FANTA III
FOOD AND NUTRITION TECHNICAL ASSISTANCE

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Manual for Country-Level Nutrition Advocacy Using PROFILES and Nutrition Costing

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Introduction

What is nutrition advocacy?

Nutrition advocacy is a platform to create movement toward greater political and social commitment for nutrition in a country. It is a planned, systematic, and deliberate process that is defined and shaped by the specific country context.

During the past decade, the global nutrition community has been converging on a common agenda to improve nutrition, built on previously separate efforts related to micronutrient deficiencies, breastfeeding promotion, complementary feeding, and others. Efforts such as the World Bank's strategy on "Repositioning Nutrition As Central to Development" in 2006, along with the establishment of the U.N. Secretary-General's High-Level Task Force on Food and Nutrition Security, the Copenhagen Consensus (which concluded that nutrition interventions were among the most cost-effective in development), and the *Lancet* series on maternal and child nutrition (which provided a new evidence base for action on nutrition)—all in 2008—helped drive the formation of these movements. Specifically, initiatives such as the Scaling Up Nutrition Movement (SUN), REACH (Renewed Efforts Against Child Hunger), and the 1,000 Days Campaign have aspired to support country-owned, country-led strategies for addressing undernutrition.

FANTA's nutrition advocacy planning process complements these and other nutrition advocacy initiatives and can help streamline existing efforts in country by working with SUN networks and other program efforts to improve nutrition. This planning process is

What is the purpose of the manual?

The Food and Nutrition Technical Assistance III Project (FANTA), funded by the U.S. Agency for International Development and managed by FHI 360, has created this manual for facilitation at the country level of a comprehensive and consultative nutrition advocacy planning process using PROFILES and nutrition costing. Using a collaborative approach, FANTA has facilitated nutrition advocacy in several developing countries. The nutrition advocacy planning process used by FANTA as outlined in this manual was developed, expanded, and field-tested over several years to be as effective and comprehensive as possible. This nutrition advocacy planning process is based on completing three key elements at various time points in the process.

What is included in the manual?

The manual includes tools in each step such as:

- Planning and facilitation notes
- Session plans for workshop and meeting facilitators
- PowerPoint presentations
- Templates and handouts for workshop and meeting participants
- Timeline and staff needs
- PROFILES Spreadsheet Workbook

Who should use this manual?

This manual is designed to be used by practitioners who work with government and nongovernment institutions who are invited to undertake a nutrition advocacy planning process in a given country. A key element of the process is to build consensus among stakeholders in country for a shared vision for nutrition. Practitioners who would like to facilitate the nutrition advocacy planning process using this approach in a specific country should follow the steps in this manual. The skills and expertise required to conduct each step in this manual vary and are identified at the beginning of each step.

meant to be the initial phase of a broader nutrition advocacy process, followed by implementation of advocacy activities in country.

What is FANTA's nutrition advocacy planning process, and what are the key elements?

FANTA's nutrition advocacy planning process engages national stakeholders by using a participatory and consensus-building approach toward a shared national vision for nutrition. It can support a given country at any stage along the way to providing nutrition services and reducing malnutrition.

A central focus of this process is to promote accountability for nutrition and strengthen nutrition governance. For example, it can serve to support the development of a nutrition policy, increase investment of resources to strengthen and expand implementation of nutrition services, and promote greater coordination between government and nongovernmental organizations that play a role in providing nutrition services across a country.

By examining the context of the nutrition situation and tailoring advocacy needs to that situation, advocacy can be more effective in igniting change and making strides toward the desired outcome.

The three key elements of FANTA's nutrition advocacy planning process are:

1. Nutrition Advocacy Plan and Material Development
2. PROFILES
3. Nutrition Costing

Each element builds on and mutually reinforces the others. For each of these elements, the guiding principles are that:

1. A consensus-building and participatory approach is used at the country level to promote a shared vision for achieving nutrition objectives and to use the most credible data and information available as identified by in-country stakeholders, which lends credibility to the process and results.

2. The process considers the country context, and materials are tailored accordingly.

3. All the steps are completed to ensure a systematic and impactful process.

The VIPP Method

The visualization in participatory programs (VIPP) method is referred to throughout the manual. It was chosen as a facilitation method to promote a consensus-based and participatory approach and to ensure that "everyone's voice is heard" throughout the process.

VIPP materials needed and information on how to use the method are included in each session plan. Other participatory methods can also be used.

The four steps in FANTA's nutrition advocacy planning process are:

Step 1: Convene a multisectoral core working group and then conduct a stakeholder meeting on nutrition advocacy using PROFILES and nutrition costing.

Step 2: Conduct a PROFILES workshop, present preliminary results, and develop reports.

Step 3 (optional): Develop cost estimates for nutrition service delivery, present preliminary results, and develop a report.

Step 4: Conduct a national nutrition advocacy planning workshop and finalize a national nutrition advocacy plan and materials.

The order in which Steps 2, 3, and 4 are completed can vary depending on the country context. Although Steps 2 and 3 generate estimates, the estimates by themselves have little value if they are not used and embedded within a broader nutrition advocacy planning process. Therefore, **Step 4 is essential to complete**. In fact, for a nutrition advocacy tool like PROFILES, the key lesson learned from past implementation was that the estimates alone have limited use and impact in moving the nutrition agenda forward without a strategic nutrition advocacy plan and related materials. Step 3 on nutrition costing is optional as the nutrition advocacy process may be completed with or without nutrition costing. In the templates included in this manual, instructions related to nutrition costing are italicized and in brackets so that they can easily be taken out if not being done in a specific country. The process outlined ***within*** each step, however, ***should not vary*** in order to ensure that each step results in the intended outcome.

What is nutrition advocacy plan and material development?

A nutrition advocacy plan is developed to identify key audiences to be targeted by nutrition advocacy and determine a specific call to action for each. This is a critical step in the process as the plan lays out how to conduct nutrition advocacy in a systematic and coordinated way with all partners in country. In addition, the plan identifies monitoring and evaluation (M&E) indicators to track progress in achieving nutrition advocacy outcomes. Nutrition advocacy materials that support implementation of the nutrition advocacy plan are then developed, building upon and using results from the estimates generated from PROFILES and nutrition costing.

What is PROFILES?

PROFILES is a spreadsheet-based nutrition advocacy tool used to calculate consequences if malnutrition does not improve or change over a defined time period and the benefits of improved nutrition over the same time period, including lives saved, disabilities averted, human capital gains, and economic productivity gains. PROFILES also includes a section where estimates are calculated for two risk factors of stunting. PROFILES estimates are based on reduction in the prevalence of several nutrition problems, such as iron deficiency anemia; low birth weight; vitamin A deficiency; iodine deficiency; suboptimal breastfeeding practices; and childhood stunting, underweight, and wasting. The stunting risk factor estimates are based on a

reduction in a suboptimal complementary feeding practice (inadequate dietary diversity) and a reduction in teenage pregnancy. To calculate estimates, PROFILES requires current country-specific information (e.g., nutrition, demographic, and employment data) that is identified and agreed upon in collaboration with stakeholders in country.

What is nutrition costing?

Nutrition costing estimates the costs of implementing a comprehensive set of nutrition programs or interventions in a country or prioritized geographic area over a specific time period. Nutrition costing is developed in country, considering the country-specific context, and is the result of a collaborative and participatory process during which multisectoral stakeholders define the assumptions on which nutrition costing is based—for instance, selecting necessary interventions and activities and defining a management structure for service provision—which in turn allows for the identification of the required inputs for each activity and estimation of the program cost for a specified time period.

What is the difference between PROFILES and nutrition costing?

The estimates generated using PROFILES or nutrition costing answer different questions. PROFILES answers the question: What are the consequences if nutrition does not improve over a given time period or conversely, what are the benefits if nutrition improves over the same time period? The PROFILES estimates are presented in terms of health and development outcomes, such as lives saved or economic productivity gains. PROFILES gives you estimates that support the argument for why investing in nutrition is important and helps raise national awareness that malnutrition is a problem in a given country. However, it does not tell you how much it will cost a country to provide nutrition services to improve the nutrition situation.

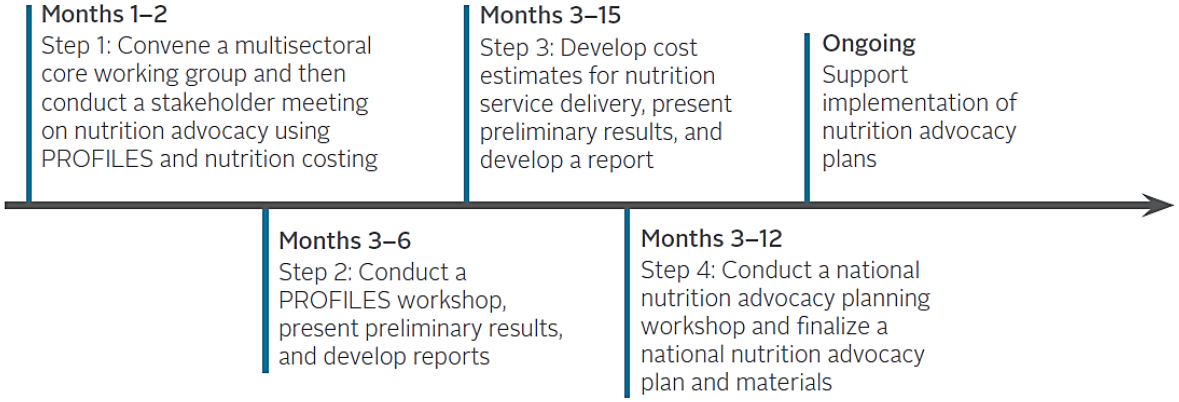
In contrast, nutrition costing, like health costing, answers the question: How much will it cost to implement nutrition programs or interventions in a given country or prioritized geographic area over a specified time period? Costing in general is a useful approach for forecasting and planning the budget allocation required for specific services, but it is also useful for advocacy to increase the funding allocated to nutrition. As such, nutrition cost estimates complement PROFILES estimates. In fact, relative to PROFILES estimates, cost estimates are more tangible in that they provide policymakers with an estimate for how much they need to invest in nutrition each year in local currency amounts. Like PROFILES estimates, nutrition cost estimates can also be projected to a population level over multiple years.

PROFILES and nutrition costing are helpful in situations where:	Advocacy processes for nutrition need to be:	Tools such as PROFILES and nutrition costing promote:
•The prevalence of many forms of malnutrition are high •Investment, commitment, governance, and accountability for nutrition are low •Nutrition services are fragmented and not holistic	•Based on a sound understanding of the current country context for nutrition •Systematic, planned, and deliberate •Part of a collaborative multisectoral effort including government and nongovernment stakeholders •Targeted at key audience segments that are influential and can promote accountability and good governance	•Insight for action •Consensus-building and a shared vision for nutrition ("one voice") •Accountability and goal-setting for investment in nutrition across the life cycle, including services along a continuum of care for the prevention and treatment of malnutrition

How long does the nutrition advocacy planning process take, and what are the follow-up steps?

The length of time this nutrition advocacy planning process takes depends on the country context. However, most countries typically take between 1 year and 18 months, depending on whether nutrition costing is part of the process. Nutrition costing typically takes about 12–18 months to complete due to the need to identify and use locally available data to develop cost estimates. Once the nutrition advocacy planning process has been completed in a country, support for the implementation of the nutrition advocacy plans may be needed depending on the country context. The four steps in this manual are the initial planning phase for nutrition advocacy in a country, and they allow for strategic and coordinated nutrition advocacy outreach to be completed over several years as a next step. In order to move the nutrition agenda forward in a country, it is essential to implement the nutrition advocacy plans after these initial four steps are completed. Also, nutrition advocacy plans and materials may need to be updated every 2–5 years depending on the country context, while PROFILES and nutrition costing estimates should be updated every 5 to 10 years (depending on country needs and the availability of new survey data). Even though new survey data may be released more frequently than 5-10 years, often the prevalence estimates for various nutrition conditions change slowly. In addition, population growth in many developing countries is high; for PROFILES estimates that are calculated based on population projections, the implication of this is that the estimates may not be that different from year to year—so repeating PROFILES in given country more often than 5-10 years often adds little value to the broader nutrition advocacy efforts, particularly given that this can be a resource intensive and expensive process. More information on timing can be found in Steps 2–4.

Illustrative Timeline and Key Steps for Nutrition Advocacy Planning Process Using PROFILES and Nutrition Costing



What final documents are developed as part of the nutrition advocacy process?

1. PROFILES final reports
2. Nutrition costing final report
3. National Nutrition Advocacy Plan and corresponding nutrition advocacy materials (targeted to audiences identified in the Nutrition Advocacy Plan)

STEP 1

Form a Multisectoral Core Working Group and Conduct a Stakeholder Meeting on Nutrition Advocacy

PLANNING

STEP 1. Form a Multisectoral Core Working Group and Conduct a Stakeholder Meeting on Nutrition Advocacy

Templates and Handouts

Find all of the related templates and handouts at the end of the manual.

The first step in conducting nutrition advocacy using PROFILES and nutrition costing in a specific country is to convene a multisectoral core working group to lead the process, which typically takes several weeks or months to complete. This is critical to establishing a consensus-building and participatory approach to promote a shared vision for achieving nutrition objectives. The core working group will help to organize and conduct a one-day stakeholder meeting with key stakeholders from the government and nongovernmental or other organizations who may be involved in nutrition advocacy efforts. The stakeholder meeting typically takes place 1 to 2 months after the core working group meeting and can be planned to occur immediately before the PROFILES workshop. The stakeholder meeting provides an opportunity to invite a larger group of stakeholders and experts to review the nutrition situation in the country, present how PROFILES and nutrition costing can support the nutrition advocacy planning process, build consensus around considerations for conducting PROFILES and nutrition costing, and discuss advocacy needs. This is important because usually the PROFILES workshop that follows has fewer participants to complete the work of developing the PROFILES estimates, and having a larger group in this stakeholder meeting allows for broader input and lends credibility to the process and outcomes. The templates provided for Step 1 should be adapted and used with these notes to assist with planning and facilitating the stakeholder meeting.

Identify staff/consultants to work with in the country

Staff or consultants with expertise in nutrition and nutrition advocacy in the country of focus should be brought on board 8–12 weeks before the stakeholder meeting. Staffing needs include the following:

1. One team member who is based in the country (a consultant or full-time staff member) and has:
   - Sound knowledge of nutrition, specific to the country of focus
   - Knowledge of and relationships with nutrition stakeholders in the government, among donors, and among implementing partners in the country
   - Knowledge of and experience with nutrition advocacy, preferably in the country of focus
2. At least two facilitators to facilitate the stakeholder meeting with a combination of skills that include:
   - Sound knowledge of public health nutrition in developing country contexts and epidemiology

- Knowledge and experience undertaking advocacy in the health sector in developing countries with some understanding of the nutrition advocacy planning process using PROFILES and nutrition costing
- Strong facilitation skills and expertise in participatory facilitation methodologies such as VIPP that build upon consensus-building and participatory principles

3. A dedicated team member to manage logistics during the stakeholder meeting

Form a multisectoral core working group

Work with local staff, consultants, government agencies, and other partners in the country to form a multisectoral core working group. Identifying core working group members and bringing them on board typically takes several weeks or months to complete. Once assembled, the core working group will help to organize a stakeholder meeting, during which they will collaborate with experts to begin discussions on information needed for PROFILES and nutrition costing, and nutrition advocacy needs. The core working group might include representatives from:

- Government agencies working in the health, agriculture, education, and gender sectors
- Bilateral and multilateral donors, such as USAID and Irish Aid, and their implementing partners
- Other development partners, such as REACH, UNICEF, WHO, WFP, and FAO
- Civil society organizations and non-government organizations
- Private sector companies and media
- Academia

Organize a stakeholder meeting

Once the core working group is assembled, schedule a meeting to review the nutrition advocacy process and organize the stakeholder meeting. Use the *Agenda for Core Working Group Meeting* to guide the meeting. It is possible that several core working group meetings are needed, but at a minimum one meeting that covers and uses the *Agenda for the Core Working Group Meeting* is needed. In the first half of the meeting, review the *Overview of Nutrition Advocacy Process* PowerPoint presentation, the handout on *Advocacy to Reduce Malnutrition*, and the *Concept Note for Nutrition Advocacy using PROFILES and Nutrition Costing*. These three materials will provide the core working group with information on the nutrition advocacy planning process and timeline. The process should be tailored to each country, however, and the templates should be adapted as appropriate.

Then, share the *Sample Agenda for First Stakeholder Meeting* template with the core working group and ask for their feedback. In particular, discuss prospective dates for the meeting and identify individuals from the government and funders/donors who could:

- Provide welcoming remarks at the meeting
- Present the nutrition situation in the country
- Wrap up the meeting
- Chair the meeting

Conduct a brainstorming session with the core working group to create an invitation list for the stakeholder meeting. Invitees should include experts in nutrition, health, agriculture, education, finance, and other fields. Consider sending invitations to government representatives from various sectors, U.N. agencies, implementing partners, representatives from academia, and any organization that may have a role in nutrition advocacy efforts. Invitation lists typically include 50–70 individuals, which should result in about 40–60 attendees.

Next, identify a government agency (such as the Ministry of Health, Prime Minister's Office, etc.) to send the invitation. The agency should send a "save-the-date" notice 6 weeks in advance of the meeting, followed by an official invitation 4 weeks before the meeting.

Manage stakeholder meeting logistics

Work with local staff, consultants, and partners in the country to secure a venue for the stakeholder meeting and manage logistical needs. Meeting space and materials needed for the stakeholder meeting include the following:

- 1 large room with tables to seat approximately 40–60 participants
- 3 breakout rooms
- 1 projector and screen for each room
- 4 flip-charts with stands
- 2 boxes of markers
- Visualization in participatory programs (VIPP) cards, index cards, or sticky notes of different colors and sizes
- 4 rolls of masking tape (if VIPP cards are not self-adhesive)
- Folders for participants with the agenda and handout on *Advocacy to Reduce Malnutrition*
- Notepads, pens, and markers
- Banner with title of meeting and necessary logos if needed
- Participant sign-in sheets

Prepare speakers and facilitators for their sessions

The *Agenda for Stakeholder Meeting*, *Session Plan* with detailed facilitator notes, and *PowerPoint templates* should be prepared to reflect the country context. At least two facilitators are needed, and it is recommended that additional resource people be available to assist with the concurrent group work sessions. The times allocated for each session are flexible—some sessions may need more or less time depending on the country context. Once these materials are updated, provide them to the speakers and each member of the facilitation team. Walk through the sessions with the team and answer any questions. Facilitators should continue to review and practice all of the sessions before arriving in the country.

Conduct the stakeholder meeting

The participants of the stakeholder meeting will:

- Consider possible time periods for the PROFILES (and nutrition costing) estimates (Note: Often a time period of about 10 years is chosen but it is not recommended to select a time period that is shorter than 7 or longer than 15 years.)
- Identify data sources for the nutrition indicators used in PROFILES to create the estimates
- Discuss by how much the prevalence of various nutrition indicators could be reduced by the end of the time period
- Begin discussions on nutrition costing
- Discuss and identify national-level needs for nutrition advocacy

Planning for the stakeholder meeting and PROFILES workshop should take place close together. See Step 2 for details on how to organize and conduct a PROFILES workshop.

STEP 1

Form a Multisectoral Core Working Group and Conduct a Stakeholder Meeting on Nutrition Advocacy

SESSION PLANS FOR THE STAKEHOLDER MEETING

Stakeholder Meeting Session Plans

Time	Detailed Notes
8:30–9:00 am	Registration **Materials needed:** Sign-in sheet
WELCOMING REMARKS AND THE PURPOSE OF THE MEETING	**Overview**: The welcoming remarks will be delivered by a government representative and the funder. There may be instances where you have more or less speakers and the agenda can be adjusted accordingly. One speaker can present the slide that describes the purpose of the meeting. **Materials needed:** PPT and talking points
9:00–9:30 am	Welcoming remarks from the Government of [insert country] and purpose of meeting *Government representative to make remarks*
9:30–10:00 am	Welcoming remarks from funder *Presented by a representative from the funding organization*
PRESENTATIONS	**Materials needed:** PPTs for each session. There is a handout on advocacy to reduce malnutrition that provides an overview of the nutrition advocacy planning process.
10:00–10:30 am	**Overview of the nutrition situation in [country] (30 minutes)** One of the participants should describe the nutrition situation in the country, providing the background and the evidence. A PowerPoint template (which provides a guideline of topics) for this session should be shared with the presenter several days before the meeting. The presentation should be 20 minutes long; allow 10 minutes for a discussion. The discussion should cover government priorities, including current policies, commitments, and vision for the next few years. For example, the government may have made commitments to the Sustainable Development Goals or the World Health Assembly Targets for 2025. Consider other government documents or policies that may pertain to malnutrition. The targets for the reduction of malnutrition should be guided by the country's situation. Facilitators should note the key points of the discussion for other sessions of the meeting and for the PROFILES workshop. It is particularly important to note the current prevalence of various nutrition problems related to micronutrients, anthropometry, breastfeeding and low birth weight, complementary feeding practices, and adolescent fertility and the specific recommended data sources for each so that later in

	the day participants can refer back to this information when they discuss targets for each of the nutrition problems and risk factors for stunting.
10:30–10:45 am	Break
10:45–11:05 am	**Global progress on nutrition (20 minutes)** This session should address world-wide issues: the prevalence and trends in malnutrition, our growing and evolving understanding of nutrition, and recent steps taken by the global community to address malnutrition. The participants will come to understand the status of nutrition in their country compared to the rest of the world.
11:05–11:25 am	**Overview of the nutrition advocacy process with PROFILES and nutrition costing (20 minutes)** This presentation provides an overview of nutrition terms and approaches, including PROFILES and nutrition costing. The presentation should be tailored to the country, and it should explain why nutrition advocacy is needed and the next steps in the process.
11:25–11:45 am	**Approach used in PROFILES (20 minutes)** This session describes the approach used in PROFILES and the assumptions. Participants should consider the following issues as they discuss the information needed for PROFILES and nutrition costing: • The current country context • The current rate of improvement in the prevalence of various nutrition problems • The current government initiatives, commitments, or goals related to nutrition • The relative frequency of national reports on nutritional data • How to determine a reasonable time period to reach their targets—keeping in mind that long and short time periods have their own advantages and disadvantages
DISCUSSION	
11:45 am–12:20 pm	**Discussion of the time period for the estimates (35 minutes)** The participants should reach an agreement on the time period for which they propose to calculate PROFILES and nutrition costing (if being undertaken) estimates. The discussion should be guided by the needs of the country as discussed in the session on the country's situation. Often a time period of about 10 years is chosen, but it is not recommended to select a time period that is shorter than 7 or longer than 15 years. Facilitators should mention that the next step will involve group work in which one group will discuss the data sources, current prevalence of nutrition problems, and the targets (how much the nutrition problems should be reduced by). Explain that the proposed time period must allow sufficient time to reach the targets. Remind the group of examples of time periods that have been used in the past: Bangladesh (2011–2021), Uganda (2013–2025), and Ghana (2011–2020). **Objectives of the session (1 minute):** Discuss the time period for the estimates

How this activity fits into the approach (1 minute): This is a key step in the process because the PROFILES Spreadsheet Workbook needs a defined time period in order to calculate estimates; the number of years for which estimates are to be calculated needs to be specified. However, deciding on a time period requires discussion with stakeholders.

Method (35 minutes): Ask the plenary the following questions. Allow 10 minutes for discussion and record the responses on a flipchart:

- What time period should we use for the estimates?
- What time period corresponds to the national vision documents?
- How much time do we need to see real change?

Mention examples from other countries: • Uganda (2013–2025) • Ghana (2011–2020) • Bangladesh (2011–2021)

GROUPWORK

12:20–12:30 pm **Introduction to group work (10 minutes)**

Explain to the participants that they may join one of three groups after lunch:

1. Data sources, current prevalence of nutrition problems, and targets for PROFILES estimates
2. Advocacy needs
3. Nutrition costing

Use the PowerPoint presentation to explain the purpose of each group.

Summary of rules for using VIPP cards

- One idea per card
- Write with broad side of the marker
- Print legibly
- Write no more than three lines per card
- Facilitator should tell participants how much time they have for each activity using VIPP cards

12:30–1:30 pm Lunch

CONCURRENT GROUPWORK SESSIONS

1:30–3:00 pm **Materials needed:** PPTs, flipcharts, cards, tape, and markers

At the beginning:

1. Present objectives of the session and how this activity fits into the broader nutrition advocacy approach.
2. Discuss visualization in participatory programs (VIPP) rules.
3. Nominate one participant to summarize the main points from the discussions in a PPT template (i.e., a slide on possible data sources, targets, and periods for each of the three groups) to present at the plenary session.

If possible, one facilitator should be assigned to work with each subgroup. Otherwise, facilitators should frequently visit each of the subgroups to make sure the discussion is moving forward.

Group 1: Data sources and targets for estimates

This group of participants will split into five subgroups that will consider: micronutrients; anthropometry; breastfeeding and low birth weight; employment, economics, and education; and risk factors of stunting. Each subgroup will discuss the sources of information and the potential targets for each of the indicators in the PROFILES Spreadsheet Workbook. Note that the employment, economic, and education subgroup will consider data sources but will not set targets because this information that is used by the PROFILES Spreadsheet Workbook to calculate estimates is kept constant, and therefore targets are not required.

Participants often have strong views on certain issues. The facilitator's role is to remain neutral while facilitating a consensus on the data sources and the targets. If an issue cannot be resolved, consider one-on-one conversations with the participants between sessions. If the participants do not agree by the end of the day, the discussion will continue in the PROFILES workshop.

Participants may want to include conservative and optimistic estimates so there may be more than one scenario. This is possible in PROFILES, but it is not common practice. The subgroups should report their conclusions during the plenary.

Objectives of the session (2 minutes):

Discuss potential data sources, current prevalence of nutrition problems, and targets for the following topic areas:

- Micronutrients
- Anthropometry
- Breastfeeding and low birth weight
- Employment, economic, and education information
- Risk factors of stunting

How this activity fits into the approach (3 minutes):

This is one of the first key steps in developing PROFILES estimates; the PROFILES Spreadsheet Workbook needs input information related to the current starting prevalence of a nutrition problem and the target prevalence (by how much that starting prevalence will be reduced by) of a nutrition problem in addition to employment, economic indicators, and education to calculate estimates. This stakeholder meeting is usually the first opportunity for participants to discuss what information they want to use in the PROFILES Spreadsheet Workbook. The stakeholder meeting is usually followed by a PROFILES workshop where a smaller group of participants will have an opportunity to further discuss and build upon the discussions in the stakeholder meeting. In the PROFILES workshop, participants will work with the PROFILES Spreadsheet Workbook to develop PROFILES results. Preliminary results will be presented immediately after the PROFILES workshop. These will be used as a resource to develop advocacy materials and conduct advocacy activities.

Method (1 hour, 25 minutes)

STEP 1: Ask the group to split into five subgroups (5 minutes):

- Micronutrients
- Anthropometry
- Breastfeeding and low birth weight
- Employment, economic, and education information
- Risk factors of stunting

	STEP 2: Ask each subgroup to discuss possible data sources, the current prevalence of nutrition problems where relevant, targets where relevant, assumptions, and interventions for each. Define each of these terms using the PPT slide. (40 minutes) **STEP 3:** Give each subgroup several cards in two different colors and ask them to list data sources on one color and the targets on the other color, and post these on a flipchart. (5 minutes) **STEP 4:** Ask each subgroup to present their results to the larger group. Each presentation and any discussion of changes should last about 10 minutes. (40 minutes)
1:30–3:00 pm	**Group 2: Advocacy needs** Participants will discuss the problems related to nutrition and the changes that are required to create an enabling environment for improvement in nutrition in the country. The participants tend to focus on social mobilization (e.g., community drama) or behavior change communication (e.g., radio and TV ads to reach families) rather than advocacy. When this occurs, gently bring the discussion back to advocacy by reminding them of the socio-ecological model and that, for the purposes of this meeting, they should focus on the "outer ring" (an enabling environment). **Objectives of the session (2 minutes):** • Discuss the overarching problems with nutrition in the country • Discuss the changes that need to occur (at the enabling environment level) to improve the situation **How this activity fits into the approach (3 minutes):** • This is the first step toward a broader nutrition advocacy plan that will be developed in the nutrition advocacy planning workshop [dates to be decided]. **Method (1 hour, 25 minutes)** **STEP 1:** Give a brief PPT presentation that refers to the socio-ecological model and how the enabling environment (political, social, and economic aspects) influences all other levels, such as the community and the household. Emphasize that we are focusing on the enabling environment through advocacy. The community and household levels (individual behaviors) would be included in an overall SBCC strategy but this session focuses only on advocacy. (5 minutes) **STEP 2:** Assign participants to form subgroups of 2 or 3 people and ask them to discuss the overarching problem(s) with nutrition in the country. (10 minutes) **STEP 3:** Give the participants three cards (of the same color) and ask them to write down one problem on each card. (5 minutes) **STEP 4:** Ask each subgroup to read one card until all the cards have been read. Collect and tape the cards on the flip charts, grouping similar ideas or themes in clusters. (20 minutes)

	STEP 5: Give each subgroup three more cards (of another color) and ask them to discuss what changes must occur (at the enabling environment level) to improve the situation. Participants will write down one suggestion on each card. (15 minutes) **STEP 6:** Ask each subgroup to read one card until all the cards have been read. Collect and tape the cards on the flip charts, grouping similar ideas or themes in clusters. (20 minutes) **STEP 7:** Wrap-up the discussion by summarizing the ideas on 1) the nature of the overarching problem(s), and 2) the changes needed at the enabling environment level. Ask the group if they would like to make any additions. (10 minutes)
1:30–3:00 p.m.	**Group 3: Nutrition costing** Participants will discuss nutrition interventions based on the current policy environment and the national goals and commitments. The participants will vote on the interventions that will be costed. In particular, the participants should discuss: • The evidence in the nutrition literature • Nutrition-specific and nutrition-sensitive interventions • Realistic cost estimates in light of data limitations • The target groups for the interventions • The level of coverage • The prevalence and forms of malnutrition across the country to determine whether interventions should be implemented with the same intensity everywhere **Objectives of the session (2 minutes):** • Identify, list, and prioritize nutrition interventions based on the current policy environment, the national goals, commitments to nutrition, and the evidence base in the nutrition literature • Discuss the target groups for these interventions, the level of coverage, the frequency of coverage, and the service delivery modality; and note the assumptions for each • Discuss the period(s) for these estimates. • Discuss the prevalence and forms of malnutrition across the country to determine whether some interventions should be implemented more aggressively in certain regions because of the scale of the problem or the nature of the problem (e.g., iron-deficiency vs. stunting) • Discuss nutrition-specific and nutrition-sensitive interventions • Identify the interventions that can be realistically costed in light of any data limitations **How this activity fits into the approach (3 minutes):** • This is the first step toward estimating the costs of a national nutrition program in [insert country]. A team is being assembled that will work on the costs of developing and expanding a nutrition program in the country. The initial results will be presented in the next few months. This is the first opportunity for stakeholders to contribute to what needs to be considered in costing a national nutrition program.

Method (1 hour, 25 minutes):

STEP 1: Provide copies of the national policy that outlines the nutrition needs and nutrition interventions. Explain that the group will be using this document to identify interventions to be costed for a national nutrition program. (10 minutes)

STEP 2: Ask the group the questions below and record the list of interventions to be costed on cards on a flipchart (35 minutes):

- Is the policy clear on which interventions should be included in a national nutrition program? What are they?
- Are any interventions missing?
- What are the challenges?
- Can any nutrition-sensitive interventions be added?
- What could be realistically costed, given potential data limitations?

STEP 3: After all of the potential interventions have been written on cards, ask each participant to vote on their top five interventions to be costed. Collect and tally all the votes and group them according to priority. (5 minutes)

STEP 4: Explain that the group will decide which interventions can be costed based on these results. Discuss the issues below for each of the prioritized interventions. Record the key points on a flipchart. (30 minutes):

- Target groups for these interventions
- Level of coverage
- Prevalence and forms of malnutrition across the country to determine whether certain interventions should be implemented more aggressively in some parts of the country

PLENARY DISCUSSION BY GROUPS

Up to seven groups will present the results of their discussions during the plenary session: five subgroups from the data sources and targets group, plus the advocacy needs group, and the nutrition costing group. If nutrition costing will not be conducted in the country, use the extra time for the presentation by the nutrition advocacy group. Allow time for discussion after each presentation

Materials needed: PPTs

3:00–4:40 pm	**Data sources and targets for estimates** One participant from each subgroup will report using the PPT slides created during their sessions. (Each of the five subgroups will have 20 minutes for presentation and discussion.)
4:40–5:20 pm	**Advocacy needs and nutrition costing** One participant from each group will report using the PPT slides created during their sessions. (The durations of the presentations and discussions will vary depending on whether nutrition costing is discussed.)

WRAP-UP AND NEXT STEPS

5:20–5:30 pm **Wrap-up and the next steps (10 minutes):** In this session, a government representative (preferably the individual who gave the welcoming remarks) will summarize the meeting and describe the next steps. Be sure to discuss the content of this presentation with the speaker before it is delivered to the audience.

STEP 2

Conduct a PROFILES Workshop to Generate Estimates for Nutrition Advocacy

PLANNING

STEP 2. Conduct a PROFILES Workshop to Generate Estimates for Nutrition Advocacy

Templates and Handouts

Find all of the related templates and handouts at the end of the manual.

Now that key stakeholders have met on the nutrition advocacy planning process and discussed key information necessary to generate the PROFILES estimates, the next step is to organize and conduct a PROFILES workshop. The workshop must be planned to take place after the stakeholder meeting but can be done immediately after or 1 to 2 months later, depending on the availability of stakeholders in country. The purpose of the workshop is to complete the *PROFILES Spreadsheet Workbook* and generate preliminary estimates that, once finalized, will be used for nutrition advocacy.

The *PROFILES Spreadsheet Workbook* consists of a set of computer-based models that calculate consequences if malnutrition does not improve or change over a defined time period (e.g., 10 years) and the benefits of improved nutrition over the same time period, including lives saved, disabilities averted, human capital gains, and economic productivity gains. PROFILES also includes a section where estimates are calculated for two risk factors of stunting. The estimates generated from this tool and its models are the cornerstone of this nutrition advocacy planning process and can be used to identify, prioritize, and advocate for evidence-based actions to reduce malnutrition in a given country.

PROFILES estimates are based on a reduction in the prevalence of several nutrition problems, such as iron deficiency anemia; low birth weight; vitamin A deficiency; iodine deficiency; suboptimal breastfeeding practices; and childhood stunting, underweight, and wasting. The estimates of reduced stunting are based on a reduction in a suboptimal complementary feeding practice (inadequate dietary diversity) and a reduction in teenage pregnancy. To calculate estimates, PROFILES requires current country-specific information that is identified and agreed upon in collaboration with stakeholders in country.

The *PROFILES Workshop Facilitator Guide* further describes the PROFILES model and includes instructions on how to use the *PROFILES Spreadsheet Workbook*. Templates (see box) provided for Step 2 should be adapted and used with these planning notes and the *PROFILES Workshop Facilitator Guide* to assist with conducting a PROFILES workshop.

Overview of the workshop design and purpose

The PROFILES workshop is designed as a 2.5-day workshop, and the main objective is to complete the *PROFILES Spreadsheet Workbook*, develop PROFILES estimates, and discuss what these estimates mean and how they can be used for nutrition advocacy. The purpose of the workshop is to task participants with activities that step by step build toward and culminate in a set of draft PROFILES estimates that can be used for nutrition advocacy. The workshop provides participants with an overview of what the *PROFILES Spreadsheet Workbook* is and how PROFILES estimates have been used for nutrition advocacy; following this, participants review results of the stakeholder meeting and confirm key inputs needed to populate the *PROFILES Spreadsheet Workbook*. The workbook is structured to align with the workshop design, which consists of three main steps. Participants specify the country and time period for which to calculate estimates; complete the demographic, economic, and education information; and finally, stage by stage, fill out the nutrition information to generate the estimates. Once these elements are completed, the workshop includes time for participants to review the final draft PROFILES estimates they have developed and to discuss the implications of these estimates for nutrition advocacy. To that end, throughout the workshop, PROFILES scoreboards are posted up on the wall so that participants can interactively view and discuss progress as they work through developing the estimates. Because each step of the workshop builds on the previous step, it is important to adhere to the order shown in the sample agenda to achieve the workshop objective of developing draft PROFILES estimates.

Identify staff/consultants to work with in the country

Begin planning for the PROFILES workshop 8–12 weeks in advance. Staff requirements include the following:

One team member based in the country with the following expertise:

- Sound knowledge of nutrition, specific to the country of focus
- Knowledge of and relationships with nutrition stakeholders in the government, among donors, and among implementing partners in the country
- Knowledge of and experience with PROFILES (or a like spreadsheet model), preferably in the country of focus

Two facilitators with a combination of skills that include:

- Sound knowledge of public health nutrition in developing country contexts and epidemiology
- A basic understanding of spreadsheet models
- Sound knowledge of nutrition advocacy, preferably in the country of focus
- Strong facilitation skills and expertise in participatory facilitation methodologies such as visualization in participatory programs (VIPP) that build upon consensus-building and participatory principles
- Strong writing and communication skills

Plan a workshop to develop PROFILES estimates

Meet with the multisectoral core working group to plan the workshop. Ask the core working group to comment on the *Agenda for the PROFILES Workshop*. In particular, discuss prospective dates for the workshop and identify individuals from the government and/or development partners/donors who could:

- Provide welcoming remarks
- Present the country context (if not covered during the stakeholder meeting)
- Wrap up the workshop
- Chair the workshop if needed

Create an invitation list during a brainstorming session with the core working group. Consider sending invitations to government representatives from various sectors, U.N. agencies, implementing partners, representatives from academia, and any organization that may have a role in nutrition advocacy efforts. Invitation lists typically range from 10–30 participants, with approximately 10–15 attendees expected.

Tip: It is recommended that at least one person from the Bureau of Statistics and one person from the Ministry of Health who works on nutrition be invited to the workshop.

Identify a government agency (such as the Ministry of Health or Prime Minister's Office) to send the invitation. This agency should send a "save-the-date" notice 6 weeks in advance of the workshop, followed by an official invitation 4 weeks before the workshop. The invitation should ask attendees to bring a laptop to the workshop. Follow up with the agency to make sure the notices and invitations are sent in a timely manner.

Next, share and discuss with the core working group the information from the *PROFILES Workshop Facilitator Guide* on "Information Needed to Conduct a PROFILES Workshop," which provides a quick overview of the information/data needs for the spreadsheet workbook. It is critical to review the information needs at least several weeks before the workshop as some indicators may be difficult to obtain on short notice and will require support from in-country stakeholders to acquire.

Manage workshop logistics

Work with local staff, consultants, and/or partners in the country to secure a venue and manage logistical needs, and to identify someone who can provide ongoing administrative and logistical support during the workshop. Meeting space and materials needed for the workshop include the following:

- 1 large room with tables to seat approximately 10–15 participants, with room for participants to break into three small groups, and with room for the six *PROFILES scoreboards* (which need to be printed[1]) to be hung on the walls

[1] See the scoreboard file in the final section of this manual for more information on the print specifications for the scoreboards.

- 1 projector and screen for each room
- 5–7 flip charts and stands
- 2–3 boxes of markers
- 4–6 rolls of masking tape
- Visualization in participatory programs (VIPP) cards, index cards, and/or sticky notes of different colors and sizes (typically around 200 8X5 cards and 200 4x6 cards in 8 different colors each are used)
- 4 GB flash drives loaded with workshop materials to be given to each participant (*see Session Plans for more information on what to put on the flash drive)*
- Folders with agendas for participants and workshop handouts
- Notepads and pens
- Banner with title of meeting and necessary logos if needed
- Name tags
- Printer and paper
- Sign-in sheets for participants
- Staff person who can provide ongoing administrative and logistical support during the workshop

Prepare speakers and facilitators for their sessions

The *Sample Agenda for the PROFILES Workshop* and *PowerPoint templates* should be adapted to reflect the country context. See the *Facilitator Guide* and *Session Plans* for detailed facilitator notes. These provide a guide for the workshop, but the content of the sessions should be tailored to each country. The times allocated for each session are flexible—some sessions may need more or less time depending on the country context. Once these materials are updated, provide them to each member of the facilitation team, along with the *Facilitator Guide and handouts*. Walk through the sessions with the team and answer any questions. Facilitators should continue to review and practice all of the sessions before the workshop.

Conduct the workshop

Prior to the start of the workshop, check the meeting rooms to ensure there is enough room for participants to meet in plenary and small groups and for the *PROFILES scoreboards* to be hung on the walls. It is also recommended that facilitators familiarize themselves with the available in-country information to input into the *PROFILES Spreadsheet Workbook* and review the spreadsheet (and potentially do a trial run). Data that would likely be used in the PROFILES workshop (e.g., nutrition data from the most recent Demographic and Health Survey and/or Multiple Indicator Cluster Survey) could be used for the trial run.

Participants at the workshop will:

- Complete the *PROFILES Spreadsheet Workbook* and generate preliminary results that, once finalized, will be used in nutrition advocacy efforts

During the workshop, ideally on the night of the second day, the facilitators will need to fill in the *Preliminary Results PowerPoint (PPT)* presentation with the results generated during the workshop. The PPT should be shared with participants on the final day of the PROFILES workshop. The PPT can be used to share the preliminary estimates either immediately following the workshop or during the nutrition advocacy planning workshop (described in Step 4).

After the workshop:

Finalize the estimates generated during the PROFILES workshop

After the PROFILES workshop, there may still be additional information that needs to be clarified and/or agreed upon to finalize the estimates that were generated during the workshop. Work with the workshop participants and other relevant stakeholders/parties to address any existing information needs to finalize the PROFILES results.

Finalize the PROFILES report

Once the estimates are finalized, draft a PROFILES report and summary report to share the results of the workshop and the process used to generate the estimates (see report examples from various countries). Share a draft of the report and summary with the core working group to obtain feedback and discuss dissemination before finalization.

PROFILES estimates, along with nutrition costing estimates (see Step 3), can be used to support nutrition advocacy efforts (see Step 4).

