Mapping Tool

Planning and Measuring Nutrition Interventions for Behavior Change

IEG Independent Evaluation Group | WORLD BANK GROUP World Bank • IFC • MIGA

Contents

Cover photo: Shutterstock / Riccardo Mayer

Based on: World Bank. 2021. *World Bank Support to Reducing Child Undernutrition.* Independent Evaluation Group. Washington, DC: World Bank. ieg.worldbankgroup.org/evaluations/world-bank-support-reducing-child-undernutrition

Why and how do changes in behavior happen? This tool helps you to understand and apply the lessons.

While it is challenging to measure behavior change, this is a critical undertaking to track progress and understand why and how change happens to inform current and future projects. A mapping tool is a qualitative way to plan, target, and measure needed incremental behavior changes. Other tools to assess change, such as surveys, can complement the mapping.

The mapping of behavior changes supported by interventions of nutrition programs or projects can provide guidance to:

(1) Identify the main actors that require behavior change support
(2) Plan interventions along the results chain—engage > learn > apply > change—that are expected to influence needed behavior changes
(3) Track and measure behavior changes in the main actors to improve nutrition determinants—access to food and care; access to health services; water, sanitation, and hygiene (WASH); and social norms—and make needed course corrections to assure programs and projects are on track

Our Methodology

Development of evidence-based tool for supporting behavior change in programs and projects

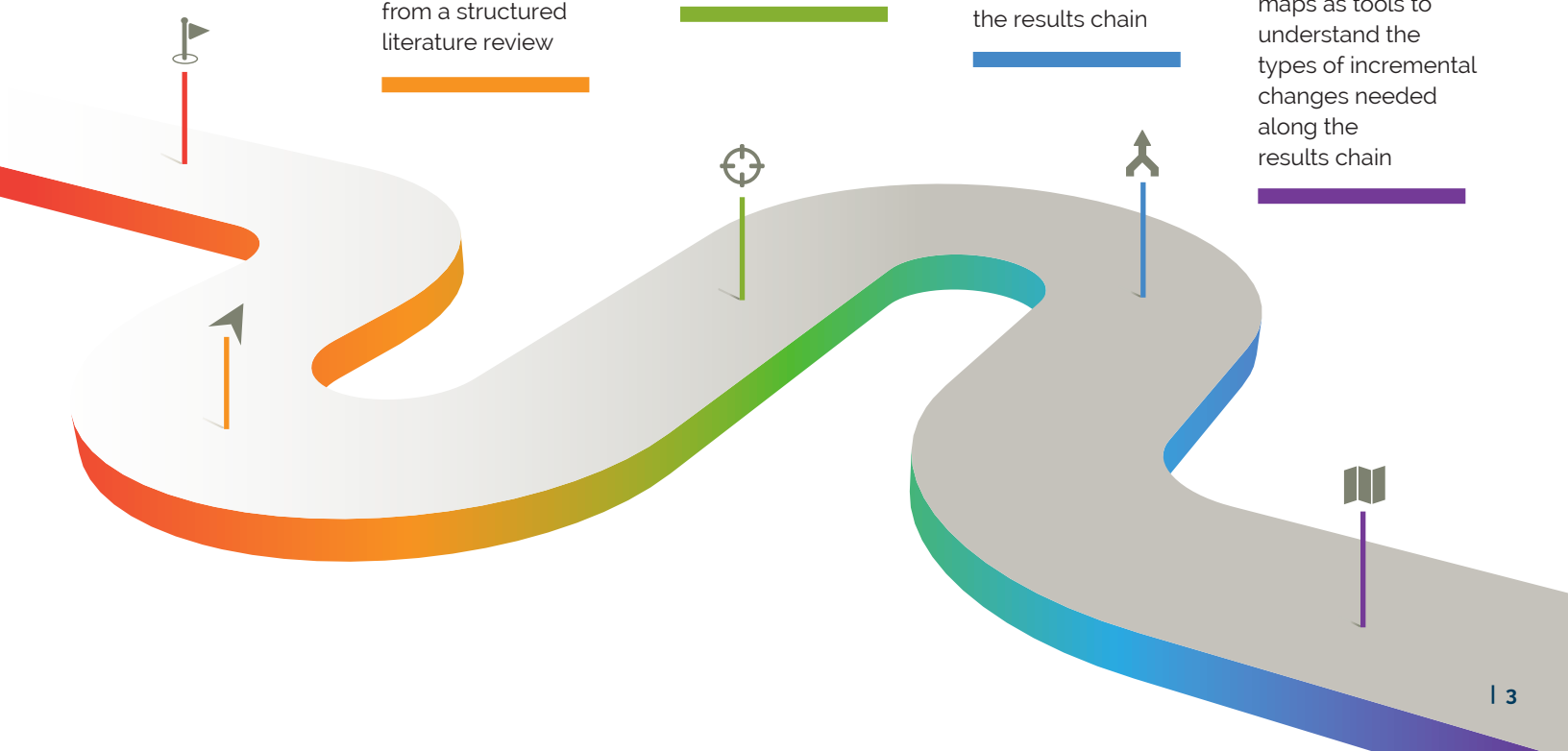
Reviewed behavior change concepts in the literature on change agents, barriers and capabilities to motivating behaviors, and measurement

Classified evidence on behavior changes of actors to improve nutrition determinants from a structured literature review

Outlined a results chain for incremental behavior changes from the evidence in the literature and country case studies

