PRIVATE SECTOR ENGAGEMENT IN NUTRITION

Landscape Overview

MOMENTUM Country and Global Leadership

USAID FROM THE AMERICAN PEOPLE

MOMENTUM A Global Partnership for Health and Resilience

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MOMENTUM works alongside governments, local and international private and civil society organizations, and other stakeholders to accelerate improvements in maternal, newborn, and child health services. Building on existing evidence and experience implementing global health programs and interventions, we help foster new ideas, partnerships, and approaches and strengthen the resiliency of health systems.

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ABBREVIATIONS

BF	Breastfeeding
CF	Complementary feeding
CSR	Corporate Social Responsibility
FP	Family Planning
GAIN	Global Alliance for Improved Nutrition
IFCDC	Infant- and Family-Centered Developmental Care
IYCF	Infant and Young Child Feeding
KMC	Kangaroo Mother Care
LMIC	Low and middle-income country
MNCH	Maternal, Newborn, Child Health
NS	Nutrient Supplementation
RH	Reproductive Health
SSNB	Small and/or Sick Newborns
UNICEF	United Nations International Children's Emergency Fund
USAID	U.S. Agency for International Development
WHO	World Health Organization

INTRODUCTION

This document contains a landscape overview of private sector engagement modalities in nutrition, which helps lay the groundwork for future nutrition programming and global/core efforts.

OVERALL SCOPE

A global nutrition-focused private sector engagement assessment which will inform both future country programming and global/core efforts

OBJECTIVE

Define and prioritize a set of actionable private sector engagement modalities in nutrition

DELIVERABLES

LANDSCAPE OVERVIEW

- Framework of in-scope nutrition interventions
- Overview of gaps in nutrition outcomes and current programming
- Landscape of private sector engagement modalities
- Emerging practices for private sector engagement modalities

BUSINESS CASE DEVELOPMENT AND IMPLICATIONS

- Prioritization of modalities by:
  - Impact on nutrition outcomes in low and middle-income (LMIC) contexts
  - Feasibility
  - Organizational fit for USAID
- Built-out business cases for five priority modalities, including:
  - Business model considerations
  - Risk and mitigation considerations
  - Key enablers
  - Implications for USAID

FRAMEWORK OF IN-SCOPE NUTRITION INTERVENTIONS

USAID aims to improve nutritional health outcomes for mothers and children across interventionsand to increase access, quality, and reach of the core nutrition intervention categories for mothers and children by leveraging private sector engagement to strengthen country health system ability to deliver these outcomes.

TARGET BENEFICIARIES

Mothers (pre- and postnatal) and children in the first five years

NUTRITION INTERVENTION CATEGORIES

Promotion/support of breastfeeding

Appropriate complementary feeding

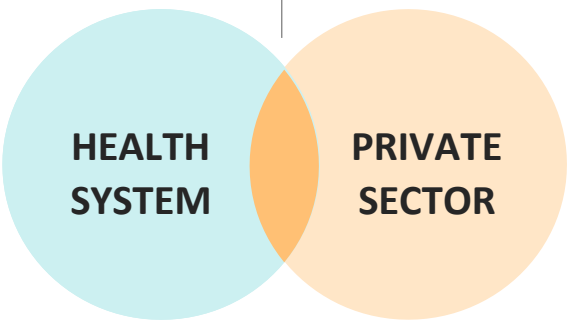
Malnutrition management

Nutrient supplementation:

- Maternal balanced energy protein supplementation
- Maternal micronutrient supplementation
- Maternal calcium supplementation
- Periconceptual folic acid supplementation/fortification
- Vitamin A supplementation
- Preventive zinc supplementation

SCOPE OF LANDSCAPE OVERVIEW

In-scope activities are at the intersection of private sector engagement and the health system across core nutrition system functions.

Core Nutrition System Functions		In-Scope Private Sector Engagement Activity Set
	**Advocacy for private sector practices** Enabling private sector adoption of nutrition policies	Activities in scope focus on the intersection of health system and private sector across nutrition functions and categories 
	**Behavior change** Behavioral change programs (e.g., breastfeeding), awareness campaigns, antenatal visits	
	**Research and development, manufacturing** Research and development and manufacturing of nutrition commodities	
	**Supply chain** Supply chain and logistics to the last mile (e.g., remote and resource constrained locations)	
	**Service delivery** Retail/service points, information health systems, child health controls, health worker training	

In- and out-of-scope activity areas across intervention categories and system functions, based on whether activity area represents the intersection of health and private sector.

IN SCOPE

<table>
<tr><th rowspan="2">Nutrition intervention categories</th><th colspan="4">Nutrition system functions</th></tr>
<tr><th>Advocacy for private sector (PS) practices</th><th>Behavior change</th><th>Supply chain</th><th>Service delivery</th></tr>
<tr><td>Promotion/support of breastfeeding</td><td rowspan="4">Private sector adoption of appropriate nutrition policies
Private sector employer policies (e.g., maternity leave, in-office childcare)</td><td rowspan="4">Private sector behavior change programs to influence practices</td><td>Private sector breastfeeding products (e.g., pumps, pillows)</td><td>Private sector breastfeeding services</td></tr>
<tr><td>Appropriate complementary feeding</td><td colspan="2"></td></tr>
<tr><td>Malnutrition management</td><td rowspan="2">Private sector distribution for products serving health system outlets (e.g., pharmacies, health centers)</td><td rowspan="2">Private sector health outlets / service delivery points
Private sector providers of health system services</td></tr>
<tr><td>Nutrient supplementation:
Maternal balanced energy protein supplementation
Maternal micronutrient supplementation
Maternal calcium supplementation
Periconceptual folic acid supplementation/ fortification
Vitamin A supplementation
Preventive zinc supplementation</td></tr>
</table>

OUT OF SCOPE

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<tr><td>Promotion/support of breastfeeding</td><td rowspan="4">Broader private sector “harm reduction”</td><td rowspan="4">Private sector research/ development, food science, and manufacturing of new products</td><td></td><td>Pre- service provider education</td></tr>
<tr><td>Appropriate complementary feeding</td><td colspan="2">Food value chains for complementary foods (e.g., production, supply chain, and sales of dairy, eggs, fruits, veg, etc.)</td></tr>
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GAPS IN NUTRITION OUTCOMES AND CURRENT PROGRAMMING

NUTRITION INDICATOR DATA AND COMMON CHALLENGES: SUMMARY OF MAJOR INSIGHTS

NUTRITION INDICATOR DATA

Most priority nutrition indicators have been improving over time, but there are still significant gaps across the board, with sub-Saharan Africa and central/southern Asia lagging in almost all indicators

Within countries, there is often limited correlation between input indicators (e.g., feeding and supplements), suggesting different challenges across:

- Interventions, and thus the need for different solutions.
- Breastfeeding and complementary feeding indicators are inversely correlated (regions/countries that do better on breastfeeding do worse on complementary feeding and vice versa), with lower-income countries and demographics doing relatively better on breastfeeding (may be result of lack of alternatives or lower formal labor force participation).
- Complementary feeding indicators do not appear to be highly correlated with supplement consumption where we have data (iron, Vitamin A; note there is almost no data on maternal protein, micronutrients (other than iron), calcium, folic acid, or zinc).

COMMON CHALLENGES

Gaps exist in programming for breastfeeding across nutrition functions, especially behavior change and service delivery:

- **Behavior change:** Detrimental practices and beliefs due to lack of knowledge of healthy behaviors are a major cause of adverse breastfeeding outcomes; similarly, stigma and lack of community support limit breastfeeding duration.
- **Service delivery:** Lack of quality training for healthcare workers on breastfeeding counseling and, therefore, lack of quality staff support to mothers over the course of pregnancy and at birth are major barriers to initiation of breastfeeding immediately after delivery and exclusive breastfeeding.

Gaps exist in programming for complementary feeding across nutrition functions, especially behavior change, supply chain, and service delivery:

- **Behavior change:** Lack of knowledge about complementary feeding by mothers and caregivers, especially for first-born children and girls, are a significant barrier to the use of appropriate infant and young child feeding (IYCF) practices.
- **Supply chain:** Lack of access to affordable, diverse, highly nutritious foods in low-income settings impedes proper nutrient consumption for breastfeeding mothers and their children.
- **Service delivery:** Lack of quality training for healthcare workers on nutrition and limited uptake of postnatal visits limits information shared with mothers and caregivers on appropriate complementary feeding practices.

Gaps exist in programming in nutrient supplementation in service delivery, where limited uptake of postnatal visits and lack of quality counseling given to mothers and caregivers on the importance of iron and folate and vitamin A supplementation are significant barriers.

Gaps also exist in adequate data collection, monitoring, and evaluation of outcomes across breastfeeding, complementary feeding, and nutrient supplementation

BREASTFEEDING: COMMON CHALLENGES

ADVOCACY FOR PRIVATE SECTOR PRACTICES

Lack of structural supports at work

- Short maternity leave periods[1]
- Lack of time to breastfeed because of work schedule and conditions (e.g., lack of lactation rooms)[2,3]

Formula companies directly marketing to doctors and encouraging them to tell patients that formula is equivalent to breastfeeding[4]

BEHAVIOR CHANGE

Detrimental practices and beliefs, including (but not limited to)

- Belief that breastmilk alone is not sufficient in meeting nutritional needs of infants[5]
- Socio-cultural pressure to introduce water and other liquids at early stages[5]
- Pre-lacteal practice (giving fluids or semisolid food before breastfeeding in the first three days after birth)[6]
- Practice of discarding colostrum[6]
- Misconception about expressed milk (e.g., that it gets spoiled once pumped or contaminated) leave babies of working mothers without breastfeeding as exclusive option[2]

These practices and beliefs come from multiple sources, including (but not limited to)

- Lack of mothers' knowledge (these beliefs are highly correlated with mothers' literacy/education and income levels)[2]
- Lack of knowledge from caregivers and family members (new mothers value the beliefs of their mother, mother-in-law, and partner when making decisions)[1,4]

Stigma associated with breastfeeding

- Mothers feeling shy to breastfeed in public, particularly in low-income countries[4]

Lack of social, emotional, and community support

- Mothers feeling lonely, isolated, or judged[4]
- Mothers feeling distress, depression, or anxiety[4]
- Mothers feeling pain when breastfeeding[4]

SUPPLY CHAIN

Limited access to affordable ancillary products for breastfeeding (especially breast pumps)[4]

SERVICE DELIVERY

Lack of quality training for healthcare workers

- Inadequate integration of breastfeeding topics into maternal and newborn care training[7]
- Inadequate pre-service training on breastfeeding for frontline workers (e.g., in Ghana, only 21% of health workers in health facilities are trained on lactation management/breastfeeding counseling and support)[7]

Lack of quality staff support to mothers on breastfeeding during pregnancy touchpoints and at birth

- Lack of breastfeeding content during healthcare interactions over the course of pregnancy[7]
- Skilled attendants at birth often do not help mothers initiate breastfeeding within one hour of birth, with frequent issues of poor staff attitude and inhibitory social norms around breastfeeding after delivery[7]

Inadequate engagement of family members by frontline workers during counseling across antenatal, postnatal, child welfare clinics, and home visits[7]

Difficulty implementing breastfeeding practices at home[4]

Lack of adequate monitoring through home visits due to ineffective planning and resource constraints