STEP 2

Conduct a PROFILES Workshop to Generate Estimates for Nutrition Advocacy

FACILITATOR'S GUIDANCE

Glossary of Terms in the Context of PROFILES

TERM/PHRASE	DEFINITION/USAGE
Acute malnutrition	(See wasting.)
Anemia	A sign of malnutrition. When the amount of hemoglobin in the blood is inadequate, a person is said to suffer from anemia, which reduces the oxygen-carrying capacity of red blood cells. Anemia can be caused by iron deficiency due to low dietary intake, poor absorption of iron, or blood loss. However, anemia is also caused by infectious diseases such as malaria, hookworm infestation, and schistosomiasis, and genetic diseases. Pregnant women, infants, and young children are particularly vulnerable to anemia. Maternal anemia increases the risk of maternal and perinatal mortality, preterm birth, and low birth weight. In children, anemia impairs cognitive development, and in adults, it reduces work productivity (especially heavy physical labor). Anemia is typically defined as having a blood hemoglobin level less than 11 g/dl in pregnant women and children under 5 years, less than 11.5 g/dl in children 5–11 years of age, less than 12 g/dl in non-pregnant women and children 12–14 years of age, and less than 13 g/dl in men. (Some surveys/studies might use a cutoff of 12 g/dl for children 5–11 years of age).
Anthropometry	The study and technique of human body measurement. It is one tool used to measure and monitor the nutritional status of an individual or group. Examples of anthropometric measures include weight and height, which are used to form indices such as weight-for-height, height-for-age, and weight-for-age. Three indicators of undernutrition (wasting, stunting, and underweight) included in PROFILES are derived from these indices.
Body mass index (BMI)	Defined as an individual's body mass (in kg) divided by height (in meters) squared: BMI = kg/m^2. BMI is used to identify moderate and severe undernutrition among adults but can also be used to identify overweight and/or obesity.
Chronic malnutrition	(See stunting.)
Cretinism	A severe mental and physical disability that occurs in the children of women who have severe iodine deficiency in early pregnancy. (Also see iodine deficiency disorders.)

TERM/PHRASE	DEFINITION/USAGE
Dietary diversity	Minimum dietary diversity is defined as the proportion of children 6–23 months of age who receive foods from four or more food groups. Dietary diversity serves as a proxy for adequate nutrient density of foods, and evidence indicates that consumption of at least four food groups would mean that the child had a high likelihood of consuming at least one animal-source food, one fruit or vegetable, and a staple food. The seven food groups used to define minimum dietary diversity include: 1) grains, roots, and tubers; 2) legumes and nuts; 3) dairy products (milk, yogurt, cheese); 4) flesh foods (meat, fish, poultry, and liver/organ meats); 5) eggs; 6) vitamin-A-rich fruits and vegetables; and 7) other fruits and vegetables.
Discounting	(See economic productivity.)
Early initiation of breastfeeding	Putting an infant to the breast (to breastfeed) within an hour of birth.
Economic activity rate, also called labor force participation rate	The proportion of the working age population (15–64 years) actually working or available to work (the numerator includes employed and unemployed). This is distinguished from the employment--to-population-ratio, which does not include the unemployed in the numerator.
Economic productivity	PROFILES estimates the present day value of future productivity taking into account expected mortality from other causes and using a discount rate. Discounting reflects the human tendency to devalue anything in the future; it is independent of inflation and is determined by the "social discount rate," usually taken as 3% per year. The models use current country-specific employment and labor force participation rates, and current divisions between different occupations. In PROFILES, among children, estimates of future economic productivity losses attributed to stunting, iodine deficiency, and iron deficiency anemia are related to poor physical and cognitive development, which affects school performance and, later in life, earning potential. Economic productivity losses are also estimated in relation to iron deficiency anemia among adults, which is a reflection of decreased capacity to do manual labor. In PROFILES, when contrasting the results between the status quo and the improved scenarios, the difference reflects the benefits of improved nutrition expressed as economic productivity gains (or, put another way, economic productivity losses averted).
Equivalent school years of learning	Used in PROFILES to quantify human capital losses in terms of reduced learning ability related to stunting. This unit of measurement sums the deficit in children's reduced learning ability across all the years when a child is supposed to be in school according to a country's education policy.
Exclusive breastfeeding	The feeding of an infant only with breast milk from his or her mother or a wet nurse, or expressed breast milk, and no other liquids or solids except vitamins, mineral supplements, or medicines in drop or syrup form. Exclusive breastfeeding is recommended until an infant reaches 6 months of age.

TERM/PHRASE	DEFINITION/USAGE
Goiter	Abnormal enlargement of the thyroid gland in the neck. Iodine deficiency can cause goiter. Goiter can be assessed by inspection and palpation of the thyroid gland, or by ultrasonography.
Human capital	Intangible collective resources possessed by individuals and groups within a given population. These resources include all the knowledge, talents, skills, abilities, experience, intelligence, training, judgment, and wisdom possessed individually and collectively, the cumulative total of which represents a form of wealth available to nations and organizations to accomplish their goals. Human capital is available to generate material wealth for an economy or a private firm. In a public organization, human capital is available as a resource to provide for the public welfare. How human capital is developed and managed may be one of the most important determinants of economic and organizational performance.
Improved scenario	(See PROFILES.)
Iodine deficiency disorders	A range of abnormalities that result from iodine deficiency, including goiter, cretinism, and reduced IQ. Iodine deficiency during fetal life is the main cause of preventable brain damage worldwide. Iodine deficiency among pregnant women and during the first few months of infancy leads to irreversible brain damage of various degrees of severity in the infant.
Lives saved	In the context of PROFILES, lives saved reflects the number of lives saved due to a reduction in the prevalence of various nutrition problems (such as stunting, wasting, underweight, vitamin A deficiency, anemia, suboptimal breastfeeding practices, and low birth weight) in the improved scenario of PROFILES. (Also see PROFILES.)
Low birth weight	Refers to when an infant weighs less than 2,500 g (5.5 lbs) at birth. It is usually an outcome of intrauterine growth retardation and/or preterm birth. Low birth weight is not only closely associated with increased risk of fetal and neonatal mortality and morbidity, but also with increased risk of inhibited growth, poor cognitive development, and chronic diseases later in life.
Malnutrition	Malnutrition is an abnormal physiological condition caused by inadequate, excessive, or imbalanced intake of nutrients. It includes undernutrition, overweight/obesity, and micronutrient deficiencies. Undernutrition is a consequence of a deficiency in nutrient intake and/or absorption in the body. Different forms of undernutrition, which can appear isolated or in combination, include wasting and/or bilateral pitting edema (acute malnutrition), stunting (chronic undernutrition), underweight (combined form of wasting and stunting), and micronutrient deficiencies. Undernutrition in women is associated with increased risk of maternal mortality and delivering babies with low birth weight. In children, undernutrition is associated with increased risk of illness and death, as well as compromised physical and cognitive development.
Micronutrients	Essential vitamins and minerals required in small amounts by the body throughout the life cycle.

TERM/PHRASE	DEFINITION/USAGE
Micronutrient deficiencies	A consequence of reduced micronutrient intake and/or absorption in the body. The most common forms of micronutrient deficiencies are related to iron, vitamin A, and iodine deficiency.
Mortality	(See subcategories below.)
Infant mortality	The probability of dying before the first birthday, expressed as number of deaths per 1,000 live births.
Maternal mortality	The maternal mortality ratio is defined as the ratio of the number of maternal deaths per 100,000 live births. In population surveys, maternal deaths are generally defined as deaths during the reproductive process—that is, during pregnancy, childbirth, or within 2 months after the birth of a child or termination of a pregnancy.
Neonatal mortality	The probability of dying during the neonatal period, expressed as number of deaths per 1,000 live births. The neonatal period is generally defined as the first 28 days of life. In population surveys, deaths in the first month of life are often used in neonatal mortality estimates.
Perinatal mortality	The probability of dying during the perinatal period, generally defined as the number of stillbirths plus deaths in the first week of life per 1,000 total births.
Under-5 mortality	The probability of dying before the fifth birthday, expressed as number of deaths per 1,000 live births.
Nutrition advocacy	A platform to create movement toward greater political and social commitment for nutrition in a country. It is defined and shaped by the specific country context. Nutrition advocacy can support a given country at any stage along the way to providing nutrition services and reducing malnutrition. A central focus of nutrition advocacy is to promote accountability for nutrition and strengthen nutrition governance. For example, nutrition advocacy can serve to support the development of a nutrition policy, investment of resources to strengthen and expand implementation of nutrition services, greater coordination between government and nongovernmental organizations that play an important role in providing nutrition services across the country, or a variation of these.
Nutrition costing	Estimates the costs of implementing a comprehensive set of nutrition programs in a country or prioritized geographic area over a specific time period. Nutrition costing is developed in the country, considering the country-specific context, and is the result of a collaborative and participatory process during which multisectoral stakeholders engage in defining the assumptions on which nutrition costing is based—for instance, selecting necessary interventions and activities, and defining a management structure for service provision—which in turn allows identification of the required inputs for each activity and estimation of the program cost for a specified time period.

TERM/PHRASE	DEFINITION/USAGE
Odds ratio	A measure of association between a risk factor and a disease (or health outcome). Specifically, in a case control study, the odds ratio is the odds that a case (one with the disease) was exposed to the risk factor divided by the odds that a control (one without the disease) was exposed to the same risk factor.
Permanent disability	Within the context of PROFILES, permanent disability refers to the lifelong impairment or loss of a person's physical or mental abilities due to a nutritional condition early in life.
Population attributable fraction (PAF)	Proportion (fraction) of a disease (or health outcome) in a population that is attributable to a specific risk factor or that could be avoided by eliminating the risk factor. PAF is calculated as a function of the prevalence of exposure to the risk factor and the relative risk. An example from PROFILES is the proportion of child deaths attributable to underweight.
Prevalence	Refers to the number of cases of a disease that are present in a particular population at a given time, often expressed as percentage or proportion. PROFILES uses point prevalence—which is the prevalence at a point in time, often referred to as a snapshot of a population.
PROFILES	Developed to support nutrition advocacy, PROFILES consists of a set of computer-based models that calculate consequences if malnutrition does not improve over a defined time period and the potential benefits of improved nutrition over the same time period, including lives saved, disabilities averted, human capital gains, and economic productivity gains. To calculate estimates, PROFILES requires current country-specific nutrition data that are identified and agreed upon in collaboration with stakeholders in the country. The basic approach in PROFILES is to provide two scenarios: a “status quo” scenario and an “improved” scenario. The status quo scenario assumes there will be no change from the current situation throughout the chosen time period (the number of years for which estimates are calculated), aside from projected changes in population size and structure. The prevalence of each nutrition problem remains the same every year in the status quo scenario. In contrast, in the improved scenario—with results estimated for the same time period—it is expected that nutrition interventions that are known to be effective are implemented at scale and succeed in reaching the stated targets in terms of improvements in the prevalence of the various nutrition problems. Although nutrition interventions are not included in the PROFILES models, the subsequent steps in the nutrition advocacy process can address the need for various nutrition services, interventions, programs, or issues related to the nutrition policy environment. The improved scenario prevalence targets for the various nutrition problems are determined and agreed upon through stakeholder meetings and a PROFILES workshop.

TERM/PHRASE	DEFINITION/USAGE
Relative risk	Measures the association between a risk factor and a disease or health outcome. It describes the likelihood of developing disease in a group exposed to the risk factor compared to a non-exposed group. The relative risk is a ratio calculated as the risk of disease among those exposed to the risk factor divided by the risk among the non-exposed.
Risk factor	Any characteristic that increases the likelihood of a disease (or health outcome).
Starting prevalence in PROFILES	The prevalence at the start of the time period for which the *PROFILES Spreadsheet Workbook* will calculate estimates. This may or not be the current prevalence of a nutrition condition because national surveys are done a few years apart and existing data may be not be current. Therefore, it is recommended that PROFILES use the most recent or the most credible prevalence data available as identified by stakeholders.
Status quo scenario	(See PROFILES.)
Stunting/stunted	Stunting, or chronic malnutrition, describes nutritional status as measured by height-for-age. A child who is below -2 standard deviations from the World Health Organization 2006 Growth Standards reference median for height-for-age is considered to be too short for his/her age, or stunted, which is a condition reflecting chronic nutritional deficiency. Stunting is a result of prolonged or repeated episodes of undernutrition often starting before birth. This type of undernutrition is best addressed through preventive maternal health programs aimed at pregnant women, infants, and children under 2 years of age. Program responses to stunting require longer-term planning and policy development.
Suboptimal breastfeeding practices	The breastfeeding model in PROFILES looks at suboptimal breastfeeding practices as no, partial, or predominant breastfeeding when children are 0–5 months versus exclusive breastfeeding and as no breastfeeding among children 6–23 months versus any breastfeeding. Suboptimal breastfeeding practices are an important contributor to infant and young child mortality due to an increased risk of infection. In PROFILES, predominant breastfeeding among infants 0–5 months of age refers to those who received breast milk as the predominant source of nourishment during the previous day. Predominant breastfeeding allows oral rehydration salts, vitamin and/or mineral supplements, ritual fluids, water and water-based drinks, and fruit juice. Other liquids, including non-human milk and food-based fluids, are not allowed, and no semi-solid or solid foods are allowed. Partial breastfeeding among infants 0–5 months of age refers to those who received breast milk as well as non-human milk, food-based fluids, and/or semi-solid/solid foods.
Target prevalence in PROFILES	This refers to the prevalence at the final year of the chosen time period. For example, if the starting prevalence is 35%, stakeholders may decide that the target prevalence by the end of the time period is 15%. That is what the prevalence should be by the final year of the time period.

TERM/PHRASE	DEFINITION/USAGE
Targeted reduction in prevalence in PROFILES	Refers to the proportion reduction in prevalence to reach the target prevalence.
Teenage pregnancy: Births to teenage mothers	Among all births, the percentage of births that are to mothers less than 20 years of age.
Time period in PROFILES	Refers to the period (number of years) for which the PROFILES estimates will be calculated.
Undernutrition	(See malnutrition.)
Underweight	Describes nutritional status as measured by weight-for-age among children under 5. Underweight is a composite form of undernutrition that includes elements of stunting and/or wasting and is defined by a weight-for-age z-score below -2 standard deviations from the reference median (World Health Organization 2006 Child Growth Standards).
Vitamin A deficiency	Vitamin A is an essential nutrient required for maintaining immune function, eye health, vision, growth, and survival in human beings. Vitamin A-deficient children are at risk of severe visual impairment and blindness (xerophthalmia—including Bitot's spots and corneal ulceration—is among the ophthalmic manifestations of vitamin A deficiency). They also have a higher risk of death (e.g., from diarrhea and measles). A common indicator of vitamin A deficiency is the level of retinol (a form of vitamin A) in blood. The recommended cutoff for mild (or subclinical) vitamin A deficiency among children is < 0.70 µmol/l.
Wasting/wasted	Wasting, or acute malnutrition, describes nutritional status as measured by weight-for-height. A child who is below -2 standard deviations from the World Health Organization 2006 Growth Standards reference median for weight-for-height is considered to be too thin, or wasted, which is a condition reflecting acute or recent nutritional deficit. It is a result of a sudden lack of an adequate amount or variety of food or severe and/or repeated infections. Severe wasting is a form of undernutrition that can be fatal. There are different levels of severity of acute malnutrition: moderate acute malnutrition and severe acute malnutrition.
Weight-for-age	(See underweight.)
Weight-for-height	(See wasting.)

TERM/PHRASE	DEFINITION/USAGE
Z-score	The World Health Organization (WHO) Global Database on Child Growth and Malnutrition uses a z-score system to express the anthropometric value as number of standard deviation (SD) units (or z-scores) below or above the reference mean or median value. WHO uses a cutoff point of < -2 SD to classify low weight-for-age, low height-for-age, and low weight-for-height as moderate and severe underweight, stunting, and wasting. WHO uses a cutoff point of < -3 SD to define severe underweight, stunting, and wasting.

Introduction

Templates and Handouts

Find all of the related templates and handouts at the end of the manual.

This section is intended to be used as part of the country-level nutrition advocacy process and has been developed to help PROFILES workshop facilitators prepare in advance of facilitating a PROFILES workshop. The purpose of this guidance is to provide the PROFILES workshop facilitator(s) with an overview of why PROFILES was developed, how it has been used in the past, the approach used in PROFILES to calculate the estimates to be used for nutrition advocacy, and the scientific basis upon which each of the models in PROFILES was created. It also introduces the *PROFILES Spreadsheet Workbook* and how it works, clarifies the type of information the spreadsheet needs to calculate estimates, and explains how the estimates should be used and interpreted. The information provided complements the information and guidance found in the *PROFILES Spreadsheet Workbook*, the workshop session plans, and PowerPoint (PPT).

Why PROFILES Was Developed and How It Has Been Used

"Before we had PROFILES, all we had was pictures of malnourished children"

-PROFILES workshop participant

PROFILES, a tool to support country-level nutrition advocacy, was developed in the early 1990s to raise awareness of the consequences of malnutrition in terms of key development outcomes, such as child mortality and economic productivity. Since then, PROFILES has been used in over 30 countries, as shown in the map on page 3. An important lesson learned early on was that, while the estimates created by PROFILES were useful, in order to effectively spur action, they needed to be embedded within a broader national nutrition advocacy process. The PROFILES workshop is a key step in a consensus-building and participatory approach that engages national stakeholders, arriving at a set of country-specific estimates that support a harmonized, deliberate, and strategic set of nutrition advocacy materials and key content tailored for specific audiences. Over the years, the *PROFILES Spreadsheet Workbook* has been updated with the latest evidence linking malnutrition to health and other outcomes. Old models have been revised and new models have been added. More details on the current *PROFILES Spreadsheet Workbook* are provided in the following sections of this guide.

Box 1. What Is Nutrition Advocacy?

Nutrition advocacy is a platform to create movement toward greater political and social commitment for nutrition in a country. It is a planned, systematic, and deliberate process that is defined and shaped by the specific country context. FANTA's nutrition advocacy planning process engages national stakeholders by using a participatory and consensus-building approach toward a shared national vision for nutrition. It can support a given country at any stage along the way to providing nutrition services and reducing malnutrition. A central focus of this process is to promote accountability for nutrition and strengthen nutrition governance. For example, nutrition advocacy can serve to support the development of a nutrition policy, investment of resources to strengthen and expand implementation of nutrition services, and greater coordination between government and nongovernmental organizations that play a role in providing nutrition services across a country. By examining the context of the nutrition situation and tailoring advocacy needs to that situation, advocacy can be more effective in igniting change and making strides toward the desired outcome.

Box 2. Key Principles of PROFILES

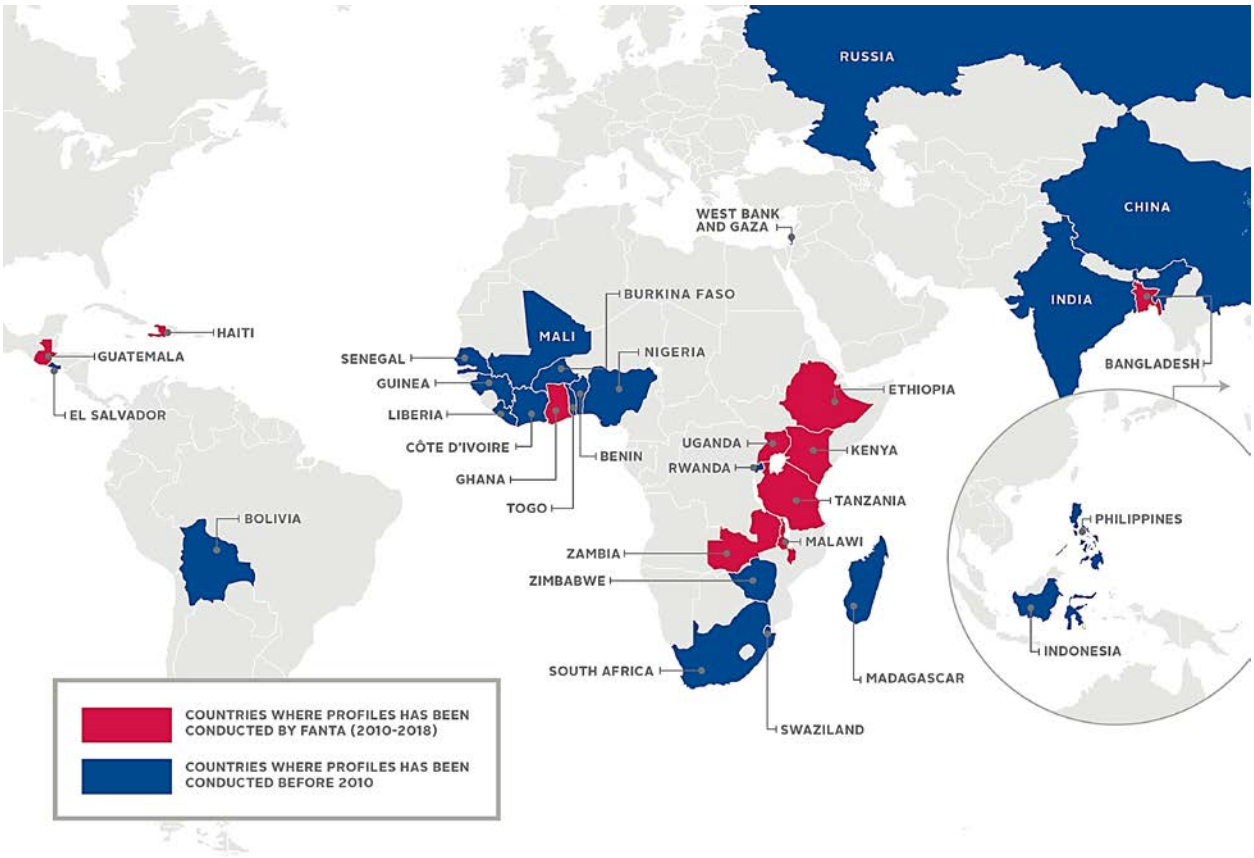
Key principle 1. PROFILES should be used as part of a broader nutrition advocacy process. The estimates themselves have little value if not embedded within a broader nutrition advocacy process.

Key principle 2. Use a consensus-building and participatory approach to engage national stakeholders to develop the PROFILES estimates based on the latest nutrition data available. This lends credibility to both the process and the results, assuring that stakeholders can stand behind the estimates and advocate with one voice for nutrition.

Key principle 3. PROFILES estimates should be updated every 5 to 10 years (depending on country needs and the availability of new survey data). Even though new survey data may be released more frequently than every 5 to 10 years, often the prevalence estimates for various nutrition conditions change slowly. In addition, population growth in many developing countries is high; for PROFILES estimates that are calculated based on population projections, the implication of this is that the estimates may not be that different from year to year—so repeating PROFILES in a given country more often than every 5 to 10 years often adds little value to the broader nutrition advocacy efforts, particularly given that this can be a resource-intensive process.

Key principle 4. PROFILES has been developed for use at the national level, and the population projections included in the *PROFILES Spreadsheet Workbook* are national level estimates. As such, PROFILES cannot be used at the sub-national level to generate estimates. For sub-national advocacy, it is recommended that the national estimates be utilized to support sub-national advocacy efforts in combination with other relevant data and literature for those regions of a given country. The one exception is India, where, due to its large population size and decision-making structure, sub-national estimates by state are recommended.

Figure 1. Countries Where PROFILES Has Been Conducted



Asia	Africa		Latin America/Caribbean	Eastern Europe	Middle East
Bangladesh	Benin	Rwanda	Bolivia	Russia	West Bank and Gaza
China	Burkina Faso	Senegal	El Salvador		
India	Côte d'Ivoire	South Africa	Guatemala		
Indonesia	Ethiopia	Swaziland	Haiti		
Philippines	Ghana	Tanzania			
	Guinea	Togo			
	Kenya	Uganda			
	Liberia	Zambia			
	Madagascar	Zimbabwe			
	Malawi				
	Mali				
	Nigeria				

Overview of the Approach Used in the PROFILES Models to Calculate Estimates

PROFILES consists of a set of computer-based models that calculate consequences if malnutrition does not improve over a defined time period and the benefits of improved nutrition over the same time period, including lives saved, disabilities averted, human capital gains, and economic productivity gains. Conceptually, the basic approach in PROFILES is to compare two scenarios: a "status quo" scenario and an "improved" scenario.

The **status quo scenario** assumes there will be no change from the current situation throughout the chosen time period (the number of years for which estimates are calculated), aside from projected changes in population size and structure. The prevalence of each nutrition problem remains the same every year in the status quo scenario.

In contrast, in the **improved scenario**—with results estimated for the same time period—it is expected that nutrition interventions that are known to be effective are implemented at scale and succeed in reaching the stated targets in terms of improvements in the prevalence of the various nutrition problems.

Box 3. Key PROFILES Terms

Time period: The period (number of years) for which the PROFILES estimates will be calculated

Starting prevalence: The prevalence at the start of the time period for which the *PROFILES Spreadsheet Workbook* will calculate estimates

Target prevalence: The prevalence at the final year of the chosen time period

Targeted reduction in prevalence: The proportion reduction in prevalence to reach the target prevalence

The targets reflect the proportion by which nutrition problems will be reduced over the chosen time period and are determined and agreed upon through stakeholder meetings and a PROFILES workshop. In the status quo scenario, the negative consequences are expressed, for example, in terms of deaths, disabilities, and losses in human capital and in economic productivity. Differences between the status quo and the improved scenarios reflect the benefits of improved nutrition, expressed as lives saved, disabilities averted, human capital gains, and economic productivity gains.

Figure 2 provides an illustrative example of the approach used in PROFILES to calculate estimates for child deaths (and lives saved) related to stunting. For the purpose of providing an example of how PROFILES calculates the estimates for the status quo and the improved scenario (which has a decreasing prevalence of stunting), the number of children under 5 has been kept constant. But in the actual PROFILES model, there is usually an increase in the number of children each year based on population projections. The graphs show how the status quo scenario (Figure A within Figure 2) vs. the improved scenario (Figure B) is used to provide estimates of lives saved (or deaths averted) related to stunting among children under 5 years during a 10-year period. Figure C shows the number of lives saved, calculated by subtracting the number of deaths in the improved scenario from the number of deaths in the status quo

scenario. A comparable approach is used in PROFILES to estimate the benefits related to other nutrition indicators.

The calculations in the PROFILES spreadsheet models presume that, while effective interventions would be put in place, they would not be implemented at scale from the start but would be implemented gradually over the selected time period and that improvement in the nutrition indicators and consequently lives saved would be gradual. For this reason, the estimates of lives saved or economic productivity gains are smaller than the total number of lives lost or economic productivity lost over the chosen time period. For example, the graphs in Figure 2 show that, despite the decrease in the prevalence of stunting with the improved scenario, at the end of the 10-year time period, the number of lives lost is still greater than the number of lives saved. This is because it is assumed that the decrease in the prevalence of stunting will be linear and therefore reductions in child mortality attributable to stunting will be gradual, and as such the gains in lives saved will also be gradual. This same basic approach is used in all the models in PROFILES.

Nutrition interventions are not included in the *PROFILES Spreadsheet Workbook*; however, the country-level nutrition advocacy process can more broadly raise the need for various nutrition services, interventions, programs, or issues related to the nutrition policy environment.

Figure 2. Status Quo Scenario vs. Improved Scenario: Approach Used in PROFILES to Calculate Estimates of Lives Saved and Economic Productivity Gains Related to Various Nutrition Indicators

Illustrative Example of Number of Lives Saved (or Deaths Averted) Related to Stunting for Children under 5 Years, 2013–2022

Figures A–C provide an illustrative example of the approach used in PROFILES to calculate estimates for child deaths (and lives saved) related to stunting. (Information shown in these graphs is not from [insert country] PROFILES [insert year].) For the purpose of providing an example of how PROFILES calculates the estimates for the status quo and the improved scenario, the number of children under 5 has been kept constant. But, in the actual PROFILES model, there is usually an increase in the number of children under 5 each year based on population projections. The graphs show how the status quo scenario (Figure A) vs. the improved scenario (Figure B) is used to provide estimates of lives saved (or deaths averted) related to stunting among children under 5 years during a 10-year period. Figure C shows the number of lives saved, calculated by subtracting the number of deaths in the improved scenario from the number of deaths in the status quo scenario. A comparable approach is used in PROFILES to estimate the number of lives saved (or deaths averted) related to other nutrition indicators and to estimate economic productivity gains related to selected nutrition indicators.

Figure A. Status Quo Scenario

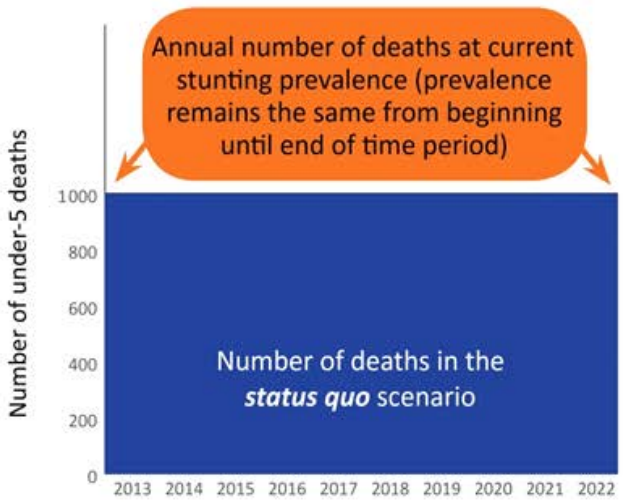


Figure B. Improved Scenario

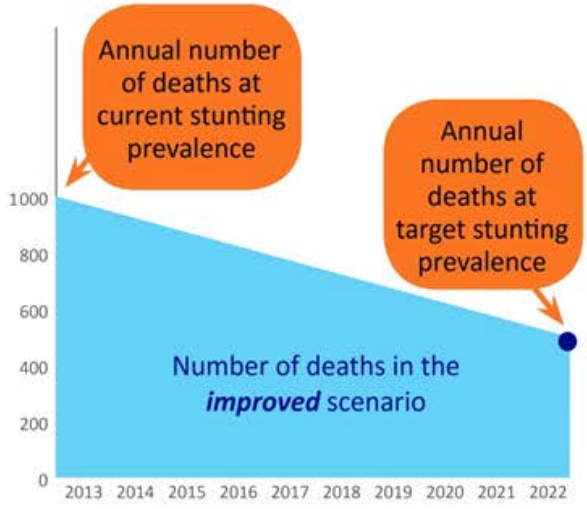
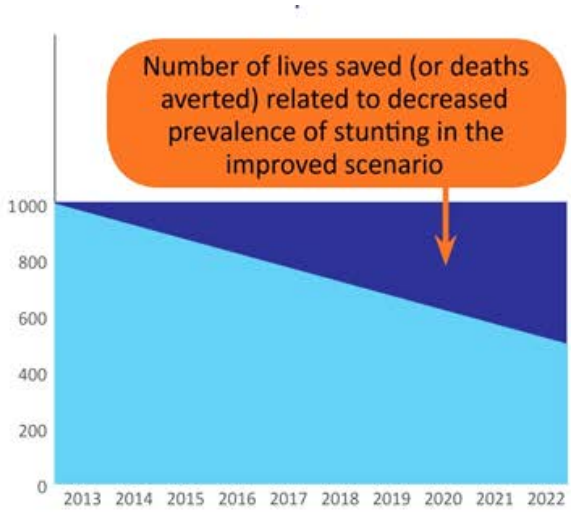


Figure C. Improved Scenario Superimposed on Status Quo Scenario



Scientific Basis for the Nutrition Problems and Consequences Addressed in PROFILES

PROFILES estimates reductions in the number of deaths and permanent disabilities, reductions in childhood overweight/obesity, and the gains in human capital and economic productivity that can result from improvement in the prevalence of several nutrition indicators, namely, iron deficiency anemia; low birth weight; suboptimal breastfeeding practices; vitamin A deficiency; iodine deficiency; and childhood stunting, underweight, and wasting. Each nutrition indicator has a model in PROFILES that is based on the evidence in the scientific literature that demonstrates an association between that nutrition indicator and an outcome of interest. For example, stunting, underweight, and wasting are leading causes of child mortality. In addition, human capital losses attributed to stunting are related to poor cognitive development that can result in less learning over time. Economic productivity losses attributed to stunting and iodine deficiency also are related to poor physical and cognitive development, which affect school performance and, later in life, earning potential. Economic productivity losses related to iron deficiency anemia among adults reflect decreased capacity to do manual labor. The following figure shows the nutrition indicators for which PROFILES calculates consequences. For each nutrition indicator listed that is assumed to improve, PROFILES calculates a corresponding improvement in a specific health, human capital, or economic outcome in terms of lives saved, human capital gained, or economic productivity gained, respectively. Table 1 also provides the rationale and evidence base used to develop each model.

Figure 3. Nutrition Problems Addressed in PROFILES and the Benefits of Reducing Various Forms of Malnutrition on Health, Economic, and Human Capital Outcomes

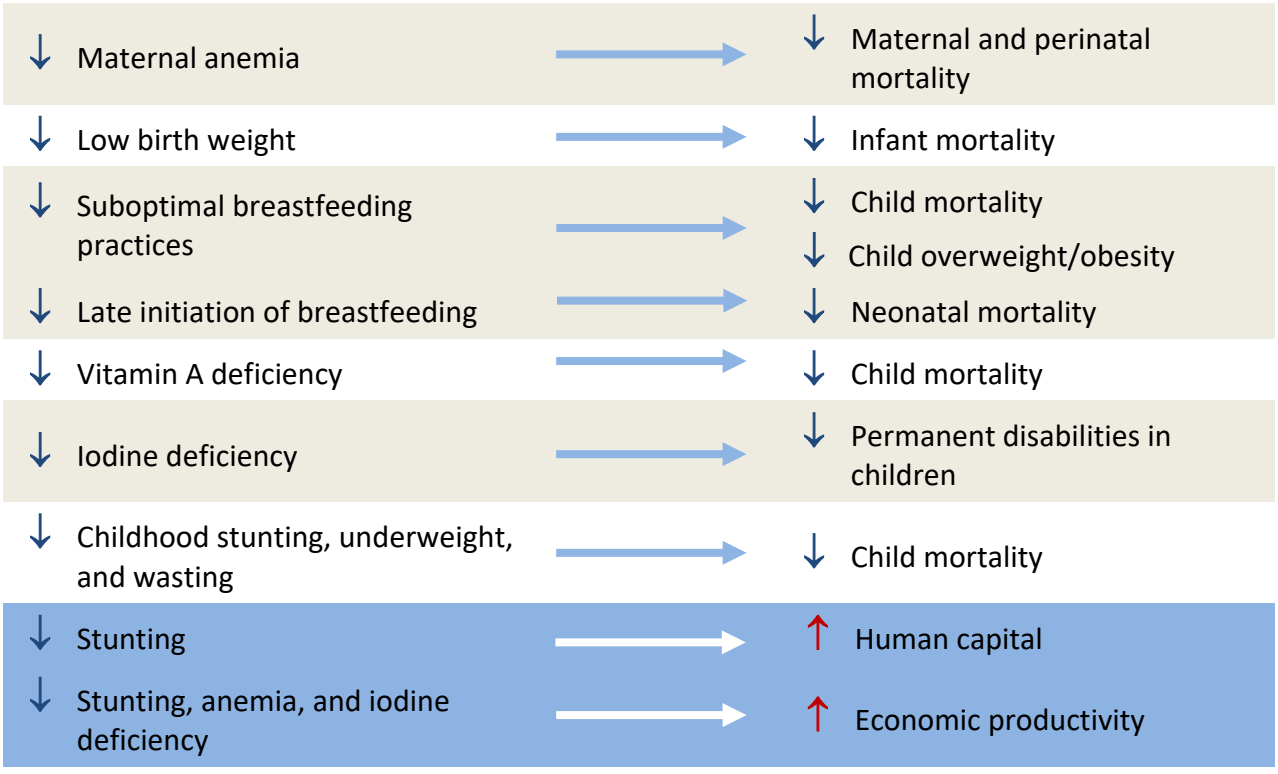


Table 1. Scientific Basis for Each of the Nutrition Indicators Included in the *PROFILES Spreadsheet Workbook*

This table provides information on the rationale and assumptions for each nutrition problem that is used in the *PROFILES Spreadsheet Workbook*. For each outcome or consequence of malnutrition, the potential benefits of reducing malnutrition according to specified targets[a] are calculated, expressed in terms of deaths averted, productivity gained, etc."

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Estimating Reductions in Death, Disability, and Overweight/Obesity			
Stunting, underweight, and wasting among children under 5 years related to under-5 child mortality Children 0–59 months of age with low height-for-age, weight-for-age, and weight-for-height, by severity level (moderate, severe) (%)	PROFILES calculates mortality related to each anthropometric indicator of undernutrition (stunting, underweight, and wasting) by degree of severity using odds ratios from Olofin et al. (2013) as cited in Black et al. (2013). These odds ratios of mortality for each grade of malnutrition are: • Stunting: mild 1.5, moderate 2.3, severe 5.5 • Underweight: mild 1.5, moderate 2.6, severe 9.4 • Wasting: mild 1.6, moderate 3.4, severe 11.6 PROFILES estimates the prevalence of mild stunting, underweight, and wasting from those reported for moderate and severe, assuming that the associated indicators (height-for-age, weight-for-age, and weight-for-height) are normally distributed. Because many children with malnutrition can have more than one form of malnutrition at any given time (e.g., concurrent stunting and wasting or concurrent underweight and wasting), deaths related to each of these indicators cannot be totaled.	For each anthropometric indicator, the population attributable fraction (PAF) is calculated as a function of the prevalence of each severity category (mild[b], moderate, and severe) and the relative risk. The total number of deaths among children 6–59 months of age is then multiplied by the PAF to determine the number of deaths related to each form of undernutrition.	Child mortality: number of deaths among children 6–59 months of age (often referred to as "under-5s") when results/estimates are reported related to each kind of undernutrition (stunting, underweight, and wasting), broken down by severity category and for all severity categories combined.

a. Improved scenario targets for a reduction in the prevalence of mild, moderate, and severe categories of malnutrition (stunting, underweight, and wasting) are based on a target reduction in the combined prevalence of moderate and severe malnutrition. To avoid setting targets for different severity categories that violate the principles of the normal distribution, PROFILES allocates a single target reduction across all severity categories in a way that is consistent with and preserves the normal distribution of z-scores. PROFILES uses a spreadsheet function for the normal distribution to translate a given single target prevalence of malnutrition (moderate plus severe) to a corresponding increase in the mean z-score using a standard deviation that may vary. The default value for this standard deviation is the mean of an assumed standard deviation of z-scores in the current (malnourished) population (based on analysis of DHS datasets from many surveys) and one, the standard deviation in the reference population. Then, using the same standard deviation, a spreadsheet function for the normal distribution is used to calculate a target prevalence for each severity category (mild, moderate, and severe).

b. PROFILES estimates the consequences of three kinds of malnutrition (underweight, stunting, and wasting) for each of three severity categories (mild, moderate, and severe). Often only the prevalence of moderate and severe malnutrition is reported. In this situation PROFILES uses a spreadsheet function for the normal distribution to calculate the prevalence of mild growth deficit, using the known prevalence of moderate plus severe as the probability, the mean z-score, and a standard deviation that differs from the standard normal assumption. The value of the standard deviation for this purpose is a variable in the PROFILES model that has been determined by analysis of DHS datasets from many surveys.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Anemia during pregnancy related to maternal and perinatal mortality Pregnant women with low hemoglobin (Hb < 11 g/dl) (%)	Anemia during pregnancy is an important contributor to maternal mortality, including through an increased risk of death from postpartum hemorrhage. Anemia during pregnancy also contributes to perinatal mortality, e.g., through increasing the risk of preterm delivery. The PROFILES spreadsheets calculate the contribution of iron deficiency anemia to maternal and perinatal deaths based on the work by Stoltzfus et al. (2004) with updated relative risk information for maternal deaths from Black et al. (2013), and presuming that 50% of anemia is due to iron deficiency (an assumption that was also made by Stoltzfus et al.). The relative risks (RRs) used in PROFILES are: • RR of maternal mortality related to a 1 g/dl increase in hemoglobin: 0.71 • RR of perinatal mortality related to a 1 g/dl increase in maternal hemoglobin: 0.72 (for countries in Africa) or 0.84 (elsewhere)	Mean hemoglobin among pregnant women is calculated as a function of the prevalence of anemia, the cutoff level to define anemia (11 g/dl), and the standard deviation of anemia (derived from the prevalence of anemia[c]). The model similarly calculates the mean hemoglobin level in the absence of iron deficiency as a function of the same variables and the proportion of anemia due to iron deficiency. The population attributable fraction (PAF) is then calculated from the difference between these two mean hemoglobin estimates and the RR of maternal (or perinatal) death associated with a 1 g/dl increase in hemoglobin. The number of deaths related to iron deficiency anemia is then calculated by multiplying the PAF by the current number of maternal (or perinatal) deaths.	Maternal mortality and perinatal mortality: number of maternal and perinatal deaths due to iron deficiency anemia during pregnancy.

c. Stoltzfus et al. (2003) provide estimates of the standard deviation of hemoglobin level as a function of iron deficiency, with larger standard deviations observed in populations where anemia prevalence is higher. The authors report the standard deviation differences as a stepwise pattern: When the anemia prevalence is less than 15%, the SD is 1; when anemia is greater than 15% but less than 30%, the standard deviation is 1.2; and when anemia is greater than 30%, the standard deviation is 1.5. In PROFILES, which uses the country-specific anemia prevalence and the standard deviation (from Stoltzfus) to estimate mean hemoglobin levels, these steps can—for some years in the improved scenario—lead to incongruous and contradictory results at transition points, where one estimate jumps to the next, so that mortality (a function of the mean hemoglobin level) may appear to go up as anemia prevalence goes down. PROFILES therefore uses the same information but smooths the change in SD across these prevalence boundaries in a way that preserves the expected continuity in the relationship between anemia and its consequences.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Vitamin A deficiency (VAD) related to mortality among children 6–59 months of age Children 6–59 months with low serum retinol (including mild, subclinical VAD) (%)	Children with severe VAD are at risk of blindness resulting from xerophthalmia and corneal ulceration. Mild VAD, which is much more widespread, increases the risk of dying from common childhood diseases (e.g., diarrhea and measles). The relative risks (RR) used in PROFILES is: • RR of mortality related to mild VAD > 6 months: 1.75[d]	The population attributable fraction (PAF) of child deaths related to VAD is calculated as a function of the prevalence of VAD and the relative risk. Child deaths related to VAD are estimated by multiplying the PAF by the total number of child deaths.	Child mortality: number of deaths related to VAD among children 6–59 months of age.
Low birth weight (LBW) related to infant mortality Newborns with low birth weight (%)	LBW, defined as a weight of < 2,500 g at birth, can be caused by preterm birth and/or intrauterine growth retardation. Using information from literature on increased risk of neonatal or post-neonatal mortality among infants with LBW (Alderman and Behrman 2004) and country-specific LBW information and mortality rates, PROFILES calculates the population attributable fraction and excess number of deaths related to LBW. The relative risks (RRs) used in PROFILES are: • RR of neonatal death related to LBW: 4 • RR of post-neonatal infant death related to LBW: 2	The population attributable fraction (PAF) of infant deaths related to LBW is calculated as a function of the prevalence of LBW and the RR of neonatal and post-neonatal death due to LBW. Infant deaths related to LBW are then estimated by multiplying the PAF by the total number of neonatal and post-neonatal deaths.	Neonatal and post-neonatal mortality: number of infant deaths related to LBW.

d. A meta-analysis of vitamin A supplementation trials concluded that children 6–59 months who received vitamin A supplements were, on average, 23% less likely to die than children not receiving supplements (Beaton et al. 1993). The relative risk of death among children with vitamin A deficiency, compared with non-deficient children, is derived from findings presented in that publication and found to be 1.75 (Jay Ross, personal communication, August 2016).