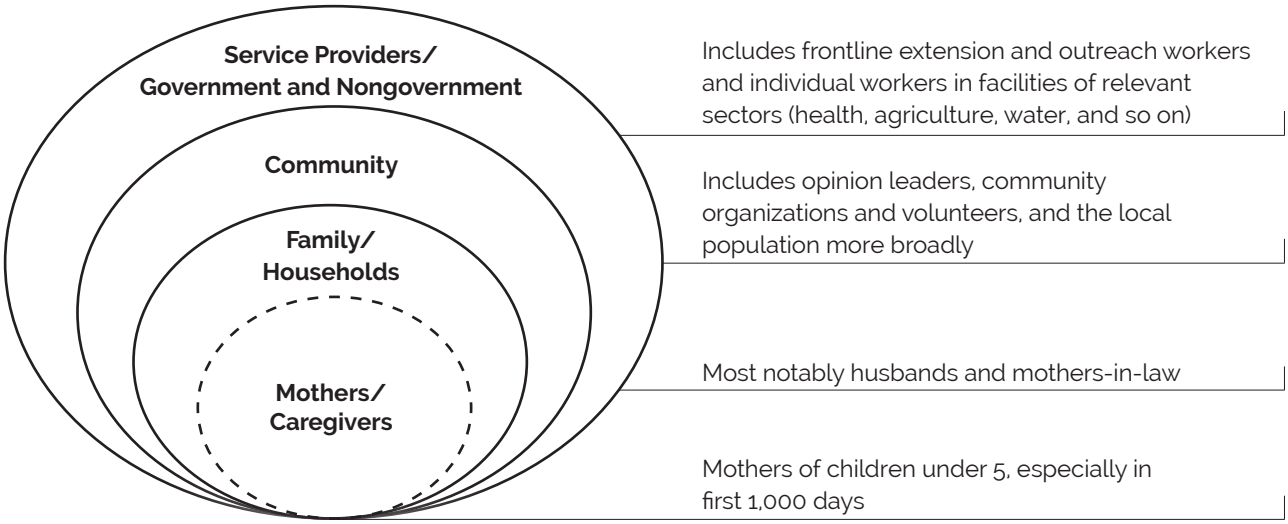
Extracted examples of behaviors and indicators to illustrate the results chain

Developed process maps as tools to understand the types of incremental changes needed along the results chain



Applying the Mapping Tool

(1) Identify the Main Actors that Require Behavior Change Support



(2) Plan Interventions Along the Results Chain to Influence Behavior Changes

Engage

Actor gains adequate awareness and motivation to develop new capabilities

Learn

Actor develops new knowledge and skills for changing behavior

Apply

Actor draws on available resources and programs to support behavior change

Change

Change in actor to consistently support determinant of undernutrition

(3) Track and Measure Behavior Changes to Improve Nutrition Determinants

Access to Food and Care

Influences diet diversity and maternal knowledge and behaviors to feed and care for children

Access to Health Services

Captures maternal and child access to, and use of, skilled medical care for illness and preventive care

Water, Sanitation, and Hygiene (WASH)

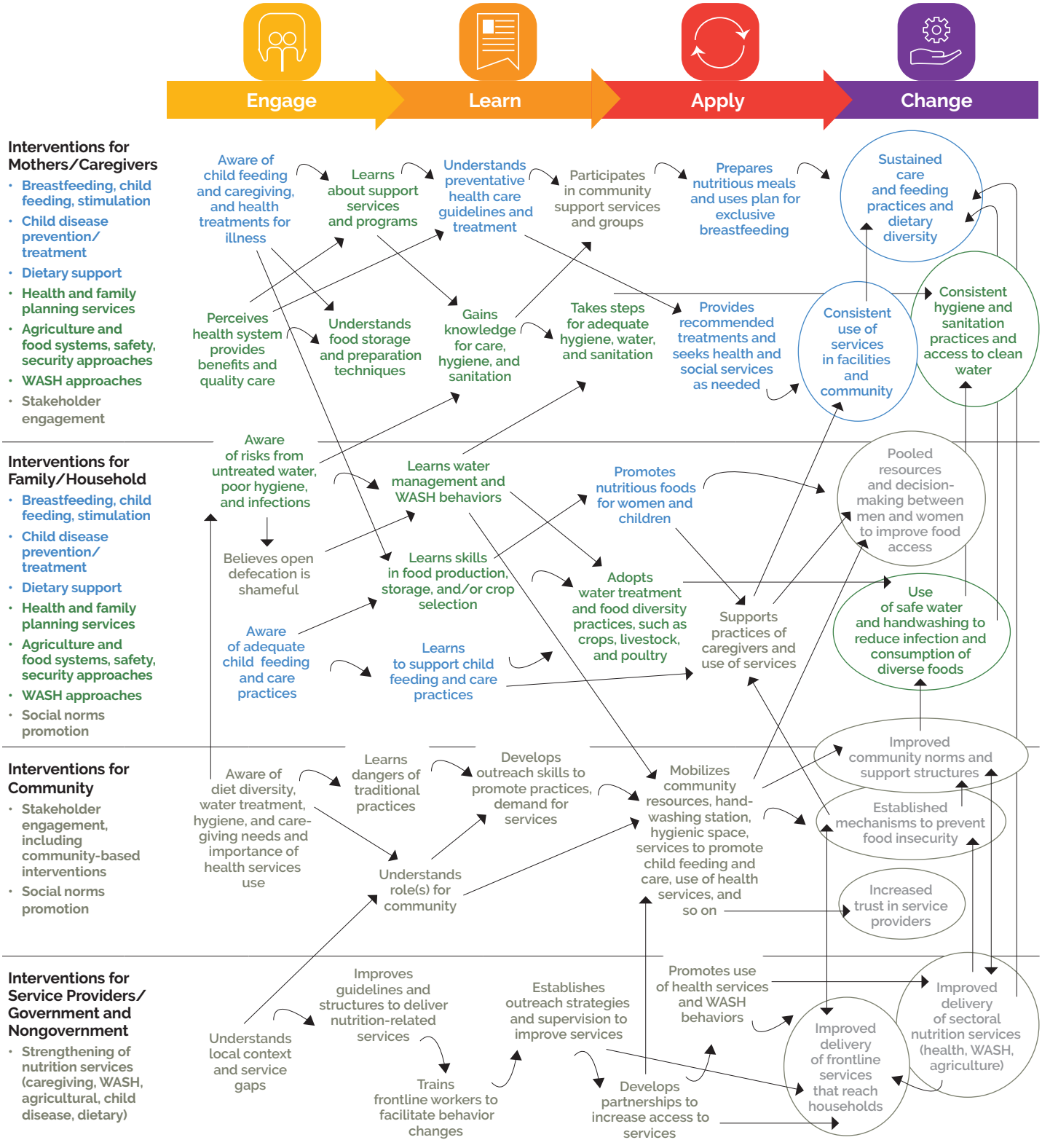
Access to clean water and sanitary and hygienic conditions in the child's household and community