- Poor ability to plan home visits because of poor recordkeeping or information about where target mothers are[7]
- Financial and logistical constraints for effective transportation to conduct home visits[7]

STRUCTURAL ISSUES

- **Limited data capture** on effectiveness of initiatives in the field and possibility for inequitable reach of initiatives[4]
- For those at home, lack of time to breastfeed because of household responsibilities[1] *[not in scope]*

COMPLEMENTARY FEEDING: COMMON CHALLENGES

ADVOCACY FOR PRIVATE SECTOR PRACTICES

Lack of structural supports at work

- Mothers face challenges preparing appropriate foods because of time constraints related to work schedule[5]
- Limited maternal incomes often noted as a key reason that diverse foods are not purchased[1,8]

BEHAVIOR CHANGE

Lack of mothers' nutritional knowledge for complementary feeding, including the process for introducing complementary foods and appropriate, diverse diets[5]

- Strong correlation between socioeconomic status, maternal education/literacy, and poor complementary feeding[2]

Challenges can be especially significant for certain children

- First-born children, potentially because of inexperience[2]
- Girls (in some countries, e.g., India)[9]

SUPPLY CHAIN

Limited access to diverse foods, such that scarce diverse/highly nutritious foods are unaffordable

- In low-income settings, foods that are available are predominantly cereal-based with low nutrient density and poor mineral bioavailability, posing substantial low nutrient consumption for breastfeeding mothers and their children[5]

Limited availability of affordable, home fortified iron-rich products on the market in many places[7]

SERVICE DELIVERY

Trained healthcare workers are scarce

- Few professionals include nutrition in their training[7]
- Content of curriculum of health training institutions do not adequately cater to the practical skills required by frontline workers to provide optimum services[7]

Limited uptake of postnatal visits reduces information on complementary feeding practices

- This is often driven by lack of education, the cost associated with accessing postnatal care service, lack of awareness of the importance of postnatal care among mothers, or high prevalence of home deliveries in some countries (e.g., India)[7]

Few programs support children's nutrition; those that do often fail to reach some of the most vulnerable

- For example, India's Integrated Child Development Services (ICDS) only reach a limited number of children with complementary feeding in poorer or harder-to-reach states (23% in Uttar Pradesh vs. 83% in Chhattisgarh and Madhya Pradesh)[10]

STRUCTURAL ISSUES

Limited data capture on effectiveness of initiatives in the field and possibility for inequitable reach of initiatives[4]

NUTRIENT SUPPLEMENTATION: COMMON CHALLENGES

BEHAVIOR CHANGE

Frequent non-compliance of pregnant women on iron folate supplementation due to fear of side effects[7]

SUPPLY CHAIN

Reports reviewed do not mention supply chain gaps around micronutrient supplement availability, but they may still exist

SERVICE DELIVERY

Limited staff and insufficient services provided

- Frontline staff at antenatal clinics do not prioritize counseling on iron and folate supplementation during service provision[7]
- Frontline workers provide limited counseling to caregivers on the importance of Vitamin A[7]
- General inadequate coordination of training plans for frontline staff by health managers[7]

Absence of strategy and monitoring/evaluation

- Some countries (e.g., Ghana) do not have a national comprehensive Vitamin A supplementation strategy to reach children 12–59 months in routine services[7]
- Limited data capture on provision of Vitamin A to children 0–59 months in health information management systems[7]
- Limited supervision and appraisal of frontline health workers on Vitamin A supplementation indicators[7]

STRUCTURAL ISSUES

Limited data capture on effectiveness of initiatives in the field and possibility for inequitable reach of initiatives[4]

LANDSCAPE OF PRIVATE SECTOR ENGAGEMENT MODALITIES

We identified 16 private sector engagement modality categories *across nutrition functions that can address gaps in nutrition outcomes. Most private sector engagement modality categories are intervention-agnostic and may be applied across breastfeeding, complementary feeding, and nutrition supplementation.*

There are multiple modalities within each category listed here, which will be detailed

MODALITY CATEGORIES

ADVOCACY FOR PRIVATE SECTOR PRACTICES

- Employer policies
- Adherence to public policies
- Lobbying for policy changes

BEHAVIOR CHANGE

- Tech-enabled health messaging
- Traditional media (TV, radio, movies)
- Employee education
- Virtual communications and networking
- Engagement of community and family influencers
- Tools to track impact of initiatives, mother sentiment, etc.

SUPPLY CHAIN

- Private distributors to health system outlets

SERVICE DELIVERY

- Counseling through pharmacies, health centers, and mobile counselors
- Sales through pharmacies and postnatal counselors
- Support for breastfeeding in privately-owned public spaces (e.g., lactation rooms in markets, religious centers, parks, community centers)
- In-service training/skill enhancement
- Tools to track service provision quality, quantity, effectiveness, etc.
- Apps for service providers (e.g., how-to guides, scheduling, patient data storage)

ADVOCACY FOR PRIVATE SECTOR PRACTICES: PRIVATE SECTOR ENGAGEMENT MODALITIES

Modalities related to private sector practices aim to influence nutrition policy adoption and adherence

EMPLOYER POLICIES

MODALITY

- **Parental leave:** Provide maternity and paternity leave and flexible options (e.g., part time or remote work options)
- **Workplace breastfeeding:** Provide lactation rooms and breastfeeding breaks at work
- **Workplace childcare:** Provide/support in-office childcare
- **Subsidized nutritional products:** Provide subsidies or partner to provide preferred rates for employees for childcare, healthcare, breastfeeding equipment, counseling, diet diversity support, etc.
- **Workplace-provided counseling:** Sponsor counseling services or health messaging apps for direct employees or cooperative members

CHALLENGES TARGETED BY MODALITY CATEGORY

- Short maternity leave periods
- Lack of time to breastfeed or prepare appropriate foods because of work schedule and conditions (e.g., lack of lactation rooms)
- Stigma associated with breastfeeding
- Limited maternal incomes (often noted as a key reason that diverse foods are not purchased)
- Detrimental practices and beliefs by mothers and the public due to lack of knowledge of breastfeeding (BF), complementary feeding (CF), and nutrition supplementation (NS)

ADHERENCE TO PUBLIC POLICIES

MODALITY

- **Organizational policy adherence:** Adhere to existing international and national policies, including the International Code of Marketing of Breastmilk Substitutes (ICBMS)
- **Healthcare worker policy adherence:** Require healthcare professionals working in health facilities to pledge to not inappropriately market formula in their offices and to counter misconceptions about IYCF behaviors

CHALLENGES TARGETED BY MODALITY CATEGORY

- Detrimental practices and beliefs by mothers and the public due to misinformation around nutrition
- Formula companies directly marketing to doctors and encouraging them to tell patients that formula is equivalent to breastfeeding

LOBBYING FOR POLICY CHANGES

MODALITY

- **Campaigns opposing unethical advertising:** Join/support campaigns calling out organizations conducting illegal or misleading advertising or formula messaging
- **Advocate for nutrition labeling:** Add nutrition labeling to baby foods being sold (which sets an example and applies pressure on other companies to follow)

CHALLENGES TARGETED BY MODALITY CATEGORY

- Lack of mothers' nutritional knowledge for complementary feeding
- Formula companies directly marketing to doctors and encouraging them to tell patients that formula is equivalent to breastfeeding

BEHAVIOR CHANGE: PRIVATE SECTOR ENGAGEMENT MODALITIES

Modalities related to behavior change aim to influence nutrition attitudes, knowledge, and behaviors

TECH-ENABLED HEALTH MESSAGING

MODALITY

- **Health messaging service:** Build/support health information messaging service (e.g., share regular, tailored nutrition text reminders; build health app to include nutrition information messages)
- **Educational game:** Build/support educational game (e.g., where a player has to make health decisions while pregnant and raising a child)
- **Health video library for patients:** Build/sponsor health video library reference app (with videos answering questions about BF, CF, and NS)

CHALLENGES TARGETED BY MODALITY CATEGORY

- Detrimental practices and beliefs by mothers and the public due to lack of knowledge of BF, CF, and NS
- Stigma associated with breastfeeding

TRADITIONAL MEDIA (TV, RADIO, MOVIES)

MODALITY

- **Traditional media:** Develop/support content for TV shows, movies, radio programs, books, magazines, newspapers, art displays, or posters promoting BF, CF, or NS (e.g., create a show, write/publish baby books)
- **Nutrition demonstrations:** Host nutrition demonstrations in stores or at events

CHALLENGES TARGETED BY MODALITY CATEGORY

- Detrimental practices and beliefs by mothers and the public due to lack of knowledge of BF, CF, and NS
- Stigma associated with breastfeeding

EMPLOYEE EDUCATION

MODALITY

- **Employee education:** Support employee education in nutrition (e.g., host presentations; fund email nudges)

CHALLENGES TARGETED BY MODALITY CATEGORY

- Detrimental practices and beliefs by mothers and the public due to lack of knowledge of BF, CF, and NS
- Stigma associated with breastfeeding

VIRTUAL COMMUNICATIONS AND NETWORKING

MODALITY

- **Virtual communities:** Create/support virtual communities that connect mothers with shared experiences (e.g., social networking service, email or messaging chains)
- **Webinars:** Host/sponsor virtual webinars on positive nutrition behaviors
- **Social media influencers:** Sponsor social media influencers posting photos and videos (e.g., moms sharing personal challenges; tips on how to BF or CF and what products to use; importance of pre- and postnatal nutrition iron/folate supplementation)
- **Sponsored social media posts:** Sponsor posts that promote positive nutrition behaviors

CHALLENGES TARGETED BY MODALITY CATEGORY

- Detrimental practices and beliefs of mothers due to lack of knowledge of BF, CF, and NS
- Mothers feeling lonely, isolated, or judged
- Mothers feeling distress, depression, or anxiety

ENGAGEMENT OF COMMUNITY AND FAMILY INFLUENCERS

MODALITY

- **Caregiver support groups:** Develop support groups for partners and other caregivers like grandmothers (e.g., on social media or in a physical space)
- **Family member trainings:** Host/sponsor community discussions, trainings, or Q&A sessions with healthcare professionals for family members
- **Pledges:** Create pledges by family members (e.g., new grandmothers' pledge to support mothers with BF, fathers' pledge to feed young children diverse foods)
- **Breastfeeding dolls:** Sell/support breastfeeding dolls in childcare centers

CHALLENGES TARGETED BY MODALITY CATEGORY

- Detrimental practices and beliefs by mothers and the public due to lack of knowledge of BF, CF, and NS
- Inadequate engagement of family members by frontline workers during counseling across prenatal, postnatal, child welfare clinics, and home visits
- Stigma associated with breastfeeding

TOOLS TO TRACK IMPACT OF INITIATIVES, SENTIMENT, ETC.