Which nutrition problem—input	**Why this model is justified—rationale/assumptions**	**How this model calculates the estimates**	**Which type of estimates are calculated—outcomes**
Suboptimal breastfeeding practices related to mortality among children under 2 years Children under 2 years suboptimally breastfed, by age group (0–5 months and 6–23 months) and suboptimal breastfeeding practices (%)	Suboptimal breastfeeding practices (no breastfeeding, partial breastfeeding, or predominant breastfeeding when children are 0–5 months vs. exclusive breastfeeding; and no breastfeeding among children 6–23 months vs. any breastfeeding) are an important contributor to infant and young child mortality due to an increased risk of infection. Using information from literature on increased risk of infant mortality due to suboptimal breastfeeding by Lamberti et al. (2011) and country-specific breastfeeding information, PROFILES calculates the population attributable fraction (PAF) and the excess number of deaths (among children 0–5 months and 6–23 months) related to suboptimal breastfeeding. PROFILES uses the following relative risks (RRs): • RR of all-cause mortality, predominant breastfeeding vs. exclusive breastfeeding (0–5 months): 1.48 • RR of all-cause mortality, partial breastfeeding vs. exclusive breastfeeding (0–5 months): 2.84 • RR of all-cause mortality, no breastfeeding vs. exclusive breastfeeding (0–5 months): 14.4 • RR of all-cause mortality, no breastfeeding vs. partial breastfeeding (6–23 months): 3.69 For more information on this model see Oot et al. 2015 under the *Additional Reading List.*	For each suboptimal breastfeeding practice, the PAF is calculated as a function of the prevalence and the RR. Deaths in the relevant age group (0–5 months and 6–23 months) related to suboptimal breastfeeding are then calculated by multiplying the PAF by the total number of deaths in that age group.	Under-2 child mortality: number of deaths among children 0–5 and 6–23 months of age related to suboptimal breastfeeding.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Late initiation of breastfeeding (≥ 1 hour after birth) related to neonatal mortality	Late initiation of breastfeeding (after the first hour) increases the risk of death in the neonatal period (first 28 days). With recent declines in infant and child mortality globally, the prevention of neonatal mortality has become a higher priority. Research on the link between the initiation of breastfeeding and neonatal mortality can be difficult to interpret because newborns at highest risk of death may not be able to breastfeed in the first hour, because of either their illness or their treatment, a classic example of reverse causality. Virtually all research on the link between late initiation and neonatal mortality therefore excludes deaths in the first 2 days, when 55% of neonatal deaths occur (Sankar 2016). PROFILES uses a relative risk (RR) of death on days 3–27 among "ever breastfed" infants of 1.53, derived by pooling the analyses of Khan et al. (2015) and NEOVITA (2016). Population attributable fraction (PAF), calculated from the prevalence of late initiation and the RR, is used to calculate the number of neonatal deaths attributable to late initiation. These are in addition to any neonatal deaths that occur on the first 2 days (the majority) and any that occur among non-breastfed infants.	After excluding neonatal deaths among non-breastfed neonates and those occurring in the first 48 hours, PROFILES multiplies the PAF (calculated from the RR and the prevalence of late initiation) by the number of remaining neonatal deaths to estimate neonatal deaths related to late initiation of breastfeeding.	Neonatal mortality: number of neonatal deaths (in the first 28 days of life) related to the late initiation of breastfeeding.
Iodine deficiency in utero related to brain damage and disability Population with goiter (%)	Iodine deficiency is the main cause of preventable brain damage worldwide. Iodine deficiency among pregnant women and during the first few months of infancy leads to irreversible brain damage of various degrees of severity in the infant. Published literature finds an average reduction of up to 13.5 IQ points (Black et al. 2013) in affected communities.	Infants born with brain damage as a result of iodine deficiency are calculated as the goiter prevalence in the population multiplied by the total number of births.	Permanent disabilities: number of infants born with brain damage related to iodine deficiency during gestation.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Suboptimal breastfeeding related to future overweight and obesity at 48–59 months of age Exclusive breastfeeding for 6 months (%)	Infants who are not exclusively breastfed have a higher risk of overweight/obesity later in life (Horta et al. 2015). The PROFILES coefficient for this model is based on FANTA analysis of a subset of the 24 studies analyzed by Horta et al. Five studies were selected because they compared infants exclusively breastfed for 6 months with infants not exclusively breastfed for 6 months, and because the overweight/obesity outcome was observed later in childhood (at around 4 years) rather than in adolescence or adulthood. The pooled analysis of these five studies yields an odds ratio of 1.48, which is what is used in this PROFILES model. For more information on this model see Oot et al. 2016a under the *Additional Reading List.*	The PAF is calculated as a function of the prevalence of the risk factor (not being exclusively breastfed at 4–5 months) and the relative risk of obesity among children 4 years of age who were not exclusively breastfed for 6 months. The number of children age 4 years whose overweight or obesity is related to not exclusively breastfeeding for 6 months is then calculated by multiplying the PAF by the number of overweight and obese children age 48–59 months in the population.	Overweight and obesity among children 4 years of age: number of children 4 years of age whose overweight or obese is related to not being exclusively breastfed for 6 months.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Estimating Losses and Gains in Economic Productivity			
Stunting among children 24–35 months of age related to future productivity Children 24–35 months with low height-for-age (stunting), by severity level (moderate, severe) (%)	Growth deficit early in life is related to productivity loss in adulthood. PROFILES estimates the impact of growth deficit in children on future labor productivity based on the fact that stunting developed during the first 2 years of life is generally maintained throughout life and that the productivity of adults is related to their stature. Reduced adult stature due to stunting is a proxy indicator for various nutritional and other insults that can affect physical and mental development (the issue is not short stature per se). Using coefficients based on published scientific literature, PROFILES estimates reduced adult productivity related to both decreased physical capacity and reduced intellectual ability (affecting school achievement). Alderman et al. (2006) present evidence that a 5.1% reduction in child height results in a 14% reduction in lifetime earnings, suggesting an elasticity of productivity with respect to height of 2.7 (14/5.1), used by PROFILES to estimate the effect of severe and moderate stunting on the present value of future productivity.	The lifetime discounting factor (LDF) at age 2 is calculated as a function of the discount rate, workforce entry and exit ages, and expected survival. This LDF can be interpreted as the equivalent number of future years of productivity of the average child in the absence of stunting. The present value of future lifetime productivity of the current cohort of children 2 years of age is calculated as the product of the age-2 population, the average annual wage, the LDF, and the economic activity rate. The model uses coefficients derived from the 2006 World Health Organization Growth Standards that express moderate and severe stunting at 2 years of age in terms of proportional height deficits. These are then used with the elasticity of productivity with respect to height (2.7) and the prevalence of moderate and severe stunting to calculate the present value of the total reduction in future productivity associated with each category of stunting in the population.	Economic productivity losses related to stunting: present value of future productivity losses related to moderate and severe stunting among children 24–35 months of age.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Anemia among adult men and women related to productivity losses Women 15–64 years with low hemoglobin (%) Men 15–64 years with low hemoglobin (%) If data are only available for women of reproductive age: Women of reproductive age (15–49 years) with low hemoglobin (%)	Anemia among the working-age adult population contributes to reduced productivity for those engaged in physical labor, especially heavy physical labor. The PROFILES model uses the coefficients developed by Horton and Ross (2003) for the effects of iron deficiency anemia on reduced capacity to carry out any type of physical labor and heavy physical labor. Specifically, they estimate that the proportional reduction in productivity in manual labor among anemic adults is 5%, with a further reduction by 12% in heavy manual labor.	Productivity losses for each sex are calculated as the product of the number of adults of working age (15–64 years), the annual wage for manual labor, the economic activity rate in manual labor (and in heavy manual labor), the prevalence of anemia, and the proportional reduction in wages related to anemia (weighted to reflect the proportion of manual labor that is heavy).	Economic productivity losses related to anemia: value of productivity losses related to anemia among adult men and women 15–64 years of age and among non-pregnant women of reproductive age (15–49 years of age).

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Anemia among children related to future productivity losses Children under 5 and 5–14 years of age with low hemoglobin (%)	Anemia among children 0–14 years of age reduces future productivity both directly (by causing permanent cognitive deficits) and indirectly (by reducing learning). The PROFILES model is based on coefficients proposed by Horton and Ross (2003) who suggest that childhood anemia reduces future productivity by 2.5% and that this effect accumulates throughout childhood. Thus, each completed year of anemia "locks in" 1/15 of the total future productivity effect, from birth to the 15th birthday.	The lifetime discounting factor (LDF) for children 0–14 years of age is calculated as a function of the discount rate, workforce entry and exit ages, and expected survival. This LDF can be interpreted as the equivalent number of future years of productivity of the average child in the absence of anemia. The future lifetime productivity of the current cohort of children 0–14 years of age is calculated as the product of the current child population, the average annual wage, the LDF, and the economic activity rate. The total impact of anemia on future productivity accumulates over 15 years, so each year only 1/15 of this future lifetime productivity is at risk. PROFILES calculates the present value of the future productivity losses related to childhood anemia by multiplying 1/15 of the present value of future productivity by the anemia prevalence and the proportion reduction in future productivity related to anemia (0.025). Childhood is divided between children under 5 and children 5–14 years of age because anemia information is sometimes available for only one of these age groups.	Future productivity losses related to anemia among children: present value of future productivity losses among children under 5 and children 5–14 years of age currently with anemia.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Intrauterine iodine deficiency related to future productivity losses Population with goiter (%)	Iodine deficiency during pregnancy results in damage to the brain of the developing fetus, leading to permanent physical and intellectual disabilities ranging from cretinism to mild impairment. Using information from published literature, PROFILES assumes that the future productivity of children born to mothers with a goiter is reduced by 10.7%[e] to estimate the negative impact of intrauterine iodine deficiency (as reflected in the goiter rate).	The lifetime discounting factor (LDF) at birth is calculated as a function of the discount rate, workforce entry and exit ages, and expected survival. The future lifetime productivity of the current cohort of newborn children is calculated as the product of the number of live births, the average annual wage, the LDF, and the economic activity rate. This is then multiplied by the total goiter rate and the 10.7% productivity reduction among affected infants to estimate the present value of future productivity losses related to iodine deficiency during pregnancy.	Economic productivity losses related to iodine deficiency: present value of future productivity losses related to permanent impairment among infants born to mothers with iodine deficiency.
Low birth weight (LBW) related to future economic productivity Infants born with LBW (%)	LBW is related to future economic productivity through its relationship with fetal undernutrition and with stunting. The PROFILES model is based on the work of Alderman and Behrman (2004), who conclude that total productivity gain from preventing LBW is 5–10% of lifetime earnings, or a point estimate of 7.5%, divided between 2.2% from reduced stunting and 5.3% from improved cognitive development (directly and through its effect on schooling). A 7.5% increase in productivity from preventing LBW is equivalent to a proportional reduction in productivity (from LBW) of 7.5/107.5, or 0.07. PROFILES applies this reduction to the future lifetime productivity in all sectors of the economy.	The lifetime discounting factor (LDF) at birth is calculated as a function of the discount rate, workforce entry and exit ages, and expected survival. The future lifetime productivity of the current cohort of newborn children is calculated as the product of the number of live births, the average annual wage, the LDF, and the economic activity rate. PROFILES then calculates future productivity losses related to LBW by multiplying the present value of future productivity by the prevalence of LBW and the proportional reduction related to LBW (0.07).	Economic productivity losses related to LBW: present value of future productivity losses among infants born with LBW.

e. The percentage reduction in future productivity among infants born to mothers with goiter (10.7%) is derived from the following assumptions: 1) the prevalence among newborns of cretinism and moderate mental impairment is equal to 0.0343 and 0.1029, respectively, of the total goiter rate; 2) the prevalence of mild impairment is equal to the total goiter rate minus the combined total of cretinism and moderate impairment; and 3) the proportion of future productivity lost due to cretinism, moderate impairment, and mild impairment due to iodine deficiency is 1, 0.25, and 0.054, respectively.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Estimating Human Capital Losses and Gains in Terms of Learning			
Stunting among children related to human capital losses in terms of learning ability Children 24–35 months with low height-for-age, (moderate and severe stunting) (%)	Several studies have established an association between the early insult of stunting in young children and poorer cognitive development and school performance (Grantham-McGregor et al. 2007; Glewwe et al. 2001). Stunted schoolchildren perform less well in math and reading tests relative to their peers who were well nourished earlier in childhood. Poor performance on standardized educational tests as a result of poor cognitive development reflects a loss of learning potential that, over time, also affects learning. PROFILES uses 0.8 grade equivalents lost per school year per 1 standard deviation unit reduction in the mean height-for-age z-score, derived from the results of Glewwe et al. (2001). For more information on this model see Oot et al. 2016b under the *Additional Reading List.*	The "equivalent school years of learning" lost due to stunting are calculated as the product of the number of children 24–35 months of age in the population, the number of years of schooling per child according to the country's education policy (discounted to the present because these years are in the future), the mean height-for-age z-score for children 24–35 months (based on country-specific stunting prevalence), and the coefficient (0.8 grade equivalents lost per school year).	Loss of human capital related to stunting: equivalent school years of learning lost related to moderate and severe stunting among children 24–35 months of age.

Additional Models in PROFILES: Addressing Risk Factors of Stunting

PROFILES also estimates reductions in the prevalence of stunting related to two risk factors of stunting: inadequate dietary diversity among children under age 2 and teenage pregnancy. These models were developed to bring additional attention to addressing stunting, one of the long-standing and intractable nutrition problems in many developing countries.

Many developing countries have succeeded in implementing programs at scale to iodize salt (to eliminate iodine deficiency) and distribute vitamin A capsules to supplement children under age 5 through child health days. For countries that have consequently reduced or eliminated iodine and vitamin A deficiencies and where wasting prevalence is below 5 percent, the more intractable problems that remain—for which PROFILES can calculate estimates—are stunting and iron-deficiency anemia. Interventions to address iron-deficiency anemia are relatively efficacious and effective, although programmatic implementation at scale remains difficult. In contrast, reducing stunting is more complex and requires a wide range of interventions implemented in tandem and at scale. For example, based on their estimates, stunting among children 2 years of age is attributable to 18 different risk factors in 137 developing countries (Figure 4). Danaei et al. (2016) conclude that programs to prevent stunting should shift from a narrow focus on infants and children to include improvements in the general living conditions of mothers and families. For the purposes of nutrition advocacy, it is therefore important to convey the complexity of reducing stunting and consider how addressing each risk factor could contribute to reducing the prevalence.

For this reason, two additional models have been developed and included in the PROFILES workbook to quantify the reduction in stunting if dietary diversity in children under age 2 were improved and if the proportion of births to mothers below the age of 20 were reduced. These two models focus on two common risk factors for stunting for which we have both an adequate body of research to develop the models and sufficient country-level survey data to calculate the impact on stunting prevalence. Importantly, although these two models illustrate how stunting could be reduced by addressing these two risk factors, unless the many other risk factors for stunting are also addressed, prevalence would likely remain high.

Figure 4. Risk Factors of Stunting

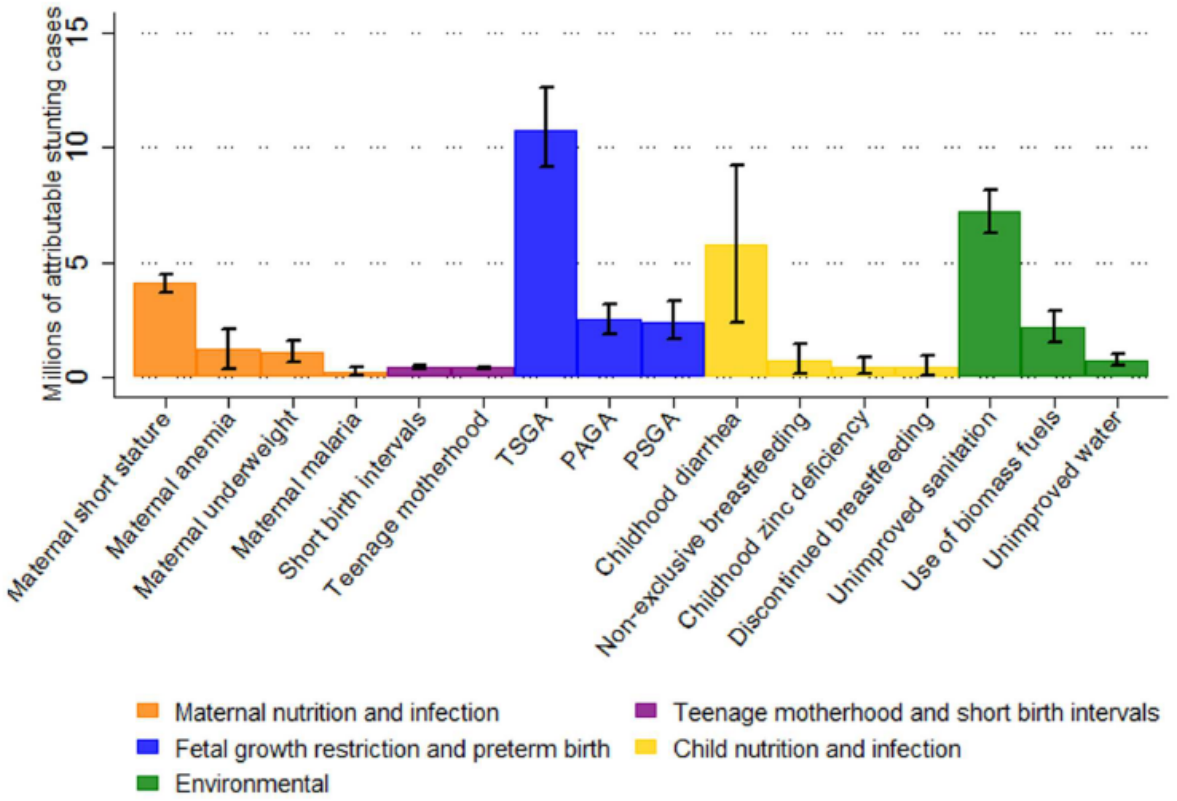


Fig 1. Risk factors ranked within each cluster by number of attributable stunting cases in children aged 2 y in 137 developing countries in 2011. Whiskers indicate 95% confidence intervals. Effects are not additive because each case of stunting can be attributed to more than one risk factor. Untreated HIV infection is not included because exposure data for all countries were not available. PAGA, preterm, appropriate for gestational age; PSGA, preterm, small for gestational age; TSGA, term, small for gestational age.

doi:10.1371/journal.pmed.1002164.g001

Source: Danaei et al. 2016

Table 2 provides the rationale and evidence base used to develop the stunting risk factor models. However, it is important to note that the impact of a specific risk factor can vary widely between regions and countries. Because of this variability, it is important to interpret the results of these models cautiously. Also, these models do not attempt to quantify the combined effects of the two risk factors because this combination has not been studied. Even if we did understand how these risk factors interact in research subjects, the available survey data do not provide information on how they overlap in the population. The consequences of these risk factors and the benefits of reducing them should therefore be considered separately and not added together.

Table 2. Scientific Basis for Each Model on Risk Factors to Reduce Stunting Included in the PROFILES Spreadsheet Workbook

Estimating Reductions in Stunting			
Which nutrition problem(input)	**Why this model is justified(rationale/assumptions)**	**How this model calculates the estimates**	**Which type of estimates are calculated (outcomes)**
Inadequate dietary diversity related to childhood stunting Proportion of children 6–23 months not receiving food from at least four defined food groups in the previous 24 hours (%)	Among the many factors thought to influence child health and nutrition, complementary feeding (after 6 months, when breast milk alone is no longer sufficient) is among the most important. Although complementary feeding is a complex set of behaviors with many dimensions, dietary diversity during the critical period from 6–23 months has proven to be the aspect most consistently correlated with child growth. Although dietary diversity may be difficult to define in practice, given wide variations in foods and feeding practices across cultures, a tested and globally accepted indicator of minimum dietary diversity has been adopted by DHS and international agencies for household surveys. PROFILES uses a RR of stunting related to not meeting minimum dietary diversity of 1.22, derived from information provided by Marriot et al. (2012).	The population attributable fraction (PAF) is calculated as a function of the prevalence of inadequate dietary diversity and the relative risk of child stunting related to inadequate dietary diversity. The number of children who are stunted related to inadequate dietary diversity is then calculated by multiplying the PAF by the total number of cases of stunting in the population age 24–35 months.	Number of children age 24–35 months who are stunted (moderate plus severe) related to inadequate dietary diversity at 6–23 months

Teenage pregnancy related to child stunting percentage of children born to a mother less than 20 years of age (%)	Young maternal age is associated with poor maternal health and with a variety of consequences for the child such as poor birth outcomes and growth deficits, including stunting. Child stunting, in turn, is a risk factor for mortality and a variety of health and developmental problems that can reduce learning ability and economic potential throughout the life span. The relationship between teenage pregnancy and child stunting can depend on socioeconomic status and tends to be stronger in urban settings. It also varies across countries and regions (Fink et al. 2014). Although the relationship between teenage pregnancy and child stunting may depend on the context, there is a need in all countries to appreciate the potential impact of improvements in the timing of pregnancy and childbirth. PROFILES uses a RR of stunting related to teenage pregnancy of 1.20, derived by pooling RRs provided by Fink et al. (2014) for children of different birth orders born to mothers in different age strata (<18 and 18-19 years).).	The PAF is calculated as a function of the proportion of births to mothers less than 20 years of age (among all births) and the relative risk of child stunting related to teenage pregnancy. The number of children stunted related to teenage pregnancy is then calculated by multiplying the PAF by the total number of children who are stunted among the population of children age 24–35 months.	Number of children age 24–35 months who are stunted (moderate plus severe) related to teenage pregnancy

Introduction to the *PROFILES Spreadsheet Workbook*

The *PROFILES Spreadsheet Workbook* contains a main sheet entitled the "FrontPage"[2] which is where the facilitator and participants will enter all the information and where the estimates that are calculated appear. In addition to the FrontPage, there is a Tables and Figures sheet where data are pulled from the FrontPage to create tables and figures that can be used in the Preliminary Results PPT and in PROFILES reports.

PROFILES estimates are generated through a consensus-building and participatory process in which national stakeholders come together during both the stakeholder meeting and PROFILES workshop to discuss and agree upon the information necessary to complete the *PROFILES Spreadsheet Workbook*.

The FrontPage was created to:

- Increase the *ease of use* of the spreadsheets and enable a shorter workshop focused on calculating estimates, implications of the estimates on nutrition advocacy efforts, and, more importantly, discussing the broader nutrition advocacy process
- Minimize human error in data entry—the *PROFILES Spreadsheet Workbook* has many sheets, each with many calculations; therefore, it is easy to introduce errors that would be difficult to identify and fix

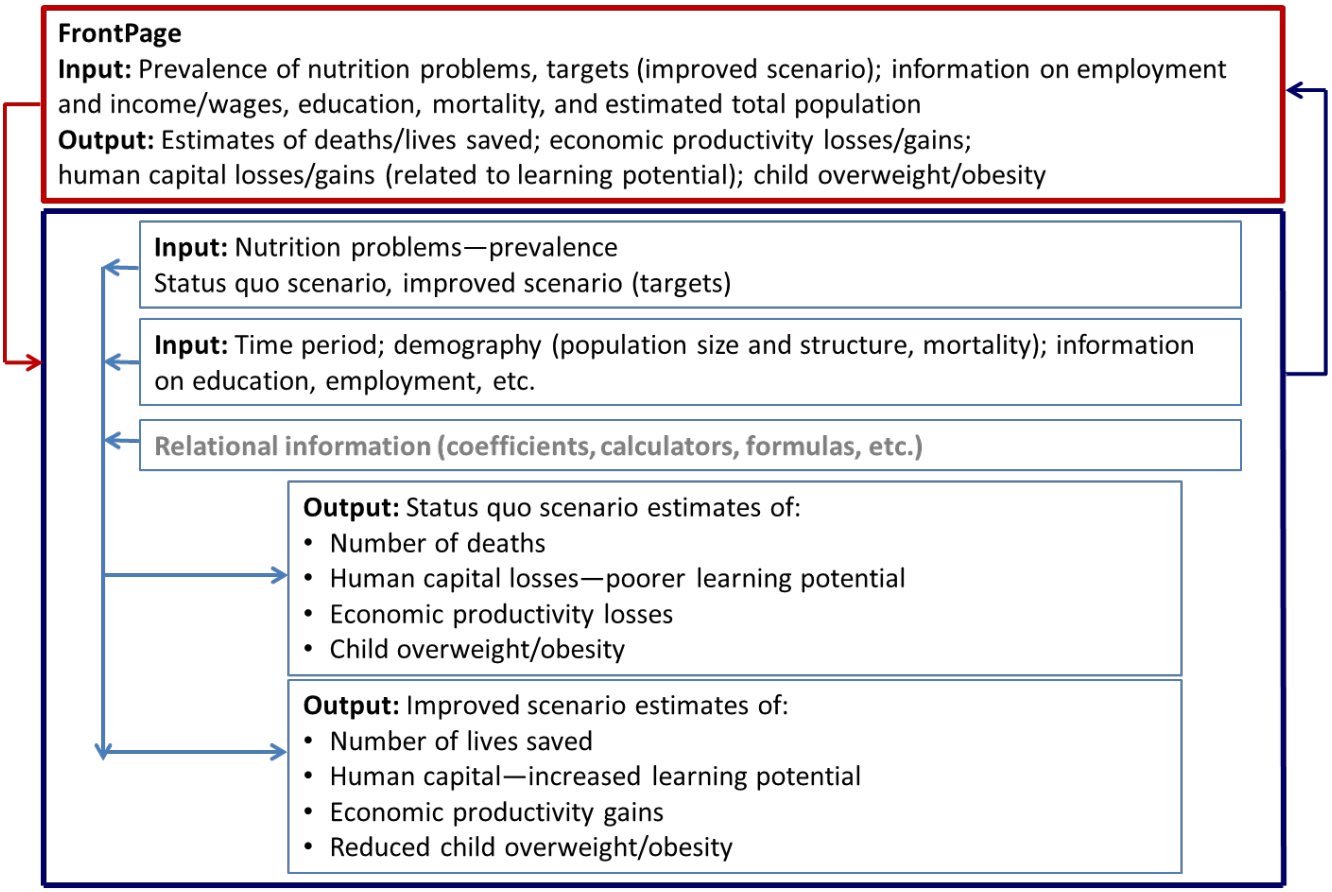
Information to be entered in the FrontPage is:

- Country for which estimates are to be generated
- Time period (the first year and last year of the time period for which estimates are to be calculated)
- Country-specific prevalence of nutrition problems; this is referred to as the *starting prevalence,* that is, the current prevalence at the start of the time period (the user will enter the *starting prevalence*)
- Proportion by which the nutrition problems will be reduced to reach the *target prevalence* by the end of the time period (the user will enter the *target prevalence*)
    - Other country-specific information, including demographic, mortality, economic, employment and wages, and education data

Information from the FrontPage flows into the various sheets where the information is stored and used to calculate the outputs/estimates. The calculated outputs/estimates are then sent back to the FrontPage, where they are visible. Figure 5 illustrates the flow of data between spreadsheets in the *PROFILES Spreadsheet Workbook*. This same flow of data from the FrontPage to the hidden sheets and back applies to all the models in the *PROFILES Spreadsheet Workbook*.

[2] The FrontPage is based on numerous sheets that are hidden. There is a separate sheet for each of the models for which the workbook generates estimates, and sheets for the prevalence information, relational variables, and demographic information.

Figure 5. Data Flow Within the PROFILES Workbook



Note: The two stunting risk factor models utilize the same approach described above.

Using the FrontPage in the *PROFILES Spreadsheet Workbook* to Generate Estimates for Use in Nutrition Advocacy

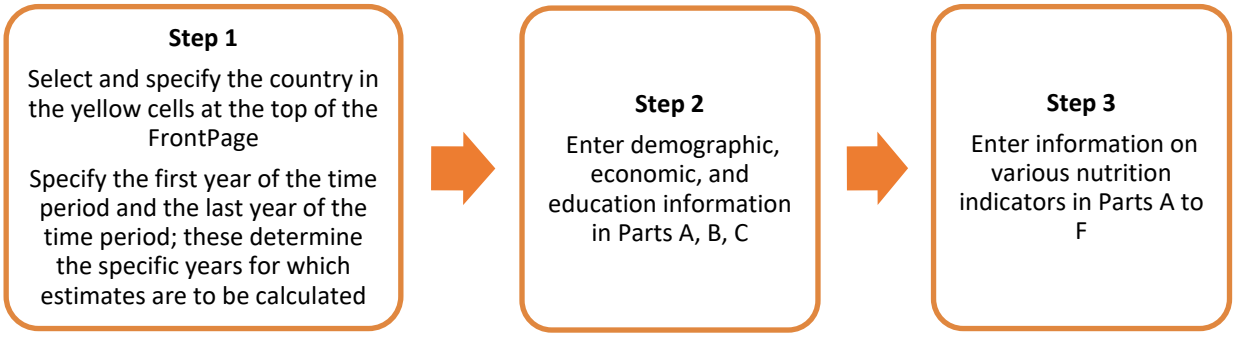
Entering information into the *PROFILES Spreadsheet Workbook* in the FrontPage consists of three main steps, as shown in Figure 6 below. Each step that needs to be completed in the FrontPage aligns with the small-group work in the PROFILES workshop.

For Step 1, participants select the country[3] and enter the time period for which to calculate estimates. For Step 2, participants enter the demographic, economic, and education information that reflects the current country context (e.g. data on total population, mortality rates, wages, and education policies). For Step 3, participants work in small groups to enter country-specific nutrition information for each model.

[3] To use the *PROFILES Spreadsheet Workbook* for individual states of India, users would select India as the country (in Step 1 of the sheet named FrontPage). Then in Step 2, under "Part A. Demographic information" users would enter an estimate for total population of the state as well as a year for this estimate (it is essential to enter the year), noting the name of the state as well as the source of this information under "Source".

Throughout the FrontPage, participants work in the yellow cells to enter information. The workshop is designed for participants to work in small groups and then to report out in plenary and agree on the final inputs to the FrontPage. In the workshop context, all the inputs and outputs are also transcribed and posted on the walls on the "PROFILES scoreboard[4]" to keep track of progress throughout the workshop and enable participants to reflect upon and discuss the estimates and the implications of these results for nutrition advocacy.

Figure 6. Data Entry Steps for the *PROFILES Spreadsheet Workbook*



Step 1. Select the country and enter the time period into the FrontPage of the spreadsheet. This is done in consultation with stakeholders at the stakeholder meeting and participants during the PROFILES workshop.

Deciding upon/confirming the time period that will be used for the PROFILES estimates is a priority task during the stakeholder meeting and the first day of the PROFILES workshop. Generally, in-country nutrition advocacy stakeholders seek to strike a balance between selecting a time period that is long enough to plausibly expect improvement in the nutrition situation and one that does not extend too far into the future. The exact number of years might be influenced by various country-specific factors; for example, stakeholders may want the estimates to coincide with national goals set for a specific year, like the Sustainable Development Goals they may have set for their country.

It is recommended that participants use a time period of about 10 years to generate PROFILES estimates; time periods shorter than 7 years or longer than 15 years are not recommended. The selection of a time period should take into consideration the amount of time needed for the nutrition situation to change and whether data are available to demonstrate that change (e.g., DHS surveys are available typically only every 5 years). It is important to note that, similar to the nutrition situation, population size and structure do not change rapidly, so using a shorter time period may not yield estimates that are very different from the status quo. At the same

[4] As discussed in the PROFILES Workshop Planning Notes, the PROFILES Scoreboards are six large poster-size boards/sheets that need to be printed prior to a workshop to be posted on the walls in the workshop room. These scoreboards are used to post the information generated during the PROFILES workshop (e.g. prevalence data, targets, results) so that participants can interactively view and discuss their progress as they work through developing the estimates.

time, preparing estimates covering a very long period can be a challenge as they cannot account for important improvements in nutrition, health, or development outcomes that may occur over the long term

Step 2. Enter information into the yellow cells in the section called "demographic, economic, and education information."

This step consists of three parts: Part A on demographic information, Part B on economic information, and Part C on education information. Participants must enter this information before moving on to Step 3 so that the *PROFILES Spreadsheet Workbook* can calculate the estimates.

Box 5. Important Instructions for the LE Factor Calc and LDF Buttons

- After entering all the information in Step 1 and Step 2 Part A, click the button entitled 'LE Factor Calc'. Then complete Step 2 Part B and Part C and click the button entitled 'LDF'. It is extremely important to always click the LE Factor Calc button first before clicking the LDF button.
- If any information is changed in Step 1 and/or Step 2 Part A, and in Step 2 Part B and/or Part C, click the 'LE Factor Calc' button, followed by clicking the 'LDF' button.
- If any information is changed in Step 1 and/or Step 2 Part A, but not Step 2 Part B and Part C, click the 'LE Factor Calc' button, followed by clicking the 'LDF' button.
- If no information is changed in Step 1 or Step 2 Part A, but any information is changed in Step 2 Part B and/or Part C, click the 'LDF' button.

Step 3. Enter nutrition information in the yellow cells in the rest of the FrontPage.

Step 3 consists of Parts A to F. This step of the FrontPage is intended for obtaining estimates of the negative consequences if there is no improvement or change in the status quo scenario as well as gains that are seen in the improved scenario. This section is the main part of the FrontPage for entering information related to the various nutrition problems, in particular, the starting prevalence for the status quo scenario and, for the improved scenario, the target prevalence reflecting improvement by the end of the time period. Participants enter information in the yellow cells that is the starting prevalence for Part A, (in the case of the anthropometry models, participants enter information that totals to the starting prevalence). Then participants enter the target prevalence. To view the estimates, they enter a "1" in each of the red cells provided to see the status quo and improved scenario estimates[5]. The source and year of the information on the starting prevalence (status quo) are noted for each nutrition problem to the right of these cells in the box provided.

[5] Entering "1" is included in the spreadsheet to allow participants to focus on discussing the starting and target prevalence information before generating the estimates.

Table 3 below shows detailed step-by-step instructions on how to enter information into the FrontPage for each model in the spreadsheet along with information on why those data are necessary to generate the PROFILES estimates. Part C of the table also provides information on when a model should not be used.

The *PROFILES Spreadsheet Workbook* is designed for contexts where malnutrition is a problem. For example, if child overweight/obesity prevalence is less than 5 percent, then that model should not be used. This is because a low prevalence of the nutrition condition (e.g. iodine deficiency, wasting) indicates it may not be a high priority for nutrition advocacy.

After the FrontPage has been filled out, the results considered and discussed, and any revisions completed, the estimates are available for use in advocacy materials.

Note: Figure 7 below provides detailed instructions on how to enter information into the PROFILES spreadsheet and provides a visual representation of the data flow within the data entry process.

Figure 7. PROFILES Data Entry Diagram

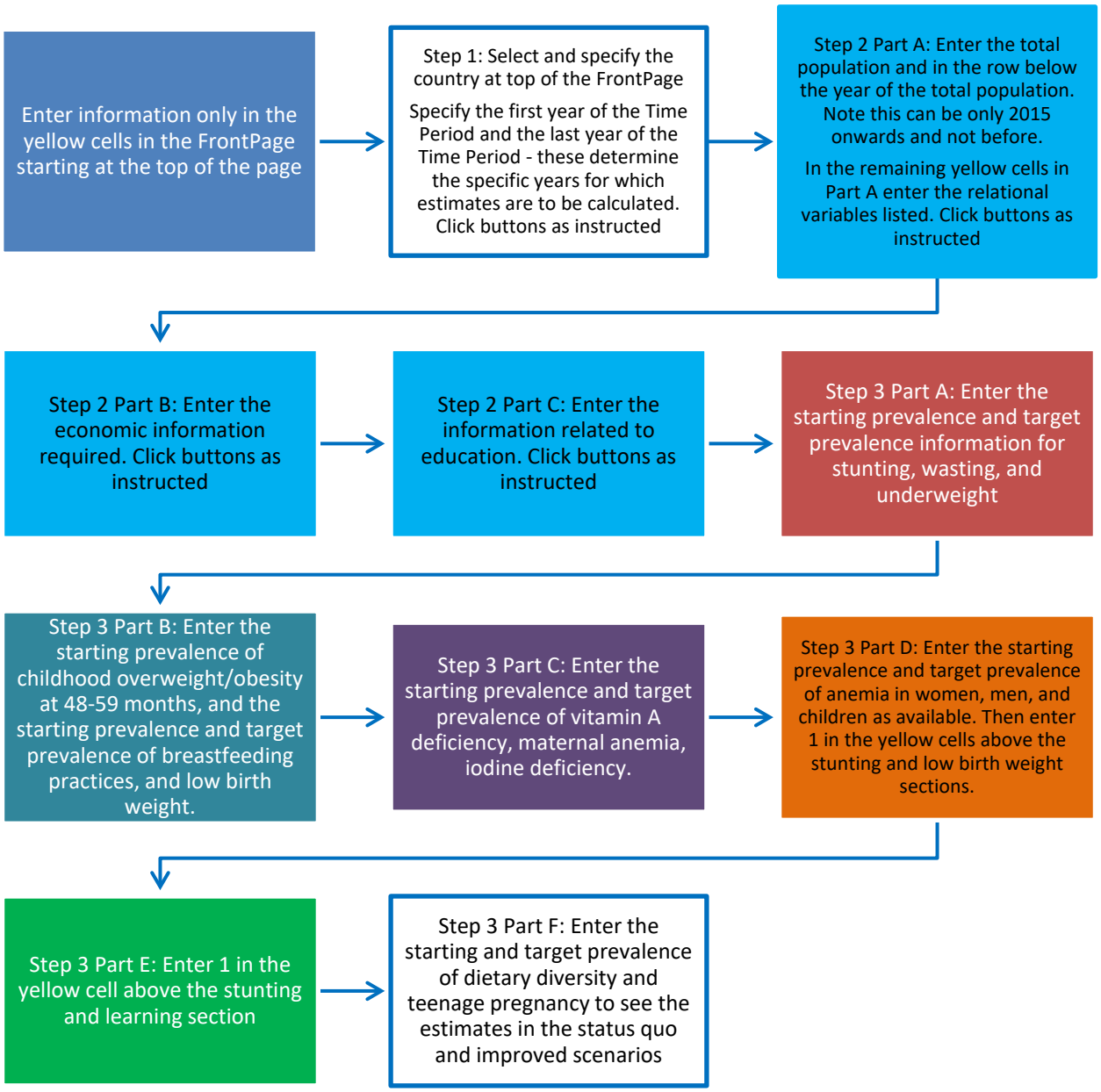


Table 3. Steps 1, 2, and 3 to Complete in the FrontPage

Step	What to Enter	Why This Information Is Needed
Step 1. Country and Time Period	Select and specify the country from the drop-down list for which PROFILES estimates are to be calculated.	This will load the population projections required for that country in order to calculate population-based estimates. The *PROFILES Spreadsheet Workbook* uses population projections that were created using data from the United Nations website for World Population Prospects: 2015 Revision for the years 2015–2045 (UN WPP).
	Specify the first year and the last year of the time period.	This is needed because this identifies the specific years for which to calculate the estimates.
Step 2. Part A—Demographic Information	Participants enter the most recent total population estimate and the year of that estimate. This is usually available from the national statistics organization. Note this can only be for 2015 onwards, not before. In the remaining yellow cells in Part A of the blue section, enter the relational variables listed and then click on the gray button entitled "LE Factor Calc." This will run a macro (the macro also needs to be run after changing any of this demographic information). See Box 5 for detailed instructions on clicking buttons to run the macro after entering or changing information.	The total population is needed to adjust the population projections PROFILES uses to better reflect population size and structure. This total population estimate is used by the *PROFILES Spreadsheet Workbook* in conjunction with the population projections that are within the *PROFILES Spreadsheet Workbook* based on UN WPP population projections. An adjustment factor (the ratio of the national total population estimate to the estimate from the UN WPP website) is generated and applied to all the population projections. Mortality and fertility information is needed because PROFILES calculates the number of deaths or lives saved for the various health models.
Step 2. Part B—Economic Information	Next, participants work in Part B and Part C of the blue section to enter the economic and education information required into the yellow cells and then click the gray button below entitled "LDF " to run the necessary macro. An example of how to calculate the economic information is provided in the section that provides detailed calculation guidance on p. 86 and the PROFILES Workshop *Information Needed Worksheets*. Note: The LE Factor Calc button must be clicked before clicking the LDF button. Click the LDF button whenever information has been entered or changed in this section of the FrontPage. See Box 5 for detailed instructions on clicking buttons to run the macro after entering or changing information.	The exchange rate is needed because the economic productivity numbers are calculated in U.S. dollars (as well as in the national currency). The information related to employment and wages is needed to calculate the economic productivity estimates in PROFILES.

Step 2. Part C—Education Information	Have workshop participants identify and enter the education information in the yellow cells in Part C.	The education information is needed to calculate the equivalent school years of learning related to stunting.

Health Outcomes Models

	What to Enter	When to omit this model
Step 3. Part A—Anthropometry Models Stunting—Under-5 Child Deaths Stunting—Productivity Wasting—Under-5 Child Deaths Underweight—Under-5 Child Deaths	Participants enter the starting prevalence (status quo) information for the moderate and severe categories and the mean z-score in the yellow cells (enter numbers not formulas). Based on these inputs, the spreadsheet automatically calculates an estimate of the prevalence in the mild category. Then participants enter the target prevalence for the combined category of moderate plus severe for the improved scenario in the yellow cell. A calculator will estimate the percentage in each of the three categories: severe, moderate, and mild. The FrontPage shows the proportion reduction from the first to the final year in the time period for the combined category moderate plus severe.	Omit the stunting model if the total prevalence (moderate + severe) of stunting is less than 5 percent. Omit the wasting model if the total prevalence (moderate + severe) of wasting is less than 5 percent. Omit the underweight model if the total prevalence (moderate + severe) of underweight is less than 5 percent.
Step 3. Part B—Suboptimal Breastfeeding, Late Initiation of Breastfeeding, and Low Birth Weight Models Suboptimal Breastfeeding and Overweight/Obesity in Children 48–59 months—Number Affected Suboptimal Breastfeeding—Under-2 Child Deaths Late Initiation of Breastfeeding—Neonatal Deaths Low Birth Weight—Infant Deaths	For the section on suboptimal breastfeeding practices related to overweight/obesity in childhood, participants enter the starting prevalence of childhood overweight/obesity at 48–59 months. Then participants scroll down and enter the starting prevalence of exclusive breastfeeding at 4–5 months (status quo) and the target prevalence, which refers to the prevalence of exclusive breastfeeding at 4–5 months in the last year of the time period. The next model is on the late initiation of breastfeeding related to neonatal mortality. Participants enter the starting prevalence (status quo) of early initiation of breastfeeding (within 1 hour of birth) and the prevalence of children who were “ever” breastfed (located slightly below). The spreadsheet will automatically calculate the prevalence of children who have never breastfed. Participants then enter the target prevalence for the improved scenario, which refers to the prevalence of early initiation of breastfeeding and “ever” breastfed, respectively, in the last year of the time period. Again, the spreadsheet will automatically calculate the information for “never” breastfed.	Omit the overweight/obesity model if the prevalence of childhood overweight/obesity at 48–59 months is less than 5 percent. Omit the low birth weight model if the prevalence is less than 5 percent. Omit the exclusive breastfeeding model if the exclusive breastfeeding prevalence for infants 0–5 months of age is above 99 percent.

