desire to put an end to malnutrition because we see the impact it has on women, children, and families, as well as on society's development, health and economic progress.

Good nutrition is the foundation for human development. It is the critical ingredient every one of us needs to survive and to thrive. Without it, the brain will not develop fully, the body will not grow properly, and the immune system will not function effectively. Malnutrition impacts women and girls the hardest for a myriad of social, cultural and biological reasons. Understanding and improving gender equality is essential to improving the nutrition of girls and women, and their families.

Nutrition is also one of the lowest cost, highest impact investments; it can save lives and unlock human potential. Investing in nutrition creates a virtuous circle improving health, increasing education and lifetime earnings, and directly promoting women's empowerment. It is a key element in 12 of 17 of the United Nations' Sustainable Development Goals and the foundation upon which we can build a more equitable world.

For over 25 years, Nutrition International has been pushing the leading edge of nutrition, delivering high-impact, low-cost interventions in over 60 countries annually. Combining deep technical expertise with a flexible approach, NI specializes in multiplying impact without multiplying complexity or cost.

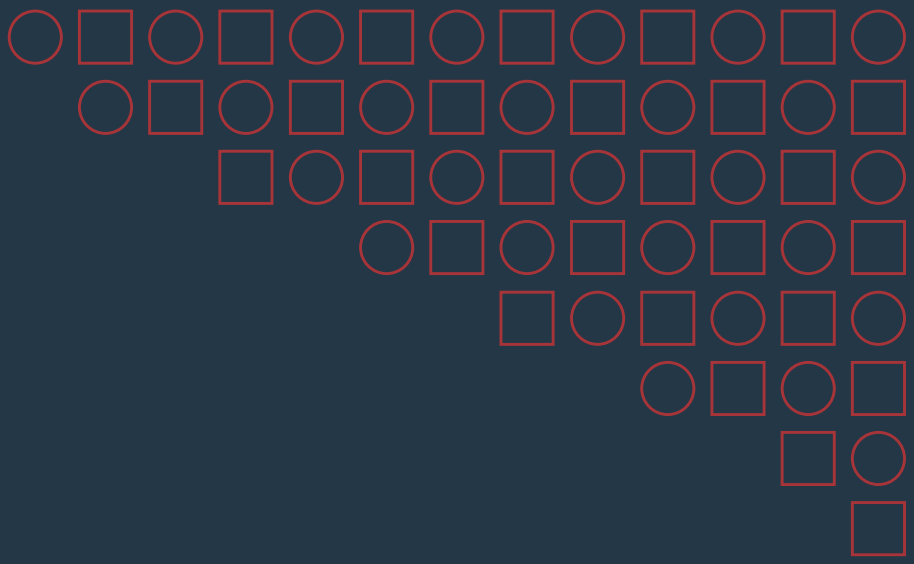
We have played, and continue to play, a central role in two of the major public health nutrition success stories that have gone to scale globally – namely vitamin A supplementation and iodized salt. NI reaches over 150 million children with two doses of vitamin A and over 400 million people with iodized salt each year. Over the last two decades, our engagement has saved the lives of nearly 5 million children and improved the lives of millions more. Today, we are also the leading technical partner for the largest fortification program in the world, aiming to reach almost 150 million people in Pakistan. Working shoulder to shoulder with governments and our partners, we are a growing force multiplier for impact.

As this strategic plan has clearly demonstrated, NI will do this by using the three mutually reinforcing approaches of coverage, leverage and influence, while mainstreaming gender equality throughout.

During the next six years, NI will:

- Continue to focus on the effective delivery of evidence-based high-impact interventions to those who need them most.
- Accelerate our global fortification efforts.
- Promote the importance of both nutrition-sensitive and nutrition-specific interventions seeking to expand our engagement with non-traditional partners and to redefine our engagement with traditional partners.
- Focus on often neglected populations, including adolescent girls, and will be deliberate about listening to the people we are seeking to serve.
- Continue to leverage non-nutrition platforms and work with multi-sectoral partners, including the private sector.
- Reach nearly 450 million women and girls and support them as empowered advocates for their own health and nutrition.

NI has become a leading global nutrition organization with world-class technical expertise and unique capability combinations designed to support the acceleration of action at country level and to increase influence at global, regional, and national levels. This strategic plan was developed to guide us towards our vision of a world where everyone, everywhere is free from malnutrition and able to reach their full potential.



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