MODALITY

- **Mother and family behavioral survey:** Build/sponsor tools that evaluate and share mother and family-member nutrition sentiment, know-how, and likelihood to engage in desired behaviors (e.g., sending out surveys or feedback forms, scraping social media)

CHALLENGES TARGETED BY MODALITY CATEGORY

- Limited data capture on effectiveness of initiatives in the field
- Possibility for inequitable reach of initiatives

SUPPLY CHAIN: PRIVATE SECTOR ENGAGEMENT MODALITIES

Modalities related to supply chain aim to increase access to affordable nutrition products through innovative distribution channels

PRIVATE DISTRIBUTORS TO HEALTH SYSTEM OUTLETS

MODALITY

- **Existing channels:** Add new products to existing channels that currently do not support them to distribute more affordable, accessible, and effective products
- **Direct selling systems:** Distribute affordable and accessible BF, CF, and NS products through direct selling systems (e.g., independent or employed agents selling door-to-door)

CHALLENGES TARGETED BY MODALITY CATEGORY

- Limited access to affordable ancillary products for breastfeeding (especially breast pumps)
- Limited access to diverse food, especially affordable, highly nutritious food
- Reports reviewed do not mention supply chain gaps around NS availability, but they may still exist

SERVICE DELIVERY: PRIVATE SECTOR ENGAGEMENT MODALITIES

Modalities related to service delivery aim to increase access to high-quality, affordable nutrition products and services through enhanced provision of care

COUNSELING THROUGH PHARMACIES, HEALTH CENTERS, AND MOBILE COUNSELORS

MODALITY

- **Mobile counseling:** Provide/sponsor home visits by mobile counselors
- **Facility-based counseling:** Provide/sponsor counseling services and postnatal care for pregnant/lactating women and families through private pharmacies and private health centers
- **Group classes:** Provide/sponsor group classes for mothers and families
- **Remote health counseling app:** Build/support remote health counseling app (e.g., telehealth app, chatbot)

CHALLENGES TARGETED BY MODALITY CATEGORY

- Detrimental practices and beliefs by mothers and the public due to lack of knowledge of BF, CF, and NS
- Mothers feeling lonely, isolated, judged, distressed, depressed, or anxious
- Mothers feeling pain when breastfeeding
- Difficulty implementing practices at home
- Limited uptake of postnatal visits reduces information on BF/CF practices, often driven by costs of accessing postnatal care services
- Lack of education on the importance of postnatal visits, especially in places with home deliveries

SALES THROUGH PHARMACIES AND POSTNATAL COUNSELORS

MODALITY

- **Product sales through pharmacies and counselors:** Supporting BF, CF, and NS product sales through pharmacies and postnatal counselors (e.g., nutrient supplements, breast pumps, pasteurization kits, nipple covers, bras, pillows)

CHALLENGES TARGETED BY MODALITY CATEGORY

- Limited access to diverse food, especially affordable, highly nutritious food
- Limited access to affordable, home fortified iron-rich products
- Limited access to affordable ancillary products for breastfeeding (especially breast pumps)

SUPPORT FOR BF IN PRIVATELY-OWNED PUBLIC SPACES

(e.g., lactation rooms in markets, religious centers, parks, community centers)

MODALITY

- **Public lactation rooms:** Build/support permanent and mobile lactation rooms in public spaces (e.g., markets, religious centers, parks, community centers)
- **Lactation room locator app:** Build/sponsor health app to locate public lactation rooms
- **Nursing covers:** Provide nursing covers in public spaces (e.g., markets, religious centers, parks, community centers)

CHALLENGES TARGETED BY MODALITY CATEGORY

- Stigma associated with breastfeeding
- Mothers feeling shy to breastfeed in public, particularly in low-income countries (and therefore needing to plan their day around being home to breastfeed privately)

IN-SERVICE TRAINING/SKILL ENHANCEMENT

MODALITY

- **Health worker in-service training:** Host/support focused trainings and capacity building for healthcare workers in prenatal, postnatal, and early childhood interactions to provide information and counseling for pregnant, lactating, and other post-partum women and their families
- **Civil society organization training:** Host/sponsor focused training for civil society organizations (e.g., women's groups) and volunteers to provide counseling and support to mothers and families

CHALLENGES TARGETED BY MODALITY CATEGORY

- Lack of quality training for healthcare workers on BF and CF
- Lack of quality staff support to mothers on BF during pregnancy and at birth
- Frontline staff at antenatal clinics do not prioritize counseling on iron/folate supplementation during service provision
- Limited counseling provided on the importance of Vitamin A from frontline workers to caregivers
- Inadequate engagement of family members by frontline workers during counseling across prenatal, postnatal, child welfare clinics, and home visits
- Inadequate coordination of training plans for frontline staff by health managers

TOOLS TO TRACK SERVICE PROVISION QUALITY, QUANTITY, EFFECTIVENESS, ETC.

MODALITY

- **Service and product provision tracker:** Develop health information management systems and health center accountability systems to track provision of services and products (e.g., Vitamin A supplements) to young children
- **Provider survey:** Build/sponsor tools that evaluate and share provider sentiment, know-how and likelihood to engage in desired behaviors

CHALLENGES TARGETED BY MODALITY CATEGORY

- Limited data capture on effectiveness of initiatives in the field
- Possibility for inequitable reach of initiatives
- Limited data capture on provision of Vitamin A to children 0–59 months in health information management systems
- Limited supervision and appraisal of frontline health workers on Vitamin A supplementation indicators

APPS FOR SERVICE PROVIDERS

(e.g., how-to guides, scheduling, patient data storage)

MODALITY

- **Remote patient monitoring and support:** Build/sponsor patient eHealth management app (to enable patients to remotely share nutrition challenges and ask questions, and for providers/counselors to monitor patients and provide support)
- **Electronic health records:** Build/sponsor nutrition health provider app (to capture and store patient data, schedule appointments, etc.)
- **Provider transportation:** Support provider logistics for home visits by hosting service for providers in existing ride-sharing app (e.g., with preferred or monthly rates, regular scheduled rides, and shorter wait times)
- **Video reference library for providers:** Build/sponsor health video library reference app (with videos to help providers diagnose and treat malnutrition and to help counselors provide BF support and engage family members)
- **Virtual provider community:** Create/support virtual communities for counselors to connect and share nutrition counseling best practices

CHALLENGES TARGETED BY MODALITY CATEGORY

- Lack of adequate monitoring through home visits due to ineffective planning and resource constraints, including:
  - Poor record-keeping or information on where target mothers are
  - Financial and logistical constraints for effective transportation to conduct home visits
- Lack of quality training for healthcare works on BF and CF
- Lack of quality staff support to mothers on BF during pregnancy, including lack of content shared in healthcare interactions during pregnancy
- Frontline staff at antenatal clinics do not prioritize counseling on iron/folate supplementation during service provision
- Limited counseling provided on the importance of Vitamin A from frontline workers to caregivers
- Lack of education on the importance of postnatal visits, especially in places with home deliveries

EMERGING PRACTICES ACROSS MODALITIES

EMERGING PRACTICES: SUMMARY OF MAJOR INSIGHTS

DETAILED EMERGING PRACTICES FOR EACH MODALITY

Modalities vary widely in their prevalence in the field and their natural owners (public, private, and non-profit players). Almost all categories have at least one example that involves private sector participation (except policy adherence and social media, where private sector examples could not be identified).

The following overall insights emerged after assessing emerging practices in the field:

- **Advocacy for private sector practices – public sector pressure can enable private sector advocacy:** Relevant employer policies are often associated with underlying legislation and public sector support. Similarly, self-driven employer policies without public legislation may be challenging and some firms have historically lobbied against reforms.
- **Behavior change – private sector involvement in tech-enabled health messaging and traditional media is promising:** Rising rates of phone usage in LMICs suggest that tech-enabled health messaging may be increasingly attractive to reach large populations. Traditional media modalities have also shown success and may be driven by public sector or by companies with a corporate incentive (e.g., a company promoting BF or CF products).
- **Supply chain – several innovative distribution mechanisms are promising,** including door-to-door distribution, mobile pharmacies, and inclusion of distribution in broader campaigns.
- **Service delivery – clear private sector roles and incentives exist for health and non-health system players:**
  - Specific private health system players (e.g., lactation counselors, postnatal care counselors, and pharmacists) have a clear role in distributing counseling, telemedicine, and BF/CF/NS products to patients.
  - Private health providers could train healthcare workers (e.g., physicians, nurses, counselors) to improve care quality.
  - Beyond traditional health services, private sector activity in digital health appears promising and may include creative business models with non- health players (e.g., telecommunications companies).
  - Further, brick-and-mortar private sector players across industries could promote breastfeeding behaviors by building private lactation rooms in public spaces, such as malls and stores, to attract and retain customers.

ADVOCACY FOR PRIVATE SECTOR PRACTICES: PRIVATE SECTOR ENGAGEMENT MODALITIES

Modalities related to private sector practices aim to influence nutrition policy adoption and adherence

EMPLOYER POLICIES

MODALITY

- **Parental leave:** Provide maternity and paternity leave and flexible options (e.g., part time or remote work options)
- **Workplace breastfeeding:** Provide lactation rooms and breastfeeding breaks at work
- **Workplace childcare:** Provide/support in-office childcare
- **Subsidized nutritional products:** Provide subsidies or partner to provide preferred rates for employees for childcare, healthcare, BF equipment, counseling, diet diversity support, etc.
- **Workplace-provided counseling:** Sponsor counseling services or health messaging apps for direct employees or cooperative members

EMERGING PRACTICES

- In India, Ghana, and Bangladesh, the Global Alliance for Improved Nutrition (GAIN) collaborated with Unilever & AAPL Plantations, Touton and Ferrero, and Lenny's Apparels Ltd, respectively, to implement a workforce nutrition program, which provides workers/farmers and their households with different types of support to improve their nutrition. This support includes improved access to diverse food, lunch provision, nutrition education, and iron and folic acid supplementation. AAPL believes these initiatives may have a financial return on investment (ROI) driven by increased worker productivity and decreased sick leave. Lenny's Apparels Ltd has noticed an increased quality of products, improved productivity of line workers, decline in sick leave, and improved employee morale, which has led them to extend the program at their own expense.[11]
- In Kenya, the private Kericho Tea Plantation partnered with UNICEF and the Kenyan Ministry of Health to provide their ~3,800 female employees with maternity leave, on-plantation childcare, breastfeeding breaks, lactation rooms, BF equipment, and BF/nutrition counseling services.[12]
- In Vietnam, the Chamber of Commerce, Ho Chi Minh City Authorities, and Pou Yuen Viet Nam (the largest footwear factory in Vietnam) coordinated a program to increase support for female workers' use of legislated paid lactation breaks (lactation rooms, equipment, and trainings) and to implement childcare measures in 11 factories. This program has reached 74,000 workers.[13]

Insights

Employer policies to improve maternal care are often associated with underlying legislation and public sector support (e.g., Kenya and Vietnam); thus, companies in countries with pre-existing or upcoming legislation to protect working mothers have greater opportunity for employer policy modalities.

Employer modalities may limit a program's target population to individuals working in the formal economy.

ADHERENCE TO PUBLIC POLICIES

MODALITY

- **Organizational policy adherence:** Adhere to existing international and national policies, including the International Code of Marketing of Breastmilk Substitutes (ICBMS)
- **Healthcare worker policy adherence:** Require healthcare professionals working in health facilities to pledge to not inappropriately market formula in their offices and to counter misconceptions about IYCF behaviors

EMERGING PRACTICES

- Globally, the Access to Nutrition Initiative assesses private companies' adherence to the ICMBS, scores them, and reports the results to improve private sector accountability.[14]
- In West Africa, Helen Keller Intl identified and highlighted the prevalence of healthcare facilities' non-compliance with the ICMBS code.[15]
- Globally, Google became a signatory of the Workforce Nutrition Alliance, which strives to bring access to and knowledge about health nutrition to the employees of member organizations. As part of its commitment, Google provides healthy food, nutrition education, nutrition-focused health checks, and breastfeeding support to its employees.[16]

Insights

Policy adherence is typically driven by public legislation; private sector-driven practices in the absence of public legislation may be challenging.