	The next model in this section is on suboptimal breastfeeding practices related to deaths among children under-2 years of age. Participants enter information on the starting prevalence (status quo scenario) for exclusive, predominant, partial, and any breastfeeding (located slightly below). The spreadsheet will automatically calculate the information for "no breastfeeding." Next, participants enter the target prevalence for the improved scenario for exclusive, predominant, partial, and any breastfeeding, which refers to the prevalence in the last year of the time period. Again, the spreadsheet will automatically calculate the information for "no breastfeeding." An example of how to calculate information need for this model is provided in the section that provides detailed calculation guidance on p. 86 and in the PROFILES Workshop *Information Needed Worksheets*. Note: For the section on breastfeeding and other feeding practices, the proportion reduction is not shown because multiple feeding categories are considered. The last model is on low birth weight. Participants enter the starting prevalence (status quo) of low birth weight. Next, participants enter the target prevalence, which refers to what the prevalence of low birth weight will be in the last year of the time period.	
Step 3. Part C—Micronutrients Models Vitamin A Deficiency—Under-5 Child Deaths Maternal Anemia—Maternal Deaths Maternal Anemia—Perinatal Deaths Iodine Deficiency—Number Affected	The first model in this section is on vitamin A deficiency (VAD). To complete this model, participants enter the starting prevalence (status quo) of VAD. Next, participants enter the target prevalence, which refers to the prevalence of VAD in the last year of the time period. The next two models in this section are on maternal anemia; the first calculates maternal deaths and the second calculates perinatal deaths. The information on anemia during pregnancy (maternal anemia) is used twice to estimate number of maternal deaths related to this problem as well as the number of perinatal deaths. To complete the first model, participants the starting prevalence (status quo). Next, participants enter the target prevalence, which refers to the prevalence of maternal anemia in the last year of the time period. For the second model, since the prevalence of maternal anemia and proportion reduction is entered only once in the section for maternal	Omit the vitamin A deficiency model if the prevalence is less than 5 percent. Omit the maternal anemia model if the prevalence is less than 5 percent. Omit the iodine deficiency model if the goiter prevalence is less than 5 percent.

	deaths, enter a "1" in the yellow cell at the top of the model. This will pull the maternal anemia data into this second model. The last model in this section is on iodine deficiency. To complete this model, participants enter the starting prevalence (status quo) of goiter. Next, participants enter the target prevalence, which refers to the prevalence in the last year of the time period.	
Economic Productivity and Education Models		
What to Enter		**When to omit this model**
Step 3. Part D—Economic Productivity Models Iodine Deficiency—Economic productivity Anemia, Adult Women and Men—Economic Productivity Anemia, Children—Economic Productivity Stunting—Economic Productivity Low Birth Weight—Economic Productivity	In the section on iodine deficiency, anemia, stunting, and low birth weight productivity, there are yellow cells where participants enter the number 1 so that the prevalence information can be pulled from elsewhere in the FrontPage into the section for economic productivity.	Omit the iodine, anemia, and low birth weight models if the prevalence for each is below 5 percent. Omit the stunting model if the prevalence is below 5 percent.
Step 3. Part E—Education Model Stunting—Learning Potential	In the section on stunting and learning, there is a yellow cell where the participant enters 1 so that the prevalence information on stunting can be pulled from elsewhere in the FrontPage into the section for stunting and learning.	Omit the stunting model if the prevalence is below 5 percent.
Step 3. Part F—Risk Factors that Reduce Stunting Models Inadequate Dietary Diversity—Stunting Teenage Pregnancy—Stunting	In the section on risk factors of stunting, the information on stunting prevalence is pulled from elsewhere in the FrontPage. The participants enter the information related to inadequate dietary diversity and teenage pregnancy in the yellow cells in this section and the estimates for the status quo and improved scenario will appear below. An example of how to calculate information needed for the teenage pregnancy model is provided in the section that provides detailed calculation guidance on p. 86 and in the PROFILES Workshop *Information Needed Worksheets*.	These models can be used at any prevalence level, as participants can strive for the most optimal situation: no inadequate dietary diversity and no teenage pregnancy.

Information Needed to Conduct a PROFILES Workshop

This section provides an overview of the information that needs to be obtained, agreed upon by participants at the stakeholder meeting and PROFILES workshop, and entered into the *PROFILES Spreadsheet Workbook*. It is recommended that facilitators send this section to core working group members prior to the stakeholder meeting.

Box 4 lists potential sources of information needed for the PROFILES workshop. It is possible that sources of information or data in addition to what is listed in the box (for example, for indicators related to labor, income/wage, etc.) may be needed. The following tables provide a detailed matrix with the specific indicators for which information is needed and comments on possible sources. The list (and the potential sources of information) should not be viewed as exhaustive or final; other important sources of information may also be identified during the workshop. It is important to emphasize that no primary data collection is required; the *PROFILES Spreadsheet Workbook* relies on secondary information sources.

Box 4. Summary of Potential Sources to Review Before Beginning the PROFILES Workshop

- Demographic and Health Survey (DHS)
- Multiple Indicator Cluster Survey (MICS)
- Nationally representative micronutrient surveys
- Other nationally representative household surveys
- Program/project surveys (if relevant)
- Comprehensive food security and vulnerability analysis (if available)
- National labor force survey reports
- Ministry of Education documents
- International estimates/information (developed by international labour.org, Food and Agriculture Organization, World Health Organization, UNICEF, United Nations Population Fund, World Bank, International Monetary Fund, etc.)

In addition, it will be important to have information and documents about policies and programs, as well as information on the policy development process. This type of information is important to guide discussions about the length of time or time period for which estimates should be calculated and about the amount by which the prevalence of various nutrition problems should be reduced. If participants are clear on the national vision, commitment, goals, and objectives for nutrition, they can then more easily decide what is reasonable in terms of calculating estimates. However, if these documents are not available, the workshop can still proceed as planned, but having these types of documents is helpful.[6]

The tables that follow list the key indicators—with accompanying definitions and comments on what information is needed and possible data sources (when needed)—to be collected for the

[6] It is also recommended that planners begin searching for good photographs as early in the planning process as possible. Good country-specific photos can make a big difference during the advocacy communication process (and can often be difficult to find).

PROFILES workshop. Instructions on how to find and fill in the necessary information needed during the workshop are also included in handouts for participants.

Note: Several indicators necessary to generate PROFILES estimates require calculations by the participants. See p. 86 for more information.

Table 4. Data and Information Needs for the *PROFILES Spreadsheet Workbook*—Demographic, Mortality, Education, and Economic Information

Information on:	Data needed for the PROFILES model	Indicators for which data are needed	Where to find this information
OTHER COUNTRY-SPECIFIC INFORMATION			
Demography	The *PROFILES Spreadsheet Workbook* has a tailored population projection sheet for all countries integrated, the only user information required is the total population estimate (and the year of this estimate). If this is not available, the *PROFILES Spreadsheet Workbook* will use the total population estimate from the UN WPP for the year preceding the first year of the time period.	• Total population estimate (most recent) and the year of this estimate	This information is usually available from the national census organization/office of statistics in the country.
Mortality	The *PROFILES Spreadsheet Workbook* requires information on mortality information for women and children.	• Maternal mortality ratio (maternal deaths per 100,000 live births) • Neonatal mortality rate • Infant mortality rate • Under-5 mortality rate • Perinatal mortality rate	• Mortality rates in the first 5 years of life (neonatal, infant, and under-5 mortality rates) are generally available from nationally representative household surveys (for example, DHS and MICS). If perinatal mortality information is not available (or considered to be unreliable), this can be estimated. • Maternal mortality information can be obtained from nationally representative household surveys, special maternal health/mortality surveys, or international estimates (e.g., DHS or those developed by the World Health Organization, UNICEF, United Nations Population Fund, and the World Bank).
Economic	The spreadsheet requires information about the percentage of working age population (in the spreadsheet model, this is typically	• Employed/working age population (%) in manual labor • In labor force/working age population (%) – all sectors	The information related to economic activity (labor force participation) can usually be derived from a labor force survey or statistics on labor, wages, and economic activity combined with

Information on:	Data needed for the PROFILES model	Indicators for which data are needed	Where to find this information
	considered to be males and females 15–64 years of age) who are participating in the labor force, and the percentage who do manual labor. This manual labor information is also needed separately for women and men. An estimate of the proportion of manual labor that is heavy is required as well. The average annual wage for manual labor is also needed for the spreadsheet model, as is the average annual wage across all sectors. Note: See the section that provides detailed calculation guidance on p. 86 for more information on how to calculate the manual labor indicators.	Females employed/female working-age population (%) in manual labor • Males employed/male working-age population (%) in manual labor • Proportion of manual labor that is heavy (usually around 10%) • Average annual wage, manual labor (national currency) • Average annual wage, all sectors (national currency)	expert opinion (if possible from a labor economist).
Education	Primary school starting age refers to the age at which students would enter primary education, assuming they had started at the official entrance age for universal primary school per government policy.	• Primary school starting age (in years) • Number of years of school (duration of schooling according to education policy)	• This information may be available on the Ministry of Education website or in official documents. • Although the World Bank collects information on universal primary school starting age, it is recommended that national sources be used when possible.

Table 5. Data and Information Needs for the *PROFILES Spreadsheet Workbook*—Nutrition Information

Nutrition problem of interest	What data the PROFILES model needs	Nutrition indicators for which data are needed	Where to find this information
ANTHROPOMETRY			
Stunting, wasting, and underweight in children under 5 years of age	The *PROFILES Spreadsheet Workbook* uses three nutritional status indicators: • Stunting based on height/length-for-age[7] • Wasting base on weight-for-height/length • Underweight based on weight-for-age For each of these indicators, the percentage of children in each of the following z-score (measured as standard deviation [SD]) categories (expressed in relation to the reference population median) are used: • Severe: < -3 SD • Moderate: -3 SD to < -2 SD • Mild: -2 SD to < -1 SD The model assumes that the World Health Organization 2006 Growth Standards has been used to assign the z-scores for these indicators.	• Percentage of children 24–35 months with severe stunting (% with height-for-age < -3 SD) • Percentage of children 24–35 months with moderate stunting (% with height-for-age -3 SD to < -2 SD) • Percentage of children 0–59 months with severe stunting (% with height-for-age < -3 SD) • Percentage of children 0–59 months with moderate stunting (% with height-for-age -3 SD to < -2 SD) • Percentage of children 0–59 months with severe wasting (% with weight-for-height < -3 SD) • Percentage of children 0–59 months with moderate wasting (% with weight-for-height -3 SD to < -2 SD) • Percentage of children 0–59 months with severe underweight (% with weight-for-age < -3 SD) • Percentage of children 0–59 months with moderate underweight (% with weight-for-age -3 SD to < -2 SD) Note: The *PROFILES Spreadsheet Workbook* auto-calculates an estimate of the percentage in the mild category.	This information (especially for the moderate and severe categories) is generally included in reports of nationally representative household surveys such as the Demographic and Health Survey (DHS) and Multiple Indicator Cluster Survey (MICS); however, the percentage of children in the category between -2 SD and -1 SD is not usually provided. As a result, the *PROFILES Spreadsheet Workbook* auto-calculates the percentage of children in the mild category for stunting, wasting, and underweight.

[7] Length is used for children under 24 months, who are measured lying down; height is for children 24 months and over, who are measured standing up. Sometimes height is used for the sake of brevity to refer to height/length.

Nutrition problem of interest	What data the PROFILES model needs	Nutrition indicators for which data are needed	Where to find this information
Childhood overweight/ obesity	Prevalence of child overweight/obesity among children 48–59 months of age.	• Percentage of children 48–59 months of age with weight for height above +2 SD	This information is generally included in reports of nationally representative household surveys such as the Demographic and Health Survey (DHS) and Multiple Indicator Cluster Survey (MICS); typically available in the same table where the stunting prevalence is provided.
MICRONUTRIENTS			
Vitamin A deficiency	The *PROFILES Spreadsheet Workbook* requires information on the prevalence of vitamin A deficiency as reflected in a serum retinol level less than 20 micrograms/dl among children 6–59 months (this includes children with sub-clinical vitamin A deficiency).	• Percentage of children 6–59 months with vitamin A deficiency, including sub-clinical (serum retinol < 20 micrograms/dl)	Ideally, information should be based on a nationally representative survey.

Nutrition problem of interest	What data the PROFILES model needs	Nutrition indicators for which data are needed	Where to find this information
Anemia	The *PROFILES Spreadsheet Workbook* requires information on the prevalence of any anemia among women, men, and children. For the models on maternal anemia, the PROFILES spreadsheet workbook assumes that 50% of anemia is due to iron deficiency, in accordance with Stoltzfus et al. (2004).	• Percentage of pregnant women with any anemia (hemoglobin < 11 g/dl) • Percentage of children under 5 years with any anemia (hemoglobin < 11 g/dl) • Percentage of children 5–14 years with any anemia; common cutoffs in this age group are: Children 5-11 years, hemoglobin < 11.5 g/dl (some surveys/studies might use a cutoff of 12 g/dl); and children 12–14 years (hemoglobin < 12 g/dl8) • Percentage of women of reproductive age (15–49 years) with any anemia (hemoglobin < 12 g/dl) • Percentage of men (15–64 years) with any anemia (hemoglobin < 13 g/dl)	Information about anemia based on blood testing of survey respondents is sometimes available from nationally representative household surveys (for example, the DHS) or other nationally representative surveys (such as micronutrient or malaria surveys).

[8] Note if a percentage is not available for the entire age group (5-14 years), then the user may need to compute a weighted average that combines the prevalence of anemia for two separate groups to find the weighted average percentage for the entire group. An example of how to do a weighted average can be found in the section that provides detailed calculation guidance on p. 86 under the suboptimal breastfeeding estimates example.

Nutrition problem of interest	What data the PROFILES model needs	Nutrition indicators for which data are needed	Where to find this information
Iodine deficiency	The *PROFILES Spreadsheet Workbook* uses information on goiter prevalence, which is traditionally assessed by neck inspection and palpation and often expressed as the total goiter rate (TGR). If there is no relatively recent TGR information, in-country iodine experts can help ascertain the iodine deficiency situation in the country. Overall, a decision about TGR to use in PROFILES needs to be made on a case-by-case basis regarding the available goiter/iodine deficiency information. In addition, due to variations in iodine deficiency across communities in many countries, sub-national level iodine information may be used to help inform a discussion on total goiter prevalence and support dialogue around PROFILES targets on iodine deficiency.	• Percentage of population with goiter	Ideally, information should be based on a nationally representative survey. While obtaining data on women 15–49 is preferable, any data including school-age children, children under 5 years, or other segments of the population can be used. Note: If information on goiter is not available, technical experts can decide whether based on urinary iodine concentration and/or other data, iodine deficiency is an issue in the country and therefore using the model is necessary.

Nutrition problem of interest	What data the PROFILES model needs	Nutrition indicators for which data are needed	Where to find this information
LOW BIRTH WEIGHT AND SUBOPTIMAL BREASTFEEDING			
Timing of breastfeeding initiation	Initiation of breastfeeding is based on information for all infants born during a specified time period: Early initiation of breastfeeding refers to infants who were put to the breast within one hour of birth.	• Percentage of infants put to the breast within the first hour of birth • Percentage ever breastfed • Percentage never breastfed Note: The *PROFILES Spreadsheet Workbook* auto-calculates an estimate for the percentage of "never breastfed".	Information about timing of initiation of breastfeeding is generally obtained from nationally representative household surveys such as the DHS or MICS, mother's report for all infant born during a specified time period (for example, two years preceding the survey).

Suboptimal breastfeeding practices	Exclusive, predominant, partial, and no breastfeeding for infants 0–5 months were defined as follows: • Exclusive breastfeeding refers to those who received only breast milk from his or her mother or a wet nurse, or expressed breast milk, and no other liquids or solids except vitamins, mineral supplements, or medicines in drop or syrup form. • Predominant breastfeeding refers to those who received breast milk as the predominant source of nourishment during the previous day. Predominant breastfeeding allows oral rehydration salts, vitamin and/or mineral supplements, ritual fluids, water and water-based drinks, and fruit juice. Other liquids, including non-human milk and food-based fluids, are not allowed, and no semi-solid or solid foods are allowed. • Partial breastfeeding refers to those who received breast milk as well as non-human milk, food-based fluids, and/or semi-solid/solid foods. • No breastfeeding refers to those who did not receive any breast milk. In this model, any and no breastfeeding for infants 6–23 months were defined as follows: • No breastfeeding refers to those who did not receive any breast milk. • Any breastfeeding refers to all other children who received breast milk (this percentage is obtained by subtracting the % of "no breastfeeding" infants from 100%. For example, if 17% of infants are not breastfed then "any breastfeeding" is 83%. Note: See the section that provides detailed calculation guidance on p. 86 for more information on how to calculate the breastfeeding indicators.	• Percentage exclusive breastfeeding (received breast milk only) among infants 0–5 months • Percentage predominant breastfeeding among infants 0–5 months • Percentage partial breastfeeding among infants 0–5 months • Percentage no breastfeeding among infants 0–5 months • Percentage exclusive breastfeeding (received breast milk only) among infants 4–5 months • Percentage any breastfeeding among infants 6–23 months • Percentage no breastfeeding among infants 6–23 months Note: The *PROFILES Spreadsheet Workbook* auto-calculates an estimate of the percentage of "no breastfeeding" for both age groups.	Information about breastfeeding and other feeding practices is generally obtained from nationally representative household surveys such as the DHS or MICS, and this is based on the mother's self-report of feeding the child in the previous 24 hours (the day prior to the interview).

Low birth weight	The *PROFILES Spreadsheet Workbook* requires information on the prevalence of low birth weight.	• Percentage of children who weigh less than 2,500 grams at birth	Nationally representative household surveys (such as the DHS and MICS) often include information on low birth weight (as reported by the mother). If survey information is not available, other sources of information could be used, such as special studies, information from other countries, expert opinion, or a combination of these.

Table 6. Data and Information Needs for the *PROFILES Spreadsheet Workbook*—Risk Factors of Stunting

Risk factor	What data the PROFILES model needs	Indicators for which data are needed	Where to find this information
Inadequate dietary diversity among children under age 2	The *PROFILES Spreadsheet Workbook* requires information on dietary diversity among children 6-23 months of age.	• Inadequate dietary diversity (fewer than 4 foods groups) in the last 24 hour before the interview among children 6-23 months	This information is usually available in the latest DHS survey in the table on infant and young child feeding practices.
Teenage pregnancy: Births to teenage mothers	The *PROFILES Spreadsheet Workbook* requires information on births to teenage mothers. Note: See the section that provides detailed calculation guidance on p. 86 for more information on how to calculate the teenage pregnancy indicator.	• Proportion (among all births) of children born to a mother less than 20 years of age (%)	This information is usually available in the latest DHS survey in the table on teenage pregnancy and motherhood.

How to Interpret PROFILES Results

The *PROFILES Spreadsheet Workbook* calculates estimates for a set of health and development outcomes for a specified time period. Once participants have calculated all the estimates, it is important that they understand how to interpret and communicate to other stakeholders what the estimates mean in terms of the benefits of improving nutrition on health and development outcomes. This is because each model in the *PROFILES Spreadsheet Workbook* calculates an estimate for a specific relationship seen in the scientific literature.

Table 7 presents the input nutrition indicators, the output—health or development outcomes, and how to refer to each of the estimates in terms of losses and gains. Note that the term "related to" is used to describe the relationship between the nutrition indicator and the outcome of interest. This is a deliberate choice in order to not overstate the nature of the relationship between the nutrition indicator and the outcome of interest. Most of the problems for which PROFILES calculates estimates are based on relationships seen in the literature. Generally, these relationships have been shown consistently in various studies for each model and allow the inference made by the PROFILES estimates. Therefore, it is important for both facilitators and participants to consistently use the terms provided in the following tables when referring to each of the estimates generated by the *PROFILES Spreadsheet Workbook* for the status quo and improved scenarios.

Often participants would like to know if the estimates can be added together. One limitation with regard to adding any of the estimates (for example, economic productivity losses or lives saved) is that many forms of malnutrition can co-exist in one individual. For example, one child can be stunted, wasted, and have compounding micronutrient deficiencies of iodine, iron, and vitamin A. For this reason, for the economic productivity estimates it is recommended that the highest value be used and that the estimates not be added together. Similarly, for the health outcomes related to lives saved; estimates for vitamin A deficiency; wasting; underweight; and stunting; perinatal deaths; and low birth weight cannot be added together. But here again the highest value can be used.

Finally, participants may also like to know whether the estimates that the *PROFILES Spreadsheet Workbook* calculates are of an expected order of magnitude. To help participants reflect on this, the *PROFILES Spreadsheet Workbook* includes a section at the bottom of the Tables and Figures sheet that provides the total for that outcome of interest by the end of the time period. For example, child deaths related to stunting are only a part of all under-5 deaths related to all causes. So, in this case participants can compare the estimates of under-5 child deaths related to stunting in the status quo and improved scenarios to the overall under-5 child deaths related to all causes to see whether the under-5 deaths related to stunting fall within the overall under-5 child deaths that would occur by the end of the time period related to all causes. This can help participants put the results for a particular outcome in perspective relative to a broader outcome (e.g., all under-5 deaths related to all causes) by the end of the time period.

Table 7 specifies how to refer to losses and gains and defines specifically what each estimate is that PROFILES calculates. In contrast, Figures 8-11 provide a summary of how the PROFILES results are typically reported and used in advocacy materials. This specific wording is provided to ensure clear and consistent reporting and use of the results, which is essential for nutrition advocacy but also not to misinterpret or overstate what each of the estimates refers to.

Table 7. PROFILES Inputs, Outputs, and How to Refer to Losses and Gains

Input—nutrition indicator	Output—development outcome	How to refer to the status quo/losses	How to refer to the gains
Health outcomes			
Stunting under 5 years	Under-5 child deaths/lives saved	Total number of under-5 child deaths related to stunting over the course of the time period	Total number of under-5 child lives that will be saved by reducing stunting over the course of the time period
Underweight under 5 years		Total number of under-5 child deaths related to underweight over the course of the time period	Total number of under-5 child lives that will be saved by reducing underweight over the course of the time period
Wasting under 5 years		Total number of under-5 child deaths related to wasting over the course of the time period	Total number of under-5 child lives that will be saved by reducing wasting over the course of the time period
Low birth weight	Infant deaths/lives saved	Total number of infant deaths related to low birth weight over the course of the time period	Total number of infant lives saved by reducing low birth weight over the course of the time period
Suboptimal breastfeeding	Under-2 child deaths/lives saved	Total number of under-2 child deaths related to suboptimal breastfeeding over the course of the time period	Total number of under-2 child lives that will be saved by reducing suboptimal breastfeeding over the course of the time period
Late initiation of breastfeeding	Neonatal deaths/lives saved	Total number of neonatal deaths related to late initiation of breastfeeding over the course of the time period	Total number of neonatal deaths that will be averted by reducing late initiation of breastfeeding over the course of the time period
Maternal anemia	Perinatal deaths/lives saved	Total number of perinatal deaths related to maternal anemia over the course of the time period	Total number of perinatal deaths that will be averted by reducing maternal anemia over the course of the time period
Maternal anemia	Maternal deaths/lives saved	Total number of maternal deaths related to maternal	Total number of maternal lives that will be saved by

Input—nutrition indicator	Output—development outcome	How to refer to the status quo/losses	How to refer to the gains
		anemia over the course of the time period	reducing maternal anemia over the course of the time period
Vitamin A deficiency	Under-5 child deaths/lives saved	Total number of under-5 child deaths related to vitamin A deficiency over the course of the time period	Total number of under-5 child lives saved by reducing vitamin A deficiency over the course of the time period
Suboptimal breastfeeding and child overweight/obesity	Child overweight/obesity	Total number of children who may become overweight/obese related to suboptimal breastfeeding practices over the course of time period	Total number of children for whom overweight/obesity is prevented by reducing suboptimal breastfeeding practices over the course of the time period
Iodine deficiency (goiter)	Permanent disabilities	Total number of permanent disabilities related to iodine deficiency in pregnancy over the course of the time period	Total number of permanent disabilities averted by reducing iodine deficiency in pregnancy over the course of the time period
Economic productivity and human capital outcomes			
Stunting	Economic productivity	Total net present value of future productivity losses related to stunting over the course of the time period	Total net present value of future productivity that will be gained if stunting is reduced over the course of the time period
Anemia (adult)[9]		Total net present value of adult productivity losses related to anemia in adults over the course of the time period	Total net present value of future adult productivity that will be gained if anemia is reduced among adults over the course of the time period
Anemia (children)		Total net present value of future productivity losses related to childhood anemia over the course of the time period	Total net present value of future productivity that will be gained if childhood anemia is reduced over the course of the time period
Iodine deficiency (goiter)		Total net present value of future productivity losses related to iodine deficiency in pregnancy over the course of the time period	Total net present value of future productivity that will be gained if iodine deficiency in pregnancy is reduced as indicated over

[9] If information is available only for men or only for women, the wording can be changed here to specify that.

Input—nutrition indicator	Output—development outcome	How to refer to the status quo/losses	How to refer to the gains
			the course of the time period
Low birth weight		Total net present value of future productivity losses related to low birth weight over the course of the time period	Total net present value of future productivity gains related to a reduction in low birth weight over the course of the time period
Stunting	Learning ability	Total net present equivalent school years of learning lost related to stunting over the course of the time period	Total net present equivalent school years of learning that will be gained if stunting is reduced as indicated over the course of the time period

Input—risk factor indicator	Output—nutrition outcome	How to refer to the status quo/losses	How to refer to the gains
Risk factors of stunting			
Inadequate dietary diversity	Reduced stunting	Total number of children aged 24–35 months who are stunted related to inadequate dietary diversity at 6–23 months over the course of the time period	Total number of children aged 24–35 months for whom stunting is averted related to improved dietary diversity at 6–23 months over the course of the time period
Teenage pregnancy		Total number of children aged 24–35 months who are stunted related to teenage pregnancy over the course of the time period	Total number of children aged 24–35 months for whom stunting is averted related to a reduction in teenage pregnancy over the course of the time period

Figure 8. Estimates of Future Losses in Lives, Economic Productivity, and Human Capital Associated with Various Nutrition Problems, for the Specified Time Period

LIVES LOST	PERMANENT DISABILITIES	CHILDHOOD OVERWEIGHT/ OBESITY	ECONOMIC PRODUCTIVITY LOST	HUMAN CAPITAL LOST
# lives of children under 5 lost related to stunting	# children born with irreversible brain damage (ranging from severe brain damage to a decrease in IQ) related to maternal iodine deficiency	# children 48–59 months likely to become overweight/obese related to suboptimal breastfeeding practices	# national currency (US dollars in brackets) lost related to stunting	# equivalent school years of learning lost related to stunting
# lives of children under 5 lost related to underweight			# national currency (US dollars in brackets) lost related to low birth weight	
# lives of children under 5 lost related to wasting			# national currency (US dollars in brackets) lost related to iron deficiency anemia among adults (men and non-pregnant women)	
# lives of children under 5 lost related to low birth weight			# national currency (US dollars in brackets) lost related to iron deficiency anemia in children	
# lives of newborns lost to late initiation of breastfeeding			# national currency (US dollars in brackets) lost related to iodine deficiency in pregnancy	
# maternal deaths lost related to maternal anemia				
# lives of infants lost during the perinatal period related to maternal anemia				
# lives of children under 5 lost related to vitamin A deficiency				
# lives of children under age 2 lost related to suboptimal breastfeeding practices				

Figure 9. Estimates of Future Lives Saved, Economic Productivity Gained, and Human Capital Gained Due to Improvements in Nutrition for the Specified Time Period

LIVES SAVED	PERMANENT DISABILITIES AVERTED	CHILDHOOD OVERWEIGHT/ OBESITY PREVENTED	ECONOMIC PRODUCTIVITY GAINED	HUMAN CAPITAL GAINED
# lives of children under 5 saved related to a reduction in stunting	# children saved from irreversible brain damage related to a reduction in maternal iodine deficiency	# children 48–59 months prevented from becoming overweight/obese related to improved breastfeeding practices	# national currency (US dollars in brackets) gains related to a reduction in stunting	# equivalent school years of learning gained related to a reduction in stunting
# lives of children under 5 saved related to a reduction in underweight			# national currency (US dollars in brackets) gains related to a reduction in low birth weight	For those in the 24–35-month age group in the year [end of time period], X equivalent school years of learning gained per child related to a reduction in stunting
# lives of children under 5 saved related to a reduction in wasting			# national currency (US dollars in brackets) gains related to improvements in iron deficiency anemia among adults (men and non-pregnant women)	
# lives of children under 5 saved related to increases in birth weight			# national currency (US dollars in brackets) gains related to improvements in iron deficiency anemia in children	
# lives of newborns saved related to improved early initiation of breastfeeding (within an hour of birth)			# national currency (US dollars in brackets) gains related to improvements in iodine deficiency in pregnancy	
# maternal lives saved related to a reduction in maternal anemia				
# lives of infants saved in the perinatal period related to a reduction in maternal anemia				
# lives of children under 5 saved related to improvements in vitamin A status				
# Infants' lives saved related to improved breastfeeding practices				

Figure 10. Estimates of Stunting among Children Age 24–35 Months Related to Improvements in Dietary Diversity and a Reduction in Teenage Pregnancy for the Specified Time Period

Figure 11. Estimates of Stunting Prevented among Children Age 24–35 Months Related to Improvements in Dietary Diversity and a Reduction in Teenage Pregnancy for the Specified Time Period

Additional Information on How to Calculate Select Indicators to Generate PROFILES Estimates

Note: Detailed instructions on how to calculate the indicators shown below are also included in the PROFILES Workshop Worksheets – Information Needed.

A. Economic Productivity Estimates - Manual Labor

PROFILES requires several indicators on manual labor to generate the economic productivity estimates. These indicators include:

- Number of males and females employed in manual labor X 100/number of males and females of working age, %
- Number of females employed in manual labor X 100/ number of females of working age, %
- Number of males employed in manual labor X 100/number of males of working age, %
- Proportion of manual labor that is "heavy" (approximately 10% is often used), %

In most countries, there is no singular manual labor indicator available and therefore it must be calculated using categories of employment. Typically, Labor Force Surveys (or other surveys containing employment information) contain tables with categories of multiple types of employment (e.g., agriculture, mining, domestic services). An example is shown below in Table 8.

Table 8 (showing employment by industry), from a 2006 Tanzania Labor Force Survey, is an example of the types of categories that have been used to calculate manual labor in previous PROFILES workshops. Table 1 shows the percent of males and females employed by industry category among persons who are working. During a PROFILES workshop in Tanzania, the group reviewed and discussed labor categories similar to those listed in the table; in the Tanzania workshop, special tabulations had been provided to workshop participants by the National Bureau of Statistics. The yellow highlighted employment categories in Table 1 were determined to be manual labor jobs. The group then added the percentage of each labor category (highlighted in yellow) for males and females to get the total percentage of manual labor by gender, and for both males and females combined. As shown in the red circles in the table, the totals were 77.2% for males, 86.3% for females, and 81.9% for both combined. Note, this is just an example as PROFILES workshop participants will need to discuss the available categories of employment in their country-specific employment information source and agree upon what should be counted as manual labor.

In order to arrive at the indicators required by the *PROFILES Spreadsheet Workbook*, the percentages for manual labor shown in Table 1 would need to be multiplied by the employment-to-population ratio[10] (referred to as the "employment ratio" in the 2006 survey)

[10] Although the employment-to-population ratio is not required in the spreadsheet, this indicator might be needed for some calculations to arrive at information required by the spreadsheet, as is the case in this example.

for males (80.8%), females (77.6%), and both combined (79.2%). Hence among the working age population the percentage are:

- Males and females employed in manual labor: 64.9%
- Females employed in manual labor: 67.0%
- Males employed in manual labor: 62.4%

Table 8. Example Information from the 2006 Tanzania Labor Force Survey Used to Calculate Manual Labor

Labor Force Survey 2006	Percentage among employed/working persons:				Percentage among employed/working persons:		
	Male	**Female**	**Total**		**Male**	**Female**	**Total**
Agriculture/ hunting/ forestry	70.6	79.7	75.3		70.6	79.7	75.3
Fishing	2.1	0.3	1.2		2.1	0.3	1.2
Mining & quarry	0.9	0.1	0.5		0.9	0.1	0.5
Manufacturing	3.4	1.9	2.6				
Electricity, gas & water	0.2	0	0.1				
Construction	2.1	0.1	1.1		2.1	0.1	1.1
Wholesale & retail trade	9.3	6.1	7.6				
Hotels & restaurants	1.1	2.8	2				
Transport/storage & communication	2.9	0.2	1.5				
Financial intermediation	0.1	0.1	0.1				
Real estate/renting & business activities	0.8	0.1	0.5				
Public admin & defense	1.9	0.3	1.1				
Education	1.6	1.2	1.4				
Health & social service	0.5	0.7	0.6				
Other community/social & personal service activities	1	0.4	0.7				
Private households with employed persons	1.5	6.1	3.8	1	1.5	6.1	3.8
Total	100	100	100				
Manual labor (sum yellow categories) among employed					77.2	86.3	81.9

This example used information from a labor force survey; other potential sources of information include other types of national surveys (if they include labor statistics) or possibly some international sources such as international labour.org (ILO) or Food and Agriculture Organization of the United Nations (FAO) databases.

B. Suboptimal Breastfeeding Estimates

Breastfeeding practices (during the 24 hours before the interview) among children 0–5 months of age

Exclusive, predominant, partial, and no breastfeeding for infants 0–5 months are defined as follows.

- Exclusive breastfeeding refers to those who received only breast milk from his or her mother or a wet nurse, or expressed breast milk, and no other liquids or solids except vitamins, mineral supplements, or medicines in drop or syrup form.
- Predominant breastfeeding refers to those who received breast milk as the predominant source of nourishment during the previous day. Predominant breastfeeding allows oral rehydration salts, vitamin and/or mineral supplements, ritual fluids, water and water-based drinks, and fruit juice. Other liquids, including non-human milk and food-based fluids, are not allowed, and no semi-solid or solid foods are allowed.
- Partial breastfeeding refers to those who received breast milk as well as non-human milk, food-based fluids, and semi-solid and/or solid foods.
- No breastfeeding refers to those who did not receive any breast milk.

Indicators needed to calculate the suboptimal breastfeeding and mortality model for children 0-5 months of age are:

- Exclusive breastfeeding (0–5 months of age), %
- Predominant breastfeeding (0–5 months of age), %
- Partial breastfeeding (0–5 months of age), %
- No breastfeeding (0–5 months of age), %

An example of how to find the indicators necessary to generate PROFILES estimates is demonstrated through the use of the Tanzania 2010 Demographic and Health Survey (DHS). The Tanzania 2010 DHS divides breastfeeding status into the following categories:

- Exclusively breastfed
- Plain water only
- Non-milk liquids/juice
- Other milk
- Complementary foods

These groups are hierarchical and mutually exclusive, and their percentages add to 100%. Therefore, to obtain the percentage for “predominant breastfeeding,” within each age group in the report table, you would add the percentages for “plain water only” and “non-milk liquids/juice.” To obtain the percentage for “partial breastfeeding,” you would add the percentages for “other milk” and “complementary foods.”

Breastfeeding practices (during the 24 hours before the interview) among children 6–23 months of age

- Any breastfeeding and no breastfeeding for **children 6–23 months** are defined as follows:
- **No breastfeeding** refers to those who were not breastfed at the time of the survey (this comprises children who were no longer breastfed and those who were never breastfed).
- **Any breastfeeding** refers to all other children who were still breastfeed

Indicators needed to calculate the suboptimal breastfeeding and mortality model for children 6–23 months of age are:

- Any breastfeeding (6–23 months), %
- No breastfeeding (6–23 months), %

To calculate the percentage of children 6–23 months who were not breastfed or who were in the category "any breastfeeding", you may need to do a weighted average if, for example, you are using a DHS as the source of information. For example, a table in the Zimbabwe 2010-2011 DHS (Table 11.3) report shows breastfeeding practices according to the following age groups: 6–8, 9–11, 12–17, and 18–23 months. To get the "no breastfeeding" prevalence among children 6–23 months, a weighted average must be calculated[11]. To do a weighted average, take the percentage for each age group and multiple it by the denominator (N) (total number of children) for that age group to obtain the numerator for the age group (age group % x N). Then add up the values (numerators) for the four age groups and then divide that number by the total N for the four age groups combined.

Using the information in Table 9, the equation would be as follows: (326 x 0.035) + (321 x 0.065) + (586 x 0.174) + (377 x 0.703) = 399.

Then, this sum is divided by the total number of children 6–23 months to give you the weighted average and the percentage of children in this age group who are not breastfed: 399/1,610 = 0.248 or 24.8%.

To then determine the percentage of children 6–23 months with "any breastfeeding," subtract the percentage of "no breastfeeding" infants from 100%, i.e., if 24.8% of infants are not breastfed, then "any breastfeeding" is 75.2%.

[11] The example uses the column showing the percentage "not breastfeeding" because this information is commonly available, although in the Zimbabwe DHS report there is also a column showing the percentage who are "currently breastfeeding."

Table 9. Example Information for Calculating Weighted Average for Indicators on No/Any Breastfeeding at 6–23 Months

From a table in the source			Calculated		
Age group (months) (a)	**% not breastfed (b)**	**Number of children in the age group (c)**	**Numerator (d)** **d=c*b**	**% not breastfed 6–23 months (e)** **e=d*100/c**	**% any breastfed 6–23 months (f)** **f=100%-e**
6–8	3.5%	326	=326*3.5%=11		
9–11	6.5%	321	=321*6.5%=21		
12–17	17.4%	586	=586*17.4%=102		
18–23	70.3%	377	=377*70.3%=265		
		↓ sum of rows above (from source or calculated)	↓ sum of rows above (calculated)		
6–23		1,610	399	399/1,610 =24.8%	100%-24.8% =75.2%

C. Stunting Risk Factor Estimates – Teenage Pregnancy

One of the models on risk factors for stunting requires information on the proportion of children who are born to teenage mothers among all births born during a time period. Possible sources of this include DHS surveys and the UN WPP database.

If the report from a DHS survey is used as the source, this information can usually be derived from a table called "Assistance during delivery" (or something similar); that table shows information by various background characteristics, including "Mother's age at birth" (the categories are generally: <20, 20–34, and 35–49 years). For example, in the report for the Zambia DHS 2013–2014, the table shows the "percent distribution of live births in the five years preceding the survey by person providing assistance during delivery, percentage of births assisted by a skilled provider, and percentage delivered by caesarean section, according to background characteristics." In this survey, 2,480 children were born to mothers who were teenagers (<20 years); the table also shows that the total number of births was 13,383. Hence, among all the births, 18.5 percent (2,480/13,383) were born to teenage mothers.

If the information necessary to calculate the percentage of births born to teenage mothers is not available from a DHS survey, the UN WPP database can be used (https://esa.un.org/unpd/wpp – accessed March 12, 2018). The following description indicates how to use the UN WPP to access this information and reflects the structure and wording on the UN WPP website at present (March 2018):

1. Click on "Download Data Files."

2. Then, under "Major topic/Special groupings," click on "Fertility indicators." Download the Excel file named "Births by Age of Mother."

3. After opening the file, notice that the sheet named "Estimates" shows estimates for 5-year groupings from "1950–1955" through "2010–2015." Future projections are shown in four separate sheets, each reflecting a different assumption regarding the fertility variant. Each of these sheets shows projections from "2015–2020" through "2095–2100." The sheets in this file show estimates of the number of births by mother's age in 5-year age groups, from "15–19" through "45–49."

4. To obtain the percentage born to teenage mothers (this is labeled as 15–19 years in this data source), first find the country and identify the 5-year time period that encompasses the first year of the PROFILES time period.

5. Next, calculate the sum of births across all the age groups.

6. Then find the number of births to teenage mothers (15-19 years).

7. Finally, to find the percentage among all births that are born to teenage mothers, divide the number of births to teenage mothers by the sum of births across all the age groups.

PROFILES Reference List

The PROFILES spreadsheet uses coefficients from peer-reviewed literature and country-specific information to quantify the country-level consequences of malnutrition. The following are references that provide either the specific values or the basis for estimating the coefficients used in the PROFILES spreadsheet.

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World Health Organization Multicentre Growth Reference Study Group. 2006. "WHO Child Growth Standards Based on Length/Height, Weight and Age." *Acta Paediatrica.* Vol. 450, pp. 76–85.

Additional Reading List

The purpose of this reading list is to provide PROFILES workshop facilitators/participants with a list of additional resources that may be helpful to review prior to conducting/participating in the workshop. The following resources are referenced in the PROFILES workshop PowerPoint materials and/or provide additional context to the relationships and outcomes examined through the PROFILES spreadsheets.

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Oot, L.; Sethuraman, K.; Ross, J.; and Sommerfelt, A.E. 2016a. *The Effect of Chronic Malnutrition (Stunting) on Learning Ability, a Measure of Human Capital: A Model in PROFILES for Country-Level Advocacy.* Washington, DC: FHI 360/FANTA.

Oot, L.; Sethuraman, K.; Ross, J.; and Sommerfelt, A.E. 2016b. *The Effect of Suboptimal Breastfeeding on Preschool Overweight/Obesity: A Model in PROFILES for Country-Level Advocacy.* Washington, DC: FHI 360/FANTA.

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STEP 2

Conduct a PROFILES Workshop to Generate Estimates for Nutrition Advocacy

SESSION PLANS FOR THE PROFILES WORKSHOP

Pre-Workshop Preparation

It is recommended that facilitators review the *PROFILES Workshop Facilitator Guide*, these session plans, the PROFILES workshop PowerPoint presentation, and the sample PROFILES workshop agenda to prepare for the PROFILES workshop. This is **Step 2** in a comprehensive nutrition advocacy planning process.

Pre-workshop setup:

- Set up a table for reference materials and printed resources and documents.
- Print and hang the six PROFILES scoreboards.
- Although not handed out until day two, it is recommended that the flash drives be prepared for participants. Suggested files to include:
  - PowerPoint presentation—a PDF version is suggested.
  - *PROFILES Spreadsheet Workbook*
  - Agenda
  - Handouts:
    - Advocacy to Reduce Malnutrition: Using PROFILES and Nutrition Costing
    - Frequently Asked Questions (FAQs)
    - Scientific Basis for the Nutrition Problems and Consequences Addressed in PROFILES
    - PROFILES Reference List and Additional Reading List
    - Overview of the Approach Used in PROFILES Models to Calculate Estimates
    - How to Interpret PROFILES Results
    - Information Needed worksheets
    - Glossary
  - Sample of a PROFILES report and/or advocacy materials from a previous PROFILES country

Note: The PROFILES scoreboards are large paper boards that are used to display the information agreed upon throughout the PROFILES workshop (e.g., data sources, starting prevalence information, targets) so that all the participants are aware of the decisions made and can check that the information they have in their *PROFILES Spreadsheet Workbook* is correct. Importantly, this creates a visual gallery for participants to gather around and interact with the information throughout the workshop.