Social Norms

Relates to early marriage and pregnancy, birth spacing, and women's empowerment

Process Map for Behavior Changes

This process map extracts evidence on behaviors of actors along the results chain, outlining the actions needed to improve nutrition determinants. Relevant actions can be supported by nutrition programs and projects to facilitate behavior change in a country context.



Nutrition-specific actions supporting care and feeding practices and the health of mother and child

Nutrition-sensitive actions supporting access to food, caregiving resources, health, and WASH

Actions supporting institutional strengthening

Food and Care Determinant

These tables of nutrition determinants offer examples of actions along the results chain for different actors and indicators to measure behavior changes.

RESULTS CHAIN ›
ACTORS ›

Engage	Learn	Apply	Change
Mothers/Caregivers			
• Caregivers understand benefits of IYCF and nurturing care practices, such as breastfeeding and timely initiation of solid food. • Caregivers understand risks associated with poor dietary quality, and the need to prepare and store food for the lean season. • Caregivers perceive it is acceptable (that is, have a supportive environment in household and community) to implement IYCF and diet diversification practices. **Example indicators** • Reported perceptions in interviews about the importance of breastfeeding. • Reported extent to which surveyed mothers reach out to authorities or neighbors to address emerging problems (measure of trust, often a precondition for participating in community groups and services).	• Caregivers are aware of programs and/or services available to improve child care and feeding. • Caregivers gain knowledge related to maternal nutrition and child care and feeding practices, such as breastfeeding, lactation management, complementary feeding, and dietary diversity. • Caregivers develop adequate confidence in their ability to breastfeed. • Caregivers learn how to prepare diverse, nutritious foods using ingredients in the community. • Caregivers learn practical food storage and preservation techniques to save food for the lean season. **Example indicators** • Percent of caregivers who heard of available nutrition service or program. • Knowledge score for caregivers based on health and nutrition knowledge questions, about, for example, breastfeeding quantity and quality of complementary foods, feeding during illness, and responsive feeding.	• Caregivers develop and implement a plan for EBF. • Caregivers demand and/or pool resources to meet child feeding and care needs, such as share of household expenditures, nutrients, and agricultural inputs. • Caregivers participate in community-based nutrition interventions, such as support groups, cooking demonstrations, and knowledge sharing. • Caregivers use knowledge, skills, and resources to prepare more nutritious meals. **Example indicators** • Binary indicator of whether children had consumed any animal-sourced foods. • Number of community social groups where caregiver is an active member. • Percent of caregivers who developed prenatal EBF plan. • Percentage of target population who used IYCF counseling.	• Caregivers implement recommended care and feeding practices for infants, young children, and pregnant women. • Mothers and their young children have adequate dietary diversity. • Households support dietary diversity through increased agricultural production diversity and/or food purchasing practices. • Household pools resources (increased equality between men and women for making decisions about expenditures and/or agricultural inputs). **Example indicators** • Percent of pregnant women getting daily iron/folate. • Percent of infants receiving EBF to six months. • Percent of children receiving timely introduction of solid, semi-solid, or soft foods. • Minimum dietary diversity for women of reproductive age. • Children's (6 to 59 months of age) dietary diversity, measured as the number of food groups consumed in the last 24 hours from seven food groups. • Household dietary diversity score (food groups consumed in the past week). • Number of crop and livestock species produced on a farm (household crop and livestock production survey). • Percent of women who report being able to make household decisions about expenditures, children, and food preparation.

RESULTS CHAIN ›
ACTORS ›

Engage	Learn	Apply
Family/Household		
• Household adults (husband, mother-in-law, and so on) share common understanding that child nutrition and nurturing care is a "concern for all" (that is, no gender gap). • Household adults gain awareness of the importance of adequate maternal, infant, and young child nutrition and the benefits of recommended practices. **Example indicators** • Percent of husbands that attended husband's forum during wife's pregnancy. • Percent of household adults perceiving dietary diversity as important. • Percent of husbands demonstrating awareness of risks of child malnutrition.	• Husbands learn concrete actions that can help to support better maternal nutrition practices. • Household members develop knowledge to support good child care and feeding practices. • Household members learn skills related to food production, including composting, pest management, and growing a "kitchen garden." • Smallholder households understand opportunities to increase dietary diversity through crop selection. **Example indicators** • Husbands' knowledge scores related to maternal nutrition and IYCF practices. • Percent of caregivers reporting grandmothers and/or husbands had a positive influence on breastfeeding (survey or interview). • Percent of household adults demonstrating increased knowledge to avoid traditional practices, that is, understand reasons to feed young children thick porridge rather than watery porridge.	• Household increases/shifts labor supply or income as needed to support nutritious food consumption for women and children, such as by owning poultry and/or goats or planting a "kitchen garden." • Husbands promote feeding animal-sourced food to children. • Household adults support mothers in adopting recommended practices for nutrition during pregnancy and breastfeeding. • Smallholder households adopt practices to increase agricultural production diversity (such as irrigation). **Example indicators** • Production diversity index, defined as the number of food groups produced by a household. • Husbands' rating of self-efficacy—reflecting a belief in their ability to support their wives in adopting recommended practices.