LOBBYING FOR POLICY CHANGES

MODALITY

- **Campaigns opposing unethical advertising:** Join/support campaigns calling out organizations conducting illegal or misleading advertising or formula messaging
- **Advocate for nutrition labeling:** Add nutrition labeling to baby foods being sold (which sets an example and applies pressure on other companies to follow)

EMERGING PRACTICES

- In the U.K., Twinings, the tea firm, published a list of the Indian plantations it buys from in an attempt to provide greater transparency and scrutiny into conditions in the tea industry. Their action put pressure on other major tea brands to follow and publish their own lists of suppliers to put pressure on suppliers to ensure their workers were treated fairly.[17]
- Globally, in the 1970s, the Infant Formula Action Coalition (a nonprofit organization of nutritionists, educators, church representatives, and activists[18]) drove a boycott of Nestle's inappropriate promotion of breastmilk substitutes.[19]
- In Togo and Burkina Faso, in 2018, Hellen Keller Intl identified that forty commercial breastmilk substitute manufacturers violated labeling standards of the ICMBS and released a statement outlining their concern.[15]
- In the U.S., the Clean Label Project tests milk-substitute products to substantiate the accuracy of claims made on existing labels.[20]

Insights

Private sector players may have a role in lobbying for policy changes, such as greater transparency and accountability in labeling and marketing, especially if they are industry leaders.

However, private sector players may not always have the incentive to do so; firms that are not industry leaders in nutrition-forward practices have often lobbied against regulatory reforms, which can reduce allyship and progress.

BEHAVIOR CHANGE: PRIVATE SECTOR ENGAGEMENT MODALITIES

Modalities related to behavior change aim to influence nutrition attitudes, knowledge, and behaviors

TECH-ENABLED HEALTH MESSAGING

MODALITY

- **Health messaging service:** Build/support health information messaging service (e.g., share regular, tailored nutrition text reminders; build health app to include nutrition information messages)
- **Educational game:** Build/support educational game (e.g., where a player has to make health decisions while pregnant and raising a child)
- **Health video library for patients:** Build/sponsor health video library reference app (with videos answering questions about BF, CF, and NS)

EMERGING PRACTICES

- In Bangladesh, Aponjon is a global public-private health information service, sponsored by USAID and Johnson & Johnson, to help pregnant women, new mothers, and their families receive tailored health and nutrition text and voice messages (timed to the age of the young child) on how to take care of themselves and their babies.[21]
- In Kenya, a for-profit enterprise, Dimagi, helped architect a "Rapid SMS" system that improved attendance at post-operative clinic visits by sending seven SMS messages over a week with post-operative advice and reminders to return to the clinic for follow-up visits.[22]
- In southern Asia, HealthPhone is a video library app with health and nutrition messages compiled into over 2,500 videos in 77 languages. Once installed, the app work offline; in areas with poor connectivity, videos can also be shared with heath workers on a pre-loaded phone or memory card.[23] HealthPhone is a project of the Mother and Child Health and Education Trust, a U.S. nonprofit organization. In 2015, HealthPhone launched IAP HealthPhone, a public-private partnership in collaboration with the Indian Academy of Pediatrics (IAP), the Government of India, UNICEF, and Vodafone. It is the world's largest video and mobile education program for mothers.[24]

- In rural Nepal, University College London created a mobile education game designed to teach mothers about maternal and neonatal health. The study identified that mothers experienced statistically significant knowledge gain in maternal health and neonatal health after utilizing the game.[25]

Insights

Rapidly rising rates of mobile phone usage in LMICs suggest that tech-enabled health messaging may be increasingly attractive to reach large populations.

Public-private partnerships may be developed to support tech-enabled health messaging.

TRADITIONAL MEDIA (TV, RADIO, MOVIES)

MODALITY

- **Traditional media:** Develop/support content for TV shows, movies, radio programs, books, magazines, newspapers, art displays, or posters promoting BF, CF, or NS (e.g., create a show, write/publish baby books)
- **Nutrition demonstrations:** Host nutrition demonstrations in stores or at events

EMERGING PRACTICES

- In India, UNICEF supported a large-scale entertainment-education television soap opera – *Kyunki Jeena*– on the national public television network to communicate the benefits of breastfeeding to promote social and behavior change, among other health messages. There have been over 500 episodes to date.[26]
- In Cambodia, a mobile banking service provider, Wing, teamed up with a radio show mini drama called "We Can Do It" to educate young Cambodians on financial planning, savings, and how to use the Wing service to transfer money.[27]
- In Nepal, the Suaahara project, led by USAID and the government, created a mother-in-law character named Bhanchhin Aama ("Mother knows best") to model positive infant and young child feeding behaviors through radio programs, cooking demonstrations, and community activities.[28]

Insights

Media modalities are driven by companies with a corporate incentive (e.g., Wing example); perhaps companies promoting BF products (e.g., breast pumps) or CF products would have an incentive, but examples may be few in the nutrition space.

EMPLOYEE EDUCATION

MODALITY

- **Employee education:** Support employee education in nutrition (e.g., host presentations; fund email nudges)

EMERGING PRACTICES

- In Bangladesh, Mothers@Work (a national initiative between UNICEF and Better Work Bangladesh) shares knowledge on benefits of breastfeeding among pregnant mothers in the workplace by partnering with public, private, and civil society organizations. The program has reached 92 factories and ~160,000 workers.[29]

Insights

Employee education modalities may limit a program's target population to individuals working in the formal economy.

VIRTUAL COMMUNICATIONS AND NETWORKING

MODALITY

- **Virtual communities:** Create/support virtual communities that connect mothers with shared experiences (e.g., social networking service, email or messaging chains)
- **Webinars:** Host/sponsor virtual webinars on positive nutrition behaviors
- **Social media influencers:** Sponsor social media influencers posting photos and videos (e.g., moms sharing personal challenges; tips on how to BF or CF and what products to use; importance of pre- and postnatal nutrition iron/folate supplementation
- **Sponsored social media posts:** Sponsor posts that promote positive nutrition behaviors

EMERGING PRACTICES

- In Vietnam, the Betibuti Facebook community connects 267,000 mothers who share breastfeeding information and support. It also offers training workshops on breastfeeding and organizes advocacy campaigns (e.g., it partnered with Alive & Thrive to name and shame companies that were illegally marketing breastmilk substitutes).[30]
- In the U.S., former nurse Liesel Teen provides education on pumping and breastfeeding through her Instagram account, which has 281,000 followers. She also provides video-based lessons on feeding in young children.[31]
- In China, leading film artist Ma Yili uses her microblog as a source of inspiration and encouragement for breastfeeding mothers by writing about her own experiences with breastfeeding. Her blog has over 50 million followers.[32]
- In West Africa, the "Stronger with Breastmilk Only" Initiative, led by WHO, UNICEF, and Alive & Thrive, organized a virtual learning café to promote exclusive breastfeeding in the time of COVID-19.[33]
- On Instagram, a popular Dutch fit influencer's endorsement of nutritional products led to higher healthy food brand attitudes and purchase intent by their followers.[34]

Insights

Although social media may be a potent tool to reach mothers and youth, there are few examples of private sector actors deploying it as profitable business models.

Perhaps companies promoting BF products (e.g., breast pumps) or CF products would have such an incentive, but examples are few.

ENGAGEMENT OF COMMUNITY AND FAMILY INFLUENCERS

MODALITY

- **Caregiver support groups:** Develop support groups for partners and other caregivers like grandmothers (e.g., on social media or in a physical space)
- **Family member trainings:** Host/sponsor community discussions, trainings, or Q&A sessions with healthcare professionals for family members
- **Pledges:** Create pledges by family members (e.g., new grandmothers' pledge to support mothers with BF, fathers' pledge to feed young children diverse foods)
- **Breastfeeding dolls:** Sell/support breastfeeding dolls in childcare centers

EMERGING PRACTICES

- In Tanzania, India, and Kenya, Unilever, GAIN, and the Sustainable Trade Initiative implemented a workforce nutrition program amongst tea farming communities where supply chain workers were trained to deliver behavior change messages on the importance of eating a healthy diet to their communities. Women's dietary diversity improved in all three countries.[35]
- In the U.S., Parent Cafes are an emotionally and physically safe space where parents and caregivers can engage in meaningful conversations with one another about the challenges and triumphs of raising families.[36]
- In Vietnam, the Hanoi School of Public Health and Uppsala University collaborated to deliver breastfeeding education training and counseling to 251 couples in commune health centers and household visits.[37]
- In Nigeria, the MamaCare Program leverages their team of 55 midwives to educate mothers and their families about pre- and postnatal care in healthcare settings and their homes. Their programs include giving "birth health talks" on the importance of exclusive BF and CF.[38]
- In the US, Cascade Health is a woman-owned small business that manufactures breastfeeding dolls to teach breastfeeding techniques, demonstrate breastfeeding positions, and eliminate stigma associated with breastfeeding. Their products are commonly used in hospital, homebirth, and clinical settings, and are also sold to customers for at-home use.[39]

Insights

Although evidence shows educating family and community influencers is critical to improve maternal and young child health outcomes, private sector engagement aimed at family members appears less common with a few exceptions (e.g., tea farming communities example).

TOOLS TO TRACK IMPACT OF INITIATIVES, MOTHER SENTIMENT, ETC.

MODALITY

- **Mother and family behavioral survey:** Build/sponsor tools that evaluate and share mother and family-member nutrition sentiment, know-how, and likelihood to engage in desired behaviors (e.g., sending out surveys or feedback forms, scraping social media)

EMERGING PRACTICES

- In India, Project SuPoshan, an Adani Foundation initiative, combats malnutrition by performing door-to-door household surveys and anthropometric measurements to identify patients at risk for or currently experiencing malnutrition and counsels patients to adopt treatment measures. The Adani Foundation is the CSR arm of the Adani Group, an Indian multinational conglomerate.[40]
- In Uganda and Kenya, GSMA and Altai Consulting conducted phone surveys with Living Goods users and non-users to explore the extent to which the service improves nutrition knowledge and behaviors.[41]

Insights

Initiatives tracking mother sentiment may be associated with foundation funding and corporate social responsibility (CSR) goals; it is unclear if there is a direct business model.

SUPPLY CHAIN: PRIVATE SECTOR ENGAGEMENT MODALITIES

Modalities related to supply chain aim to increase access to affordable nutrition products through innovative distribution channels

PRIVATE DISTRIBUTORS TO HEALTH SYSTEM OUTLETS

MODALITY

- **Existing channels:** Add new products to existing channels that currently do not support them to distribute more affordable, accessible, and effective products

EMERGING PRACTICES

- In Congo, Haiti, and Uganda, the for-profit company Healthy Entrepreneurs trains local entrepreneurs to manage a mini pharmacy by delivering medical supplies by foot, vehicle, or at a fixed point within a community. Entrepreneurs receive an education in health issues and business and are provided with products, a tablet computer, and (if mobile) a bicycle.[42] They utilize a last-mile distribution model to ensure that remote communities get access to basic healthcare including family care products.[43]
- In Kenya, India, and Malawi, GAIN partnered with the Ethical Tea Partnership (a nonprofit with funding from eight leading private tea companies) to increase access to nutritious foods for tea workers, farmers, and their families. The partnership increased access by bringing food supplies closer to remote tea farms

and by supporting vegetable gardens, door-to-door delivery, and fortified lunches at work. Alongside increasing supply, the initiative is also increasing demand for nutritious foods by delivering educational activities to improve tea workers' food knowledge.[44]

- In Madagascar, the social business Nutri'zaza produces and distributes fortified local flour product called "Koba Aina" at an affordable price through direct sales, door-to-door services, and an innovative network of "restaurants for babies" located at the heart of working-class areas. In the "restaurants," employees prepare and sell Koba Aina for babies to eat in the store.[45]
- In Kenya and Uganda, Living Goods, a non-profit organization, deploys a network of door-to-door community health workers who sell products that include fortified foods.[41]

Insights

Multiple innovative mechanisms show promising potential for distributing BF, CF, and NS products, including door-to-door distribution, mobile pharmacies, and inclusion of distribution in broader campaigns.