The following session plans provide a guide for the workshop, but the content of the sessions should be tailored to each country. The times allocated for each session are flexible—adjust as needed for the country context.

Session 1. Welcome and Introduction to the PROFILES Workshop

Time	Session objectives	Learning objectives	Materials
8:30–10:00 am (1 hour, 30 minutes; 4 parts)	• Welcome participants to the workshop. • Review the workshop methods. • Review the purpose of the workshop. • Review the agenda of the workshop and how the workshop fits into the nutrition advocacy planning process.	Participants will: • Understand the purpose of the workshop and how it fits within the nutrition advocacy planning process • Understand that the preliminary PROFILES estimates are generated for use in nutrition advocacy materials to support the nutrition advocacy planning process	• Agenda • PowerPoint (PPT) • Markers • Flipchart

FACILITATION NOTES

Part 1: Introductions and expectations (40 minutes)

1. Review the session objectives with participants.

2. Welcome the participants and ask each participant to introduce themselves, the organization they represent, and their role in the organization.

Then, ask them to form pairs and take 3 minutes to ask their partner what their interest is in nutrition advocacy. After 3 minutes, reconvene the plenary and select a few pairs and ask them to share what they discussed.

3. Ask the participants to share their expectations of the workshop and note their remarks on the flipchart.

Part 2: VIPP methodology and ground rules (15 minutes)

1. Explain the visualization in participatory programs (VIPP) methodology to the participants, specifically noting that VIPP is designed to ensure that everyone's voice is heard.

2. Explain the VIPP rules: one thought/idea per card; use a marker, not a pen; write with broad side of marker; no more than three lines per card.

To establish ground rules for the workshop, set up one flipchart paper with a vertical line down the middle. Start the game "Topsy Turvy" by asking the question: "If you wanted to make this workshop not successful, what would you do? For example, talk on the phone during sessions, come in late, sleep, etc."

Write each idea on a VIPP card and tape on the left side of the flipchart.

Then, ask: "So, what will make this workshop successful?" (turn our phones on silent, be on time, be engaged, etc.). Write each idea on a VIPP card and tape on the right side of the flipchart. Ask the participants if they agree that the ideas on the right side of the flipchart are the ground rules.

Part 3: Purpose of the workshop (5 minutes)

Review the purpose of the workshop and explain why this workshop is important to support the nutrition advocacy planning process.

Part 4: Review agenda (20 minutes)

Review the agenda for the workshop and explain how the workshop fits as one piece of the nutrition advocacy planning process.

Session 2. Review of the Nutrition Advocacy Approach and Overview of the Stakeholder Meeting

Preparation:

If a stakeholder meeting was held. Prior to beginning this session, the facilitators should determine how to address any issues that arose during the stakeholder meeting that may need to be discussed more during the PROFILES workshop (e.g. if all the data sources were not agreed upon). The facilitator will need to fill in specific information from their notes from the stakeholder meeting in the PPT deck. Noting why decisions on prevalence indicators, targets, etc., were made will be helpful to facilitate and explain the session. In addition, a facilitator may choose an alternative way to present the slides that recap the discussion during the meeting if many of the participants at the workshop were also at the stakeholder meeting. Instead of reading the stakeholder slides, the facilitator may choose to review this information in a more interactive manner by asking participants who were at the stakeholder meeting to provide their impressions of the meeting, to present information for each indicator, and to share what was decided by the participants at the stakeholder meeting. The PPT has been set up to facilitate participation in this manner.

If a stakeholder meeting was not held. The facilitator will need to adjust the PPT to hide slides referring to the stakeholder meeting. Stop the PPT presentation after reviewing the slide titled "What Needs to Be Determined for PROFILES?" and share only the first and third objectives of the session. The information that was skipped will then be covered during Sessions 5 and 6. In part 2 of this session, the facilitator will need to present the advocacy session since one was not held during the stakeholder meeting (see notes below).

Time	Session objectives	Learning objectives	Materials
10:00–10:45 am (45 minutes; 2 parts)	• Review the nutrition advocacy planning process, what PROFILES is, and how it can be used to support nutrition advocacy. • Review the outcomes of the nutrition advocacy stakeholder meeting (if it was held prior to the PROFILES workshop). • Discuss the country's nutrition advocacy needs.	Participants will: • Understand the process of nutrition advocacy, how PROFILES estimates support nutrition advocacy, and how nutrition advocacy can be utilized to promote actions to improve the nutrition situation in a country • Recall decisions made during the stakeholder meeting (if it was held prior to the PROFILES workshop) that feed into the workshop	• PPT • VIPP cards • Handout: Advocacy to Reduce Malnutrition: Using PROFILES and Nutrition Costing • Handout: Frequently Asked Questions • Flipcharts from stakeholder meeting (on timeline and data sources) • Examples of a previous PROFILES technical report, summary report, advocacy plan, advocacy materials, etc. (available on FANTA's website)

FACILITATION NOTES

Part 1: Review nutrition advocacy approach and stakeholder meeting (20 minutes)

Review the session objectives and provide a quick overview of the presentation. Then, call upon participants who were present at the stakeholder meeting and ask them to share their observations, thoughts, and the take-away from the meeting.

Then, switch to the PPT and present the overview of the nutrition advocacy planning process, what PROFILES is, and how it can be used to support nutrition advocacy. After the slide titled "What Is Nutrition Advocacy," mention to participants that examples of previous nutrition advocacy work can be found displayed on a table for their review.

Continue the PPT presentation and recall the discussion and decisions made during the stakeholder meeting, if one was held. Specifically recall:

- The time period that was selected for the PROFILES workshop
- The data sources (year) and prevalence of the key indicators used in the *PROFILES Spreadsheet Workbook*, including rationale for why each source was selected
- The target set for each nutrition indicator

Part 2: Discuss advocacy needs (25 minutes)

Ask the group to look at the flipcharts of the advocacy needs from the stakeholder meeting and review and discuss advocacy needs identified during the meeting including the problem and changes the problem calls for.

If no stakeholder meeting was held, begin this part of the session by asking participants to share their ideas on advocacy issues and needs. This would include discussion of the following questions: What is the problem? Why are we here? What are the changes the problem calls for?

The facilitator will ask participants to use VIPP cards (two–three cards per person are needed) to write what should be added or modified and stick these cards on the flipchart.

Provide participants with the handouts: *Advocacy to Reduce Malnutrition: Using PROFILES and Nutrition Costing* and *Frequently Asked Questions* and encourage participants to write down (on a flipchart placed in the back of the room) any questions or comments on the nutrition advocacy planning process they have in the coming days. Questions/comments will be addressed at the beginning of each day during the workshop. Lastly, remind participants that they can review the nutrition advocacy materials from other countries on display in the room.

Session 3. Scientific Basis for PROFILES

This session briefly presents how we can use data to make the case for greater investment and commitment to nutrition, followed by an overview of the scientific basis for PROFILES and the key information PROFILES uses to calculate the estimates. This session is important because it is the first introduction to the scientific data used for each model in the *PROFILES Spreadsheet Workbook* and to the approach used to generate the estimates.

Preparation: It is recommended that the facilitator(s) familiarize themselves with the scientific basis section in the *PROFILES Workshop Facilitator Guide*, the workshop PowerPoint presentation, a recent FANTA PROFILES report, handouts for this session, and the *PROFILES Reference List* and *Additional Reading List* in the *PROFILES Workshop Facilitator Guide* in preparation for this session.

Time	Session objectives	Learning objectives	Materials
11:00–12:00 pm (1 hour; 2 parts)	Provide an overview of the scientific basis that underpins how PROFILES approaches calculate the estimates.	Participants will: • Understand the nutrition indicators that PROFILES uses to calculate the estimates and the data upon which PROFILES estimates are based • Explore key relationships between nutrition and health and development outcomes • Explore the scientific basis for PROFILES	• Flipcharts • Markers • Recent PROFILES report[12] that provides information on the scientific basis for PROFILES and/or • Handout: "Scientific Basis for the Nutrition Problems and Consequences Addressed in PROFILES"

FACILITATION NOTES

Part 1: Using data to make the case for nutrition (35 minutes)

Review the session objectives and provide a quick overview of the presentation, then ask participants to find a partner and ask them to take 5 minutes to discuss the following:

- Thoughts about the nutrition problems in your country
- Ideas on how you could use data to make the case for improved nutrition interventions/programs/services

Then take 5 minutes to call upon a few pairs for them to share what they discussed.

Continue with the PPT presentation introducing the scientific basis for PROFILES.

[12] Examples of PROFILES technical reports can be found at http://www.fantaproject.org/focus-area/country-level-nutrition-advocacy.

Part 2: Questions and answers (25 minutes)

Open the floor for questions and answers. (20 minutes)

Next, provide the participants with a recent PROFILES report and/or the handout (which contains information on the scientific basis) and inform them that a bibliography of references and an additional reading list are available on a flash drive that they will receive, along with all other relevant workshop materials, during a later session. Ask participants if they have any questions and encourage them to write them down on a flipchart placed in the back of the room, along with any comments or points to continue discussing throughout the week. (5 minutes)

Session 4. Approach and Assumptions Used in PROFILES Spreadsheet Models

This session is important because it is the first introduction to the methodology or approach used in the *PROFILES Spreadsheet Workbook* and helps clarify the assumptions upon which these estimates are based.

Time	Session objectives	Learning objectives	Materials
12:00–12:30 pm (30 minutes; 2 parts)	Provide participants with an overview of the approach used in PROFILES to calculate estimates and assumptions that are made.	Participants will: • Understand the methodological approach and the underlying basis from which PROFILES calculates estimates and the assumptions upon which they are based • Review the approach used in PROFILES • Discuss the assumptions made to calculate estimates • Discuss the challenges and limitations of this approach	• Flipcharts • Markers • Handout: "Overview of the Approach Used in PROFILES Models to Calculate Estimates"

FACILITATION NOTES

Part 1: Overview of approach and assumptions (25 minutes)

Review the session objectives.

Then, ask participants if they have any experience with models that generate estimates or projections. If so, ask them to share their experiences. Take no more than 10 minutes to discuss.

Next, switch to the PPT presentation on the approach and assumptions for PROFILES. (15 minutes)

Part 2: Questions and answers (5 minutes)

At the end of the presentation, take 5 minutes for questions and answers.

Lastly, provide participants with the handout that includes information on the approach used in PROFILES as well as more details on the methodology. Encourage participants to note any additional questions or issues they would like to see addressed during the week as they complete the spreadsheet.

Session 5. Considerations for Setting the Time Period for PROFILES Estimates (Optional Session)

Complete this session if no stakeholder meeting was held where time periods could be discussed or if the discussion on the time period during the stakeholder meeting was limited and additional discussion is necessary. This session is optional as often during the stakeholder meeting the time period is discussed and agreed upon, making this session unnecessary. A time period is needed to determine the number of years for which the *PROFILES Spreadsheet Workbook* will calculate estimates. This session is important because defining and agreeing upon the time period for the estimates is essential to be able to populate *the PROFILES Spreadsheet Workbook* to calculate estimates and to conduct the rest of the workshop, and in addition, ideally, this is the session where final agreement on the time period is reached without further discussion later during the workshop.

Note: It is recommended that participants use a time period of about 10 years to generate PROFILES estimates, but time periods shorter than 7 years or longer than 15 years are not recommended. The selection of a time period should take into consideration the amount of time needed for the nutrition situation to change and whether data are available to demonstrate that change (e.g., DHS surveys are available typically only every 5 years). It is important to note that, similar to the nutrition situation, population size and structure do not change rapidly, so using a shorter time period may not yield estimates that are very different from the status quo. At the same time, preparing estimates covering a very long period can be a challenge as they cannot account for important improvements in nutrition, health, or development outcomes that may occur over the long term.

Time	Session objectives	Learning objectives	Materials
1:30–2:15 pm (45 minutes; 2 parts)	Discuss and agree upon the time period for which participants feel the PROFILES estimates should be calculated for.	Participants will: • Select and agree upon a time period for the PROFILES estimates • Discuss the time period for the estimates • Finalize and agree upon the time period for the estimates	• Flipcharts • Markers • Reference materials, including but not limited to: PPTs and flipcharts generated during the stakeholder meeting from the group work and plenary sessions; DHS report; other country survey reports; micronutrient surveys; and national and global vision documents that present goals, commitments, and the vision for nutrition and/or development.

FACILITATION NOTES

Part 1: Overview of the time period (10 minutes)

Review the session objectives.

Activity 1: Ask participants to share their point of view on the following question: Is there a national vision statement or commitment to nutrition within your country? If so, what are your thoughts on this vision/commitment?

Take no more than 5 minutes to discuss.

Switch to the PPT presentation and explain why PROFILES needs a time period defined to calculate estimates. (5 minutes)

Part 2: Setting the time period (35 minutes)

Activity 2: Ask participants to discuss in plenary the current vision documents, national commitments, and targets for nutrition, and based on this review, consider the following two questions:

- What would be most useful for advocating for greater investment in nutrition?
- What should the time period for the estimates be?

Give the participants about 15–20 minutes to discuss the two questions in plenary. Toward the end of this time, facilitate the session by reflecting and summarizing the various points of view on a possible time period. Ask the participants to propose a time period that aligns with what was discussed. Then, introduce the PROFILES scoreboard to the participants and inform them that the group will use this scoreboard throughout the workshop to record their work in developing the estimates. Indicate that the first piece of information to be added to the scoreboard is the time period that was just discussed and agreed upon. Ask for a volunteer to write the time period on VIPP cards (one for each scoreboard) and stick them to the top of each PROFILES scoreboard. (35 minutes)

[Note: Often participants easily agree on the time period they want to use, however, at other times this debate may extend beyond the session. Both possibilities are fine, as long as by the time participants begin filling in the spreadsheets (Session 9, day two), they have agreed on the time period.]

If participants express any concerns throughout this session, invite them to write their concerns on flipchart paper in the back of the room so that they can be reviewed during the workshop.

Session 6. Time Period, Available Information Sources, and Targets

Preparation: If a stakeholder meeting has not taken place, only the time period would have already been discussed, and therefore the tone and some of the activities within this session plan will need to be altered since no previous discussions on the information sources or targets would have occurred. This session should recall the time period agreed upon in Session 5 and begin discussion on information sources, prevalence of indicators needed, and targets for the reduction of the nutrition problems.

The PPT presentation for this session calls for a slide on the current nutrition situation in the country. This should be prepared in advance of the workshop. A template slide is available in the PPT presentation titled, "Current Nutrition Situation." If this is not presented by an in-country representative during the stakeholder meeting, the facilitator will need to assign a representative to develop the slide or develop the slide themselves and share it with in-country stakeholders to ensure the information reflects the national/government understanding of the nutrition situation. The preferred option is to have someone in the country develop and present the slide. It is also a good idea to review the "Information Needed to Conduct a PROFILES Workshop" section in the *PROFILES Workshop Facilitator Guide* prior to the start of the workshop. Lastly, it may be a good idea to speak to a highly regarded participant (or influential stakeholder that can attend the session) before the session to discuss setting targets and see if they would be willing to help you set the tone for that discussion.

Note: Not every model in the *PROFLES Spreadsheet Workbook* may be relevant to use in every country (e.g., the overweight/obesity model should not be used if childhood overweight is <5 percent). The *PROFILES Workshop Facilitator Guide* provides guidance on when a model should be omitted and not used in a particular country. The facilitator(s) should be aware of when to omit models in order to help facilitate the discussion during this session.

Session guidance: This session is key to set the tone for the rest of the workshop. It is an opportunity for participants to discuss, debate, consider, and finally agree upon the time period they propose for the estimates, the data sources they recommend using for the starting prevalence values to use in PROFILES for the various nutrition indicators, and the targets for reduction in the prevalence for each of the nutrition indicators for which PROFILES calculates estimates. The values that are agreed upon in this session then feed into the spreadsheets as you facilitate each subsequent session.

Data sources and prevalence information: With regard to data sources, participants often have their own views on which information source is best. Some groups may take longer than others to agree on an information source, which is fine as the session is somewhat flexible with timing. While it is ideal that all decisions are finalized during this session, if consensus cannot be reached on an indicator, additional discussion may need to take place during Sessions 10 and 12 to reach agreement. The important aspect in this session is that participants largely agree on what should be used to develop the estimates. As a facilitator in this session, your key role is generally to remain neutral and allow participants to discuss and debate, but also facilitate the conversation toward a consensus on the data sources and targets to use. If any issues remain, task a specific participant(s) to look into addressing the issue(s), with the help of the facilitator(s), so that by the later sessions, a decision can be made.

Targets: When setting the targets, it is important to set the right tone so that participants are able to select numbers they feel comfortable with but are still poignant for use in advocacy. Finding the right balance between optimistic and realistic targets can be a struggle, but reminding participants that these targets are for advocacy purposes and are not something that the country will be held accountable for can be helpful. It is critical to have buy-in from the participants on the targets and may be helpful to have a highly regarded official within the government or leader among the stakeholders help set the tone for this part of the session. In addition, there may be hot topics that arise (e.g., which information source to use for one or another of the nutrition indicators)[13]. Try to give participants guidance and time to work through the issue; however, if it seems that the topic is holding things up, have one-on-one conversations after the session to help resolve the issue. When facilitating this part of the session it is critically important to accept all views, remain neutral, ensure everyone's voice is heard, and ask open questions to help participants agree on the best way forward.

Tip: Other sources of information that could stimulate discussion and provide insights on setting targets include:

(a) Documents from the 2012 World Health Assembly (WHA) or the U.N. Sustainable Development Goals (some governments have committed to the targets in these documents)

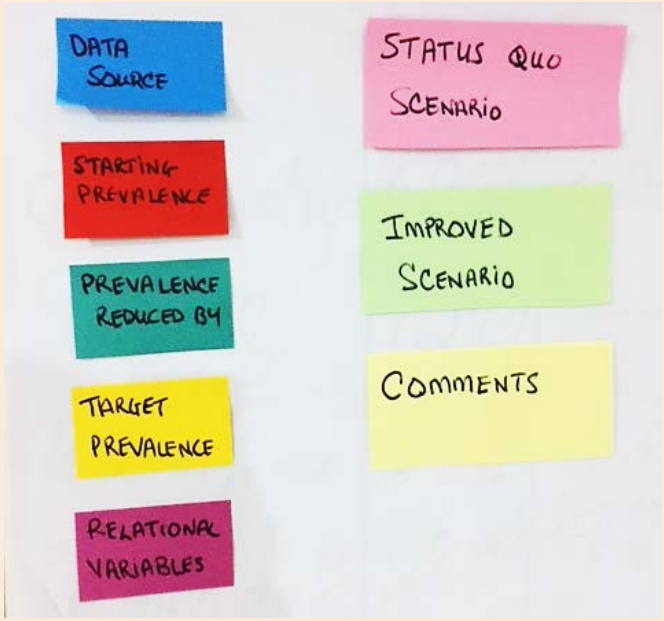
(b) The World Health Organization's Nutrition Landscape Information System (NLiS) or WHO-UNICEF's Technical Expert Advisory Group on Nutrition Monitoring (TEAM) report, which both provide insights on various prevalence cutoff values and public health thresholds

To arrive at the target prevalence for each of the nutrition and stunting risk factor indicators, it may be helpful for participants to keep in mind that information, goals, or statements in official government documents, such as national vision documents or strategies, could inform the targets for the time period selected for PROFILES. Lastly, it is important to note that as the indicators are discussed, it may be found that certain indicators such as iodine deficiency, child overweight/obesity, or wasting are at "acceptable" levels according to the NLIS and/or WHA nutrition targets (5 percent or less), and therefore the group may decide not to set a target for the improved scenario and, therefore, not generate estimates for that indicator. If that occurs, it is recommended that the group set an advocacy goal to maintain current levels of the indicator throughout the time period even though estimates are not generated.

[13] When discussing targets, nutrition-specific as well as nutrition-sensitive interventions may be discussed to help set the tone for what is realistic to accomplish in a country. Although the PROFILES spreadsheet does not include specific interventions, understanding what is occurring in the country can help provide context for the target discussion.

Tip: Set up a color scheme of cards for the participants to use consistently throughout the workshop when posting information on the PROFILES scoreboard, as shown in the example on the right. Write different categories on different colored cards and display those cards on flipchart paper at the front of the room. Participants will refer to this color scheme throughout the workshop to make sure they use the right colored card to post their information. The categories are:

- Country
- Time period
- Data source
- Starting prevalence
- Targeted reduction in prevalence
- Target prevalence
- Relational variables
- Status Quo scenario
- Improved scenario
- Comments



Time	Session objectives	Learning objectives	Materials
2:15–5:15 pm (3 hours with a 15-minute break; 3 parts)	• Set the tone for the rest of the workshop. • Review and finalize the discussions that took place during the stakeholders meeting (if one was held). • Discuss, debate, consider, and agree upon the time period proposed for the estimates, recommended data sources for the starting prevalence values, and the targets for reduction in the prevalence for each of the nutrition indicators for which PROFILES calculates estimates.	Participants will: • Finalize and agree upon information sources, prevalence information, and targets as a first step toward filling in the spreadsheets • Recall the time period agreed upon for the PROFILES estimates • Finalize the discussion on the information sources required for the *PROFILES Spreadsheet Workbook* • Finalize the prevalence(s) that will be used for each key indicator • Finalize the target reductions and the target prevalence for the different forms of malnutrition by the end of the time period	• Flipcharts • Colored notecards - A separate color should be used for each of the following categories on the PROFILES scoreboards: - Data source - Starting prevalence - Targeted reduction in prevalence - Target prevalence • Hand out: - Three sets of four cards, one of each color, to the group working on anthropometry - Four sets of four cards, one of each color, to the group working on micronutrients - Four cards of one color for the data source, nine cards of one color for the starting prevalence, eight cards of one color for the targeted reduction in prevalence, eight cards of one color for the target prevalence, to the group working on low birth weight and breastfeeding - Two sets of four cards, one of each color, to the group working on risk factors of stunting • Markers • Worksheet: *Information Needed* (one per group: (1) anthropometry, (2) micronutrients, and (3) low birth weight/breastfeeding) 4) risk factors of stunting • Reference materials, including but not limited to: PPTs, handouts, and flipcharts generated during the stakeholder meeting group work and plenary sessions; DHS report; other country survey reports; micronutrient surveys; and national and global vision documents that present goals, commitments, and the vision for nutrition and/or development

FACILITATION NOTES

Part 1: Overview of sources and target setting (25 minutes)

Review the session objectives.

Activity 1: Ask participants to share their point of view on the following question: What are the most recent national sources of nutrition information? Take no more than 10 minutes to discuss.

Then, switch to the PPT presentation and explain the type of data PROFILES needs and provide examples of information sources and how to consider setting targets for the reduction or improvement in nutrition indicators to calculate estimates. Ask participants to recall the time period that was just selected and added to the PROFILES scoreboard as this will help frame the discussion for activity 2. (15 minutes)

Part 2: Discussion on nutrition information and targets (45 minutes)

Activity 2: Ask participants to form smaller groups by topic as follows: (1) anthropometry, (2) micronutrients, (3) low birth weight and breastfeeding, and 4) risk factors of stunting. Allow participants to self-select into groups by areas of interest/expertise but try to have an even number of participants in each group. Remind participants that the objective of this session is to finalize and agree upon prevalence data that will be used, data sources that will be referenced, and targets for reduction or improvement of nutrition indicators to enable the rest of the workshop to proceed. Ask each group to do the following:

- Review and discuss the flipchart with the prevalence, information source, and targets discussed for their group's topic in the stakeholder meeting.
- Based on the information discussed in the stakeholder meeting, review and finally agree upon:
  - The nutrition information that is available for the country
  - The starting prevalence for each of the nutrition indicators and the information sources that will be referenced (and record why that source and prevalence were selected)
  - Targets for the reduction in prevalence by the end of the time period (or increase in prevalence in certain cases, such as the breastfeeding models where exclusive breastfeeding is increased) for each of the nutrition indicators for which PROFILES can calculate estimates

Tip: Often participants may debate more on which micronutrient prevalence data to use since this information is sometimes difficult to find if the country does not have a recent micronutrient survey. Sometimes the group agrees in some instances that while the information is old, it is still the best source. Most often for anthropometry, groups will be comfortable with the DHS data, but at times they may favor other nationally representative surveys, such as MICS surveys—and through their own discussions may arrive at the best numbers to use.

All of this information should be collected and recorded in the *Information Needed* worksheets. There are specific handouts for each group. Distribute the colored cards to the groups. They will need one set of four different colored cards for each indicator shown on their specific handout Note: It is very common for participants in country to debate each of these aspects that are needed for PROFILES. As a facilitator, it is important to remind participants to consider:

- The current country context
- The current rate of improvement in the prevalence of various nutrition problems
- The current government initiatives, commitments, or goals related to nutrition that should guide their discussions
- When or how often nationally representative data become available
- That these estimates are for advocacy purposes and finding a time period that is reasonable and balanced can help them work on nutrition advocacy; periods that are too long or too short have their own significant disadvantages (as discussed in Session 5).

Part 3: Discuss and agree upon indicators and targets (1 hour, 35 minutes)

Activity 3: Once each group has had a chance to discuss their indicators and targets within their own group, the groups should come back together for a larger plenary discussion. One person per group should share their decisions with the plenary, which can be further discussed and a final decision made. The discussion will continue until all three groups have presented and their indicators/targets discussed.

Once the information is agreed upon, have one representative from each group do the following:

- Write on the respective colored cards the data source and year for each of the nutrition indicators for the group
- Write on the respective colored cards the starting prevalence for each of the nutrition indicators for the group
- Write on the respective colored cards the targeted reduction in prevalence for each of the nutrition indicators for the group
- Write on the respective colored cards the target prevalence for each of the nutrition indicators in the group
- Place the cards on the PROFILES scoreboard

Encourage participants to take notes of other points to review and research further in terms of information needed to fill in the spreadsheets. These can be discussed and filled in during the remaining days of the workshop.

Preparing for the next day's sessions: If the participants have agreed on the time period, prevalence information, and targets, it is recommended that the facilitator input the information in their own spreadsheet to get a sense of the estimates and to ensure that participants are arriving at the correct estimates when they work in the spreadsheets in the upcoming sessions.

Session 7. Recap of Day One and Scoreboard Updates

Preparation: For Session 7 (first session of day two), prepare a "cabbage ball" for the recap activity. To do this, type up 6 or more questions based on the day one sessions, one question per page. Scrunch up the pages together to form a ball so that each participant can remove a page and answer the question on that page. Suggested questions:

- Can you explain the purpose of this workshop?
- Can you briefly explain the status quo scenario?
- Can you briefly explain the improved scenario?
- Can you name two of the relationships that the *PROFILES Spreadsheet Workbook* will look at?
- Can you recall two advocacy needs that were discussed yesterday?
- Can you recall one way that we could use evidence-based information to make the case for improved nutrition interventions/programs/services?

Rules of the game: Ask the participants to form a circle, and throw the cabbage ball to one of them. Ask whoever catches the ball to remove the outer sheet of paper, read the question aloud, and answer the question. Then they throw the ball to another participant. Repeat this process a few times to enable participants to share their thoughts about the sessions the previous day and discuss and clarify as needed.

Time	Session objectives	Learning objectives	Materials
8:30–9:00 am (30 minutes; 2 parts)	• Recap day one activities (cabbage ball game). • Review what was put on the PROFILES scoreboard the previous day. • Review day two agenda.	Participants will: • Recall the main points of the material covered during the previous day of the workshop • Review the agenda so they understand what is expected of them today	• Cabbage ball with one question per sheet of paper • Markers • Paper • Agenda • PROFILES scoreboard

FACILITATION NOTES

Part 1: Recap of day one (25 minutes)

Welcome the participants.

Activity 1: See the preparation notes above on how to organize the game. Take 15 minutes to conduct the activity.

Activity 2: Ask participants to look at the PROFILES scoreboard that will be used to record the information decided upon during the workshop. Ask a participant to recall the time period that was agreed upon yesterday. Ask a participant from the anthropometry group to briefly share what they put on the scoreboard yesterday. Then ask someone from the micronutrient group to do the same, followed by the low birth weight/breastfeeding group. (10 minutes)

Note: This should then complete the review of the prevalence information and targets that were put on the scoreboard yesterday. If anything was not resolved during Session 6, additional discussion can occur during Sessions 10 and 12.

Inform the participants that they will continue adding estimates to the scoreboard as a group as they are calculated throughout the day for the health and nutrition indicators.

Part 2: Review agenda (5 minutes)

Review the day's agenda and explain that today they will begin to work in the spreadsheet. (5 minutes)

Remind participants that if they have any questions throughout the day, they can write them on the flipchart placed in the back of the room.

Session 8. Demography and Other Indicators Needed for PROFILES

Preparation: In preparation for this session, it is a good idea to review the "Information Needed to Conduct a PROFILES Workshop" section of the *PROFILES Workshop Facilitator Guide* prior to the start of this workshop. Because some of the information needed can be difficult to obtain, early discussion with relevant stakeholders to find potentially difficult information is very helpful.

Because the PROFILES estimates are calculated in terms of mortality, economic, and education outcomes, demographic, mortality, employment, economic, and education information is needed. This is the first step toward beginning the process of filling in the spreadsheet. This session is important because it is the only time during the workshop that these indicators will be discussed. Participants should agree on which input numbers to include.

Time	Session objectives	Learning objectives	Materials
9:00–10:00 am (1 hour; 2 parts)	Review and discuss the demographic, mortality, employment, economic, and education information to be used in the spreadsheets to calculate estimates in PROFILES.	Participants will: • Understand the other types of non-nutrition indicators that need to be added into the spreadsheets to calculate the estimates • Discuss and review the information sources required to fill in *PROFILES Spreadsheet Workbook* Discuss data gaps and approaches to address them • Agree on the demographic, mortality, economic, and education indicators that will be used in the *PROFILES Spreadsheet Workbook*	• Flipcharts • Colored cards (use a different color for each scoreboard category): - Data source - Relational variable The same color used previously for the data source should be used for the data source card, and another color should be used for the relational variables • Hand out: - Six cards of one color for the data source and six cards of another color for the relational variables to the group working on the demographic and mortality information - 10 cards of one color for the data source and 10 cards of another color for the relational variables to the group working on the economic and education information • Markers • Reference materials, including but not limited to: labor survey reports, most recent projection of total population, mortality rate information, and education resources • Worksheet: Demographic and Other Information Needed (one per participant)

FACILITATION NOTES

Part 1: Discuss other information needed for PROFILES (25 minutes)

Activity 1: Ask participants to share their views on the other types of data that may be needed to calculate estimates (other than nutrition data), such as the most recent projection of total population, labor survey reports, nationally representative surveys, international surveys, or assessments. (10 minutes)

Then, switch to the PPT to introduce and explain why the demographic, mortality, economic, employment, and education information is needed for the *PROFILES Spreadsheet Workbook*. (15 minutes)

Part 2: Discuss and agree on the other information needed for PROFILES (35 minutes)

Activity 2 (30 minutes): Split the participants into two groups: (1) a population/mortality group and (2) an employment, economic, and education group. Distribute the colored cards to the groups. They will need one set of two different colored cards for each indicator shown on their specific handout. Each group will do the following:

- Find the most current information for each of the indicators listed on your handout and record the source of information and any notes on the worksheet[14]
- List gaps or challenges
- Report out to the plenary group briefly what your group agreed upon
- Once the information is agreed upon, have one representative from each group do the following:
  - Write on the respective colored cards the data source and year for each of the relational variables for the group
  - Write on the respective colored cards the relational variable values for the group
  - Place the cards on the PROFILES scoreboard
  - Record the information from the other groups so that each participant has a completed worksheet
  - Designate a person in each group to follow up on gaps (if any)

Note: Similar to Session 6, participants often have their own views on which information source is best. Some groups may take longer than others to agree, which is fine as the session is somewhat flexible with timing. While it is ideal that all decisions are finalized during this session, if consensus cannot be reached on an indicator, additional discussion may need to take place during Sessions 10 and 11 to reach agreement. The important aspect in this session is that participants largely agree on what should be used to develop the estimates. As a facilitator in this session, your key role is to remain neutral and allow participants to discuss and debate but also facilitate the conversation toward a consensus on the data sources to use.

[14] The education group should use the number of years of schooling based on the country's education policy. If the policy provides mandatory years of primary and secondary schooling, then the recommended years of school should include both levels. Where a country does not have a goal/expectation that all children complete primary school or if there is no education policy available, use the recommended number of years of primary school based on universal recommendations by the Organization for Economic Cooperation and Development, the European Union, and UNESCO Institute for Statistics in the International Standard Classification of Education (ISCED) 2011, which is 6 years of primary school.

Next, ask participants to note other points to review and research further in terms of information needed to fill in the spreadsheets on the flipchart at the back of the room (5 minutes). Note: It is recommended that specific participants be asked to look into resolving the issue(s), working with the facilitator(s) so that by the later sessions a decision can be made.

Session 9. Introduction to PROFILES Spreadsheet Workbook

Preparation: Before the workshop begins, the facilitator should prepare a flash drive for each participant with the following suggested materials: sample full and summary PROFILES reports, sample advocacy materials, *PROFILES Reference List, Additional Reading List, PROFILES Spreadsheet Workbook*, and a copy of PPT slides.

During the session: The facilitator will pass out the flash drives to each participant. It is recommended that the facilitator keep their own copy to follow along and to serve as the master copy. This will be the first session in which participants begin to look at the *PROFILES Spreadsheet Workbook*. Before beginning this session, it is important to make sure the demographic data have been incorporated into the spreadsheet and that the facilitator has a backup copy of the original spreadsheet. It is easy to make and save irreversible unwanted changes that can permanently corrupt the spreadsheet. It is also a good idea to back up any changes as the workshop goes along so that an irreversible error does not require a return to the original spreadsheet. During this session it is recommended that the facilitator explain the sheet named "FrontPage" completely. (See the *PROFILES Workshop Facilitator Guide* for additional information that may be helpful to facilitate this session.)

Time	Session objectives	Learning objectives	Materials
10:00–10:30 am (30 minutes; 2 parts)	Introduce participants to the *PROFILES Spreadsheet Workbook*.	Participants will: • Review the structure of the PROFILES Spreadsheet Workbook • Review the "flow" within the *PROFILES Spreadsheet Workbook* • Explore how to use the PROFILES Spreadsheet Workbook	• PPT • Flash drive with *PROFILES Spreadsheet Workbook* (among other materials listed in the preparation section above)—1 per participant

FACILITATION NOTES

Part 1: Explain structure of *PROFILES Spreadsheet Workbook* **(15 minutes)**

Activity 1: Ask the participants to break into pairs and discuss the following question: "What are some challenges and limitations with estimates calculated using models?" Have the pairs report back to the larger group. Take a few moments to note that as with other models, PROFILES is not a perfect tool, but that we are doing the best we can with PROFILES at this time; however, some challenges remain. (5 minutes)

Next, begin the PPT presentation, reviewing the approach used in PROFILES and reviewing the structure and flow of the spreadsheets. (10 minutes)

Part 2: Explore structure of *PROFILES Spreadsheet Workbook* (15 minutes)

Ask participants to open their spreadsheet (from the flash drive) and follow along in their own spreadsheets as the facilitator moves through the spreadsheet. (10 minutes)

Then, ask participants if they have any questions at this point in the workshop and encourage them to write down on the flipchart in the back of the room any questions, comments, or points to continue discussing throughout the week. (5 minutes)

Session 10. Introduction to Nutrition and Health in PROFILES—Concurrent Sessions

Preparation: During this session, participants will be divided into groups to begin entering information into the *PROFILES Spreadsheet Workbook*. Each group will work concurrently in their own section of the spreadsheet. Each person should have their own spreadsheet (provided to participants on a flash drive) to enter the data, but this is an activity that should be done as a group. One person in each group should hold the "master" spreadsheet for their group. It is recommended that the facilitator(s) review the *PROFILES Workshop Facilitator's Guide* in preparation for this session as it contains detailed information on how to enter information into the *PROFILES Spreadsheet Workbook.*

Time	Session objectives	Learning objectives	Materials
10:45–5:15 pm (6 hours, 30 minutes, with an hour lunch and 15-minute afternoon break; 3 parts)	Calculate estimates for the health and survival outcomes in PROFILES.	Participants will: • Generate estimates using the *PROFILES Spreadsheet Workbook* related to health and survival • Review the approach used in PROFILES for calculating estimates for health outcomes • Review source(s) of information, prevalence of indicators, and targets • Enter the status quo scenario information and examine the results/estimates • Enter the improved scenario information and examine the results/estimates • Record the estimates on the PROFILES scoreboard • Discuss what the numbers mean for nutrition advocacy	• Colored cards following the color scheme. Hand out: • Three sets of three cards, each of a different color (one for the status quo, one for the improved scenario, and one for comments), to the group working on anthropometry • Four sets of three cards, each of a different color as above, to the group working on micronutrients • Four sets of four cards, each of a different color as above, for the group working on low birth weight and breastfeeding • Markers • PROFILES Spreadsheet Workbook • PROFILES scoreboard • Worksheets: *Information Needed* (completed the previous day) • PROFILES Data Entry Diagram • Flipchart

FACILITATION NOTES

Part 1: Discussion (5 minutes)

Review the session objectives.

Activity 1: Ask one or two participants what types of estimates could be calculated for health and survival based on nutrition prevalence data. Answers can be general, such as child deaths, maternal deaths, etc.

Part 2: Review of the set of estimates that PROFILES can calculate (10 minutes)

Switch back to the PPT to illustrate the set of estimates that participants will calculate in this session.

Part 3: Group work entering nutrition and health information into FrontPage (2 hours, 30 minutes)

Activity 2: Give participants the handout: *PROFILES Data Entry Diagram.* As a group, ask participants to complete Steps 1 (selecting the country and entering the time period) and 2 (entering the demographic, education, and economic information) of the FrontPage and click on the macros. Next, walk the participants through an example model to make sure everyone understands how to enter and read the information. Since vitamin A is one of the easier models to enter, it is suggested that the facilitator begin with vitamin A. Then, instruct participants to self-select into one of three groups: (1) anthropometry, (2) micronutrients, and (3) low birth weight/breastfeeding.

Note: All the demographic and education information may not be available at this point—additional follow-up to obtain this information may be needed. However, this should not stop the group from continuing, as the information can be added later. However, missing data from Step 2 will impact the estimates, and it is critical to ensure all data are filled in before the estimates can be finalized.

Then, in Step 3 of the FrontPage, instruct the participants in each group to work in a specific section of the FrontPage:

- The **anthropometry group** should work in the red sections of the FrontPage, **Step 3, Part A**.

Note: This section includes information on stunting for children 24–35 months, but only the prevalence and target information is seen at this time as this information is used for the stunting and productivity calculations further down in the spreadsheet. However, to keep all the anthropometry information together, participants will enter the information here during Session 10.

- The **low birth weight/breastfeeding group** should work in the blue sections of the FrontPage, **Step 3, Part B**.
- The **micronutrients group** should work in the purple sections of the FrontPage, **Step 3, Part C**.

Note: This section has two places where information on iron deficiency anemia is entered, however, participants are only required to enter the information on maternal anemia in the first section referring to maternal deaths. In the next section, labeled “perinatal deaths,” participants should enter a “1” in the yellow box at the top of the section to pull down the information on anemia among pregnant women.

Using their worksheet on information needed from the previous day and the PROFILES scoreboard for reference, participants will enter the prevalence information and targeted reductions in the yellow cells for each indicator requested in the spreadsheet. Participants will only enter information for their group’s section at this point. Each group may click on their section in the table of contents of the FrontPage to take them directly to their group work or scroll

down in the spreadsheet. After entering both the starting prevalence and the targeted reduction in prevalence, the proportion reduction will appear. To see the status quo scenario information, follow the spreadsheet instructions and input "1" in the first maroon box. The estimates (lives lost) for the status quo scenario will then appear for each indicator. Next, enter a "1" in the second maroon box (where designated) to see the improved scenario estimates (lives saved).

Participants will then write the total number of status quo deaths and improved scenario lives saved onto colored cards and place them on the appropriate PROFILES scoreboard.

Before participants begin working in the spreadsheet, encourage them to save the file on their computer and label it so they have a specific version for this workshop. This ensures the original is not corrupted. Remind participants to save and rename their working file often in case errors occur and previous versions are needed. The facilitator should check to make sure the information for Steps 1 and 2 have been entered correctly.

As facilitators, plan to walk over to each group to ensure that they are putting in the information correctly, as follows:

- Begin entering the required information into the *PROFILES Spreadsheet Workbook* (this part of the workshop will require support from workshop facilitators for each group)
  - Review source(s) of information, prevalence of indicators, and targets
  - Enter relational demographic and economic information
  - Enter status quo scenario information and review the results/estimates
  - Enter improved scenario information and review the results/estimates
- Hand out the number of cards necessary to each group according to the number of indicators they have (see note under materials section above). Ask participants to use the colored cards to write down the estimates and place their estimates on the appropriate PROFILES scoreboard. Make sure the color coding is consistent with what has been put on the scoreboard previously.

During this session, additional time may be needed to discuss the prevalence, source(s) of information, and targets if the group did not come to agreement earlier in the workshop. If the group has come to an agreement on the required information, it is best to try and move forward to avoid an unnecessary debate on an issue that has already been agreed to.

While the participants work in groups, the facilitators should make sure that each group is discussing their indicators, information sources, and targets (based on their handout) and recording why they are making the decisions they are making (as noted in the handout). A record of this decision-making process is extremely helpful to recall what and why decisions were made.

In addition, the facilitators should be stopping and helping each group with any questions that arise and encouraging participants to help one another. Participants should be encouraged to compare the estimates in their spreadsheet with others in the group as this may help to uncover problems. In addition, facilitators should make sure that participants have entered the information correctly.

Inform the participants that after lunch each group will need to report out on their results. During the report-out, each group should share the indicators that they are working on, the information source they have agreed upon, the starting prevalence information, and their targets, explaining to the group why they have made the decisions they have made. The other participants should be encouraged to provide feedback to each group and any suggested changes that are agreed upon should be recorded by each group and the facilitator.

During the report-out, one facilitator should take notes on any changes made to each group's source of information, targets, etc. as suggested by the plenary discussion. The facilitators should also make sure that each group has incorporated the changes suggested during the plenary into their handout so that everyone has the final decisions written down. Any changes that need to be made should also be made on the PROFILES scoreboard, replacing any colored cards as needed. Report-out should take 15 minutes per group. Staying in the three separate groups, once participants have finished calculating all of their estimates, lead them in a discussion of what the numbers mean for advocacy. Jot down notes on a flipchart to put up on the wall and save for discussion later.

At the end of the report-out, take 5 minutes for any questions groups have thus far.

When the group is finished with their estimates, have them fill in the *Information Needed* worksheet file on their flash drive with all the agreed upon information to serve as a master worksheet to give to the facilitators; this will also be shared with all the other participants once all the worksheets are compiled.