Note: IYCF = infant and young child feeding; EBF = exclusive breastfeeding.

Food and Care Determinant, continued

RESULTS CHAIN › / ACTORS ›	Engage	Learn	Apply	Change
Community	• Community leaders gain awareness of recommended IYCF practices and adequate maternal nutrition. • Community leaders gain awareness about potential roles for community related to resource pooling to ensure the nutrition of women and children. • Community leaders gain awareness about the urgency for improving food storage and preservation practices and changing social norms, that is, food conservation should not be viewed as primitive. **Example indicators** • Percent of stakeholders engaged in intervention, including family members, mainly husbands and parents-in-law, and community members, such as village doctors and committee leaders. • Demonstrated commitment of community leader(s) to program or service mission, that is, allocation of time or community resources, public declaration, or other means.	• Women's associations and faith-based groups develop outreach skills to promote IYCF practices. • Community leaders and elders understand the dangers of traditional practices (such as diluted porridge) and learn how to support and promote recommended care and feeding practices. • Community members recognize dietary quality as a community concern and understand minimum dietary requirements for healthy child development. • Community members develop knowledge and skills related to sustainable agricultural practices, animal management, and gender awareness for improving dietary quality. **Example indicators** • Percent of community workshop participants demonstrating an increased understanding of a specific topic, such as safe food storage. • Quality of knowledge/awareness held by community leader (structured interview).	• Community entities (such as health and/or agricultural committees or women's groups) reinforce messages delivered by service providers about nurturing care and feeding. • Community entities offer activities and services to promote IYCF norms, such as community conversations, cooking demonstrations, and family recognition awards. • Community leaders endorse peer counselors or local service providers to promote good nutrition and caregiving practices on an ongoing basis. • Community entities teach caregivers about food conservation, such as using the sun for drying and underground cellars for cooling. **Example indicators** • EBF Social Support Scale for low-resource settings. • Number of monthly community activities implemented to promote IYCF practices. • Endorsement of community leader for programs, through ceremony, allocation of funds, or other resources.	• Community leaders demonstrate ongoing commitment to supporting IYCF practices. • Social norms promote good practices for care and feeding of children—community members widely perceive minimum dietary quality for women and children as a community concern. • Communities establish mechanisms to reinforce food security for households with low incomes or limited resources. **Example indicators** • Husbands' social norms scores—percent surveyed who believe most other husbands in villages took similar actions to support their wives. • Existence of supportive community policy or program (confirmed through expert review).
Service Providers/NGOs	• Public service providers (that is, health facilities and agricultural extension units) and NGOs understand the local context and current service delivery gaps. • Frontline workers (community-based providers, including volunteers) understand the standard guidelines and incentives for IYCF service delivery. **Example indicators** • Completion of formative evaluation or situational analysis. • Existence of incentive or reward system to motivate frontline workers and/or volunteers to provide high-quality service.	• Public service providers and NGOs identify resource needs for effective delivery of nutrition and child health services (understanding requirements for staffing, supervision, and support). • Frontline workers develop adequate technical knowledge and skills related to feeding and care of infants and children. • Frontline workers develop effective communication skills to facilitate knowledge transfer and/or behavior change. **Example indicators** • IYCF and nutrition knowledge scores collected through health provider survey. • Development of strategic or resource plan by organization to support nutrition-related service delivery (expert review).	• Public service providers and NGOs establish adequate household coverage and/or outreach strategies and/or partnerships to provide continued frequent support to families. • Public service providers and NGOs develop job aids, incentives, and supportive supervision to adequately support frontline workers and/or community volunteers. **Example indicators** • Rating of health staff competence and performance during IYCF counseling. • Ratio of service providers to households. • Frequency of supervision of services. • Rating of knowledge-sharing efficacy (comparing knowledge scores of frontline workers with mothers they trained).	• Public service providers and NGOs improve their delivery of services to support IYCF practices. • Frontline workers deliver a package of nutrition services accessible to the targeted population(s) in partnership with public sector services. • Health facilities/service organizations integrate IYCF counseling into their services for ongoing coverage. • Public sector services and NGOs use routine monitoring data to improve service delivery. • Health facilities/service organizations are accountable to community with reputation for quality. **Example indicators** • Level of mothers' satisfaction with services and/or reasons for not using services (in interviews). • Number of women and children benefiting from the service (percentage of poor or remote households).

Note: IYCF = infant and young child feeding; NGO = nongovernmental organization.