PRIVATE DISTRIBUTORS TO HEALTH SYSTEM OUTLETS

MODALITY

- **Direct selling systems:** Distribute affordable and accessible BF, CF, and NS products through direct selling systems (e.g., independent or employed agents selling door-to-door)

EMERGING PRACTICES

- In the U.S., Breast Pumps Direct exchanges insurance-provided pumps with premium pumps for a discount and, in turn, donates the insurance-provided pumps to mothers in need.[46]
- In West Africa, as part of the ACCESS-SMC seasonal malaria chemoprevention initiative, community health workers distributed privately manufactured anti-malarial drugs monthly door-to-door. By stimulating global interest, they aim to collaborate with manufacturers to incentivize them to increase anti-malarial production.[47]
- In Senegal, large-scale Vitamin A supplementation was included as part of a holistic child survival package, which was run as a government program and sponsored by Helen Keller Intl, UNICEF, USAID, and Nutrition International. Supplementation was initially included with the polio vaccination campaign and transitioned to be offered twice a year alongside a package of other interventions.[48]

Insights

Multiple innovative mechanisms show promising potential for distributing BF, CF, and NS products, including door-to-door distribution, mobile pharmacies, and inclusion of distribution in broader campaigns.

SERVICE DELIVERY: PRIVATE SECTOR ENGAGEMENT MODALITIES

Modalities related to service delivery aim to increase access to high-quality, affordable nutrition products and services through enhanced provision of care

COUNSELING THROUGH PHARMACIES, HEALTH CENTERS, AND MOBILE COUNSELORS

MODALITY

- **Mobile counseling:** Provide/sponsor home visits by mobile counselors
- **Facility-based counseling:** Provide/sponsor counseling services and postnatal care for pregnant/lactating women and families through private pharmacies and private health centers
- **Group classes:** Provide/sponsor group classes for mothers and families
- **Remote health counseling app:** Build/support remote health counseling app (e.g., telehealth app, chatbot)

EMERGING PRACTICES

- In Nigeria, a company called Milky Express provides lactation counseling services to women who face problems with lactation (e.g., latching difficulties, painful nursing, low milk production).[49]
- In Uganda and Kenya, Living Goods, a non-profit organization, provides home visits by mobile counselors who advise families on appropriate nutrition practices.[41]
- In Nigeria, Kenya, and Uganda, the Medical Concierge Group developed a WhatsApp-based telemedicine program called "WhatsApp Doc" to deliver 24/7 access to medical professionals via video, image, audio, and text.[50]

Insights

Private sector players have played a role in distributing lactation counseling and telemedicine to patients; it is not yet clear how these businesses balance revenue generation and affordability to drive sustainability.

SALES THROUGH PHARMACIES AND POSTNATAL COUNSELORS

MODALITY

- **Product sales through pharmacies and counselors:** Supporting BF, CF, and NS product sales through pharmacies and postnatal counselors (e.g., nutrient supplements, breast pumps, pasteurization kits, nipple covers, bras, pillows)

EMERGING PRACTICES

- In rural Tanzania, a pilot study suggested that introducing rapid diagnostic tests to the private retail sector in accredited drug dispensing outlets in low resource settings (where dispensers are trained and supervised) can increase malaria diagnostic rates and adherence.[51]

Insights

Investigating pharmaceutical strategies to address communicable diseases (e.g., HIV, malaria) may yield novel solutions to deliver affordable BF, CF, and NS products to patients.

SUPPORT FOR BF IN PRIVATELY-OWNED PUBLIC SPACES

(e.g., lactation rooms in markets, religious centers, parks, community centers)

MODALITY

- **Public lactation rooms:** Build/support permanent and mobile lactation rooms in public spaces (e.g., markets, religious centers, parks, community centers)
- **Lactation room locator app:** Build/sponsor health app to locate public lactation rooms
- **Nursing covers:** Provide nursing covers in public spaces (e.g., markets, religious centers, parks, community centers)

EMERGING PRACTICES

- In Beijing, China, Alibaba's Tmall aims to set up 1,000 baby care rooms across all their shopping malls in China. These baby care rooms provide a private space for mothers to breastfeed babies and are also stocked with formula and other equipment that can be purchased.[52]
- In China, the 10m2 Campaign of Love, which was launched by the National Health and Family Planning Commission and UNICEF, encourages private sector businesses to provide a place for mothers to breastfeed in stores, offices, and other locations. The campaign has led to breastfeeding spaces being opened in more than 77 cities across China. The campaign also launched a mobile app to help mothers find places to breastfeed when they are at work or out in public.[53]

Insights

Creating private lactation rooms in public areas, such as malls, may promote breastfeeding behaviors and provide incentives for surrounding businesses by attracting and retaining customers.

APPS FOR SERVICE PROVIDERS

(e.g., how-to guides, scheduling, patient data storage)

MODALITY

- **Remote patient monitoring and support:** Build/sponsor patient eHealth management app (to enable patients to remotely share nutrition challenges and ask questions, and for providers/ counselors to monitor patients and provide support)
- **Electronic health records:** Build/sponsor nutrition health provider app (to capture and store patient data, schedule appointments, etc.)
- **Provider transportation:** Support provider logistics for home visits by hosting service for providers in existing ride-sharing app (e.g., with preferred or monthly rates, regular scheduled rides, and shorter wait times)

- **Video reference library for providers:** Build/sponsor health video library reference app (with videos to help providers diagnose and treat malnutrition and to help counselors provide BF support and engage family)
- **Virtual provider community:** Create/support virtual communities for counselors to connect and share nutrition counseling emerging practices

EMERGING PRACTICES

- In Ghana, the Grameen Foundation and BabyCenter have partnered to create MOTECH, a mobile health service that helps community health workers record and capture patient data, as well as schedule their appointments.[54]
- In Zanzibar, Tanzania, D-tree International, a digital health provider, designed a nutrition software called eNut to facilitate the implementation of WHO-UNICEF treatment guidelines for children with acute malnutrition. The software supports health workers through an interactive mobile platform where patient data is stored, new data is capture, and appointments can be scheduled.[55]
- Globally, the nonprofit Global Health Media Project (GHMP) has created a digital repository of live action video to help healthcare workers and caregivers in low resource settings obtain information and skills to improve healthcare outcomes. GHMP has created 150 videos that focus on maternal, newborn and child health.[56]
- In Tanzania, the m-mama transport system (supported by the Vodafone Foundation, the CSR arm of Vodafone) provides services where local taxi drivers are trained in the transportation of obstetric emergencies and are given the equipment needed to get patients to the hospital safely. In Tanzania, this has reduced regional maternal mortality by 27%. In 2020, the Vodafone Foundation committed $28 million USD to expand m-mama beyond Tanzania.[57]

Insights

Private sector activity in digital health appears promising and may include creative business models with players beyond the traditional health system (e.g., Vodafone)

IN-SERVICE TRAINING/SKILL ENHANCEMENT

MODALITY

- **Health worker in-service training:** Host/support focused trainings and capacity building for healthcare workers in prenatal, postnatal, and early childhood interactions to provide information and counseling for pregnant, lactating, and other post-partum women and their families
- **Civil society organization training:** Host/sponsor focused training for civil society organizations (e.g., women's groups) and volunteers to provide counseling and support to mothers and families

EMERGING PRACTICES

- In India, the Government of Assam collaborated with the Assam Branch of the Indian Tea Association and UNICEF to improve breastfeeding outcomes. The strategy included building the capacity of village-based health and nutrition workers to counsel mothers and families, harmonizing messaging promoting breastfeeding, and standardizing the tools used to support breastfeeding. The rate of exclusive breastfeeding in the relevant districts rose from 24% in 2004 to almost 50% in 2011.[26]
- In India, the Adani Foundation's (the CSR arm of the Adani Group) SupoShan organization required all volunteers to be continuously trained on issues related to malnutrition.[58]

Insights

Training healthcare workers may improve quality of care that patients receive; however, the direct business model is not always evident.

TOOLS TO TRACK SERVICE PROVISION QUALITY, QUANTITY, EFFECTIVENESS, ETC.

MODALITY

- **Service and product provision tracker:** Develop health information management systems and health center accountability systems to track provision of services and products (e.g., Vitamin A supplements) to young children
- **Provider survey:** Build/sponsor tools that evaluate and share provider sentiment, know-how, and likelihood to engage in desired behaviors

EMERGING PRACTICES

- Globally, an online survey was distributed through national oncology societies to chemotherapy-prescribing physicians across the globe (including LMICs) to assess their case volumes and clinical workload.[59]
- In Zimbabwe, RapidPro, an open-source software that collects free text data via SMS, monitors geo-referenced data of nutrition program caseloads, coverage of implemented activities, and the delivery and need for nutrition resources such as ready-to-use therapeutic foods (RUTFs) and multiple micronutrient powders (MNPs). RapidPro was developed in a partnership between UNICEF and the Rwandan software engineering firm Nyaruku.[60]

Insights

Organizations in LMICs may be able to leverage the large increase in mobile device usage to better understand the quality and frequency of providing certain healthcare.