Note: It may also be necessary to go through all the information in the FrontPage as a group to make sure everyone has the same information.

End the session by asking if the participants have any final questions or concerns for the day. If the questions cannot be addressed immediately, have participants write their question on the flipchart in the back of the room to discuss later in the workshop. (10 minutes)

Session 11. Introduction to Nutrition's Impact on Human Capital (Learning) and Economic Productivity Outcomes—Concurrent Sessions

Preparation: Review the "Introduction to the PROFILES Spreadsheet Workbook" section of the *PROFILES Workshop Facilitator Guide* for more information on the *PROFILES Spreadsheet Workbook* and how to facilitate this session.

During this session, participants are split into two groups, and each group will work in tandem in their own section of the *PROFILES Spreadsheet Workbook*. As in Session 10, data entry in the spreadsheet is a group activity, but each group member should fill in their own spreadsheet and one person should be selected to hold the "master" spreadsheet for their group. Remind participants, as for they did for Session 10, to save and rename their file often in case errors occur and previous versions are needed. For this session participants will work further down in the FrontPage of the spreadsheet in Step 3, part D and E. Participants will use the colored cards to put the total number of status quo losses and improved scenario gains onto the PROFILES scoreboard.

This session is an opportunity to facilitate discussion around the importance of investing in education, including secondary education, to improve nutrition. This should be a point that is discussed during the advocacy discussion at the end of this session. For more information on the importance of education and nutrition, please see the *Additional Reading List* in the *PROFILES Workshop Facilitator Guide*.

Time	Session objectives	Learning objectives	Materials
2:00–3:15 pm (1 hour, 15 minutes, 2 parts)	Calculate estimates for the human capital and economic outcomes in PROFILES.	Participants will: • Generate estimates using the *PROFILES Spreadsheet Workbook* related to human capital and economic outcomes • Review the approach used in PROFILES for calculating nutrition estimates for human capital and economic outcomes • Review source(s) of information, prevalence of indicators, and targets • Enter the status quo scenario information and examine the results/estimates • Enter the improved scenario information and examine the results/estimates • Record the estimates on the PROFILES scoreboard	• Colored cards following the color scheme. Hand out: • Three sets of three cards, each of a different color (one for the status quo, one for the improved scenario, and one for comments), to the group working on stunting and low birth weight • Four sets of three cards, each of a different color as above, to the group working on anemia and iodine deficiency • Markers • PROFILES Spreadsheet Workbook • Worksheets: *Information Needed* (completed previously) • Recent PROFILES report and/or the "Scientific Basis for the Nutrition Problems and Consequences

		• Discuss what the numbers mean for nutrition advocacy	Addressed in PROFILES" section from the *PROFILES Workshop Facilitator Guide*

FACILITATION NOTES

Part 1: Discussion (5 minutes)

Activity 1: Ask one or two participants what types of estimates could be calculated for economic productivity and education based on nutrition prevalence information? Answers can be general: years of learning, economic productivity, etc.

Part 2: Group work on nutrition's impact on human capital (1 hour, 10 minutes)

Switch back to the PPT and provide an overview of the slide that presents the economic and human capital/education outcomes participants will work on in this session and introduce Activity 2.

Activity 2: Instruct participants to self-select into one of two groups: (1) stunting and low birth weight and 2) anemia and iodine deficiency.

Then instruct the participants in each group to work in a specific section of **Step 3, parts D and E**, of the FrontPage.

Participants in the stunting and low birth weight group should work in the orange stunting and low birth weight productivity sections and the green learning/education productivity section of the FrontPage. Participants in the anemia and iodine group should work in the orange iodine and anemia productivity sections of the FrontPage.

- The orange sections of the sheet are productivity estimates related to iodine deficiency, anemia, stunting, and low birth weight. Since participants have already entered the stunting and iodine information in the previous session, enter "1" in the yellow cell at the top of each indicator to pull the information down. Anemia information still needs to be entered here as different indicators are needed for the calculation. Here you need to input information on prevalence of anemia among children (if this information is available), among women, and among men. Note that for anemia and productivity among adults, while participants enter information for two indicators, only one estimate (using both the indicators) is generated. In addition, information on anemia among men is not always available. If it is not available, that is fine; the spreadsheet will then calculate the impact of anemia among women related on productivity. These estimates will be in U.S. dollars but can also be shown in the national currency using the exchange rate.
- The green section is for stunting and learning/education potential. Since the information on stunting was already entered higher up, participants just need to enter a "1" in the yellow cell at the top of the section.
- To see the status quo scenario information, follow the spreadsheet instructions and enter "1" in the first maroon cell. The estimates (losses) for the status quo scenario will then appear for each indicator. Then enter a "1" in the second maroon cell (where designated) to see the improved scenario estimates (gains).

As facilitators, plan to walk over to each group to provide them with the instructions below and ensure that they are inputting the information correctly.

- Begin entering the required information into the *PROFILES Spreadsheet Workbook*.
  - Review source(s) of information, prevalence of indicators, and targets.
  - Enter status quo scenario information and review the results/estimates.
  - Enter improved scenario information and review the results/estimates.
- Hand out the number of cards each group needs according to the number of indicators they have. Ask participants to use the colored cards to write down the estimates and place them on the PROFILES scoreboard. Make sure the color coding is consistent with what has been put on the scoreboard previously.

During this session, additional time may be needed to discuss the prevalence, source(s) of information, and targets if the group did not come to agreement earlier in the workshop.

The facilitators should make sure that each group is discussing their indicators, information sources, and targets (based on their handout) and recording why they are making the decisions they are making (as noted in the handout). A record of this decision-making process is extremely helpful to recall what and why decisions were made.

In addition, during this session, the facilitators should help each group with any questions that arise, encourage participants to help one another, and make sure participants have entered the information correctly. Participants should be encouraged to compare the estimates in their spreadsheet with others in their group as this may help to uncover problems.

When the group is finished with their estimates, have them fill in the *Information Needed* worksheet file on their flash drive with all the agreed upon information to serve as a master worksheet to give to the facilitators.

Inform the participants that each group will need to provide a short report-out on their results (10 minutes per group). During the report-out, each group should share the indicators that they are working on, the information source they have agreed upon, the starting prevalence information, and their targets, explaining to the group why they have made the decisions they have made. The other participants should be encouraged to provide feedback to each group, and any suggested changes that are agreed upon should be recorded by each group and the facilitator.

During the report-out, one facilitator should take notes on any changes made to each group's source of information, targets, etc. as suggested by the plenary discussion. The facilitators should also make sure that each group has incorporated the changes suggested during the plenary into their handout so that everyone has the final decisions written down. Any changes that need to be made should also be made on the PROFILES scoreboard, replacing any colored cards as needed.

At the end of the report-out, take 5 minutes for any questions groups have thus far.

Once participants have finished calculating all of their estimates, lead them in a discussion of what the numbers mean for advocacy. The advocacy discussion should be done with participants still separated out into their two groups. Jot down notes on a flipchart to put up on the wall and save for discussion later in the workshop and beyond.

Ask each group to copy the information shared by the other group into the FrontPage sheet of their spreadsheet. This information should be available on the PROFILES scoreboards. This ensures that all participants have the correct health and nutrition estimates. It may also be necessary to go through all the information in the FrontPage as a group to make sure everyone has the same information. End the session by asking if the participants have any final questions or concerns for the day. If a question cannot be addressed immediately, have participants put their question on the flipchart in the back of the room to discuss later in the workshop.

Session 12. Introduction to Addressing Risk Factors to Reduce Stunting—Concurrent Sessions

Preparation: Review the "Introduction to the PROFILES Spreadsheet Workbook" section of the *PROFILES Workshop Facilitator Guide* for more information on the *PROFILES Spreadsheet Workbook* and how to facilitate this session.

During this session, participants are split into groups, and each group will work in tandem in their own section of the *PROFILES Spreadsheet Workbook*. As in Sessions 10 and 11, data entry in the spreadsheet is a group activity, but each group member should fill in their own spreadsheet and one person should be selected to hold the "master" spreadsheet for their group.

Remind participants, as for they did for Sessions 10 and 11, to save and rename their file often in case errors occur and previous versions are needed.

For this session participants will work at the bottom of the FrontPage of the spreadsheet, in Step 3, part F. This session covers two risk factors of stunting and produces estimates related to inadequate dietary diversity (a complementary feeding practice) and teenage pregnancy. Since participants have already entered the stunting information in a previous session, only status quo and improved scenario information for each risk factor needs to be entered in the yellow cells at the top of each indicator to generate the estimates. Note this section of the spreadsheet looks different from the other sections of the *PROFILES Spreadsheet Workbook*.

Participants will then use the colored cards to put the total number of status quo losses and improved scenario gains onto the PROFILES scoreboard.

This session is an opportunity to facilitate discussion around the importance of addressing the multiple risk factors of stunting, which is a complex problem that requires country-specific and multisectoral interventions. Addressing just the two risk factors included currently in PROFILES will not be sufficient to significantly reduce stunting in the country because risk factors can vary for regions and countries. Even if there are common risk factors that affect many countries in a similar way, a risk factor's impact on the prevalence of stunting in some countries can vary: The association may be high in some cases or moderate or low in others; in some countries, those same risk factors may not be related to stunting at all. Because of this variability, it's important to interpret the results of these models cautiously. This means that in order to reduce stunting prevalence in most countries, a set of effective interventions at scale is needed and addressing any one risk factor alone cannot eliminate stunting in its entirety. This should be a point that is discussed during the advocacy discussion at the end of this session.

Time	Session objectives	Learning objectives	Materials
3:30–5:15 pm (1 hour, 45 minutes 2 parts)	Calculate estimates for addressing two risk factors of stunting in PROFILES.	Participants will: • Generate estimates using the *PROFILES Spreadsheet Workbook* related to addressing two risk factors of stunting • Review the approach used in PROFILES for calculating estimates related to addressing two risk factors of stunting Review source(s) of information, prevalence of indicators, and targets • Enter the status quo scenario information and examine the results/estimates • Enter the improved scenario information and examine the results/estimates • Record the estimates on the PROFILES scoreboard • Discuss what the numbers mean for nutrition advocacy	• Colored cards following the color scheme. Hand out: • One set of three cards, each of a different color (one for the status quo, one for the improved scenario, and one for comments), to the group working on inadequate dietary diversity and stunting • One set of three cards, each of a different color as above, to the group working on teenage pregnancy and stunting • Markers • PROFILES Spreadsheet Workbook • Worksheets: *Information Needed* (completed previously) • Recent PROFILES report and/or the "Scientific Basis for the Nutrition Problems and Consequences Addressed in PROFILES" section from the *PROFILES Workshop Facilitator Guide*

FACILITATION NOTES

Part 1: Discussion (5 minutes)

Activity 1: Ask one or two participants to briefly discuss current activities in their country to address stunting.

Part 2: Group work on the risk factors of stunting (1 hour, 40 minutes)

Switch back to the PPT and provide an overview of the session, describing the complexity of addressing stunting and how the two specific risk factors in PROFILES were selected and why. Introduce Activity 2.

Activity 2: Instruct participants to self-select into one of two groups: (1) inadequate dietary diversity and 2) teenage pregnancy

Then instruct the participants in each group to work in their specific section at the bottom of the FrontPage, **Step 3, Part F.**

As facilitators, plan to walk over to each group to provide them with the instructions below and ensure that they are inputting the information correctly.

- Begin entering the required information into the *PROFILES Spreadsheet Workbook*.

  - Review source(s) of information, prevalence of indicators, and targets.
  - Enter status quo scenario information and review the results/estimates.
  - Enter improved scenario information and review the results/estimates.
- Hand out the number of cards each group needs according to the number of indicators they have. Ask participants to use the colored cards to write down the estimates and place them on the PROFILES scoreboard. Make sure the color coding is consistent with what has been put on the scoreboard previously.

During this session, additional time may be needed to discuss the prevalence, source(s) of information, and targets if the group did not come to agreement earlier in the workshop.

The facilitators should make sure that each group is discussing their indicators, information sources, and targets (based on their handout) and recording why they are making the decisions they are making (as noted in the handout). A record of this decision-making process is extremely helpful to recall what and why decisions were made.

In addition, during this session, the the facilitators should help each group with any questions that arise, encourage participants to help one another, and make sure participants have entered the information correctly. Participants should be encouraged to compare the estimates in their spreadsheet with others in their group as this may help to uncover problems.

When the group is finished with their estimates, have them fill in the *Information Needed* worksheet file on their flash drive with all the agreed upon information to serve as a master worksheet to give to the facilitators.

Inform the participants that each group will need to provide a short report-out (15 minutes per group). During the report-out, each group should share the indicators that they are working on, the information source they have agreed upon, the starting prevalence information, and their targets, explaining to the group why they have made the decisions they have made. The other participants should be encouraged to provide feedback to each group, and any suggested changes that are agreed upon should be recorded by each group and the facilitator.

During the report-out, one facilitator should take notes on any changes made to each group's source of information, targets, etc. as suggested by the plenary discussion. The facilitators should also make sure that each group has incorporated the changes suggested during the plenary into their handout so that everyone has the final decisions written down. Any changes that need to be made should also be made on the PROFILES scoreboard, replacing any colored cards as needed.

Once participants have finished calculating all of their estimates, lead them in a discussion of what the numbers mean for advocacy. The advocacy discussion should be done with participants still separated out into their two groups. Jot down notes on a flipchart to put up on the wall and save for discussion later in the workshop and beyond.

Ask each group to copy the information shared by the other group into the FrontPage sheet of their spreadsheet. This information should be available on the PROFILES scoreboards. This ensures that all participants have the correct health and nutrition estimates. It may also be necessary to go through all the information in the FrontPage as a group to make sure everyone has the same information.

End the session by asking if the participants have any final questions or concerns for the day. If a question cannot be addressed immediately, have participants put their question on the flipchart in the back of the room to discuss later in the workshop. Then, ask for two volunteers to come up with a game/way to recap today's events tomorrow morning. Inform them that they will have about 25 minutes for an activity. (10 minutes)

Preparing for the next day's session:

Now that all the estimates have been generated, the facilitator can populate the Preliminary Results PowerPoint template in preparation for the final day's gallery walk and review of estimates. This will help participants not only be familiar with the estimates but also give them an idea of how they may be called upon to present this information and how to interpret these results correctly without overstating them.

Session 13. Recap of Day Two and Scoreboard Updates

Preparation: To recap the day two activities, conduct the "hat game" with participants. Get two to three slips of paper and write a question on each slip. Fold the slips of paper and put them in a hat or some other container. Give the hat to a participant, ask him/her to draw a question and answer it, and then pass the hat to the next person. Pass the hat around until all the questions have been answered. It is ideal that participants sit in a circle to do this activity, which may take rearranging the room. Suggested questions:

- What were the main outcomes of yesterday's meeting?
- Were there any estimates that were generated yesterday that were surprising to you? If so, why?
- What estimates stood out to you the most yesterday? Why?

The following is an alternative recap activity (Tic Tac Toe):

Split the participants into two teams and ask them to write questions for the opposing team recalling what each team did the day before. On a blank flipchart, draw a grid for a tic-tac-toe game. Each team will take turns asking the other team a question. When a team gets a correct answer, they can mark off a square on the tic-tac-toe board. The first team to get a line of three wins.

Time	Session objectives	Learning objectives	Materials
8:30–9:00 am (30 minutes; 2 parts)	• Recap day 2 activities. • Review what was put on the PROFILES scoreboard the previous day. • Review of day's agenda.	Participants will: • Recall the main points of the material covered in day two of the workshop, including the estimates calculated for the health and survival outcomes • Review the agenda so they understand what is expected of them today	• Hat (or blank flipchart) • Markers • Paper • Scissors • Agenda • PROFILES scoreboards

FACILITATION NOTES

Part 1: Review of day two (25 minutes)

Activity 1: See preparation section above for instructions on this 10-minute activity.

Activity 2: Ask participants to now review the scoreboard by asking three people to briefly summarize the work they did yesterday (one person reports on the health outcomes, another on the economic and human capital outcomes, and the third on the risk factors of stunting). In addition to what is on the scoreboard, ask another participant to list one way that their numbers can be used for nutrition advocacy. (15 minutes)

Part 2: Agenda review (5 minutes)

Review the agenda for today and explain that participants will continue to work in the spreadsheet and fill in the rest of the scoreboard for the human capital and economic outcomes.

Remind participants that if they have any questions throughout the day, they can write them on the flipchart in the back of the room.

Session 14. Gallery Walk: Review of Preliminary Estimates from PROFILES

Preparation: The facilitators should make sure that they have reviewed the input information and the estimates prior to this session to help identify problems that might have arisen or any final issues that need to be resolved. The facilitators will need to prepare to present the preliminary results PowerPoint presentation after the gallery walk and make two flipcharts for the discussion, marked "Program-Based Recommendations" or "Policy-Based Recommendations" for the advocacy discussion.

This session is important because it is the only time during the workshop when participants comprehensively review the results. Up until this stage, participants will have focused on different sets of results; they have not had a chance to look at all the results together and subsequently to consider the implications of these results in terms of recommendations that should be included in the report. Participants should consider what the results suggest is needed and raise any specific concerns, surprises, etc. with regard to the estimates.

Time	Session objectives	Learning objectives	Materials
9:00–10:30 am (1 hour, 30 minutes; 2 parts)	Provide participants with an opportunity to review the preliminary estimates from PROFILES.	Participants will: • Discuss and review the preliminary PROFILES estimates • Discuss the implications of these results in terms of: – General implications – Recommendations to be included in the report – Next steps for advocacy	• Completed Preliminary Results PPT template Flipcharts • Markers • VIPP cards • PROFILES scoreboards

FACILITATION NOTES

Part 1: Warm-up (10 minutes)

Invite participants to take a few moments to look at the PROFILES scoreboard, and ask a few participants to share a few impressions of what they see. (10 minutes)

Then, begin the PPT presentation to provide the objectives of the session and review how to do the gallery walk.

Part 2: Gallery walk and discussion on nutrition advocacy using PROFILES estimates (1 hour, 20 minutes)

Activity 1 (gallery walk): Ask participants to get up and take a look at the different PROFILES scoreboards. While they are looking at the scoreboards, ask them to keep in mind the following key questions, which will be discussed after everyone has reviewed the scoreboards:

- What are key highlights of these results?
- Is this what you expected?
- Does anything surprise you? What and why?
- How do you envision these results will help your advocacy efforts?

Once everyone has finished their walk (approximately 10 minutes), lead participants in a discussion on the above topics. Record key points on a flipchart. Inform participants that all the discussion today will be used as the basis for the beginning of the upcoming advocacy workshop. (25 minutes)

Activity 2: Introduce the PROFILES preliminary results PowerPoint, indicating that participants will be able to use this template presentation when they are asked to present the PROFILES results in the future. Present the slides and, once complete, ask participants if they have any questions related to this presentation. (20 minutes)

Activity 3: To begin the activity, break participants into groups of three to five and hand out six VIPP cards to each group. Given their recent discussion of the PROFILES estimates, ask participants to discuss recommendations for ideas that should be included in the PROFILES report that complement these results and strengthen the case for nutrition in their country. Ask participants to focus on both program-based and policy-based recommendations. Ask one participant per group to be the note-taker and write down one recommendation per card. (10 minutes)

Then, have the participants come back together for a plenary discussion. Ask each group to provide one recommendation and place the card on a flipchart marked “Program-Based Recommendations” or “Policy-Based Recommendations.” Have each group provide one recommendation until all groups have posted all of their cards. If recommendations are the same or similar, the facilitator will move the like cards together so that they represent one idea. Once all ideas for recommendations are posted on flipcharts, ask if there is anything missing or anything that participants want to comment on. If there are more than five recommendations in each category, ask participants to vote on which should be included. Each participant votes by coming to the flipchart and marking the recommendation they want with a dot. Each participant has five votes (meaning they can make five dots). They can vote multiple times for the same recommendation or can place five different votes for five different recommendations. (25 minutes)

Record this discussion on flipcharts. This discussion will be used in the development of the report and the nutrition advocacy planning workshop.

Session 15. Discussion of Advocacy Needs

Preparation: The summary section of the PPT for this session will need to be filled in by the facilitator before the session begins using information from previous advocacy discussions during Sessions 2, 10, 11, and 12. The facilitator may also choose to hide the summary slides on how the estimates can be used in nutrition advocacy and just summarize the information from notes. There should be time to input the information into the slides during the tea break, but the facilitator should use his/her own judgment on how best to relay this information. Facilitators should make sure there are flip charts available to use for this session. In addition, facilitators should make sure to have a camera for this session so that they can take pictures of the flipcharts for activity 2 as this information will be helpful for the upcoming nutrition advocacy planning workshop.

Time	Session objectives	Learning objectives	Materials
10:45 am–12:15 pm (1 hour, 30 minutes; 2 parts)	Summarize and add to the advocacy discussion that has occurred over the past week.	Participants will: • Think through their nutrition advocacy goals and share their ideas of how the PROFILES estimates can be used to support their nutrition advocacy efforts • Discuss the overarching problem with regard to nutrition in the country • Discuss the changes that need to occur (at the enabling environment level) to improve the situation • Discuss how the estimates developed during this workshop can be used in nutrition advocacy	• Flipcharts • Markers • VIPP cards • Camera

FACILITATION NOTES

Part 1: Summary of advocacy discussion (15 minutes)

Open the session by beginning the PPT presentation to discuss the objectives of the session.

Activity 1: Ask participants in plenary to share their prior experience with using data for nutrition advocacy in their country. (5 minutes)

Next, switch to the PPT to present the basic nutrition advocacy approach and provide a summary of the advocacy discussion that has taken place thus far in the workshop.

Note: If there was no time for an advocacy discussion prior to this session, the facilitator will need to take time to discuss the learning objectives listed above and not just recall them.

Part 2: Group work on previous advocacy discussion (1 hour, 15 minutes)

Activity 2: Divide participants into three groups. Ask the participants to reflect on the information just summarized and discuss the following:

- Do you agree with the previous discussions?
- What would you add or change to this discussion?
- What are key points that you would like participants in the upcoming nutrition advocacy planning workshop to know?

Ask participants to write key thoughts on a flipchart assigned to them and inform them that one group member will be asked to summarize their discussion during a report-out to the whole group. Remind participants that all the discussion today will be used as the basis for the beginning of the upcoming advocacy workshop. (30 minutes)

After the groups have finished their discussions, ask one group member to provide a summary report-out. Allow time after each report-out for 10–15 minutes of discussion by the plenary. This should take about 45 minutes.

Then, record the key points of the plenary discussion on flipcharts. This discussion will be used in the following session, the development of the report, and the nutrition advocacy planning workshop.

Session 16. Next Steps/Wrap-Up

Preparation: Review the handouts *Advocacy to Reduce Malnutrition: Using PROFILES and Nutrition Costing* (which was given to participants during Session 2) and "How to Interpret PROFILES Results" to make sure the facilitators are comfortable with the information covered.

Time	Session objectives	Learning objectives	Materials
12:15–1:00 pm (45 minutes; 2 parts)	• Review next steps in the nutrition advocacy planning process. • Discuss how to talk about the nutrition advocacy planning process using PROFILES estimates.	Participants will understand the next steps in the nutrition advocacy planning process and how to talk about the nutrition advocacy planning process using PROFILES estimates.	• PPT • Handout: *Advocacy to Reduce Malnutrition: Using PROFILES and Nutrition Costing* • Handout: "How to Interpret PROFILES Results"

FACILITATION NOTES

Part 1: Warm-up (15 minutes)

Activity 1: Ask participants in plenary to share one or two impressions of the workshop, stating what they have learned and how they would like to use the information from this workshop for nutrition advocacy purposes. (5 minutes)

Then, present the PPT reviewing the objectives of the session and review where the group currently is in the nutrition advocacy planning process and what the next steps are. (10 minutes)

Part 2: Discuss how to talk about the nutrition advocacy planning process using PROFILES (30 minutes)

Activity 2: Ask participants to review the handout *Advocacy to Reduce Malnutrition: Using PROFILES and Nutrition Costing*, which was provided to participants during Session 2, as well as the handout "How to Interpret PROFILES Results," which was handed out first thing during this session. Explain that the documents are meant to help future discussions on nutrition advocacy using PROFILES by providing language on how to talk about PROFILES and the nutrition advocacy planning process after the workshop. Let the participants review the handouts for 10 minutes and then ask if there are any questions. (20 minutes)

Thank participants for their participation and ask if they have any final questions at the end of the workshop. If not, close the meeting and provide information on where to find the materials from the workshop and the forthcoming PROFILES reports. (10 minutes)

Note: There may be participants who have questions that need to be addressed through separate meetings or phone calls after the workshop. It is recommended that those be set up at the end of the workshop, along with any other meetings that need to be conducted to finalize the estimates.

STEP 3

Develop Cost Estimates for Nutrition Service Delivery, Present Preliminary Results, and Develop a Report

PLANNING

STEP 3. Develop Cost Estimates for Nutrition Service Delivery, Present Preliminary Results, and Develop a Report

Templates and Handouts

Find all of the related templates and handouts at the end of the manual.

This step complements PROFILES estimates that were developed in Step 2. While nutrition costing is the third step in this manual, costing can be undertaken prior to, in parallel with, or after PROFILES estimates have been developed depending on the country context. Typically, a nutrition costing process can take 12–18 months to complete due to the need to identify and use locally available data to develop cost estimates. The estimates from PROFILES and nutrition costing can be used alone or in combination to support nutrition advocacy efforts outlined in Step 4 of this manual.

PROFILES and nutrition costing are distinct from one another. PROFILES provides estimates that support the argument for why investing in nutrition is important and helps to raise awareness that malnutrition is a problem. It does not, however, indicate how much it will cost to provide nutrition services to improve the nutrition situation.

Nutrition costing answers the question: How much will it cost to implement nutrition programs or interventions in a given country or prioritized geographic area over a specified time period? Costing in general is a useful approach for forecasting and planning the budget allocation required for specific services, but it is also useful to advocate for increased funding allocated for nutrition.

Nutrition costing, if done thoroughly, can:

- Encourage governments to think critically about nutrition priorities and needs
- Provide stakeholders with an understanding of potential funding gaps for nutrition
- Provide government decision makers with the necessary financial information to ensure nutrition is adequately funded in annual national budgets
- Be used to track and monitor investments and spending in nutrition
- Be used for advocacy to ensure that government allocates adequate funds for nutrition

The following notes summarize the steps to plan for, conduct, and share results from nutrition costing. Detailed guidance on nutrition costing is available in *Guidance on Undertaking Nutrition Costing to Support an In-Country Nutrition Advocacy Planning Process*.

Identify staff/consultants to work with in the country

Nutrition costing typically takes about 12–18 months to complete. A technical team comprising three or more members with the following skill set is needed to conduct nutrition costing:

- Expertise in health economics and experience with developing cost models for the health sector

- Sound knowledge of nutrition concepts and interventions
- Understanding of the local context in terms of challenges to nutrition service delivery and resource allocation
- Understanding of nutrition advocacy and how to use data, such as nutrition costing estimates, for nutrition advocacy
- Strong writing, consensus-building, and communication skills

Plan the development of nutrition costing estimates

Meet with the multisectoral core working group to plan for nutrition costing and advise on an approach for involving other key government stakeholders to participate, support, and own this process. Engaging a broad range of stakeholders at the outset of the process will help ensure that there is ownership of the resulting cost estimates. The participation of stakeholders also increases the credibility and acceptability of the estimates. Importantly, engaging stakeholders early in the process ensures that the results are tailored to the local context.

Form a nutrition costing technical advisory committee

With help from the multisectoral core working group, form a nutrition costing technical advisory committee (TAC) to work with over the course of the costing process. A nutrition costing TAC that includes stakeholders from government and respected institutions is critical as this group should actively participate to guide the process of what should be costed and why. Not only does this increase ownership and credibility of the results, it also ensures that the TAC can defend and stand by the final nutrition cost estimates.

Organize and facilitate a stakeholder meeting on nutrition costing

This can be combined with the stakeholder meeting discussed under Step 1 of this manual. During the stakeholder meeting, participants should discuss what nutrition interventions should be prioritized to be costed, how the nutrition program will be structured, how nutrition service delivery will be managed, which segments of the population will be targeted and for which interventions, and whether the costing exercise can include nutrition-sensitive interventions in addition to nutrition-specific interventions. The meeting should include government and nongovernment stakeholders in health, agriculture, finance and planning, and other relevant sectors.

Develop the costing approach and model

Following the stakeholder meeting, organize, manage, and lead consultations with individuals and small groups of key experts to finalize the assumptions and interventions (elements of costs, or cost centers) to be costed. It is important to consult with expert individuals and groups to guide the process, while also lending credibility to the process and the outcome.

Following the consultations with experts it will likely be possible to define the approach that will be used to undertake nutrition costing. This includes defining:

- Activities/interventions to be costed
- Service delivery mechanisms
- Possible implementation scenarios
- Level of coverage of services

The costing model will complement the PROFILES estimates but should remain in a separate and unlinked model. The model should estimate the costs of providing nutrition services at national and regional levels.

Begin calculating costs

Once the costing approach, assumptions, interventions, and the broad program structure are agreed upon, the next step is to begin calculating the unit costs of each of the interventions. Calculating unit costs forms the basis from which total program costs and projections for multiple years can be calculated. This step can easily take 4–6 months or longer to complete and there are several considerations to take into account, which are outlined in the *Guidance on Undertaking Nutrition Costing to Support an In-Country Nutrition Advocacy Planning Process.*

Present preliminary estimates to key stakeholders

Draft a PowerPoint presentation that can be used to share the preliminary costing estimates with key stakeholders. Work with the previously identified experts to address any existing information needs, and obtain conclusions and recommendations for actions for moving to achieve increased investment in nutrition. See examples of nutrition costing reports from various countries at http://www.fantaproject.org/tools/profiles.

Finalize nutrition costing reports

Draft a nutrition costing report, which can be combined with the PROFILES report. Work with the multisectoral core working group and the nutrition costing TAC to finalize and obtain government endorsement. See examples of FANTA nutrition costing reports from Guatemala and Bangladesh.

Once nutrition costing and PROFILES estimates have been finalized, these results can be used in nutrition advocacy materials to support the implementation of a national nutrition advocacy plan, as described in Step 4.

STEP 3

Develop Cost Estimates for Nutrition Service Delivery, Present Preliminary Results, and Develop a Report

GUIDANCE ON UNDERTAKING COSTING AS AN IN-COUNTRY NUTRITION ADVOCACY PLANNING PROCESS

Introduction

Templates and Handouts

Find all of the related templates and handouts at the end of the manual.

This guidance is the third step in the manual for country-level nutrition advocacy using PROFILES and nutrition costing. Nutrition costing complements PROFILES estimates and can be undertaken prior to, in parallel with, or after PROFILES estimates have been developed depending on the country context. In the context of undertaking country-level nutrition advocacy, estimates from PROFILES and costing can be used in combination, or estimates can be used from PROFILES alone or costing alone, as evidence-based support for advocacy efforts. PROFILES and nutrition costing, however, are distinct from one another and the estimates from each are complementary.

The estimates generated using PROFILES or nutrition costing answer different questions. PROFILES provides an answer to the question: What are the consequences if nutrition does not improve over a given time period or conversely, what are the benefits if nutrition improves over the same time period? The PROFILES estimates are in terms of health and development outcomes, such as lives saved or economic productivity gains. PROFILES gives you estimates that support the argument for why investing in nutrition is important and helps to raise national awareness that malnutrition is a problem in a given country. It does not, however, tell you how much it will cost a country to provide nutrition services to improve the nutrition situation.

In contrast, nutrition costing, like health costing, answers the question: How much will it cost to implement nutrition programs or interventions in a given country or prioritized geographic area over a specified time period? Costing in general is a useful approach for forecasting and planning the budget allocation required for specific services, but it is also useful for advocacy to increase the funding allocated to nutrition. As such, nutrition cost estimates are complementary to PROFILES estimates. In fact, relative to PROFILES estimates, cost estimates are more tangible from the point of view of providing policymakers with an estimate for how much they need to invest in nutrition each year in local currency amounts. Like PROFILES estimates, nutrition cost estimates can also be projected to a population level over multiple years.

Nutrition costing is a sound investment to consider as part of a nutrition advocacy process, and if done thoroughly, can:

- Encourage governments to think critically about nutrition priorities and needs, and develop a detailed plan of action for nutrition that can then be costed
- Provide national stakeholders with an understanding of the funding gap in nutrition, when national projected budget allocations for nutrition are compared with actual nutrition cost estimates

- Provide government decision makers, such as a parliamentary budget committee or a ministry of finance, with the necessary financial information to ensure nutrition is adequately funded in annual national budgets
- Be used by parliament, the ministry of finance, and civil society to track and monitor investment and spending in nutrition by undertaking budget analysis exercises based on costing; in turn, this can help with government accountability for nutrition by ensuring that the funds required to implement nutrition interventions are both allocated and spent
- Be used for nutrition advocacy by civil society to ensure the government allocates adequate funds to nutrition; advocacy can center on budgeting more for nutrition, creating a budget line for nutrition, increasing the budget ceiling for nutrition, and ensuring greater prominence of nutrition in the national 5-year economic development plans

Box5. Key Terms and Definitions

Costing is the approach used to develop cost estimates, which can be a first step toward developing a budget. By determining how much things cost, stakeholders can then adequately allocate resources and track how those resources are spent.

Term	Definition
Costing	The process of calculating how much a product or service will cost.
Budgeting	The process of expressing quantified resource requirements (amount of capital, amount of material, number of people) into time-phased goals and milestones.
Budget analysis	The process of tabulating relevant budget data across different dimensions (e.g., economic or functional classification) and comparing expenditures across years and sectors. Budget analysis is important in the creation of a budget and takes into account the current and past financial context that would influence the creation of a budget.
Budget tracking	The process of making a comparison of the actuals to date to what was budgeted at the beginning of the period.
Resource tracking	The process of routinely collecting, analyzing, and monitoring resources flowing into and within a system.
Public expenditure review	An assessment of, and recommendations on, the level and composition of actual public expenditures over a period covering the previous 3 to 5 years, against a predetermined set of policy goals and outputs in a national plan.

Source: Adapted from Picanyol et al. 2015; Cambridge Dictionary 2016; and Business Dictionary 2016

Key Considerations for Nutrition Costing

Experiences from the Scaling Up Nutrition (SUN) movement and the Food and Nutrition Technical Assistance III Project (FANTA) offer lessons learned from undertaking nutrition costing (see Box 6). Nutrition costing should be undertaken within a country-specific context. Because many countries have fragmented nutrition service delivery, a collaborative and participatory process should be used to engage multisectoral stakeholders to define the assumptions upon which nutrition costing is based. One benefit of using a consultative process is that it promotes ownership of the final nutrition plan and cost estimates among stakeholders in the country. The stakeholders themselves lend credibility to the process and the results. This creates a shared vision for priority nutrition interventions.

An important lesson from a review of 20 SUN member country costed plans is that "effective scale up is only possible when all costs associated with an intervention are included in the total cost of a plan" (Pittore and Barker 2014). This finding supports taking the time to develop a thorough costed plan to ensure that the scale-up of nutrition interventions is adequately planned and funded.

While SUN member countries have submitted nutrition plans of action and costed plans, the quality of both the action plans and the related costed plans was variable. One reason is that the process used to develop the action plans and the extent to which stakeholders in a country were engaged varied. In several cases, action plans were developed without a more detailed common results framework that prioritized specific nutrition interventions, and the resulting costed plans were superficial (SUN 2014; Mokoro 2015; Pittore and Barker 2014; Connolly 2014).

Box 6. Key Considerations When Developing a Nutrition Plan and Undertaking Nutrition Costing

When developing a plan for nutrition (a prerequisite for nutrition costing):

- Engage multisectoral stakeholders from the beginning of the process to ensure ownership and a shared vision for prioritized nutrition interventions
- Develop a detailed plan that includes a common results framework against which all stakeholders can be held accountable
- Aim to have annual targets to track progress
- Consider the country context with regard to how nutrition interventions can be scaled up

When undertaking nutrition costing:

- Engage multisectoral stakeholders throughout to guide the process of costing based on the detailed nutrition plan
- Undertake a comprehensive costing exercise that takes into account all costs related to prioritized nutrition interventions, as effective scale-up of interventions depends on adequate resources based on sound cost estimates
- Specify a clear coordination and management structure for nutrition; this is important to be able to identify required activities and costs
- Select costing methods based on the country context and current state of nutrition interventions and services
- Plan adequate time to undertake a comprehensive costing exercise; this type of exercise can take 1 year or more to complete, depending on data availability, but estimates can be projected for multiple years

Approach, Steps, and Timeline

Different costing approaches exist, as shown in Box 7. Which approach is used and whether it is used in combination with other approaches depends on the country context, and specifically on the current state of nutrition service delivery. In the case of nutrition, for many countries costing can be a challenge because nutrition services may not exist, may only partially exist, or may exist across multiple government agencies. In cases where nutrition service delivery is fragmented, in order to effectively cost nutrition services, there is a need for a coherent plan that specifies which nutrition interventions should be prioritized and costed.

Box 7. Commonly Used Costing Approaches

Activity-Based Costing with an Ingredient Approach. This approach is used when a program does not exist or exists but is inadequate. In this approach, the program to be implemented is divided, based on *a priori* reasoning and limited experience, into its components and subcomponents by the activities to be undertaken (Fiedler 2003; Fiedler et al. 2008; Matz et al. 1984; Baker 1998). The inputs are identified for each activity and the input coefficients and the amount of inputs required to produce the target outputs are appropriately assessed. The information on the price of inputs is collected from the competitive markets (or the shadow prices—the calculated price of a good or service for which no market price exists—are inputted), and finally, the total cost is estimated by component and cost center (the basic unit of responsibility in an organization for which costs are accumulated).

Adaptation Approach. This approach is used when a program similar to the proposed one already exists. Under this approach, most of the cost data of the existing program are used after properly adjusting them for the new program (Baker 1998; Horngren et al. 1993).

Mark-Up Approach. This is the most widely used approach, but also the crudest of the three. In this approach, the entire dataset of cost incurred in the previous year (for a program that already exists and remains unchanged) is escalated using a rule of thumb. The rate of escalation includes the rate of inflation (Baker 1998; Layne and Rickwood 1984).

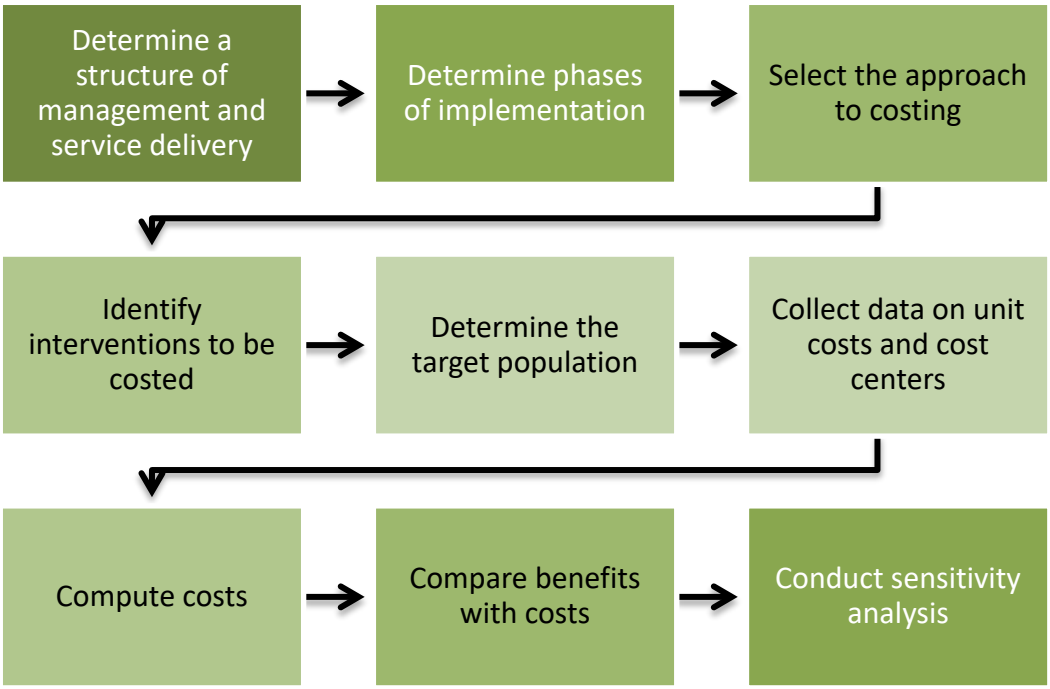
These approaches can be used independently or in combination depending on what is known about the proposed activities of the program, method of implementation, coverage, inputs, and resources.

Key steps in the process of arriving at nutrition cost estimates are presented in Figure 12. The first steps include determining a proposed structure for the entire nutrition program, how the nutrition program will be managed, how the nutrition program will be phased in and scaled up, and, based on the context, which costing approach should be used, which nutrition interventions should be prioritized and costed, and who the target population is.[15] Once these are determined, the next step is to collect data to calculate the unit costs for each intervention

[15] *Nutrition program* refers to all the nutrition interventions that may be prioritized and implemented. For example, a nutrition program may include the provision of nutrition counseling in antenatal care and postnatal care, iron-folate distribution, growth monitoring and promotion, etc., which are referred to as nutrition interventions or for the purpose of costing, cost centers.

(cost center), followed by aggregating these costs and projecting the cost given the target population to be reached, for potentially 1 year or multiple years. The last two steps test the robustness of the costing model in terms of comparing benefits with costs and conducting sensitivity analysis.[16]

Figure 12. Key Steps for Nutrition Costing



Source: Howlader et al. 2012

Key Steps to Undertake Nutrition Costing

FANTA has undertaken nutrition costing in two countries—Bangladesh and Guatemala. Table 10 provides key steps for undertaking nutrition costing, based on these experiences, and can serve as a planning tool. It outlines the timeline and steps in the process of arriving at nutrition cost estimates for a given country, why each step is important, and what the intended outcome is of each step in building toward nutrition cost estimates. Nutrition costing typically takes about 12–18 months to complete for the estimates to be viable and useful.

[16] Both the cost-benefit analysis and the sensitivity analysis test the viability of the cost model. In a cost-benefit analysis, if the cost is one, and the benefit is higher than one, then the benefit outweighs the cost. A sensitivity analysis is conducted by changing the amount of certain inputs (such as community volunteers) and testing if the model is cost-effective.