Health Services Determinant

RESULTS CHAIN ›	Engage	Learn	Apply	Change
ACTORS ›	**Mothers/Caregivers**			
	• Caregivers understand the urgency to seek treatment for malnutrition, diarrhea, and infections that threaten early child development. • Caregivers understand the importance and benefits of vaccinations. • Women understand the importance of ANC and PNC and birth spacing for maternal and child health outcomes. • Women perceive that the health system provides benefits and good quality care. **Example indicators** • Percentage of mothers reporting they were referred to seek services or attended recommended a health appointment. • Reported perceptions in interviews about the need to use services if child is well.	• Caregivers learn appropriate prevention and treatment skills, such as how to care for children with diarrhea. • Caregivers understand the signs of malnutrition and/or dehydration and when to seek assistance outside the household. • Caregivers learn key details about immunizations—what, where, when, and possible adverse effects. • Pregnant women gain knowledge about recommended procedures included in ANC and PNC and where and when they should receive them. **Example indicator** • Percentage of surveyed caregivers who can identify when and where to seek treatment for diarrhea for their children.	• Caregivers prepare recommended home-based treatment (such as oral rehydration therapy, or ORT) or seek care from a health provider to treat children with diarrhea. • Caregivers adhere to treatment guidelines. • Caregivers comply with immunization schedules for children and seek care for any adverse effects. • Pregnant women attend ANC and PNC visits on a recommended schedule. **Example indicators** • Percentage of children receiving scheduled immunizations. • Percentage of mothers in intervention group that reported not missing more than two antenatal visits.	• Children consistently receive needed treatment for diarrhea at onset of symptoms. • Children receive a full course of timely vaccinations. • Pregnant women attend all recommended ANC visits during pregnancy. • Caregivers consistently seek health services for children under 5 years old with fever or other symptoms of chronic or acute infection. **Example indicators** • Percentage of children under age 5 who had diarrhea in two weeks preceding survey and received ORT or ORS in conjunction with zinc. • Percentage of children 12 to 23 months old who received all basic vaccinations. • Among women with a live birth in the last three years, percentage of women who received at least four ANC visits during the most recent pregnancy.
RESULTS CHAIN ›	Engage	Learn	Apply	
ACTORS ›	**Family/Household**			
	• Household adults perceive health system provides benefits and good quality care and recommendations for prevention and treatment should be followed. • Household adults understand the importance of seeking treatment for malnutrition, diarrhea, and/or other infections that threaten early child development. **Example indicators** • Percentage of households reporting no plans to use or attend a recommended health service for children until they were contacted by a community volunteer. • Percentage of husbands reporting that they had accepted or looked at offered materials and illustrations to become more familiar with the pregnancy experience and potential complications. • Percentage of husbands indicating that severe acute malnutrition is a serious condition requiring medical treatment.	• Household adults understand the signs of malnutrition and/or dehydration of infants and children and when to seek assistance outside the household. • Household adults understand recommendations of the health care system related to immunizations and the procedures and timing for ANC and PNC. • Household adults know when to seek care in response to complications from pregnancy. **Example indicators** • Percentage of interviewed adults who could accurately list signs of malnutrition or dehydration. • For women pregnant during the last 12 months, percentage of husbands that could list some or all of the danger signs to watch out for during pregnancy or postpartum.	• Household adults and older children support actions as relevant to enable the use of health services, such as babysitting other children, helping with transportation, covering household chores, and so on. • Household adults help to administer in-home remedies for infection and dehydration as needed. • Husbands and household adults reserve savings and resources to cover any costs related to pregnancy and/or incurred for care-seeking in response to obstetrical and neonatal complications. **Example indicators** • Percentage of households where children received regular recommended health services (via self-reported data, administrative data or through visual confirmation, such as an immunization card). • Percentage of households where adults described administering treatments as recommended in a designated time period. • Percentage of maternal and newborn health visits attended by the husband/father.	

Note: ANC = antenatal care; PNC = postnatal care; ORT = oral rehydration therapy; ORS = oral rehydration salts or solutions.

Health Services Determinant, continued

RESULTS CHAIN › / ACTORS ›	Engage	Learn	Apply	Change
Community	• Community members gain awareness of the risks of malnutrition, diarrhea, and/or other infections for early child development and the need to seek or support prompt treatment. • Community leaders agree to participate in activities to promote community awareness of the importance of birth preparedness and complication readiness. **Example indicators** • Percentage of invited community members attending sensitization event. • Percentage of community members in designated group that recognize severe acute malnutrition as a serious condition requiring medical treatment. • Stated commitment of community leader/representative for increasing birth preparedness and complication readiness (recognized as a community concern).	• Community leaders understand appropriate treatment options for malnutrition and infections and the need for broad awareness-raising, such as to promote the use of ORS over antibiotics. • Community leaders understand the roles and reasons for the community to support birth preparedness and complication readiness. **Example indicator** • Percentage of community members who could identify available community-based programs or services for preventing or treating malnutrition.	• Community promotes vaccination uptake and infection prevention and treatment-seeking behaviors for mother and child. • Community mobilizes available resources as needed to address signs of undernutrition or disease outbreaks. • Community representatives/organizations collaborate with health service providers to ensure adequate birth preparedness and complication readiness. • Community monitoring system includes measures of health care usage as a measure of progress. **Example indicators** • Percentage of community volunteers who reported that they felt "a lot" of support from village headmen or other community leaders to ensure adequate child nutrition and care. • Implementation of a community awareness strategy, endorsed by leaders, to promote planning for birth preparedness and complications.	• Community broadly trusts local health providers and recommended immunization and treatment practices (supportive social norms). • Women's access to and use of ANC and PNC services is widely viewed as a human right rather than a privilege or charity.
Service Providers/NGOs	• Health providers gain formative understanding of local barriers to health services and the need for appropriate treatments, that is, increased awareness of reasons for and extent of health service delivery gaps. • Community-based providers are aware of and accountable for adhering to standard treatment guidelines. **Example indicator** • Existence of an incentive system or supportive supervision mechanism to help ensure service providers perform expected roles.	• Facility and community-based health providers develop knowledge and skills to promote and deliver services for preventing and treating infections. • Health providers learn approaches for educating mothers and the broader community on appropriate treatment options for infections. • Health facilities understand resource needs (staffing, training, infrastructure) for providing adequate care. **Example indicators** • Knowledge scores of health providers for area of focus, that is, risks of malnutrition, treatment protocols, birth preparedness, and signs of complications. • Reported level of confidence among community health workers for performing their daily tasks.	• Community-based providers implement communications campaign to generate demand for health services. • Health facilities develop plan for efficient and effective service delivery with available resources. • Health facilities and community leaders develop partnerships to increase the access to and quality of community health care. • Facility and community-based health providers deliver appropriate treatment and care. **Example indicators** • Adherence of community-based providers to essential care practices at the household level in their catchment area (household survey). • Percentage of newborns receiving checkups by a skilled health professional (household survey of women who recently delivered assessing coverage). • Satisfaction ratings of health care quality by mother. • Compliance level of frontline health workers for submitting administrative data, such as registering pregnancies and updating child growth charts in records.	• Health system effectively promotes and delivers adequate, accessible, and affordable health services for maternal health and for preventing and treating infections in infants and children. • Under Universal Health Coverage, provisions are available to support families or reduce out-of-pocket expenses for care seeking in response to obstetric complications. **Example indicators** • Alignment of missions among relevant service providers in targeted area (NGOs, public sector). • Percentage of women of reproductive age (15 to 49 years), either married or in a union, who have their need for family planning satisfied (noted as one widely available indicator related to availability of maternal health services).