APPENDIX

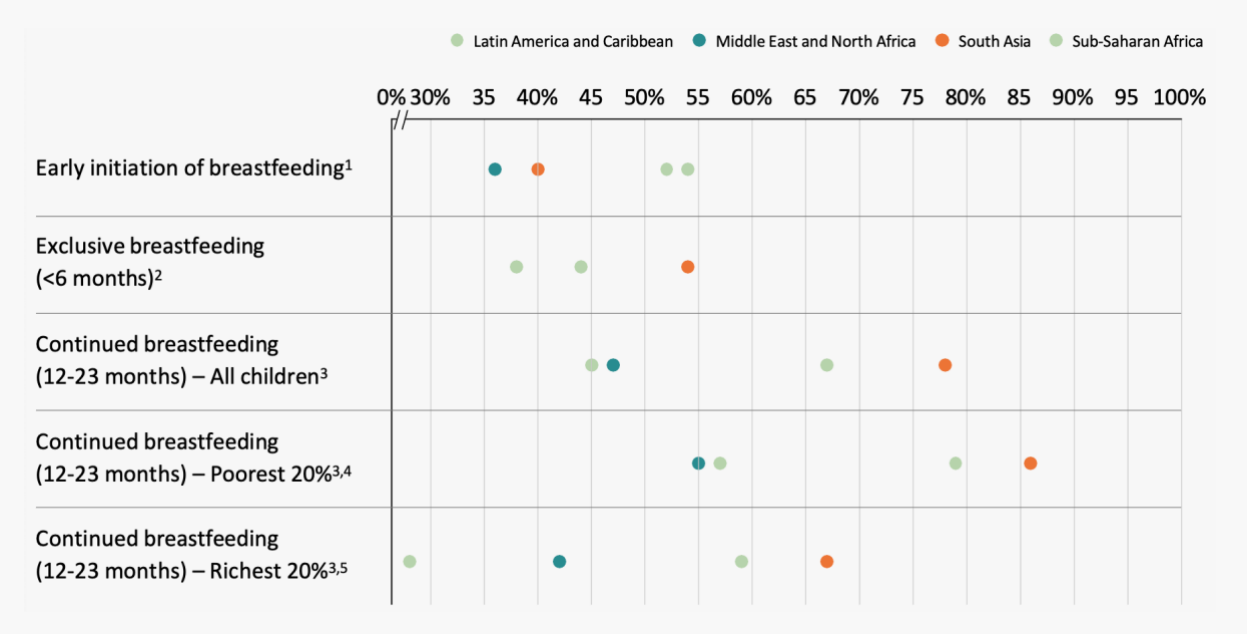
DETAILED NUTRITION INDICATOR DATA

We assessed outcomes data across intervention categories to assess priority nutrition indicators where evidence exists

Nutrition/product categories	Data availability – Global coverage	Data availability –Select countries	No data availability
A. Promotion and support of breastfeeding	**Yes**	**Yes**	No
B. Appropriate complementary feeding	**Yes**	**Yes**	No
C. Malnutrition management	**Yes**	**Yes**	No
NUTRIENT SUPPLEMENTATION: **D. Maternal balanced energy protein supplementation**	No	No	**Yes**
E. Maternal micronutrient supplementation	**Iron only**	**Iron only**	**All others**
F. Maternal calcium supplementation	No	No	**Yes**
G. Periconceptual folic acid supplementation or fortification	No	No	**Yes**
H. Vitamin A supplementation	No	**Child only**	**Maternal and global coverage**
I. Preventive zinc supplementation	No	No	**Yes**

BREASTFEEDING

GLOBAL OVERVIEW



*Data as of 2019

1. Percentage of children born in the last 2 years who were put to the breast within one hour of birth
2. Infants 0–5 months of age who received only breast milk during the previous day
3. Children 12-23 months of age who received breast milk during the previous day.
4. Poorest 20% are children belonging to the poorest 20% of households
5. Richest 20% are children belonging to the wealthiest 20% of households

Source: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/#data

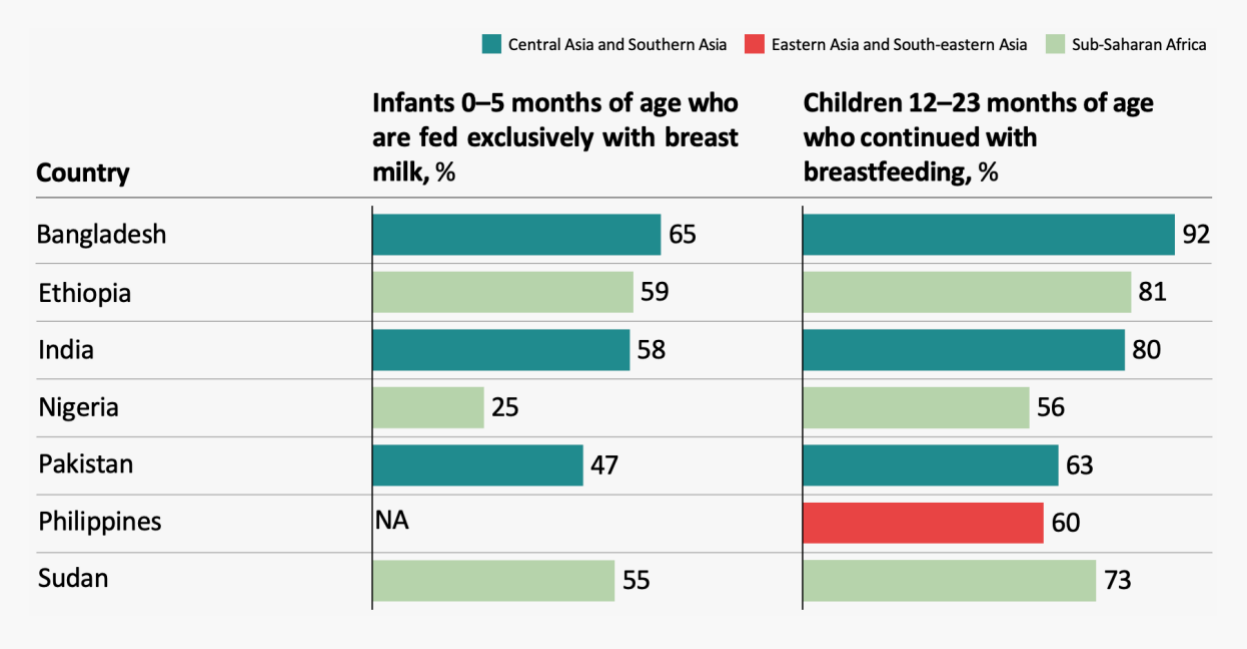
Takeaways

Indicators are very consistent across regions, with Latin America and the Caribbean and Middle East and North Africa performing worse on almost all breastfeeding indicators vs. South Asia and Sub-Saharan Africa.

Breastfeeding indicators are often inversely correlated with income (across and within countries), perhaps because of a lack of alternatives or the impact of differential formal labor force participation.

This may mean that appropriate interventions will differ by income level.

SELECT COUNTRY DOUBLE CLICKS



*Latest available data included in both charts; countries were selected according to data availability between 2014 and 2019
Source: https://apps.who.int/gho/data/node.main.NUTUNSDGREGIONS?lang=en

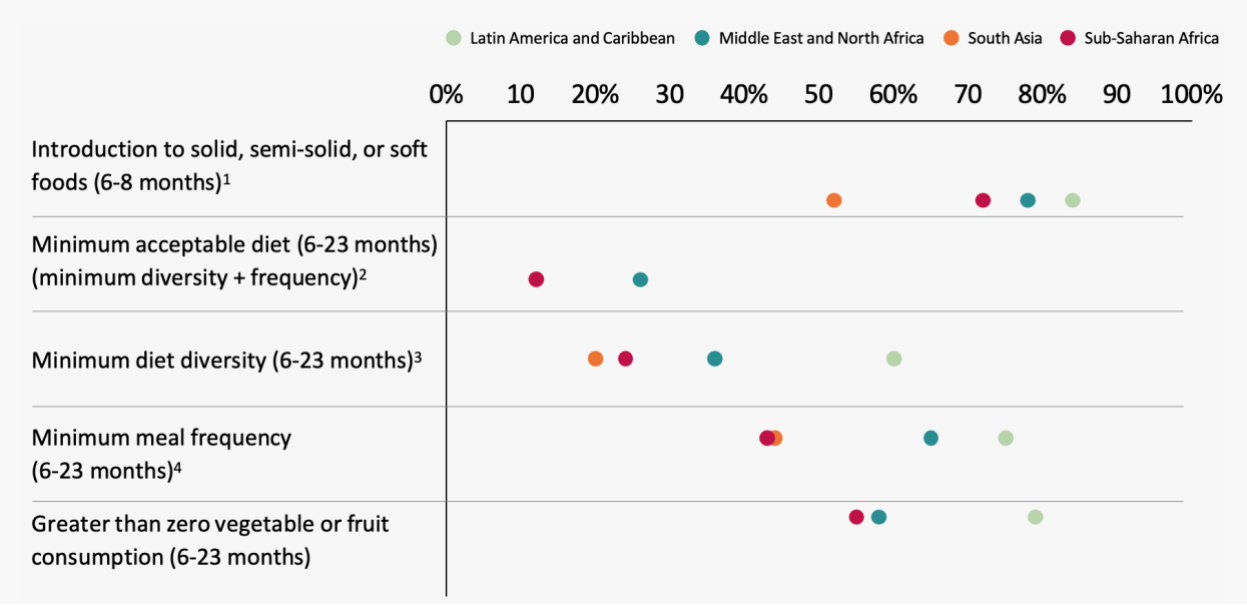
Takeaways

More children continue with some level of breastfeeding in their second year than are exclusively fed with breastmilk in the first 6 months.

This means that a substantial portion of mothers are complementing infant breastfeeding with alternatives starting early, but they are continuing some degree of breastfeeding for an extended period.

COMPLEMENTARY FEEDING

GLOBAL OVERVIEW



1. Infants 6–8 months of age who received solid, semi-solid, and soft foods during the previous day
2. Breastfed and not-breastfed children 6-23 months of age who had at least the minimum dietary diversity and the minimum meal frequency during the previous day; data not available for South Asia or LATAM
3. Number of children 6-23 months of age who received foods from 5 or more (out of 8) food groups during the previous day
4. Number of breastfed and non-breastfed children 6–23 months of age who received solid, semi-solid, or soft foods the minimum (2) number of times or more during the previous day; data not available for South Asia

Source: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/

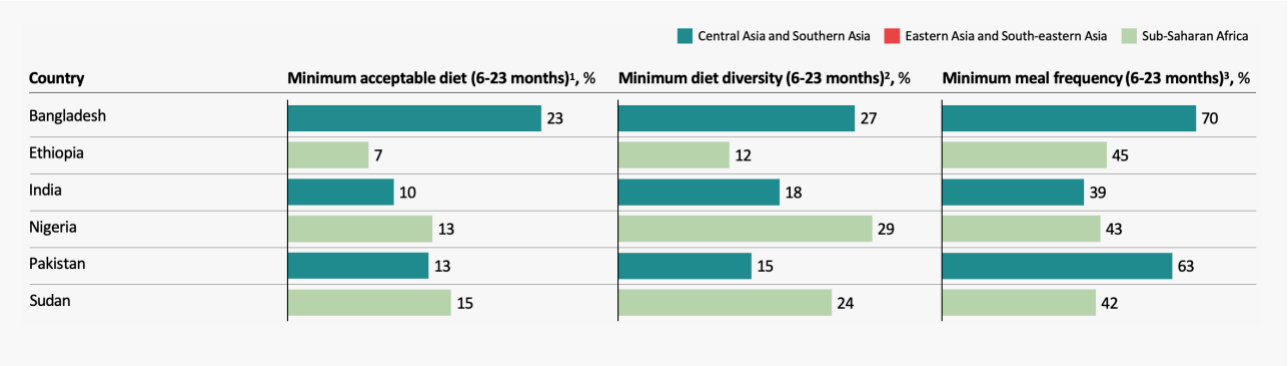
Takeaways

Complementary feeding indicators are inversely correlated with breastfeeding indicators, with Latin America and Caribbean and Middle East and North Africa performing better on all indicators vs. South Asia and Sub-Saharan Africa.

Acceptable diet and diet diversity are proving more challenging vs. early introduction to foods and vegetable/fruit consumption.

The fact that minimum acceptable diet indicators are worse than diet diversity and meal frequency suggests that a good portion of children are getting only one of minimum diversity and frequency, but not both.