Table 10. Steps in the Process and Timeline to Undertake Nutrition Costing

Step	Timeline	Steps in the process	Why is this step important and what is the intended outcome?
1	Months 1–2	**Identify a core group of key stakeholders** in government ministries (key ministries include ministries of finance and planning, and health, among others) and non-government institutions (such as civil society institutions, fiscal policy institutes, and local and international nongovernment organizations) to participate in nutrition costing and advise on an approach for involving other key government stakeholders to participate, support, and own the process.	As noted by the review of SUN country costed plans, the process matters. Engaging a broad range of stakeholders at the outset of the process will help assure that there is ownership of the cost estimates that result from this costing process. The participation of stakeholders also increases the credibility and acceptability of the resulting cost estimates. Importantly, engaging stakeholders early in the process ensures that the results are tailored to the local context.
2	Month 3	**Form a core technical advisory working group** with the core group of stakeholders identified to work with over the course of the costing process.	A core technical advisory working group that includes stakeholders from government and respected institutions is critical. This group should actively participate and guide the process of what should be costed and why. Not only does this increase ownership and credibility of the results, it also ensures that the core group can defend and stand by the final nutrition cost estimates.
3	Month 4	**Organize and facilitate a first stakeholder meeting on nutrition costing** (this can be combined with the first stakeholder meeting for PROFILES, discussed under Step 1 of the country-level nutrition advocacy manual). At the meeting, discuss what nutrition interventions should be prioritized to be costed, how the nutrition program will be structured, how nutrition service delivery will be managed, and which segments of the population will be targeted and for which interventions. Also, discuss whether the costing	A first stakeholder meeting is extremely useful and important to kick off the process of nutrition costing. It creates a forum for in-country stakeholders and experts to discuss and share their views on what should be costed. This provides an opportunity for stakeholders to

Step	Timeline	Steps in the process	Why is this step important and what is the intended outcome?
		exercise can cost nutrition-sensitive interventions in addition to nutrition-specific interventions (often trying to cost nutrition-sensitive interventions is challenging because these are broader and potentially less defined activities). This meeting should include government and nongovernment stakeholders from: health, agriculture, finance and planning, and other relevant sectors of importance to nutrition costing. The objectives of the stakeholder meeting are to: • Reach consensus on the types of data to be used for nutrition costing for national and regional level estimates as well as basic assumptions for the program and its costing • Identify and select an appropriate structure for the nutrition interventions, including structure of management and methods for service provision	engage with, own, and lend credibility to the costing process and its outcomes.
4	Months 5–6	Following the stakeholder meeting, **organize, manage and lead consultations** with individuals and small groups of key experts to finalize the assumptions and interventions (elements of costs or cost centers) to be costed.	In addition to engaging stakeholders, it is important to consult with expert individuals and groups to use their expertise to guide the process, while also lending credibility to the process and the outcome.
5	Month 6	**Identify the costing approach** and develop a model to estimate the program costs for nutrition interventions. This includes defining: • The approach for costing activities/interventions to be included • Service delivery mechanisms • Possible implementation scenarios • Level of coverage of services The costing model will complement the PROFILES estimates but should remain in a separate and unlinked model. However, the model should estimate the costs of providing nutrition services at the national and sub-national levels (for example, regional or provincial levels).	Following consultations with stakeholders, it will likely be possible to define the approach that will be used to undertake nutrition costing. This step is important because this step begins to define what model and approach will be used for nutrition costing.
6	Months 6–12	Once the costing approach, assumptions, interventions, and the broad program structure is agreed upon, the next step is to **begin calculating the unit costs** of each of the interventions. The unit cost can refer to "the expenditure incurred to produce one unit of a	This step of arriving at the unit costs is critically important because it forms the basis from which total program costs and projections for multiple years can

Step	Timeline	Steps in the process	Why is this step important and what is the intended outcome?
		good or service."[17] For example, the unit cost of nutrition in antenatal care could be the cost of providing nutrition services during one antenatal care visit for one pregnant woman. The unit cost itself is the average aggregate cost of all the inputs that go into providing nutrition services during that one antenatal visit for one pregnant woman. Typical costs often include cost of a health provider's time spent with a pregnant woman counseling on nutrition, supervision of the health provider, and cost of equipment, equipment maintenance, commodities, and supplies. The step of calculating the unit cost therefore depends on having a detailed breakdown of what each visit for each intervention consists of, and this is usually found in government or international protocols that define the standard of care. For example, there are global and national guidelines on how many iron-folate tablets a pregnant woman should get, when she should start taking the tablets, and at what dosage. This step can easily take 4–6 months or longer to complete. The reason is that data on local costs is needed to calculate the unit costs for each of the interventions identified. It takes time to find the protocols or proxy protocols that define the standard of care, and for each selected nutrition intervention there is then a need to determine the various components or activities that need to be included to calculate the unit cost. In some instances, where information about current costs may not be available, primary data collection may be required to determine the local costs. It is also important to ensure that there is no double-counting of costs. Often the government health system is already funded for a set of services to reach a defined segment of the population. However, while this covers health costs, it often does not include the cost of providing nutrition services on top of the health services already being provided. As such, it is important to recognize and consider that a main purpose of nutrition costing may be to cost the added cost of providing nutrition services on top of health services. This is very important because if the costs of providing nutrition services includes the costs of regular health services that are otherwise costed and funded, then this double counting will inflate the cost estimates for nutrition service delivery. This may result in the government not being able to fund the added costs, when in fact the actual cost would be lower. That said, if there is to be a parallel system put in place for nutrition service delivery aside from the existing health system, it may be necessary to calculate all the costs	be calculated. It is a pivotal step in the costing process.

17 Business Dictionary. "Unit cost." Available at: http://www.businessdictionary.com/definition/unit-cost.html.

Step	Timeline	Steps in the process	Why is this step important and what is the intended outcome?
		associated with a separate nutrition service delivery platform. Several key considerations in regards to calculating the unit costs include the following: • Calculate the amount of time health or nutrition providers currently spend and should optimally spend to provide nutrition services, depending on how health services are structured. Providers may spend a proportion of their time on nutrition, or there may be dedicated nutritionists who work 100% on nutrition, or there may be a plan to hire an additional cadre of providers to provide nutrition services. • It is important to distinguish between how nutrition services are currently provided versus how they should be optimally provided. For example, in a context where nutrition service delivery is fragmented, of poor quality, and has low coverage, the plan and structure for nutrition service delivery should be discussed at the beginning of the costing process. This discussion allows stakeholders to acknowledge the limitations of the current nutrition service delivery platform and envision a more optimal platform. The objective of the nutrition costing exercise then is to determine the cost of that optimal nutrition program as proposed by stakeholders. • If nutrition services in a given country are fragmented or, in some cases, not available, it may be useful to first calculate the unit cost based on current activities by intervention. The next step is to calculate what the unit cost should be to reflect the optimal cost of providing nutrition services. In essence, this is the difference in cost between services that are currently provided versus the services that need to be provided to meet national goals and objectives for nutrition, and in line with national nutrition service delivery protocols. For example, in calculating the unit cost for the nutrition components of an intervention like antenatal care,[18] the current services provided should be compared to the national or international standard of care that defines what the nutrition components of each antenatal visit should consist of. The objective is to arrive at a unit cost for the nutrition components of antenatal care that reflects what each antenatal visit that includes nutrition should cost taking into account all the activities that should be provided in one visit, unless current antenatal care services already reflects the standard of care protocols.	

[18] For example, this could include distribution of iron-folate tablets, weighing pregnant women, and nutrition counseling.

Step	Timeline	Steps in the process	Why is this step important and what is the intended outcome?
		• Costs should be allocated (distributed and classified) rationally based on the interventions to be provided and what each visit for each intervention should consist of in order to calculate the unit cost per visit. • Once unit costs per visit by intervention are calculated, the total unit cost per intervention can be calculated. For example, the World Health Organization recommends four antenatal visits. Calculating the unit cost by intervention would consist of adding up the unit cost to account for four antenatal visits. Following this, costs can be aggregated to include the cost for each of the interventions for 1 year. This can then be projected at a population level, targeting various segments of the population by intervention for one year and subsequently multiple years—taking into account the segment of the population to be covered by that intervention and expanding coverage to reach the eligible target population.	
Step 7	Months 12–18	• **Prepare the draft results and present** them to key stakeholders, discuss implications of resulting estimates, and incorporate feedback and make final changes. • **Facilitate the process to obtain conclusions and recommendations** for actions for moving forward to achieve the goal of increased investment in nutrition. • Facilitate the process of writing a costing report, obtaining government endorsement, and disseminating results, as well as developing advocacy materials.	It is important for the final nutrition costing report to be publicly available and endorsed and owned by the government. This allows for nutrition advocacy activities using the nutrition costing results to begin, creating a pathway for high-level engagement with policymakers, parliamentarians, local government, and the media and increasing accountability for investing in nutrition.

Country Experiences of Nutrition Costing

The guidance provided in the previous section is based on country experiences in Bangladesh and Guatemala, where detailed nutrition costing was undertaken. Table 11 describes the results and how they were used to support the country-level nutrition advocacy planning process. In both instances, nutrition costing focused on costs in the health sector. In Bangladesh, the focus of the government was on mainstreaming nutrition, and as such, the nutrition costing exercise determined the cost of adding nutrition service delivery through the Ministry of Health and Family Welfare to complement the existing health and family planning services that the government provides (Howlader et al. 2012). In Guatemala, nutrition costing was undertaken in partnership with the Ministry of Finance to determine the cost of undertaking the government's Zero Hunger Plan, an initiative to reduce stunting. Nutrition costing focused on the health sector, but included two nutrition-sensitive interventions identified by the government in the Zero Hunger Plan. Both costing efforts used the activity-based costing approach. The results of both these nutrition costing exercises have been considered in government planning and budgeting for nutrition service delivery and scale-up, and by nongovernment stakeholders for nutrition advocacy to ensure that the governments remain committed to adequate and continued funding for nutrition to improve the nutrition situation.

A key lesson learned based on these experiences is that planning adequate time to undertake nutrition costing is essential. It takes a significant amount of time to arrive at all the decisions related to the types of interventions to cost and obtain all the types of data required. In some instances, the government may not have all the data required, and sometimes information—such as salary data to estimate the cost of human resources—may not be forthcoming. There is also the possibility that, if data to populate the nutrition costing model is not available, proxy data will have to be used or primary data will have to be collected.

Nutrition costing is invaluable in supporting country-level nutrition advocacy. In many countries where PROFILES estimates were used for nutrition advocacy, once audiences were convinced of the benefits of nutrition and the critical importance of investing in it, their next question was, "How much will it cost?" Nutrition costing answers this key question. It is essential to support country-level nutrition advocacy, but perhaps more importantly, it can guide government policymakers and planners on how to plan, budget, and ask to adequately fund nutrition service delivery.

Table 11. Country Examples of Nutrition Costing: Bangladesh and Guatemala

	Bangladesh 2012	Guatemala 2014
What was costed?	In collaboration with the Ministry of Health and Family Welfare of the Government of Bangladesh, a proposed plan for mainstreaming nutrition by adding nutrition service delivery that included the following interventions (cost centers): • Social behavior change communication and community nutrition promotion • Targeted food supplementation • Management of severe acute malnutrition in children • Micronutrient supplementation • System strengthening • Management and coordination • Deworming • Food fortification • Promotion of household food security through agriculture	In collaboration with the Ministry of Finance of the Government of Guatemala, the nutrition interventions identified in the Zero Hunger Plan, included: **Nutrition-specific interventions** • Maternal nutrition during prenatal care • Exclusive and continued breastfeeding • Complementary feeding for infants and small children and providing complementary food • Dietary diversity • Micronutrients for children • Growth monitoring and promotion • Feeding sick children • Management of acute malnutrition at the community level **Other health interventions** • Water quality surveillance • Vaccinations
How was it costed?	The methodology used was the activity-based costing approach. A consultative process engaged government and nongovernment stakeholders to develop the proposed plan for nutrition service delivery and prioritize the nutrition interventions within the health sector that should be costed.	The methodology used was the activity-based costing approach. A consultative process engaged the Ministry of Finance. Data was collected on the time providers spent on nutrition service delivery to estimate the unit costs of each intervention (cost center).
What were the results?	• The average cost per year of a nutrition program at scale was found to be US$130 million–170 million (900–1,200 Crore Taka), and this is within the means of the national budget. • The results of the costing exercise indicated that the health sector budget for health and nutrition was low relative to the need and should be increased from 6% to at least 8% of the national budget, of which 2% should be devoted to nutrition-specific interventions.	• The average cost per year of a nutrition program at scale was found to be US$356 million (2,778 million Quetzales). • The government's projected budget allocation for nutrition was only one-third of the amount required for implementing nutrition interventions at scale. • The investment gap for nutrition in 2013 was US$156 million (1,196 million Quetzales), and by 2021 the investment gap would grow to US$389 million (2,988 million Quetzals). • Cost estimates indicated that 77% of the projected required funding should be invested in nutrition-specific interventions, because it was previously under-invested,

	Bangladesh 2012	Guatemala 2014
		and 23% should be invested in nutrition-sensitive interventions.
What resulted from the cost estimates for nutrition? **How were the cost estimates used?**	The cost estimates were used: • To inform the budget allocation for nutrition in the design of the Health Population and Nutrition Sector Development Plan 2011–2016 • By the Ministry of Health and Family Welfare for planning and budgeting resource allocation for nutrition • By the SUN Movement and nongovernment stakeholders for advocacy purposes	• The costing methodology is being adopted by the Ministry of Finance to better allocate budgets in the government system. Training and capacity building of central-level staff from the Ministry of Health and Ministry of Finance in the use of activity-based costing has been undertaken. • The cost estimates are being used by nongovernment stakeholders to advocate for the need to increase funding for nutrition among decision makers at the Ministry of Health and Ministry of Finance. • The cost estimates have been used in advocacy materials, such as briefs for key target audiences (the Government of Guatemala and civil society) and a video (which has been shared with USAID, its partners, and civil society).

Technical Resources on Nutrition Costing

- Baker, J. 1998. *Activity-Based Costing and Activity-Based Management for Health Care*. Gaithersburg, MD: Aspen Publishers.
- The World Bank has undertaken global nutrition costing activities, namely "Scaling Up Nutrition: What Will It cost?" Available at: http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/Peer-Reviewed-Publications/ScalingUpNutrition.pdf.
- The SUN movement has resources on their website, available at: http://scalingupnutrition.org/.
- The report from the Costing and Tracking Investment in Nutrition Workshop in November 2013 is available at: http://scalingupnutrition.org/news/costing-and-tracking-investment-in-nutrition-workshop-november-2013#.VvGbmVUrKUl.
- Maximizing the Quality of Scaling Up Nutrition Programmes Framework has resources on its webpage, available at: http://www.ids.ac.uk/project/maximising-the-quality-of-scaling-up-nutrition-programmes-framework-mqsun.
- Global Nutrition Report provides overviews and country experiences of nutrition costing, available at: http://globalnutritionreport.org/.
- The Food and Nutrition Technical Assistance III Project has country examples and reports on nutrition costing, available at: http://www.fantaproject.org/.

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STEP 4

Conduct a Workshop on Nutrition Advocacy Planning and Finalize a National Nutrition Advocacy Plan and Advocacy Materials

PLANNING

STEP 4. Conduct a Workshop on Nutrition Advocacy Planning and Finalize a National Nutrition Advocacy Plan and Materials

Templates and Handouts

Find all of the related templates and handouts at the end of the manual.

This step builds upon previous steps and culminates in the development of a national nutrition advocacy plan and supporting nutrition advocacy materials. This is a critical step in the process as the plan lays out how to conduct advocacy in a systematic and coordinated way with all partners in country. The advocacy planning workshop, which is typically done either immediately following the PROFILES workshop or 1 to 2 months later, is intended to guide stakeholders through the process of developing the initial plan, which should include a prioritized list of advocacy materials as well as a timeline for advocacy activities and development and dissemination of materials. The advocacy plan should identify key audiences to be targeted by nutrition advocacy and determine a specific call to action for each audience. Participants at the workshop will use a planning tool to begin to develop nutrition advocacy materials that include PROFILES and nutrition costing estimates along with other resources available in country.

Nutrition advocacy is essential to:

- Create awareness and understanding of the importance of nutrition among the public and within government
- Ensure adequate resources and structures for nutrition services at national, regional, and district levels
- Increase political action and accountability among government officials and stakeholders

The templates provided for Step 4 should be adapted and used with these notes to assist with holding a nutrition advocacy planning workshop.

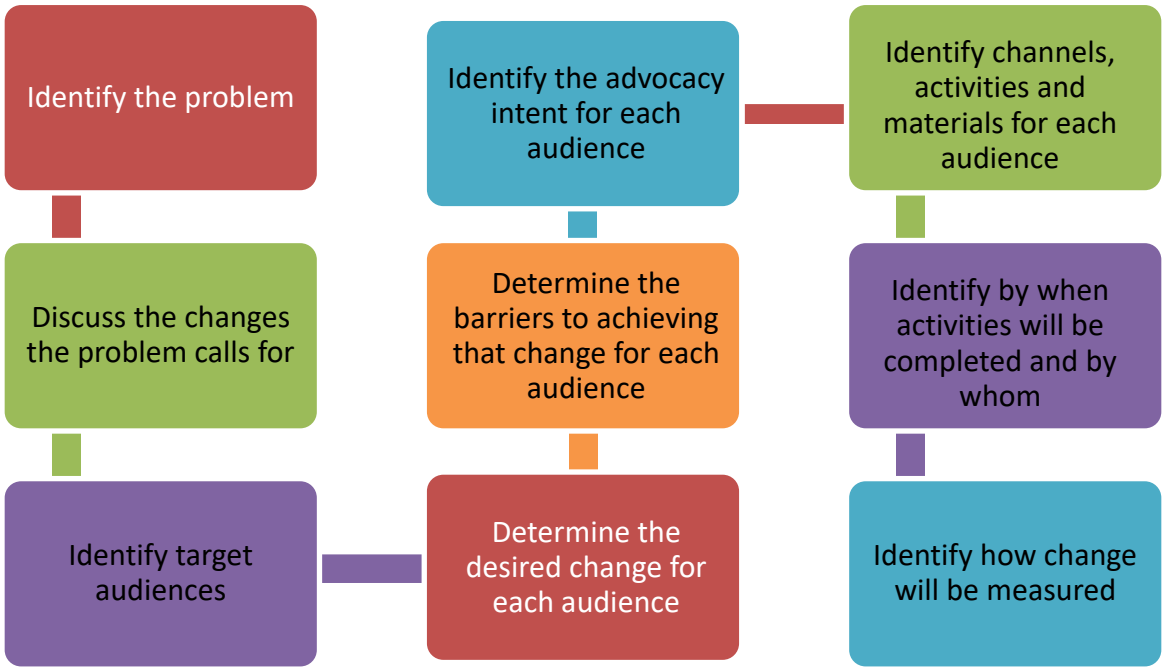
Overview of the workshop design and purpose

The nutrition advocacy planning workshop is designed as a 4-day workshop to develop a nutrition advocacy plan and use a material planning tool to begin developing nutrition advocacy materials for prioritized audiences. The design of the workshop aims to task participants with activities that build toward and culminate in a draft nutrition advocacy plan. Once the initial overview sessions are completed, the key stages of the workshop are that participants prioritize the nutrition problems and solutions in country; identify, segment, and prioritize target audiences for nutrition advocacy to change the enabling environment for nutrition; and then work in prioritized target audience groups to develop a detailed plan for that audience. Once participants self-select into a target audience group, they then work on identifying the desired change(s) they seek from that audience and, for each desired change, they identify what the barriers are and what their advocacy intent is. They then identify the advocacy activities that

would need to be undertaken and what advocacy materials are needed to advocate to this audience. They then identify the indicators and means of verification in terms of how they will track progress over time, discuss which organizations would be responsible for these activities, and what the timeline for the activities would be. Once these elements are completed, the workshop includes time to review the final draft advocacy plan that the participants have developed, and plan for the advocacy materials they need for their target audience. Throughout the workshop, a dedicated rapporteur is needed to transcribe what each group develops and agrees upon with the plenary to populate the nutrition advocacy plan template in preparation for this final review. Because each step of the workshop builds on the previous step, it is important to adhere to the order shown in the sample agenda to achieve the workshop objective of developing a draft nutrition advocacy plan and plan for related nutrition advocacy materials for prioritized audiences.

Step-by-Step Process to Develop an Advocacy Plan

Using a 4-day participatory workshop:



Identify staff/consultants to work with in the country

Begin planning for the nutrition advocacy workshop 8–12 weeks in advance. Staff requirements include the following:

One team member based in the country with the following expertise:

- Sound knowledge of nutrition, specific to the country of focus
- Knowledge of and relationships with nutrition stakeholders in the government, among donors, and among implementing partners in the country
- Knowledge of and experience with nutrition advocacy, preferably in the country of focus

Two facilitators with a combination of skills that include:

- Sound knowledge of advocacy, preferably in nutrition, as an element of social and behavior change
- Strong facilitation skills and expertise in participatory facilitation methodologies such as VIPP that build upon consensus-building and participatory principles
- Strong writing and communication skills

A dedicated rapporteur to transcribe what each group develops and agrees upon during the workshop into the nutrition advocacy plan template, which will be reviewed by the plenary during the final day.

Plan a workshop to develop a national plan for nutrition advocacy

Meet with the multisectoral core working group to plan the workshop. Ask the core working group to comment on the *Agenda for the Nutrition Advocacy Planning Workshop*. In particular, discuss prospective dates for the workshop and identify individuals from the government or development partners/donors who could:

- Provide welcoming remarks
- Present the preliminary results from PROFILES
- Wrap up the workshop
- Chair the workshop

Create an invitation list during a brainstorming session with the core working group. Consider sending invitations to government representatives from various sectors, U.N. agencies, implementing partners, representatives from academia, and any organization that may have a role in nutrition advocacy efforts. Invitation lists typically include 40–60 individuals, which should result in about 30–50 attendees.

Identify a government agency (such as the Ministry of Health or Prime Minister's Office) to send the invitation. This agency should send a "save-the-date" notice 6 weeks in advance of the workshop, followed by an official invitation 4 weeks before the workshop. The invitation should

ask the attendees to bring any existing materials for nutrition advocacy to the workshop. Follow up with the agency to make sure the notices and invitations are sent in a timely manner.

Manage workshop logistics

Work with local staff, consultants, and/or partners in the country to secure a venue and manage logistical needs and to identify someone who can provide ongoing administrative and logistical support during the workshop. Meeting space and materials needed for the workshop include the following:

- 1 large room with tables to seat approximately 30–50 participants and enough room for participants to break out into 5–7 small groups
- 1 projector and screen
- 5–7 flip charts and stands
- 2–3 boxes of markers
- 4–6 rolls of masking tape
- Visualization in participatory programs (VIPP) cards, index cards, and/or sticky notes of different colors and sizes
- Notepads and pens
- Folders for participants with agendas and workshop handouts
- Banner with title of meeting and necessary logos if needed
- Name tags
- Printer and paper
- Participant sign-in sheets
- Staff person who can provide ongoing administrative and logistical support during the workshop

Prepare speakers and facilitators for their sessions

The *Agenda for Nutrition Advocacy Planning* and *PowerPoint templates* should be adapted to reflect the country context. The *Session Plan* template provides detailed facilitator notes to guide the workshop, but the content of the sessions should be tailored to each country. The times allocated for each session are flexible—some sessions may need more or less time depending on the country context. Once these materials are updated, provide them to the speakers and each member of the facilitation team. Walk through the sessions with the team and answer any questions. Facilitators should continue to review and practice all of the sessions before arriving in the country. In addition, facilitators will need to develop an initial draft of a nutrition advocacy material prior to the workshop.

Conduct the workshop

Participants at the workshop will:

- Develop an initial harmonized, multisectoral strategic nutrition advocacy plan that includes a prioritized list of advocacy materials and a timeline for advocacy activities and development/dissemination of materials
- Review an initial draft of a nutrition advocacy material (developed by the facilitation team prior to the workshop)
- Use the material planning tool for selected prioritized nutrition advocacy materials

Complete a national plan for nutrition advocacy

The participants will develop a draft of the nutrition advocacy plan during the workshop. After the workshop, the facilitation team will compile the notes from the discussions, especially those from the plenary session on Day 4. The team will refine the plan and share it with the core working group by email or in person for their review and, once finalized, will work with core working group members to obtain government endorsement so that the plan can be used as an official government document. See an example of a nutrition advocacy plan that was developed in Ethiopia.

Finalize the nutrition advocacy materials

During the workshop, participants will review a draft of a nutrition advocacy material (developed ahead of time by the facilitation team) and use the material planning tool for additional priority nutrition advocacy materials. After the workshop, the facilitation team will compile the participants' comments, refine the advocacy material, and develop drafts of the additional priority nutrition advocacy materials. The team will share these materials with the core working group by email or in person for their review and, once finalized, will work with core working group members to obtain government endorsement. See examples of nutrition advocacy briefs that were developed in Uganda.

With a national nutrition advocacy plan and advocacy materials in hand, partners can engage stakeholders, such as government officials, media, development partners, and civil society—as outlined in the plan—in the nutrition dialogue. These have proven to be useful tools for raising awareness on the severe consequences of malnutrition in a country and have resulted in increased human and financial resources. To learn more about results from nutrition advocacy using PROFILES and costing, see how nutrition advocacy helped lead to the launch of the Uganda Nutrition Action Plan and how costing helped raise awareness of malnutrition in Guatemala.

STEP 4

Conduct a Workshop on Nutrition Advocacy Planning and Finalize a National Nutrition Advocacy Plan and Advocacy Materials

SESSION PLANS FOR THE NUTRITION ADVOCACY PLANNING WORKSHOP

DAY 1 Session 1 Purpose of Workshop: Why Advocacy and Why Now?

These session plans provide a guide for the workshop, but the content of the sessions should be tailored to each country. The times allocated for each session are flexible—adjust as needed for the country context.

Preparation: The facilitator should assign the task of rapporteur before the workshop begins to capture the completed sections of the nutrition advocacy plan (indicated in each session below). The rapporteur should use the **Nutrition Advocacy Plan Template** to add sections to the plan (using the specific language the plenary has agreed upon) as they are completed during the sessions.

Date and time	Session objectives	Learning objectives	Materials
8:45–9:30 am (45 minutes; 3 parts)	• Review the key steps that have taken place to date. • Review and discuss the purpose of the workshop. • Define advocacy for the purposes of the workshop. • Outline why advocacy is essential for [insert country]'s progress. • Review and discuss the content of the workshop. • Set the ground rules and expectations for the workshop.	• The meaning of advocacy and why it is essential for the country's progress. • What can be expected in the 4-day workshop. • Each participant's organization, role, interest, and expectation for the workshop. • Ground rules for the workshop.	• Flipcharts • Markers

FACILITATION NOTES

Part 1: Session introduction (15 minutes)

1. Ask the group how they define advocacy. (What has been their experience?)

2. Present the PPT.

3. Review the day's agenda and mention the agenda for the rest of the week.

Part 2: Participant introductions and expectations (15 minutes)

1. Welcome participants and ask them to introduce themselves, the organization they represent, their role in the organization, and their expectations for the workshop.

2. Record each person's expectations of the

Part 3: Overview (15 minutes)

1. Explain the Visualization in Participatory Programs (VIPP) method; mention that VIPP is designed to ensure that everyone's voice is heard.

2. Explain the VIPP rules and write them down on a flipchart: one thought/idea per card; use a marker, not a pen; write with the broad side of the marker; no more than three lines per card.

3. To establish ground rules for the workshop, set up one flipchart with a vertical line down the middle; start the game "topsy turvy" and ask: "If you wanted to make this workshop not successful, what would you do?" Possible answers: talk on the phone during sessions, come in late, sleep, etc. Write each idea on a VIPP card and tape it to the left side of the flipchart.

	workshop on a flipchart and place it on a wall.	4. Ask: "What will make this workshop successful?" Possible answers: turn our phones to silent mode, arrive on time, be engaged, etc. Write down each idea on a VIPP card and tape it to the right side of the flipchart. 5. Ask the participants whether the ideas on the right side of the flipchart should serve as the ground rules for the workshop.

DAY 1 Session 2 Nutrition Situation in [insert country]

Preparation: The PPT template should be sent to a representative from [insert country] 4–6 weeks in advance of the workshop to allow sufficient time for the representative to prepare the presentation.

Date and time	Session objectives	Learning objectives	Materials
9:30–10:00 am (30 minutes; 2 parts)	• Review and discuss the nutrition situation in the country. • Discuss the information that was presented: What areas should be the focus of the nutrition advocacy plan?	• Learn about the country's nutrition priorities according to government officials. • Discuss the information and begin thinking about focus areas for the nutrition advocacy plan.	• PPT

FACILITATION NOTES

Part 1: PPT presentation (20 minutes)

Present the PPT on the country context, including a summary of the government's priorities to address nutrition problems.

Part 2: Discussion (10 minutes)

Ask the participants if they have any questions.

DAY 1 Session 3 Review of Existing Advocacy Materials

Preparation: Determine whether any nutrition advocacy materials exist for this country before the workshop. If so, ask the developer or owner of the materials to present them at the workshop. If no materials are found, ask the workshop participants whether they know of any materials (Part 1 below).

Date and time	Session objectives	Learning objectives	Materials
10:00–11:00 am (60 minutes; 2 parts)	• Discuss and review any existing nutrition advocacy materials that are being used in [insert country]. • Review advocacy materials that have been developed using PROFILES estimates from different countries.	Participants develop an understanding of any nutrition advocacy materials that already exist or may need to be created.	• Nutrition advocacy materials being used in [insert country], if these materials exist • Nutrition advocacy materials developed from PROFILES estimates in other countries

FACILITATION NOTES

Part 1: Discussion (15 minutes)

Ask the group whether they are familiar with any nutrition advocacy materials that are being used or have been used in past. If so, show the materials on the screen for everyone to see. Otherwise, ask the group whether they know of advocacy materials on other topics that they like or dislike. Ask them to explain their opinions.

Part 2: Presentation (15 minutes)

Present what the organization has done with PROFILES in other countries; explain that the choice of materials depends on the country's needs.

DAY 1 Session 4 Components of an Advocacy Plan

Date and time	Session objectives	Learning objectives	Materials
11:15–11:45 am (30 minutes; 2 parts)	• Provide participants with an overview of how advocacy, social mobilization and behavior change communication (BCC) support each other. • Discuss the components of an advocacy plan. • Review and provide input to the problems related to improving nutrition discussed during the Stakeholder Meeting and PROFILES workshop. • Review and provide input to the changes discussed during the Stakeholder Meeting and PROFILES workshop.	• Understand how advocacy, social mobilization and BCC fit together. • Know the components that go into an advocacy plan. • Provide input into the problem and the changes required.	• PPT

FACILITATION NOTES

Part 1: PPT presentation (10 minutes)

Present the PPT.

Part 2: Discussion (20 minutes)

1. Ask the group for input on the problem. This will be the first section of the nutrition advocacy plan. Instruct the rapporteur to record any changes the plenary agrees upon and transcribe it into the Nutrition Advocacy Plan Template.

2. Ask the group for input on the changes required to address the problem. Again, instruct the rapporteur to record any changes the plenary agrees upon and transcribe it into the Nutrition Advocacy Plan Template.

3. After the discussion, encourage the participants to write down (on a flipchart at the back of the room) any questions or comments on the nutrition advocacy process they may have in the coming days; these will be addressed at the beginning of each day.

DAY 1 Session 5 Summary of PROFILES Estimates

Date and time	Session objectives	Learning objectives	Materials
11:45 am–12:30 pm (45 minutes; 2 parts)	• Provide an overview of the PROFILES tool. • Review estimates from PROFILES, including the status quo scenario and the improved scenario.	Participants develop an understanding of PROFILES, the estimates, and how the estimates can be used for nutrition advocacy	• PPT of PROFILES results (completed during Step 2)

FACILITATION NOTES

Part 1: PPT presentation (30 minutes)

1. Present the PPT of PROFILES results (completed during Step 2).

Part 2: Question and answer session (15 minutes)

1. Ask the participants whether they have questions.
2. Lead the participants in a discussion of how estimates can be used for nutrition advocacy efforts.

DAY 1 Session 6 Audience Analysis and Segmentation Using the Socio-Ecological Model

Date and time	Session objectives	Learning objectives	Materials
12:30–1:00 pm and continued after lunch: 2:00–3:00 pm (90 minutes; 3 parts)	• Provide an overview of the socio-ecological model and conduct an audience segmentation exercise to develop audiences in three categories: • Those directly affected by the problem • Those directly influencing those affected by the problem • Those indirectly influencing those affected by the problem • Prioritize advocacy audiences.	Participants will have an understanding of how the three elements of SBCC fit into the socio-ecological model and how that determines the focus audiences.	• PPT • Template: Audience Analysis Worksheet • VIPP cards • Flipcharts • Markers • Tape

FACILITATION NOTES

Part 1: PPT presentation (10 minutes)

1. Present the PPT to introduce the socio-ecological model.
2. Ask the participants whether they have any questions.

Part 2: Group work (65 minutes)

1. Create 3 groups of participants; introduce the *Audience Analysis Worksheet*.
2. Provide 10 cards to each group (each group gets a different color). State the VIPP rules (one thought per card; use marker, not a pen; write with broad side of marker; no more than three lines per card; print legibly).
3. Ask each group to (a) focus on one audience category ("most affected," "directly influencing," or "indirectly influencing"), (b) identify audiences in that category, and (c) record one audience on each card. Provide more cards if needed. (20 minutes)
4. In plenary, prepare three flipcharts, one for each category ("most affected," "directly influencing," or "indirectly influencing").
5. Ask each group to give one card at a time to the co-facilitator, who will tape the cards to the appropriate flipchart. Explain that this workshop focuses on the outer ring of "those indirectly influencing those most affected," which will constitute our advocacy audiences. The other audience categories (those "most affected" and "directly influencing") would be included in a BCC and social mobilization strategy but not in advocacy. (45 minutes)

Part 3: Discussion (15 minutes)

1. Explain that each participant will vote on the top five audiences for advocacy by placing a dot on the VIPP card. Each person gets 5 votes.
2. Tally all the votes and announce the priority audiences. Instruct the rapporteur to transcribe the final audiences into the Nutrition Advocacy Plan Template.

DAY 1 Session 7 Context Analysis

Date and time	Session objectives	Learning objectives	Materials
3:00–3:30 pm (30 minutes; 3 parts)	Discuss the context that governs each priority audience.	Participants begin to think about the environment's effects on the audiences' decisions.	• PPT • VIPP cards • Flipcharts • Markers • Tape

FACILITATION NOTES

Part 1: Group work introduction (2 minutes)

1. Participants should form groups of 4–5 people. Each group will focus on one of the audience segments that was identified as a priority. Ask each group to answer questions (below) about its audience segment on colored cards (blue, red, green and yellow). Each group should receive three cards of each color.

- **(Blue) Information:** What information do they receive about the issue? From whom? What format is it in? How do they react to it?
- **(Green) Motivation:** What motivates them?
- **(Red) Ability to Act:** What power and resources do they have?
- **(Yellow) Norms:** What are the underlying values and how do they affect the knowledge, attitudes, beliefs, and behaviors of this group?

2. Explain that this exercise will help the participants to think about the context that surrounds their audiences. The exercise is not meant to be exhaustive, and the answers should be brief.

Part 2: Group work (13 minutes)

The groups should work for 8 minutes, then record their answers on each card and place it on a flipchart.

Part 3: Presentation of findings (15 minutes)

1. Ask each group to present what they have discussed and recorded; give other groups the opportunity to comment.
2. After the presentations, ask the groups to place their flipchart sheets on the wall.

DAY 1 Session 8 Desired Changes, Barriers, and Advocacy Intent for Each Audience

Date and time	Session objectives	Learning objectives	Materials
3:45–5:20 pm (95 minutes; 3 parts)	Determine the desired changes for each audience, the barriers to that change and the advocacy intent.	Participants decide: • Which change is needed for each audience • Why that change is needed • Why the change has not taken place (the barriers) • How we can address the barriers with our advocacy intents	• PPT • VIPP cards • Flipcharts • Markers • Tape

FACILITATION NOTES

Part 1: Preparation for group work (5 minutes)

Participants should form their small groups again. Briefly review the PPT slides on desired changes, barriers, and advocacy intents; instruct the groups to determine each of these for their priority audiences.

Part 2: Group work (60 minutes)

Give each group a blue card to record the desired change, a red card for the barriers, and a green card for the advocacy intent. Show the group an example of each on the PPT presentation. Explain that the advocacy intent should explain how the barrier(s) would be overcome to create the desired change (i.e., influence knowledge, attitudes, or beliefs through advocacy actions).

Part 3: Presentation of findings (30 minutes)

1. Ask each group to place their flipcharts with VIPP cards on the wall and briefly present what they have discussed and recorded.
2. Explain that everyone will have an opportunity to review the ideas tomorrow.

DAY 2 Session 9 Discussion of Desired Changes, Barriers, and Advocacy Intent for Each Audience

Date and time	Session objectives	Learning objectives	Materials
9:00–10:00 am (60 minutes; 2 parts)	Discuss the desired changes, barriers, and advocacy intent to be included in the nutrition advocacy plan for each audience.	Participants can reach a consensus on the desired changes, barriers, and advocacy intent for the nutrition advocacy plan.	• Traffic signs • Flipchart indicating the meaning of the traffic signs • Flipcharts from previous session

FACILITATION NOTES

Part 1: Group exercise (10 minutes)

1. Introduce the following "traffic signs" with the aid of a flipchart:
   - Green exclamation point—indicates one's agreement with an idea
   - Yellow question mark—indicates some questions about an idea
   - Red lightning bolt—indicates one's disagreement with an idea
2. With the help of the co-facilitator, give each person a set of traffic signs.
3. Ask the participants to place their traffic signs next to the ideas on the flipcharts.

Part 2: Plenary session (50 minutes)

1. Gather around each flipchart and discuss any questions or disagreements associated with the ideas; identify ideas that were liked by the participants.
2. During the discussion, ask the co-facilitator to take notes about each audience on a separate flipchart; give the relevant flipchart to each small group at the end of the discussion.

DAY 2 Session 10 Revision of Desired Changes, Barriers, and Advocacy Intent per Audience

Date and time	Session objectives	Learning objectives	Materials
10:00–10:30 am (30 minutes; 2 parts)	Revise the desired changes, barriers, and advocacy intent for each audience based on feedback from the larger group.	Participants can reach a consensus on the desired changes, barriers, and advocacy intent for each audience.	• VIPP cards • Flipcharts • Markers • Tape • Flipcharts with notes from the previous day's discussion

FACILITATION NOTES

Part 1: Small-group work (20 minutes)

Instruct each small group to make any necessary revisions based on the feedback given by the larger group.

Part 2: Presentation of revisions (10 minutes)

Give each small group about 2 minutes to present their revisions to the larger group. Instruct the rapporteur to transcribe the final desired changes, barriers, and advocacy intents per audience into the Nutrition Advocacy Plan Template.

DAY 2 Session 11 Advocacy Activities and Materials for Each Audience

Date and time	Session objectives	Learning objectives	Materials
10:45–11:45 am (60 minutes; 2 parts)	• Review the different communication channels and benefits that can be used and factors that influence them. • Determine which advocacy activities and materials should be included in the nutrition advocacy plan per audience in small groups.	Participants will: • Understand the communication channels that can be used for advocacy and the relative merits of each • Propose activities and materials that will be included in the nutrition advocacy plan for each audience	• PPT • VIPP cards • Tape • Flipcharts • Markers

FACILITATION NOTES

Part 1: Brief PPT presentation (10 minutes)

1. Ask the group whether they have ever participated in any advocacy activities and to elaborate on their experiences. What was effective? What was not effective?

2. Present the PPT on communication channels.

3. Ask participants whether they have any questions.

Part 2: Small-group work (50 minutes)

1. Give each small group five yellow cards (to list possible activities) and five white cards (to list possible materials).

2. Ask each group to consider:

- Which channels or activities would be best to reach your audience? For example: What formats do they prefer? What has worked in the past? What specific media outlets do they follow in television, radio, and newspapers?
- What language(s) does the audience prefer?
- Does your content work well in the channels or activities that you identify?
- Are these activities feasible, given the resources?
- How do these activities align with the national vision documents or plans?

3. At the end of the session, ask participants to hang their flipchart sheets with the VIPP cards on the wall.

DAY 2 Session 12 Discussion of Advocacy Activities and Materials for Each Audience

Date and time	Session objectives	Learning objectives	Materials
11:45 am–1:00 pm (75 minutes; 2 parts)	• Discuss the activities and materials to be included in the nutrition advocacy plan for each audience • Revise the activities and materials to be included in the nutrition advocacy plan for each audience based on feedback from the larger group	Participants will reach a consensus on advocacy activities and materials for each audience.	• Flipcharts from the previous session • Traffic signs

FACILITATION NOTES

Part 1: PPT presentation and discussion (20 minutes)

1. Remind the group how to use the traffic signs.

2. Give each group 2 minutes to present the proposed nutrition advocacy activities and materials for each audience.

3. No questions will be taken during the presentations. After the presentations, the larger group will have 10 minutes to place their "traffic signs" on the flipcharts.

Part 2: Small-group work (55 minutes)

1. Gather around each flipchart and discuss any questions or disagreements associated with the ideas; identify ideas that were liked by the participants.

2. During the discussion, ask the **co-facilitator** to take notes about each audience on a separate flipchart; give the relevant flipchart to each small group at the end of the discussion.

DAY 2 Session 13 Revision of Advocacy Activities and Materials for Each Audience

Date and time	Session objectives	Learning objectives	Materials
2:00–2:30 pm (30 minutes; 2 parts)	Revise the advocacy activities and materials for each audience based on feedback from the larger group.	Participants can reach a consensus on the advocacy activities and materials for each audience.	• VIPP cards • Flipcharts • Markers • Tape • Flipcharts with notes from previous session

FACILITATION NOTES

Part 1: Small-group work (20 minutes)

Instruct each small group to make revisions based on the feedback provided by the larger group.

Part 2: Presentation of revisions (10 minutes)

Give each group about 2 minutes to present the revisions to the larger group. Instruct the rapporteur to transcribe the final advocacy activities and materials per audience into the Nutrition Advocacy Plan Template.

DAY 2 Session 14 Indicators and Means of Verification for Each Audience

Date and time	Session objectives	Learning objectives	Materials
2:30–3:30 pm (60 minutes; 2 parts)	• Discuss monitoring and evaluation during the course of an advocacy program and how we judge the success of our efforts • Develop indicators and methods to verify the nutrition advocacy plan	Participants will: • Understand how a nutrition advocacy plan can be monitored and evaluated • Propose indicators and methods of verification that will be included in the nutrition advocacy plan for each audience	• PPT • VIPP cards • Tape • Flipcharts • Markers

FACILITATION NOTES

Part 1: Discussion (5 minutes)

Ask the group: How do we typically judge the success of our efforts? What means of verification do we use?

Part 2: Small-group work (55 minutes)

1. Explain to the group (using a PPT) the use of evaluation and monitoring during a well-designed advocacy program and defining the indicators that the small groups will develop for the strategy including:

- Outcome indicators: Can be used to measure if the *desired changes* were achieved and are stated in terms of *percentage* of target audience reached
- Output indicators: Can be used to measure if the *advocacy intents* were achieved and are stated in terms of *numbers* of target audience reached
- Process indicators: Can be used to measure if *activities* were accomplished and are stated in terms of *number of activities* held such as number of trainings, number of household visits, etc.
- Means of verification: Are what you use to monitor and verify the indicator such as meeting minutes, pre- and post-tests for trainings, workshop reports, program quarterly reports, etc.

2. Provide 10-15 orange cards (for the proposed indicators) and 10-15 blue cards (for the proposed means of verification) to each small group.