Note: ANC = antenatal care; PNC = postnatal care; NGO = nongovernmental organization..

Water, Sanitation, and Hygiene Determinant

RESULTS CHAIN › / ACTORS ›	Engage	Learn	Apply	Change
Mothers/Caregivers	• Caregivers understand the risks of not practicing good hygiene and water treatment practices for child health and nutrition. • Caregivers gain awareness of the social desirability of handwashing. • Caregivers perceive open defecation to be shameful and avoided if possible. **Example indicators** • Percent of mothers/caregivers who have heard of water purification methods and potential value, by type of method. • Percent of mothers reporting that handwashing (or other targeted WASH behavior) is socially desirable. • Percent of mothers who believe it is better to drink purified water.	• Caregivers gain knowledge on handwashing with soap and hygiene behaviors for safe food storage and preparation. • Caregivers understand adequate sanitation practices, including using a latrine and disposing of a child's feces. **Example indicators** • Percent of surveyed mothers who accurately identify moments when they need to wash hands to prevent germs from reaching food. • Knowledge and attitude scores for mothers regarding household water purification.	• Caregivers maintain adequate personal hygiene (cleanliness of clothes, cleanliness of the body, and care of hair and fingernails). • Caregivers perform the steps needed to ensure clean drinking water, such as using effective water treatment or a designated water source. • Caregivers ensure children play in sanitary areas. • Caregivers use available resources to improve sanitation for themselves and children. **Example indicators** • Percent of caregivers reporting uptake of recommended hygiene and sanitation practices during food preparation and complementary feeding of children, collected by observation checklist. • Percent of interviewed mothers reporting that they always treat their drinking water. • Rating of play area conditions using observation checklist.	• Handwashing is established as a habit in critical times, such as after defecation, after changing diapers, and before food preparation and eating. • Caregivers consistently use safely managed sanitation services, not shared with other households. • Caregivers and children consistently consume safely managed drinking water. • Households have sustained access to safe drinking water. • Household members have decreased exposure to known causes of gastrointestinal illness: drinking contaminated water, eating spoiled food, having poor personal hygiene, and having contact with standing water in the environment. **Example indicators** • Number of households within one kilometer of water (depends on geographic characteristics). • Percent of households with a handwashing facility and soap. • Household ratings for sanitation.
RESULTS CHAIN › / ACTORS ›	Engage	Learn	Apply	
Family/Household	• Household adults are aware of the risks of not practicing good hygiene and water treatment practices for the health and nutrition of children and family members. • Household adults and older children perceive open defecation to be shameful and avoided if possible. **Example indicators** • Percent of households reporting that construction of a latrine is a high priority. • Percent of surveyed adults reporting that they are ashamed to not have a toilet or latrine at their house (disaggregated by gender).	• Household adults and older children learn good water management and WASH behaviors—including effective water treatment, handwashing with soap, using a latrine. and disposing of a child's feces. **Example indicators** • Percent of households with knowledge of at least one water treatment method. • Percent of households where all adults and older children understand how and why to avoid open defecation and dispose of a child's feces.	• Household members apply knowledge to practice adequate water treatment and storage, hand hygiene, and sanitation practices. **Example indicators** • Percent of households with adults who can demonstrate how to wash correctly (confirmed by observer). • Percent of household latrines used and maintained at an acceptable level (inspection as part of Community-Led Total Sanitation effort). • Percent of households with no domestic animals in food preparation area. • Percent of households washing raw vegetables with treated water before feeding children.	

Note: WASH = water, sanitation, and hygiene.

Water, Sanitation, and Hygiene Determinant, continued

RESULTS CHAIN › / ACTORS ›	Engage	Learn	Apply	Change
Community	• Community members gain awareness of risks and loss of dignity associated with open defecation. • Community leaders commit to establishing good WASH behaviors. **Example indicators** • Agreement by community leaders to begin action planning to become ODF.	• Community leaders learn about resource requirements and needed actions for improving access to clean water and sanitation. **Example indicators** • Community leaders and/or key stakeholders demonstrate an adequate understanding of sources of financing and sanitation providers to help end open defecation (post-triggering phase of Community-Led Total Sanitation initiative).	**Community and school facilities:** • Establish handwashing stations with soap and water. • Incorporate architectural nudges to encourage handwashing. • Provide safe (hygienic) play environments for children. • Improve the collection and storage of drinking water. • Promote the use of latrines to reduce open defecation. • Apply architectural nudges, such as painting a path on the floor from a latrine to a handwashing basin to generate a measurable effect for behavior change. **Example indicators** • Establishment of community sanitation committee (number of members, bylaws). • ODF certification.	• Social norms promote good hygiene and sanitation practices. • Community allocates adequate budget and/or resources for sanitation services. • Community is ODF. **Example indicators** • Number of villages/areas where all nutrition programs that are implemented include a WASH element. • Percentage of community members indicating a strong preference and support for WASH behaviors (through survey, focus group, or community forum).
Service Providers/NGOs	• Frontline workers gain awareness of their potential impact on WASH behaviors and the link to nutrition outcomes. **Example indicator** • Percentage of service providers indicating that clean water, handwashing, use of a latrine, or other WASH behaviors play an important role for nutrition outcomes.	• Service providers understand preventative behaviors to avoid four known causes of gastrointestinal illness: drinking contaminated water, eating spoiled food, having poor personal hygiene, and having contact with standing water in the environment. • Frontline workers have effective communication skills to facilitate knowledge transfer and/or behavior change for teaching water treatment, hygiene, and sanitation practices. **Example indicator** • Frontline workers' knowledge scores regarding causes of gastrointestinal illness.	• Frontline workers teach effective sanitation and/or hygiene practices and monitor progress at household and community levels. • Health facilities establish handwashing stations with soap and water and incorporate architectural nudges to encourage handwashing. **Example indicators** • Percentage of facilities that modified follow-up supervision and monitoring to include WASH elements. • Proportion of health facilities where the main source of water is an improved source, located on premises, from which water is available.	• Community and local administrative unit has established policies and procedures for participation in water and sanitation management. • Health facilities establish standards and accountability for WASH services. **Example indicator** • Quality of standards for accountability assessed through expert review.