SELECT COUNTRY DOUBLE CLICKS



*Latest available data included in both charts; countries were selected according to data availability between 2014 and 2019

1. Breastfed and not-breastfed children 6-23 months of age who had at least the minimum dietary diversity and the minimum meal frequency during the previous day
2. Number of children 6-23 months of age who received foods from 5 or more (out of 8) food groups during the previous day
3. Number of breastfed and non-breastfed children 6–23 months of age who received solid, semi-solid, or soft foods the minimum (2) number of times or more during the previous day

Source: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/

Takeaways

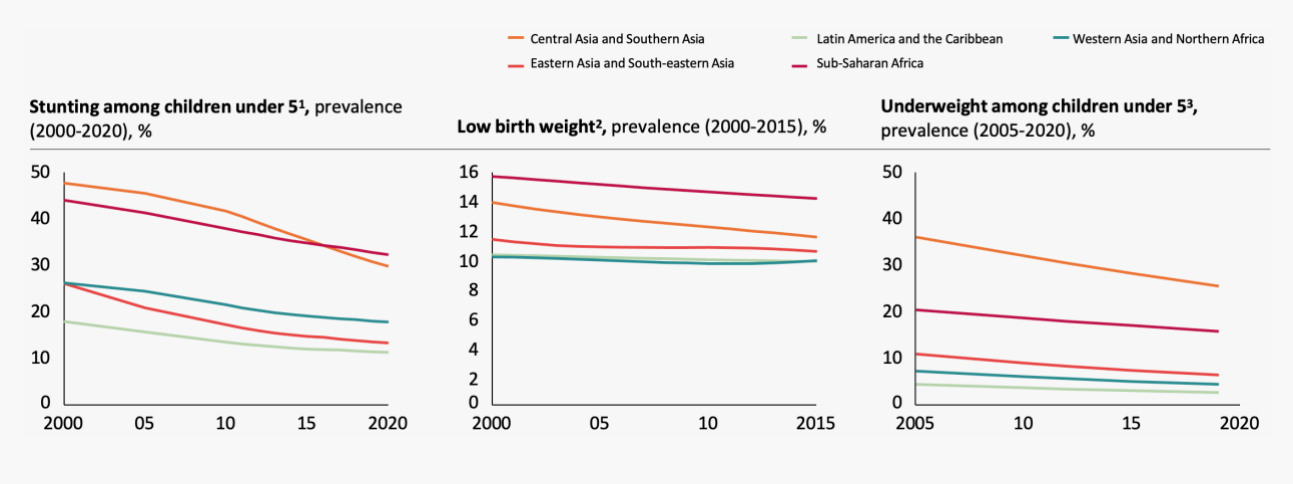
Countries perform much higher on minimum meal frequency vs. minimum diet diversity, which do not appear to be correlated.

Thus, minimum acceptable diet (a composite of diet diversity and meal frequency) appears to be bound by minimum diet diversity.

In countries where minimum acceptable diet is substantially lower than diet diversity (Ethiopia, India, Nigeria, Sudan), a large portion of children may be either receiving one of diet diversity or meal frequency, but not both.

MALNUTRITION

GLOBAL OVERVIEW



1. Number of under-fives falling below minus 2 standard deviations (moderate and severe) and minus 3 standard deviations (severe) from the median height-for-age of the reference population
2. The number of live births that weigh less than 2,500 grams in a given time-period
3. Prevalence of underweight (weight-for-age below minus 2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age

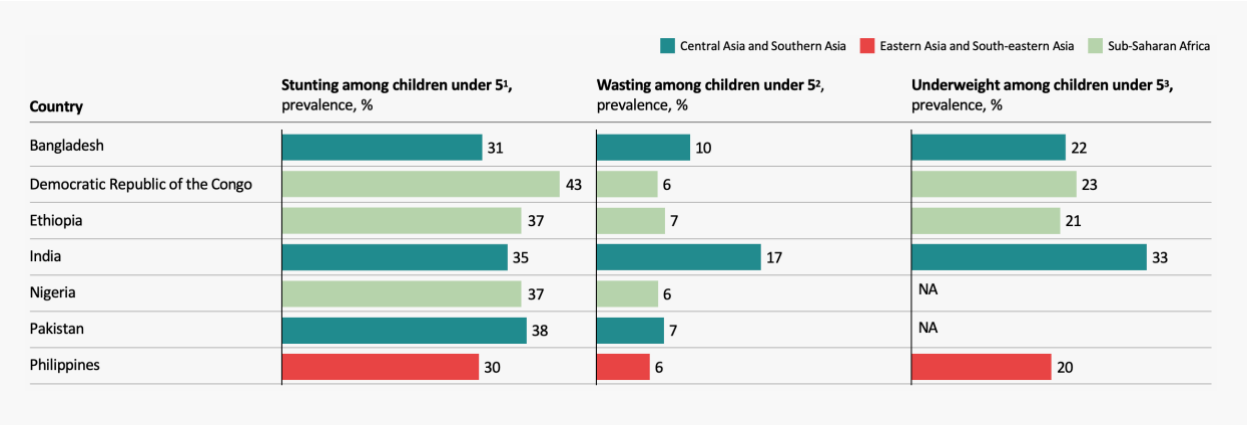
Source: Stunting - https://data.unicef.org/resources/dataset/malnutrition-data/,
Low birth weight - https://apps.who.int/gho/data/node.main.NUTUNSDGREGIONS?lang=en,
Underweight - https://data.unicef.org/topic/nutrition/low-birthweight/;
May only include certain countries per region (not clarified by sources)

Takeaways

All regions have improved significantly across most indicators in the last 15 years. Stunting and low birth weight improvements appear to be flattening around 10%, with underweight presence much lower.

Central/Southern Asia have, in most cases, improved more rapidly than other regions, but remain outliers in terms of negative outcomes.

SELECT COUNTRY DOUBLE CLICKS



Country	Stunting among children under 5[1], prevalence, %	Wasting among children under 5[2], prevalence, %	Underweight among children under 5[3], prevalence, %
Bangladesh	31	10	22
Democratic Republic of the Congo	43	6	23
Ethiopia	37	7	21
India	35	17	33
Nigeria	37	6	NA
Pakistan	38	7	NA
Philippines	30	6	20

*Latest available data included in both charts. Countries were selected according to data availability between 2014-2019

1. Number of under-fives falling below minus 2 standard deviations (moderate and severe) and minus 3 standard deviations (severe) from the median height-for-age of the reference population
2. Prevalence of wasting (weight for height below minus 2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age
3. Prevalence of underweight (weight-for-age below minus 2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age

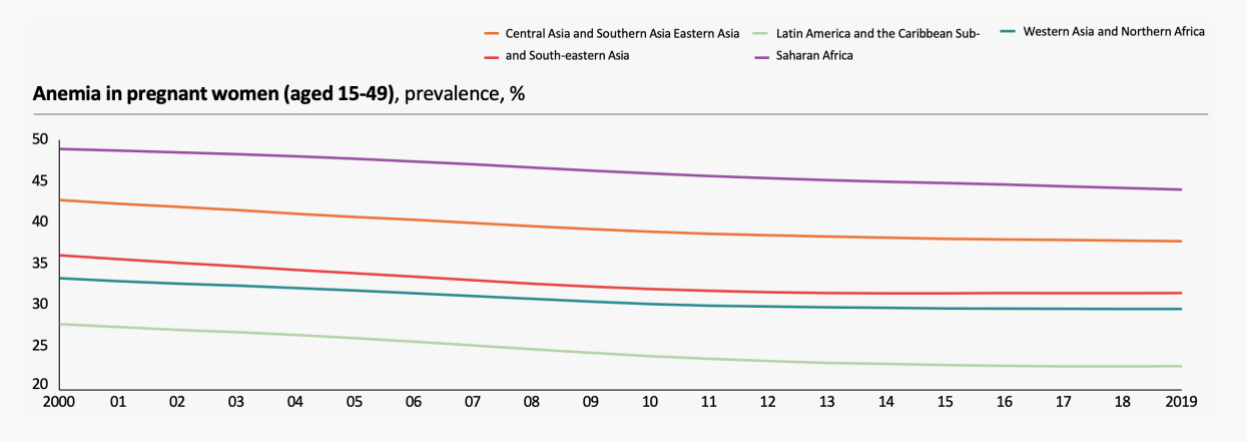
Source: https://apps.who.int/gho/data/node.main.NUTUNSDGREGIONS?lang=en

Takeaways

Stunting is usually far more prevalent than wasting or underweight except for in India, where wasting and underweight are especially high compared to other countries.

IRON SUPPLEMENTATION (ANEMIA)

GLOBAL OVERVIEW



Source: https://apps.who.int/gho/data/node.main.NUTUNSDGREGIONS?lang=en

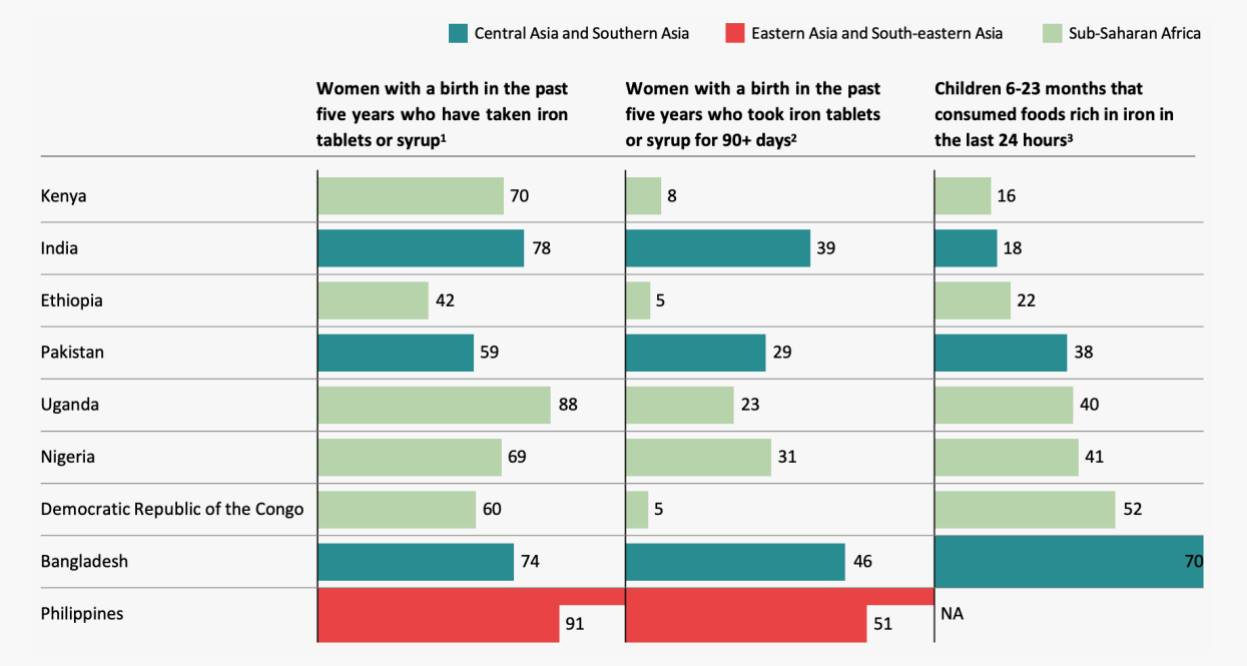
Takeaways

Anemia rates have been declining at fairly consistent, but slow, rates across regions.