Note: ODF = open defecation free; WASH = water, sanitation, and hygiene; NGO = nongovernmental organization.

Examples of World Bank support in behavior change along the results chain to selected countries

The evaluation includes a case-based analysis of the World Bank's nutrition portfolio in eight countries—Ethiopia, Indonesia, Madagascar, Malawi, Mozambique, Nicaragua, Niger, and Rwanda—selected from the 65 countries covered. This table gives examples of behavior change maps in Madagascar, Nicaragua, and Rwanda.

Madagascar

Access to food and care determinant

Engage	Learn	Apply	Change
Caregivers attended nutrition sessions in the community and received messages on breastfeeding, infant care, and cooking demonstrations	Caregivers acquired knowledge on breastfeeding, complementary feeding, foods rich in micronutrients, and having a diverse diet	Households cultivated products with high nutritional value and mothers improved their breastfeeding practices	Caregivers improved the quantity and quality of dietary intake of children on a sustained basis
Related interventions: Communication by radio, community meetings, and campaigns; education by community nutrition agents; training in village culinary demonstrations with local products; demonstration sites for vegetable gardens			

Nicaragua

Access to health services determinant

Engage	Learn	Apply	Change
Home visits to mothers from midwives and health promoters promoted prevention and primary care services	Mothers learned how and when to access prevention and primary care services	Health care workers routinely evaluated women's prenatal nutritional status and provided prenatal and postnatal nutritional supplements	Women increased their use of a package of maternal and reproductive health services
Related interventions: Support to local networks of midwives and health promoters in vulnerable communities; support to maternal homes in municipalities; sexual and reproductive health training of youth			

Rwanda

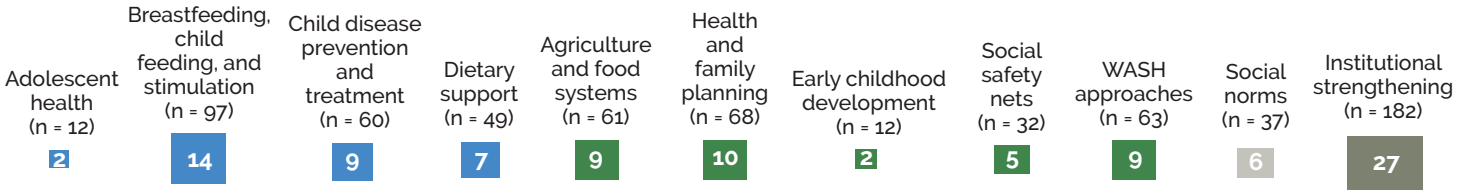
Water, sanitation, and hygiene (WASH) determinant

Engage	Learn	Apply	Change
Local leaders and community health workers trained in and promoted WASH practices	Households in home-based early childhood development programs increased their WASH practices	Households adopted water filtration and chlorination practices	Households improved access to clean drinking water sources
Related interventions: Early childhood development workers organize WASH training for parents; community health workers receive incentives for household use of water treatment; communities manage piped water through public-private partnerships			

Reference Points in the World Bank Portfolio

Findings from the evaluation of World Bank portfolio nutrition interventions identified what is working and what could be improved in targeting behavior change areas and planning along the results chain.

Behavior Change Interventions to Support Nutrition Determinants



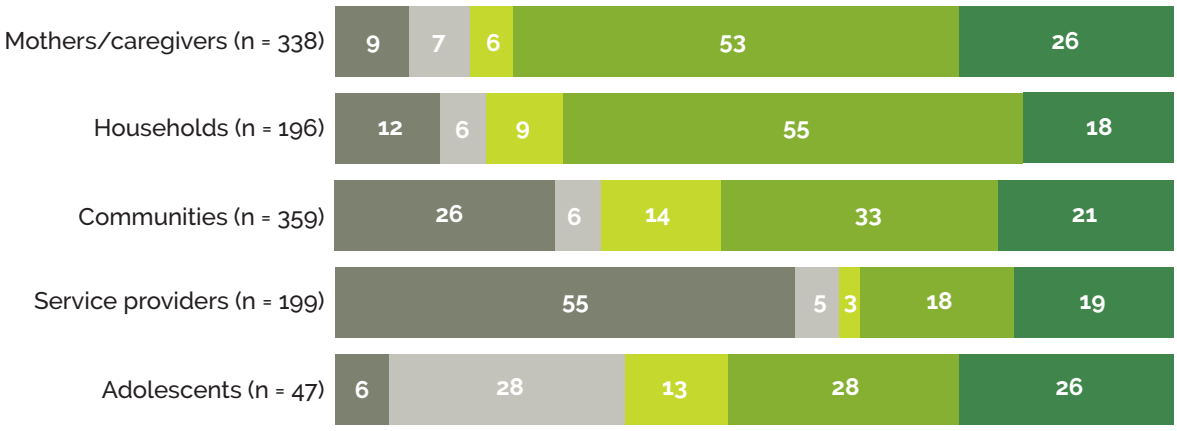
Conceptual framework examples

- Nutrition-specific examples: parent counseling and education; awareness campaigns; breastfeeding; child feeding promotion and counseling; health and nutrition promotion and counseling
- Nutrition-sensitive examples: community or backyard garden promotion; agricultural skills training; promotion of fruits and vegetables or diversification of food production; sexually transmitted disease prevention education; open defecation–free campaigns; hand washing and hygiene promotion
- Social norms examples: women's empowerment activities; awareness campaigns; life skills education
- Institutional strengthening examples: nutrition policies; performance-based financing; coordination activities; continuing education programs for service providers; community mobilization and training on nutrition and health

Sources: Independent Evaluation Group; behavior change analysis.

Note: A project was coded as having an intervention in the behavior change category if it had at least one relevant intervention. Boxes report the percentage of total interventions within each area. WASH = water, sanitation, and hygiene.

Actors Engaged in Behavior Change by Area



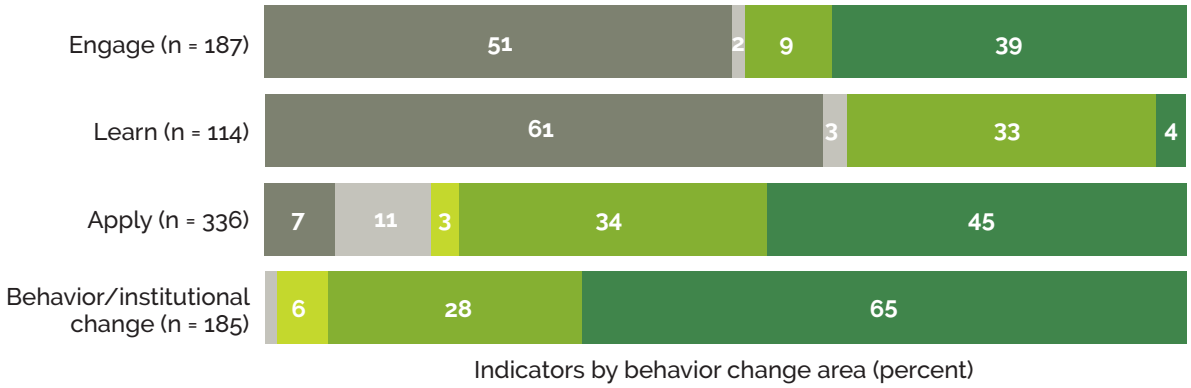
Behavior change area

- Health services
- Food and care
- Water, sanitation, and hygiene (WASH)
- Social norms
- Institutional strengthening

Source: Independent Evaluation Group.

Note: One intervention can engage multiple types of actors.

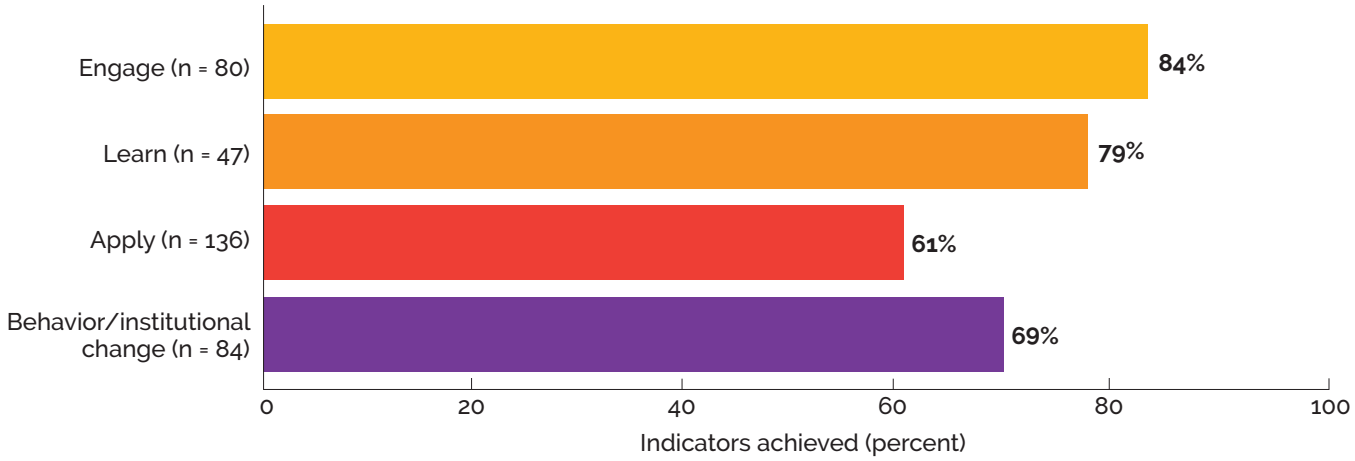
Indicators by Behavior Change Area and Results Chain Level



Behavior change area
- Health services
- Food and care
- Water, sanitation, and hygiene (WASH)
- Social norms
- Institutional strengthening

Source: Independent Evaluation Group.

Indicator Achievement Rate by Results Chain Level



Results chain level examples
- Engage examples: attending a community awareness event, joining a community mobilization session, participating in a training
- Learn examples: attending a training of women's groups on preparing nutritious foods, receiving family planning counseling, receiving livelihood and skills training
- Apply examples: following breastfeeding and complementary feeding guidelines, adhering to community health worker recommendations, applying livelihood and skills training
- Behavior/institutional change examples: consistently applying breastfeeding and complementary feeding guidelines, community-level change in applying WASH principles, consistently applying livelihood and skills training

Sources: Independent Evaluation Group; behavior change analysis.

Note: Total number of indicators in closed projects is n = 347. WASH = water, sanitation, and hygiene.