Central/Southern Asia and sub-Saharan Africa are facing the greatest challenge today, although most regions' rates are still quite high.

Note that anemia is caused by a lack of iron absorption, which may be caused by a lack of iron in the diet directly or by a lack of Vitamin A, which helps with absorption.

SELECT COUNTRY DOUBLE CLICKS



1. Percentage of women with a birth in the five years preceding the survey who took iron tablets or syrup
2. Percentage of women with a birth in the five years preceding the survey who took iron tablets or syrup for 90+ days
3. Percentage of youngest children aged 6-23 months living with the mother who consumed foods rich in iron in the 24 hours preceding the survey; food rich in iron includes meat (and organ meat), fish, poultry, and eggs

Source: https://www.statcompiler.com/en/

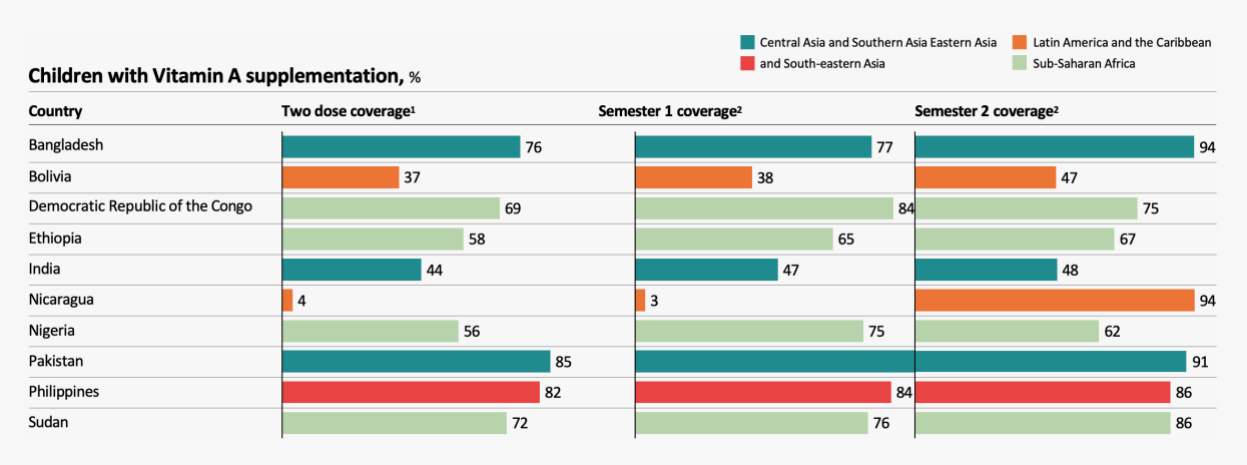
Takeaways

There is substantial variance across countries in terms of both maternal and child iron intake.

In most countries, a majority of mothers took some amount of iron supplementation, even if few took sustained supplementation.

VITAMIN A SUPPLEMENTATION (CHILDREN)

SELECT COUNTRY DOUBLE CLICKS



1. Two-dose Vitamin A Supplementation (VAS) coverage is the main indicator for global monitoring of VAS programs.; two-dose VAS coverage is an estimate of the percentage of children aged 6–59 months who received two doses of VAS spaced about 4 to 6 months apart in a calendar year
2. Percentage of children 6–59 months of age who received an age-appropriate dose of vitamin A in the first 6 months of the year ("semester 1") or the second 6 months of the year ("semester 2") through the main distribution mechanism

Source: https://data.unicef.org/topic/nutrition/vitamin-a-deficiency/#data

Takeaways

Vitamin A supplementation is reasonably high across many countries, with a few outliers (Pakistan, Philippines, Sudan).

Two-dose coverage is almost as high as semester 1 and semester 2 coverage, respectively, suggesting that most children either receive both doses or none (see Nicaragua for a seeming exception to this).

NUTRITION INTERVENTION GROUPINGS BY ORGANIZATION

Nutrition interventions are categorized differently by different organizations, but there is general agreement on the type of actions required to address malnutrition problems in developing countries.

EXAMPLES FROM EACH ORGANIZATION

USAID

OUR FOCUS: NUTRITION SPECIFIC

- Promotion and support of breastfeeding
- Appropriate complementary feeding
- Malnutrition management
- Nutrient supplementation:
  - Maternal balanced energy protein supplementation
  - Maternal micronutrient supplementation
  - Maternal calcium supplementation
  - Periconceptual folic acid supplementation/fortification
  - Vitamin A supplementation
  - Preventive zinc supplementation

NUTRITION SENSITIVE

- Family planning
- Water, sanitation, and hygiene
- Nutrition-sensitive agriculture
- Food safety and food processing
- Early childhood care and development
- Girl's and women's education, economic
- Strengthening livelihoods and social protection

WORLD HEALTH ORGANIZATION

WHO has a list of over 80 detailed nutritional interventions – the general categories are listed below.

BEHAVIORAL INTERVENTIONS

Focus on the adjustment of personal practices and habits,.e.g., breastfeeding, complementary feeding, maternal nutrition, adding nutrients to staple foods (fortification), supplementation and health related actions

REGULATORY INTERVENTIONS

Aimed at regulating certain nutrition-related activities or actions which have an impact on nutrition and health outcomes, .e.g., marketing

NUTRITION INTERVENTIONS

Take place in a specific setting and categorized as situational health actions

SCALING UP NUTRITION

DIRECT NUTRITION INTERVENTIONS

- Provision of micronutrients through food fortification for all
- Increasing intake of vitamins and minerals
- Provision of micronutrients for young children and their mothers
- Promoting good nutritional practices for infants and young children
- Therapeutic feeding for malnourished with special foods
- Sensitive interventions
- Health
- Agriculture
- Education
- Economic development
- Disaster preparedness/mitigation efforts

Source: https://www.usaid.gov/sites/default/files/documents/1867/USAID_Nutrition_Strategy_5-09_508.pdf, https://www.who.int/elena/intervention/en/, https://scalingupnutrition.org/wp-content/uploads/2013/02/Business-Network_Private-Sector-Engagement-Toolkit.pdf

REFERENCES

1. https://bmcnutr.biomedcentral.com/articles/10.1186/s40795-020-00393-0
2. https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-020-09013-9
3. https://motherchildnutrition.org/india/overview-india.html
4. Expert interviews
5. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0215285
6. DLHS-3 Bihar (2007-08)
7. https://bmcnutr.biomedcentral.com/articles/10.1186/s40795-017-0147-1
8. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6572133/
9. https://www.mdpi.com/2072-6643/13/3/825/pdf
10. https://www.brookings.edu/wp-content/uploads/2016/10/20161023_policybrief_2.pdf
11. https://www.gainhealth.org/sites/default/files/publications/documents/gain-briefing-paper-series-3-nutrition-programmes-for-workers-in-commodity-value-chains.pdf
12. https://www.unicef.org/media/94081/file/Field-Report-Nutrition-Kenya-Final.pdf
13. https://www.unicef.org/vietnam/press-releases/unicef-and-business-community-launch-campaign-promote-breastfeeding-female-workers
14. https://accesstonutrition.org/atnis-work-on-breast-milk-substitute-bms-marketing/
15. https://www.jstor.org/stable/25453407?seq=1
16. https://workforcenutrition.org/%23/light-house
17. https://www.reuters.com/article/us-india-slavery-tea/twinings-reveals-suppliers-amid-drive-for-slave-free-indian-tea-idUSKBN1KY1VX
18. https://www.abebooks.com/magazines-periodicals/INFACT-Newsletter-Spring-1980-Infant-Formula/30307276136/bd
19. https://ajph.aphapublications.org/doi/pdfplus/10.2105/AJPH.73.6.640
20. https://cleanlabelproject.org/clean-label-project-certification/
21. https://healthmarketinnovations.org/program/aponjon
22. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0043832
23. http://www.healthphone.org/
24. https://www.everywomaneverychild.org/commitment/healthphone/

25. https://www.frontiersin.org/articles/10.3389/fpubh.2020.584375/full

26. https://poshan.ifpri.info/files/2014/06/Nutrition-Wins.-How-Nutrition-makes-progress-in-India.pdf

27. https://www.equalaccess.org/stories/money-smart-how-cambodian-soap-operas-are-bringing-financial-literacy-to-a-new-generation/

28. https://ccp.jhu.edu/projects/suaahara-nepal/

29. https://betterwork.org/2019/08/07/motherswork-supporting-breastfeeding-mothers-in-the-workplace/

30. https://www.aliveandthrive.org/en/inspire/does-it-take-village-facebook-group-raise-breastfeed-child-beyond-six-months

31. https://nurse.org/articles/labor-birth-advice-nurse-instagram/

32. https://www.unicef.cn/en/press-releases/ma-yili-appointed-unicef-special-advocate-breastfeeding-and-early-child-development

33. https://www.breastmilkonly.com/en/news/virtual-learning-cafe-supports-west-african-countries-promote-exclusive-breastfeeding-time

34. https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-020-09779-y

35. https://www.gainhealth.org/sites/default/files/publications/documents/evidence-brief-2-nutrition-education-2019.pdf

36. https://www.bestrongfamilies.org/parent-cafes

37. https://link.springer.com/article/10.1007%2Fs10995-013-1384-9

38. https://www.wbfafrica.org/content/mamacare360-programme

39. https://cascadehealth.com/breastfeeding-education-dolls

40. https://www.suposhan.in/pdf/Annual_Report_for_SuPoshan_Website.pdf

41. https://livinggoods.org/wp-content/uploads/2019/06/Living-Goods-Uganda-A-community-health-service-leveraging-mobile-technology.pdf

42. https://healthmarketinnovations.org/program/healthy-entrepreneurs

43. https://www.healthyentrepreneurs.nl/

44. https://www.gainhealth.org/media/news/healthy-diets-tea-communities-gain-and-etp-partnership

45. https://sightandlife.org/wp-content/uploads/2020/03/SightandLifeMagazine_2020_Consumer_Insights_Social-Marketing-to-Sustainably-Influence-Nutrition-Behaviors.pdf

46. https://www.breastpumpsdirect.com/a-chance-to-choose

47. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32227-3/fulltext?rss=yes

48. https://academic.oup.com/cdn/article/2/4/nzy006/4828343

49. https://nigeriahealthwatch.medium.com/milky-express-nigerian-made-lactation-options-for-breastfeeding-mothers-7e1b8323ebb2

50. https://tmcg.co.ug/mhealth-apps-say-hello-to-the-whatsapp-doctor/

51. https://malariajournal.biomedcentral.com/articles/10.1186/s12936-016-1658-y

52. https://www.alizila.com/moony-latest-to-join-alibabas-smart-nurseries-roll-out/

53. https://blogs.unicef.org/east-asia-pacific/making-breastfeeding-hip-success-of/

54. https://courses.cs.washington.edu/courses/cse490d/12sp/docs/MOTECH.pdf

55. http://www.africanstrategies4health.org/uploads/1/3/5/3/13538666/enut.pdf

56. https://pediatrics.aappublications.org/content/146/Supplement_2/S165.long#sec-4

57. https://www.vodafone.com/news/press-release/vodafone-foundation-ambulance-taxi-programme-in-africa

58. https://www.suposhan.in/what-we-do

59. https://pubmed.ncbi.nlm.nih.gov/29244632/

60. https://www.unicef.org/esa/media/6316/file/Nutrition-Zimbabwe%20RapidPro_19May%202020.pdf

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