3. Ask the groups to brainstorm ideas for indicators and verification.

4. At the end of the session, ask each group to hang their flipchart and VIPP card on the wall.

DAY 2 Session 15 Discussion of Indicators and Means of Verification for Each Audience

Date and time	Session objectives	Learning objectives	Materials
3:45–5:20 pm (95 minutes)	Discuss the indicators and methods of verification for the nutrition advocacy plans for each audience.	Participants can reach a consensus on the indicators and the means of verification for the nutrition advocacy plan.	• Flipcharts from the previous session • Flipcharts • Markers

FACILITATION NOTES

Presentation and Discussion (95 minutes)

1. Give each small group 5 minutes to present the proposed indicators and means of verification for their audience. (25 minutes)
2. After each presentation, ask the larger group to provide feedback (10 minutes for each small group).
3. Ask the co-facilitator to record the feedback on a flipchart and provide it to the small groups at the end of the session.

DAY 3 Session 16 Revision of Indicators and Means of Verification for Each Audience

Date and time	Session objectives	Learning objectives	Materials
9:00–9:30 am (30 minutes; 2 parts)	Revise the indicators and means of verification for each audience based on feedback from the larger group.	Participants can reach a consensus on the indicators and means of verification for the nutrition advocacy plan.	• Flipcharts with notes from the previous session

FACILITATION NOTES

Part 1: Small-group work (20 minutes)

Ask each small group to make any revisions based on the feedback from the larger group.

Part 2: Presentation of revisions (10 minutes)

Give each group about 2 minutes to present the final changes to the larger group. Instruct the rapporteur to transcribe the indicators and means of verification per audience into the Nutrition Advocacy Plan Template.

DAY 3 Session 17 Timeline and Responsible/Supporting Organizations for Each Audience

Session guidance: The facilitator should make sure that the groups allow a realistic amount of time for the planned activities. For example, many groups try to squeeze all the activities into the first 6 months, which is rarely adequate. Also, the groups should consider reaching out to organizations that may not be represented in the workshop.

Date and time	Session objectives	Learning objectives	Materials
9:30–10:30 am (60 minutes; 2 parts)	Building on the information that has been developed thus far, propose timelines for the implementation of each activity and the development of the materials; identify the organizations that will be responsible for the activities and materials, and the organizations that will provide support the activity.	Participants will: • Reach a consensus on an overall timeline • Propose responsible and supporting organizations for each audience	• PPT • VIPP cards • Tape • Flipcharts • Markers

FACILITATION NOTES

Part 1: Plenary discussion (15 minutes)

Ask the group the following questions:

- What is a realistic timeline to complete the proposed activities and materials?
- Does the nutrition advocacy plan need to align with any other timeline?
- When would the timeline start? Is it better to assign specific dates (e.g., January 2020) or milestones that begin once the nutrition advocacy plan is approved (e.g., Month 1)?

Part 2: Small-group work (45 minutes)

1. Using a PPT, show an example of a timeline developed in another country.
2. The co-facilitator will provide each small group with white cards (for proposed dates) and yellow cards (for organizations).
3. Ask each small group to discuss the timeline and the organizations for the activities and materials developed for their audience segment.
4. Ask each group to place their flipchart sheets (with cards) on the wall.

DAY 3 Session 18 Discussion of Timeline and Responsible/Supporting Organizations for Each Audience

Date and time	Session objectives	Learning objectives	Materials
10:45 am–12:30 pm (1 hour and 45 minutes; 2 parts)	Discuss the timeline and the responsible/supporting organizations to be included in the nutrition advocacy plan for each audience.	Participants can agree on a timeline and the responsible/supporting organizations for the nutrition advocacy plan.	• Flipcharts from previous session • Traffic signs

FACILITATION NOTES

Part 1: Group exercise (15 minutes)

1. Remind the group how to use the traffic signs.

2. Give each small group 2 minutes to present their proposed timelines and possible responsible/supporting organizations. The larger group will have 10 minutes after the presentations to review the flipcharts and place their traffic signs.

Part 2: Plenary and discussion (1 hour and 30 minutes)

1. Ask the participants to gather around each flipchart.

2. Discuss any questions or disagreements with the proposed ideas; identify ideas that were liked by the participants.

3. During the discussion, ask the **co-facilitator** to take notes about each audience on a separate flipchart; give the relevant flipchart to each small group at the end of the discussion.

DAY 3 Session 19 Revision of Timeline and Responsible/Supporting Organizations for Each Audience

Date and time	Session objectives	Learning objectives	Materials
12:30–1:00 pm (30 minutes; 2 parts)	Revise the timeline and the responsible/supporting organizations for each audience according to the feedback from the larger group.	Participants can agree on the timeline and the responsible/supporting organizations for the nutrition advocacy plan.	• Flipcharts from the previous session • VIPP cards • Flipcharts • Markers • Tape

FACILITATION NOTES

Part 1: Small-group work (20 minutes)

Ask each small group to make any revisions based on the feedback from the larger group.

Part 2: Presentation of revisions (10 minutes)

Give each small group 2 minutes to present their final changes to the larger group. Instruct the rapporteur to transcribe the final timeline and responsible/supporting organizations per audience into the Nutrition Advocacy Plan Template.

DAY 3 Session 20 Introduction to Material Planning Tool Template and Review of Draft Material

Preparation: The facilitation team should develop at least one draft nutrition advocacy material with PROFILES results in advance of the workshop to review during this session.

Date and time	Session objectives	Learning objectives	Materials
2:00–3:30 pm (1 hour and 30 minutes; 4 parts)	• Introduce the *Material Planning Tool* for material development • Review and discuss the draft nutrition advocacy material in small groups	Participants can understand the purpose of the *Material Planning Tool* in material development and review the draft nutrition advocacy material (that has been developed in advance by the facilitation team).	• PPT • Template: Material Planning Tool • Draft nutrition advocacy material for [insert country] (that has been developed in advance by the facilitation team)

FACILITATION NOTES

Part 1: Discussion (5 minutes)

Ask the group whether anyone has ever used a material planning tool—or knows what a material planning tool (or creative brief) is. Encourage participants to discuss how they have used them in the past.

Part 2: Presentation (15 minutes)

1. Use the PPT presentation to explain what a material planning tool is and hand out the *Material Planning Tool* template to each participant.
2. "Walk" through each section of the tool, and open the session for questions.

Part 3: Group work (35 minutes)

1. Hand out the draft nutrition advocacy material and ask each small group to use the *Material Planning Tool* to guide their discussion of the material.
2. Ask the groups to answer these questions:

- Is the target audience obvious? Who is it?
- Is there a clear call to action? What is it?
- Does the material convey a strong benefit? What is it?
- Is there information in the material to support that benefit?
- Is any information missing?
- Should any information be changed?

Part 4: Wrap up (35 minutes)

1. Hand out five red cards to each group and five yellow cards.
2. Instruct the groups to write down one suggested change on each red card and the rationale behind that change on the yellow card.

DAY 3 Session 21 Discussion and Revision of Draft Nutrition Advocacy Material

Preparation: Set up a flipchart with a column for "Change" and a column for "Rationale" before the session.

Date and time	Session objectives	Learning objectives	Materials
3:45–5:20 pm (1 hour and 35 minutes)	• Discuss suggested changes and rationale to the draft nutrition advocacy material • Revise the draft nutrition advocacy material	Participants will contribute to the development of the draft nutrition advocacy material to increase ownership and use.	• VIPP cards from previous session • Flipcharts • Tape

FACILITATION NOTES

Discussion (1 hour and 35 minutes)

1. Ask each group to state one change and its rationale, and to give the cards to the co-facilitator who places them on the flipchart (next to each other).
2. Have the groups take turns until all the cards are gone.
3. As the groups look at the flipchart (with all of the suggested changes and rationales), ask whether they want to add anything else.
4. Ask the participants whether any information in this material belongs in any other material; note any suggestions on a flipchart for the development of materials on the next day.

DAY 4 Session 22 Review the Draft Nutrition Advocacy Plan

Preparation: At the end of Day 3, the rapporteur should have a "completed" draft nutrition advocacy plan, which should be printed for plenary review during this session.

Date and time	Session objectives	Learning objectives	Materials
8:30–10:30 am (2 hours)	Review the draft nutrition advocacy plan.	Participants can discuss and make any necessary changes.	• Printed copies of the draft nutrition advocacy plan

FACILITATION NOTES

Review of draft nutrition advocacy plan (2 hours)

1. Hand out a copy of the draft nutrition advocacy plan to each participant.
2. Review each section and ask the participants for comments and suggestions.
3. The co-facilitator will take notes on the changes to be incorporated.

DAY 4 Session 23 Material Planning Tool—Key Promise, Support Statement, and Call to Action

Preparation: The facilitation team should have a printer available for the group to print copies of the *Material Planning Tool* with the sections of key promise, support statement and call to action completed.

Date and time	Session objectives	Learning objectives	Materials and Equipment
10:45 am–12:00 pm (1 hour and 15 minutes; 2 parts)	Conduct group work on the following parts of the *Material Planning Tool*: key promise, support statement, and the call to action.	Participants can begin to develop material planning tools for their priority materials.	• Template: Material Planning Tool • Printer

FACILITATION NOTES

Part 1: Group discussion (15 minutes)

1. Ask each small group to discuss and determine which material should be prioritized for their audience.
2. Each small group should tell the plenary which material they will be working on.

Part 2: Group work (60 minutes)

1. Provide each small group with a digital file of the *Material Planning Tool* template.
2. Ask each small group to fill in the *Material Planning Tool* up to "call to action."
3. Each group will print and then place their versions of the *Material Planning Tool* on the wall.

DAY 4 Session 24 Material Planning Tool—Discussion of Key Promise, Support Statement, and Call to Action

Date and time	Session objectives	Learning objectives	Materials
12:00–1:00 pm (60 minutes; 2 parts)	Discuss the key promise, support statement, and call to action in each group's *Material Planning Tool.*	Participants can reach a consensus on the materials to be included in each *Material Planning Tool.*	• *Material Planning Tool* from previous session • Traffic signs • Flipcharts • Markers

FACILITATION NOTES

Part 1: Gallery walk (15 minutes)

Ask the participants to review all *Material Planning Tools* during a gallery walk and use the traffic signs to indicate agreement, disagreement or questions.

Part 2: Discussion and feedback (45 minutes)

Discuss each *Material Planning Tool* with the plenary group and the co-facilitator will take notes on a flipchart for each tool.

DAY 4 Session 25 Material Planning Tool—Revision of Key Promise, Support Statement, and Call to Action

Date and time	Session objectives	Learning objectives	Materials
2:00–2:30 pm (30 minutes; 2 parts)	Revise the key promise, support statement, and call to action based on feedback from the plenary.	Participants can reach a consensus on the key promise, support statement, and call to action for the *Material Planning Tools.*	• Flipcharts with notes from the previous session

FACILITATION NOTES

Part 1: Small-group work (20 minutes)

Ask each small group to make any necessary revisions based on the feedback given during the plenary.

Part 2: Present final changes (10 minutes)

Ask each small group to deliver a 2-minute presentation of the final version to the larger group.

DAY 4 Session 26 Material Planning Tool—Key Content (Detailed Outline of Document)

Date and time	Session objectives	Learning objectives	Materials
2:30–3:30 pm (60 minutes)	Conduct group work on *Material Planning Tools*: detailed outline of material and sources of information.	Participants can work together to develop a detailed outline of the material, with sources of information.	• Template: Material Planning Tool • Printer

FACILITATION NOTES

Small-group work

1. Ask each group to develop detailed outlines of the material they are working on and provide sources of information within the *Material Planning Tool* template.

2. Each group will print the revised *Material Planning Tool* and post it on the wall for discussion with the larger group.

DAY 4 Session 27 Material Planning Tool—Discussion of Key Content (Detailed Outline of Document)

Date and time	Session objectives	Learning objectives	Materials
3:45–4:45 pm (60 minutes; 2 parts)	Discuss group work on *Material Planning Tools*: key content (detailed outline of document).	Participants can provide feedback to each small group on the detailed outlines and sources of information in each *Material Planning Tool*.	• Material Planning Tools from previous session • Traffic signs • Flipcharts • Markers

FACILITATION NOTES

Part 1: Gallery walk (15 minutes)

Ask the participants to review all *Material Planning Tools* during a gallery walk and use the traffic signs to indicate agreement, disagreement or questions.

Part 2: Discussion and feedback (45 minutes)

Discuss each *Material Planning Tool* with the plenary group and the co-facilitator will take notes on a flipchart for each tool.

DAY 4 Session 27 Material Planning Tool—Revision of Key Content (Detailed Outline of Document)

Date and time	Session objectives	Learning objectives	Materials
4:45–5:15 pm (30 minutes; 2 parts)	Revise the *Material Planning Tools*: key content, based on feedback from the plenary.	Participants can reach a consensus on the key content for the *Material Planning Tools*.	• Flipcharts with notes from previous session

FACILITATION NOTES

Part 1: Small-group work (20 minutes)

Ask each small group to make any necessary revisions based on the feedback from the larger group.

Part 2: Presentations (10 minutes)

Ask each group to deliver a 2-minute presentation to the larger group on the final changes.

TEMPLATES, HANDOUTS, AND SCOREBOARDS

Templates, Handouts, and Scoreboards

	Step 1	Step 2	Step 4
PowerPoints	x	x	x
Handout: Advocacy to Reduce Malnutrition: Using PROFILES and Nutrition Costing	x	x	
Template: Agenda for Core Working Group Meeting	x		
Template: Sample Concept Note	x		
PROFILES Workbook		x	
Template: Agenda for Stakeholder Meeting		x	
Template: Agenda for PROFILES Workshop		x	
Handout: Frequently Asked Questions		x	
Handout: Scientific Basis for the Nutrition Problems and Consequences Addressed		x	
Handout: PROFILES Reference List and Additional Reading List		x	
Handout: Overview of the Approach Used in PROFILES Models to Calculate Estimates		x	
Handout: How to Interpret PROFILES Results		x	
Template: Information Needed Worksheets		x	
Handout: Glossary of Terms in the Context of PROFILES		x	
Handout: PROFILES Data Entry Diagram		x	
Template: Nutrition Advocacy Plan			x
Template: Agenda for the Nutrition Advocacy Planning Workshop			x
Template: Audience Analysis Worksheet			x
Template: Material Planning Tool			x
Handout: Sample nutrition advocacy plan from Ethiopia			x
Handout: Sample nutrition advocacy briefs from Uganda			x
Handout: Repositioning Nutrition in Uganda through Advocacy			x
Handout: Costing Approach Raises Awareness of Malnutrition in Guatemala			x
Scoreboards		x	

Looking for Materials in Microsoft Word?

The templates in this section are also available for download.

Template: Agenda for Core Working Group Meeting

Agenda for Core Working Group Meeting

I. Nutrition Advocacy Planning Process Using PROFILES [and Nutrition Costing]

- Overview of Nutrition Advocacy Planning Process Presentation
- Handout on Advocacy to Reduce Malnutrition
- Review Concept Note for Nutrition Advocacy Using PROFILES [and Nutrition Costing]

II. One-Day Stakeholder Meeting

- Proposed Dates
- Proposed Agenda and Speakers
- Participant List and Invitation

III. Next Steps

Template: Sample Concept Note

Concept Note on Nutrition Advocacy Using PROFILES *[and Nutrition Costing]* in [Insert Country]

OVERVIEW

[Insert country specific background such as: In 2017, the Ministry of Health in [insert country], in collaboration with several key stakeholders, began the process of revising the National Nutrition Plan. Conducting an updated PROFILES in tandem with the finalization and implementation of the National Nutrition Plan has the potential to greatly enhance stakeholder ownership by prioritizing key advocacy messages and harmonizing advocacy activities to address the Plan's priorities.]

PROFILES is a spreadsheet-based nutrition advocacy tool used to calculate consequences if malnutrition does not improve or change over a defined time period and the benefits of improved nutrition over the same time period, including lives saved, disabilities averted, human capital gains, and economic productivity gains (or, put another way, economic productivity losses averted). PROFILES estimates are based on reduction in the prevalence of several nutrition problems, such as iron deficiency anemia; low birth weight; vitamin A deficiency; iodine deficiency; suboptimal breastfeeding practices; and childhood stunting, underweight, and wasting. To calculate estimates, PROFILES requires current country-specific information (e.g., nutrition, demographic, and employment data) that are identified and agreed upon in collaboration with stakeholders in country. PROFILES results can be used to engage government and other high-level stakeholders in a collaborative process to identify, prioritize, and advocate for evidence-based actions to reduce malnutrition. Such actions may include developing or refining policies, implementing existing policies, identifying priority geographic areas in which selected interventions should be focused, scaling up current interventions, and introducing new nutrition interventions, among others.

[If applicable] PROFILES was last completed in [insert country] in [insert year]. This provided valuable information on the economic and health impact of nutrition issues as well as the consequences of inaction. Since then, new data is available through the nationally representative [insert country] Demographic and Health Survey implemented in [insert year]. In addition, the tools and outputs of the PROFILES process have been strengthened to provide more robust information to support the costing and advocacy of nutrition interventions.

A unified and harmonized approach to nutrition advocacy in [insert country] would maximize the effectiveness of the efforts of the Government of [insert country] and partners. Key steps in this process are forming a core working group that oversees the process and bringing together key stakeholders from multiple sectors, donors, and implementing agencies to agree on a national and subnational approach to nutrition advocacy, including implementation plans and timelines. Consultative workshops and meetings between the core working group and other stakeholders will provide a forum to develop estimates from PROFILES related to

undernutrition (stunting, wasting, and underweight), low birth weight, micronutrient deficiencies (vitamin A deficiency, iron deficiency anemia, and iodine deficiency), and breastfeeding practices, *[as well as nutrition costing estimates]* and a roadmap for nutrition advocacy that aligns with the priorities and outcomes outlined in [insert relevant national documents]. The outcome of the series of workshops and meetings is a national nutrition advocacy plan and corresponding nutrition advocacy materials. Additional outcomes include preliminary PROFILES *[and nutrition costing]* results, which would be reviewed during a meeting by multisectoral stakeholders from government, donors, United Nations agencies, and other stakeholders.

EXPECTED DELIVERABLES

1. Estimates from PROFILES, which calculate consequences if malnutrition does not improve over a defined time period and the benefits of improved nutrition over the same time period, including lives saved, disabilities averted, human capital gains, and economic productivity gains (or, put another way, economic productivity losses averted).
2. Cost estimates in local currency and U.S. dollars of implementing a comprehensive set of nutrition programs in a country over a specific time period.
3. A harmonized, multisectoral, national nutrition advocacy plan.
4. Nutrition advocacy materials based on the national nutrition advocacy plan.
5. A PROFILES report *[and costing final report],* and an accompanying summary of the report.

ACTIVITIES

Months 1–2: Constitute a multi-stakeholder core working group

Working with the [insert host country government agency] and various stakeholders, a small, multisectoral core working group will be formed. This working group will be central to the development of preliminary PROFILES *[and Nutrition Costing]* estimates and nutrition advocacy plan development. The core working group will contribute to the planning and implementation of workshops and meetings to develop and refine PROFILES *[and Nutrition Costing*] estimates, as well as develop a nutrition advocacy plan and review materials. Core working group members could include representatives from government; USAID; development partners such as REACH, UNICEF, WHO, WFP, and FAO; civil society; and USAID-funded implementing partners, to name a few.

Months 1–2: Nutrition advocacy stakeholder meeting

This one-day stakeholder meeting will bring together experts working in the fields of nutrition, health, agriculture, education, finance, and other relevant fields to begin the nutrition advocacy planning process using PROFILES. During the meeting, participants will discuss a time period for the estimates created in PROFILES, identify data sources for indicators used in the PROFILES spreadsheet to create the estimates, discuss possible targets for the indicators, *[and have initial discussions on nutrition costing].* Participants will also discuss and identify nutrition advocacy needs at the national level.

The stakeholder meeting objectives include discussion of:

- The current nutrition situation in [insert country] and government priorities
- Time period for PROFILES
- Data sources for information and targets to be used as input for PROFILES
- Nutrition advocacy needs in [insert country]
- *[Possible nutrition interventions to be costed]*

Months 3–6: PROFILES workshop

A 2.5-day consultative workshop is the next step in developing PROFILES estimates. The core working group will actively contribute, ensuring broad ownership and involvement, increasing the likelihood of a unified and harmonized approach to nutrition advocacy across the country. Workshop participants will build on the work done during the stakeholder meeting on sources of information, time period, and targets for PROFILES. Participants will work with PROFILES spreadsheet models to produce preliminary estimates of the negative consequences if there is no improvement in malnutrition in the country (expressed as number of deaths, permanent disabilities, human capital losses, and economic productivity losses), and of benefits from improved nutrition (expressed as lives saved, disabilities averted, human capital gains, and economic productivity gains).

The workshop objectives are to complete the PROFILES spreadsheets and generate preliminary results. The next step is to finalize a PROFILES Final Report along with a summary version.

[If applicable] Months 3–15: Nutrition Costing consultations and present preliminary results

To begin developing Nutrition Costing estimates, individual and/or group consultations will be held with key multisectoral stakeholders and health economists. During the consultations, stakeholders will engage collaboratively in defining the assumptions upon which the costing estimates will be based—for instance, selecting necessary interventions and activities, and defining a management structure for service provision—which helps to identify the required inputs for each activity, and to estimate the program cost for a specified time period.

Consultation objectives include:

- To determine nutrition interventions for costing and identify required inputs for each activity
- To develop initial cost estimates for a national nutrition program

A consultative meeting will be held to present the preliminary results of Nutrition Costing for input and feedback from stakeholders. The next step is to finalize a Nutrition Costing Final Report along with a summary version. This can be combined with the PROFILES Final Report.

Months 3–12: Nutrition advocacy plan and material workshop

Building on current advocacy efforts to create an enabling environment for nutrition programs, a 4-day workshop at the national level will identify nutrition problems, prioritize interventions to improve nutrition, establish advocacy objectives, and identify the steps needed to achieve

those objectives. The process will include segmenting target audiences (e.g., media, policymakers, politicians, civil society, etc.) and determining materials and activities for each audience based on desired changes and perceived barriers and benefits among each audience. In addition, the national nutrition advocacy plan would include an implementation plan with a timeline and monitoring and evaluation indicators to help track progress. During the workshop, participants would also develop creative briefs to guide the development of advocacy materials for each target audience. See Annex A for an illustrative example of a national nutrition advocacy plan.

The workshop objectives include:

- To develop an initial harmonized multisectoral strategic nutrition advocacy plan, which includes a timeline for advocacy activities and development/dissemination of materials
- To draft creative briefs to guide the development of advocacy materials for each target audience

As a next step, nutrition advocacy materials that correspond with the nutrition advocacy plans should be developed and finalized with input from core working group members.

Ongoing: Support Implementation of the Nutrition Advocacy Plans using PROFILES [and national and/or subnational Nutrition Costing] Estimates

Implementation of the nutrition advocacy plans includes conducting advocacy outreach with target audiences at national and subnational levels to disseminate PROFILES *[and Nutrition Costing]* results using the nutrition advocacy materials.

[If needed] Annex A. Sample Nutrition Advocacy Plan

[Please note: this strategy is illustrative to provide an example of how the plan would be organized and seek suggestions for improving it. The information in the table is not intended to be the plan for [insert country]—it will be country/context specific.]

Country X has used the PROFILES tool to estimate the consequences of undernutrition and micronutrient deficiencies in the country and conducted various mapping and situational analyses to understand the profile of nutrition in the country. A task team composed of the Ministry of Health, Ministry of Agriculture, Ministry of Finance, Ministry of Education, United Nations agencies, USAID, academia, and implementing partners has developed a plan of follow-up advocacy activities. The first activity was to determine a strategic advocacy approach to achieve increased funding and support for nutrition activities, and develop/adapt and disseminate advocacy materials.

The team participated in a consultative workshop to develop the following advocacy plan and to develop draft nutrition advocacy materials. This process included determining key audiences and tailoring planned activities and materials to each audience based on desired changes and perceived barriers and benefits among each audience. The activities outlined in the following advocacy plan are expected to contribute to increased visibility and resources for nutrition in the health, agricultural, education, and gender sectors.

This plan focuses on advocacy as the first phase of the communication approach to build support for an enabling environment for nutrition targeting media, politicians, policymakers, and civil society. The second phase will build on advocacy while also focusing on behavior change communication and social mobilization to ignite change. This phase will build on existing interventions that target those most affected by the problem (e.g., pregnant and lactating women, children under 5, and adolescents) as well as those who directly influence them (e.g., caregivers of children under 5, husbands/partners, relatives, neighbors and peers, community media, teachers, health workers/extension workers, traditional healers, community and religious leaders, etc.).

Sample Nutrition Advocacy Plan

Problem	Undernutrition remains a widespread problem that has not improved much in recent years. While nutrition plays a crucial role in health, education, and economic productivity, opinion leaders and decision makers do not recognize nutrition as a key issue and there is little intersectoral collaboration. There is little understanding of the effects of undernutrition on society and no real pressure from the public to hold the government accountable for combating malnutrition. In fact, there is a perception that nutrition is an individual problem, has not been a priority at the government level, and therefore funding for nutrition is low and there are few nutrition champions at any level.
Changes the Problem Calls For	Advocacy should support the following changes: a) Increased funding b) A wide social movement to rally support for nutrition services c) Nutrition champions who vocalize nutrition issues at all levels—national, regional, and local d) Skilled staff to undertake action planning for nutrition at the district and community levels
Final Audience Segmentation	**Those Most Affected by the Problem:** • Pregnant and lactating women • Children under 5 years of age • Adolescents • People with infectious diseases, such as HIV and tuberculosis **Those Directly Influencing the Most Affected:** • Caregivers of children under 5 (including mothers and fathers) • Husbands/partners of pregnant and lactating women • Relatives of pregnant and lactating women and caregivers of children under 5, including siblings, in-laws, and extended family • Neighbors and peers of caregivers and mothers of children under 5 • Community media • Health workers/extension workers • Traditional healers • Teachers • Community leaders including Chiefs and Queen Mothers • Religious leaders

	Those Indirectly Influencing the Most Affected: • Media practitioners including journalists and gatekeepers (i.e., editors and producers in television, radio, print, and online) • Policymakers • Politicians • Civil society • Officials at district and regional levels • Food value chain operators including farmers, food processors, distributors, and sellers • Development partners and large nongovernmental organizations
Strategic Approach/ Framing	In order to create an enabling environment, an advocacy approach is needed. The first phase will target media, politicians, policymakers, and civil society. A mutually reinforcing mix of activities that include events, workshops and trainings, print materials, and one-on-one meetings with selected influential individuals will build a critical mass of nutrition advocates and promote a national coordinated effort on nutrition. The second phase will target those most affected by the problem (e.g., pregnant and lactating women, children under 5, adolescents, and those with infectious diseases) as well as those who directly influence them (e.g., caregivers of children under 5, husbands/partners, relatives, neighbors and peers, community media, teachers, health workers/extension workers, traditional healers, community and religious leaders, etc.). This will entail expanding the scope of the campaign to include behavior change communication and social mobilization.
Advocacy Activities and Materials	A combination of: • Information sheets and other print materials • Presentations/guides • Workshops, seminars, and trainings with commitment to action • One-on-one meetings • Video documentary • Media outreach and press briefings (with TV, radio, and print coverage as an outcome)

Desired Changes, Barriers, Advocacy Intents, and Advocacy Activities and Materials	**AUDIENCES INDIRECTLY INFLUENCING THOSE MOST AFFECTED (Advocacy Audiences):** **Media** *Desired Changes:* Increased number of accurate reports on nutrition issues in television, radio, print, and online media that increases awareness among the public about the importance of nutrition. *Key Barriers*: • Inaccurate information on nutrition and its impact on health, education, and development • Low priority of nutrition issues with the media • Lack of skills of media to conduct investigative journalism and link nutrition to development • Lack of motivation and incentives to report on nutrition *Advocacy Intent:* By the end of 2015, there will be an increase in the number of media houses and media practitioners with adequate skills, information, and understanding of the benefits of reporting on nutrition issues. *Advocacy Activities and Materials* • Roundtable discussions/workshops • Press briefing • Seminars • Five-day targeted workshop for promising "nutrition champions" • Media monitoring to determine how nutrition and health issues are reported in the media **Policymakers (specific agencies listed)** *Desired Changes:* High prioritization of nutrition across government sectors reflected in increased collaboration among sectors and more resources allocated for the implementation of nutrition interventions. *Barriers:* • Competing programs at the national level • Lack of appreciation for the benefits of nutrition • Insufficient information on investment needed for nutrition *Advocacy Objective*: By the end of 2015, there will be an increase in the number of policymakers who understand the significance of nutrition issues on health, education, and development and the need for a coordinated national response to undernutrition. *Advocacy Activities and Materials* • Advocacy seminar • One-on-one meetings with select policymakers • Press conference **Politicians at all levels** *Desired Changes*: Nutrition champions at every level to position nutrition as a development strategy and increase investment for nutrition. *Barriers*: • Low awareness of nutrition and its impact on health, education, and development • Low priority of nutrition • Competing demand for resources *Advocacy Intent*: By the end of 2015, there will be an increase in key legislation to support nutrition.

	Advocacy Activities and Materials • Half-day retreat • Briefing packet • Stakeholder meeting **Civil Society Organizations (CSOs)** *Desired Changes:* Increased involvement of CSOs as champions for nutrition and increased influence in their communities. *Barriers:* • Low awareness of nutrition and its impact on health, education, and development in their communities • Limited skills and resources to be nutrition advocates/champions *Advocacy Intent*: By the end of 2015, there will be an increased number of CSO staff who act as advocates/champions for nutrition. *Advocacy Activities and Materials* • Seminars/stakeholder meetings with CSOs at the national level • Professional and other association meetings (e.g., Farmers and Fishermen, Nutrition and Dietetic Association, women's groups) • Seminars/stakeholder meetings with CSOs at the regional level • One-on-one meetings with targeted leaders and identified advocates within CSOs at the national, regional, and district levels • Training of advocates

Sample Implementation Plan Matrix

[This section will outline activities for specific target groups and identify necessary inputs, timeline, who is responsible, and how this work will be tracked.]

Target Group: ***[separate sections for media, policymakers, politicians, CSOs, and different behavior change communication audiences]***						
Activity	**Materials**	**Timeline**	**Proposed Responsible Organizations**	**Possible Supporting Organizations**	**Indicators**	**Means of Verification**

Target Group: ***[separate sections for media, policymakers, politicians, CSOs, and different behavior change communication audiences]***						
Activity	**Materials**	**Timeline**	**Proposed Responsible Organizations**	**Possible Supporting Organizations**	**Indicators**	**Means of Verification**

Template: Agenda for Stakeholder Meeting

Agenda for Stakeholder Meeting on Nutrition Advocacy using PROFILES *[and Nutrition Costing]*

Time	Session	Speaker/ Facilitator
8:30–9:00 a.m.	Registration	
9:00–10:00 a.m.	Welcoming Remarks from the Government of [insert country] and donor [insert country] Purpose of Meeting	[insert speakers]
10:00–10:30 a.m.	Overview of the Nutrition Situation in [insert country]	[insert speakers]
10:30–10:45 a.m.	Break	
10:45–11:05 a.m.	Global Progress on Nutrition	[insert speakers]
11:05–11:25 a.m.	Overview of Nutrition Advocacy Process using PROFILES *[and Nutrition Costing]*	[insert speakers]
11:25–11:45 a.m.	Approach Used in PROFILES	[insert facilitators]
11:45 a.m.–12:20 p.m.	Discussion of Time Period for Estimates	[insert facilitators]
12:20–12:30 p.m.	Introduction to Group Work	[insert facilitators]
12:30–1:30 p.m.	Lunch	
1:30–3:00 p.m.	Discussion in Groups: 1. Data Sources and Targets for Estimates • Anthropometry and Low Birth Weight • Micronutrients • Breastfeeding • Employment and Education • Risk Factors of Stunting 2. Advocacy Needs 3. [Nutrition Costing]	[insert facilitators]
3:00–4:40 p.m.	Plenary Discussion from Groups: Data Sources and Targets for Estimates	[insert facilitators]
4:40–5:20 p.m.	Plenary Discussion from Groups: Advocacy Needs *[and Nutrition Costing]*	[insert facilitators]
5:20–5:30 p.m.	Wrap-up and Way Forward (followed by tea/coffee)	[insert facilitators]

Template: Agenda for PROFILES Workshop

DAY ONE	
Time	**Session**
8:30–10:00 am	Session 1: Welcome and Introduction to the PROFILES Workshop
10:00–10:45 am	Session 2: Review of the Nutrition Advocacy Approach and Overview of Stakeholder Meeting (revise if stakeholder meeting was not held)
10:45–11:00 am	Break
11:00 am–12:00 pm	Session 3: Scientific Basis for PROFILES
12:00–12:30 pm	Session 4: Approach and Assumptions Used in PROFILES Spreadsheet Models
12:30–1:30 pm	Lunch
1:30–2:15 pm	Session 5[19]: Considerations for Setting the Time Period for PROFILES Estimates
2:15–3:30 pm	Session 6: Time Period, Available Information Sources, and Targets
3:30–3:45 pm	Tea Break
3:45–5:15 pm	Session 6 (continued): Discussion of Time Period, Available Information Sources, and Targets
5:15–5:30 pm	Wrap-Up

DAY TWO	
Time	**Session**
8:30–9:00 am	Session 7: Recap of Day One and Scoreboard Updates
9:00–10:00 am	Session 8: Demography and Other Indicators Needed for PROFILES
10:00–10:30 am	Session 9: Introduction to *PROFILES Spreadsheet Workbook*
10:30–10:45 am	Tea Break
10:45 am–12:30 pm	Session 10: Introduction to Nutrition and Health in PROFILES–Concurrent Sessions: 1. Anthropometry 2. Micronutrients 3. Low birth weight/breastfeeding
12:30–1:30 pm	Lunch
1:30–2:00 pm	Plenary Report-Out
2:00–2:45 pm	Session 11: Introduction to Nutrition's Impact on Human Capital (Learning) and Economic Productivity Outcomes—Concurrent Sessions: 1. Stunting and low birth weight (if applicable) 2. Anemia and iodine deficiency
2:45–3:15 pm	Plenary Report-Out
3:15–3:30 pm	Tea Break

[19] This session is optional if a stakeholder meeting is held, since the time period may have been discussed and decided upon during the stakeholder meeting.

3:30–4:30 pm	Session 12: Introduction to Addressing Risk Factors to Reduce Stunting— Concurrent Sessions: 1. Inadequate dietary diversity and stunting 2. Teenage pregnancy and stunting
4:30–5:15 pm	Plenary Report-Out
5:15–5:30 pm	Wrap-Up

DAY THREE	
Time	**Session**
8:30–9:00 am	Session 13: Recap of Day Two
9:00–10:30 am	Session 14: Gallery Walk: Review of Preliminary Estimates from PROFILES
10:30–10:45 am	Tea Break
10:45 am–12:15 pm	Session 15: Discussion of Advocacy Needs
12:15–1:00 pm	Session 16: Next Steps/Wrap-Up
1:00–2:00 pm	Lunch

Handout: Frequently Asked Questions

Frequently Asked Questions on the Use of PROFILES and Nutrition Costing for Nutrition Advocacy

1. What is PROFILES?

Developed to support nutrition advocacy, PROFILES consists of a set of computer-based models that calculate consequences if malnutrition does not improve over a defined time period (e.g., for the next 10 years) and the benefits of improved nutrition over the same time period, including lives saved, disabilities averted, human capital gains, and economic productivity gains. To calculate estimates, PROFILES requires current country-specific nutrition data that are identified and agreed upon in collaboration with stakeholders in the country. PROFILES results can be used to engage government and other high-level stakeholders in a collaborative nutrition advocacy process to identify, prioritize, and advocate for evidence-based actions to reduce malnutrition. Such actions may include developing or refining policies, implementing existing policies, identifying priority geographic areas in which selected interventions should be focused, scaling up current interventions, and introducing new nutrition interventions, among others.

2. What nutrition problems and consequences are addressed in PROFILES?

PROFILES calculates the reduction in permanent disabilities, childhood overweight/obesity, and mortality, as well as the gains in economic productivity and human capital that can result from reduction in the prevalence of several nutrition problems, such as iron deficiency anemia; low birth weight; vitamin A deficiency; iodine deficiency; suboptimal breastfeeding practices; and childhood stunting, underweight, and wasting. PROFILES also calculates estimates for two risk factors of stunting: inadequate dietary diversity and teenage pregnancy.

3. What is nutrition costing?

Nutrition costing estimates the costs of implementing a comprehensive nutrition program or a set of nutrition interventions in a country or prioritized geographic area over a specific time period. Nutrition costing is developed in-country, considering the country-specific context, and is the result of a collaborative and participatory process during which multisectoral stakeholders define the assumptions on which nutrition costing is based—for instance, selecting necessary interventions and activities, and defining a management structure for service provision. This, in turn, allows identification of the required inputs for each activity and estimation of the program cost for a specified time period.

4. What is the difference between PROFILES and nutrition costing?

The estimates generated using PROFILES or nutrition costing answer different questions. PROFILES answers the question: What are the consequences if nutrition does not improve over a given time period or, conversely, what are the benefits if nutrition improves over the same time period? The PROFILES estimates are presented in terms of health and development outcomes, such as lives saved or economic productivity gains. PROFILES gives you estimates

that support the argument for why investing in nutrition is important and helps raise national awareness that malnutrition is a problem in a given country. However, it does not tell you how much it will cost a country to provide nutrition services to improve the nutrition situation.

In contrast, nutrition costing, like health costing, answers the question: How much will it cost to implement nutrition programs or interventions in a given country or prioritized geographic area over a specified time period? Costing in general is a useful approach for forecasting and planning the budget allocation required for specific services, but it is also useful for advocacy to increase the funding allocated to nutrition. As such, nutrition cost estimates complement PROFILES estimates. In fact, relative to PROFILES estimates, cost estimates are more tangible in that they provide policymakers with an estimate for how much they need to invest in nutrition each year in local currency amounts. Like PROFILES estimates, nutrition cost estimates can also be projected to a population level over multiple years.

5. Are the PROFILES tool and nutrition costing linked?

No, they are not linked. PROFILES estimates the consequences of not adequately addressing a country's nutrition problem over a defined time period and the benefits that result from improvements in nutrition based on country-specific data used in formulas supported by global evidence. These formulas can be used across multiple countries because the adverse consequences of malnutrition on development outcomes have been shown to be fairly consistent across multiple countries and settings. Nutrition costing relies on local data because the costs of goods and services vary from one country context to another. As such, PROFILES and nutrition costing show estimates that answer different questions. However, the resulting estimates from the two models are complementary and together are useful to inform both policy and planning in a given country context. Together, they can help advance the dialogue on nutrition, convincing policymakers and program planners that investment in nutrition is critical because it leads to multiple benefits while the cost of nutrition programming is relatively low.

6. What is advocacy and how does it work?

Advocacy is a planned process to ignite social change for an issue or a cause. Advocacy can be directed toward changing public opinion—for example, through the media or civil society—and can use pre-existing awareness of an issue to promote and advance social change. Advocacy can also be directed to policymakers, parliamentarians, politicians, and government officials who have decision-making authority to change and advance laws, policies, and initiatives and create an enabling environment for improved practices and attitudes in support of an issue or cause.

7. How can advocacy be used to improve nutrition?

Nutrition advocacy is a planned, systematic, and deliberate process that is defined and shaped by the specific country context. FANTA's nutrition advocacy planning process engages national stakeholders by using a participatory and consensus-building approach toward a shared national vision for nutrition. It can support a given country at any stage along the way to

providing nutrition services and reducing malnutrition. A central focus of this process is to promote accountability for nutrition and strengthen nutrition governance. For example, it can serve to support the development of a nutrition policy, investment of resources to strengthen and expand implementation of nutrition services, and greater coordination between government and nongovernmental organizations that play a role in providing nutrition services across a country. By examining the context of the nutrition situation and tailoring advocacy needs to that situation, advocacy can be more effective in igniting change and making strides toward the desired outcome.

8. What are the key elements of FANTA's nutrition advocacy planning process?

The three key elements of FANTA's nutrition advocacy planning process are:

4. Nutrition Advocacy Plan and Material Development
5. PROFILES
6. Nutrition Costing

Each element builds on and mutually reinforces the others. For each of these elements, the guiding principles are that:

1. A consensus-building and participatory approach is used at the country level to promote a shared vision for achieving nutrition objectives and use the most credible data and information available as identified by in-country stakeholders, which lends credibility to the process and results.
2. The process considers the country context, and materials are tailored accordingly.
3. All the steps are completed to ensure a systematic and impactful process.

9. What is nutrition advocacy plan and material development?

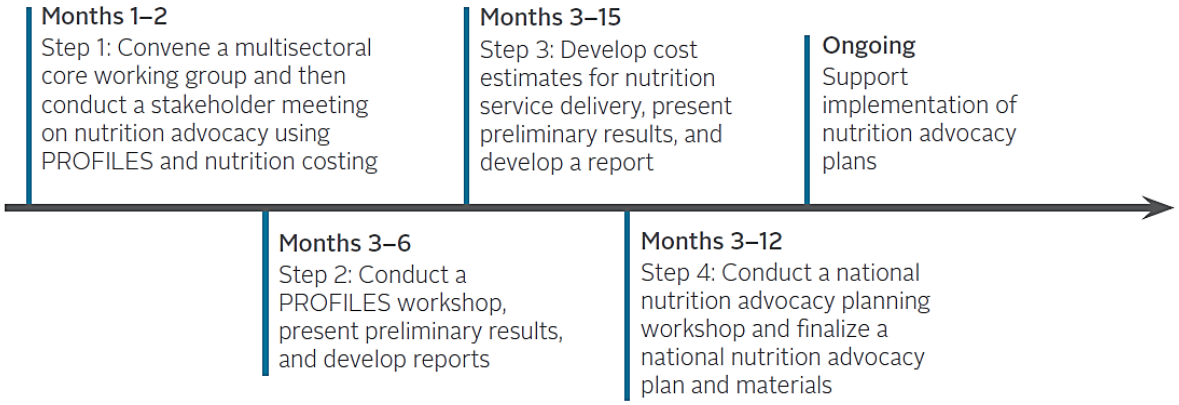
A nutrition advocacy plan is developed to identify key audiences to be targeted by nutrition advocacy and determine a specific call to action for each. This is a critical step in the process as the plan lays out how to conduct nutrition advocacy in a systematic and coordinated way with all partners in a country. In addition, the plan identifies monitoring and evaluation (M&E) indicators to track progress in achieving nutrition advocacy outcomes. Nutrition advocacy materials that support implementation of the nutrition advocacy plan are then developed, building upon and using results from the estimates generated from PROFILES and nutrition costing.

10. How long does the nutrition advocacy planning process take and what are the follow-up steps?

The length of time this nutrition advocacy planning process takes depends on the country context. However, most countries typically take between 1 year and 18 months, depending on whether nutrition costing is part of the process. Nutrition costing typically takes about 12-18 months to complete due to the need to identify and use locally available data to develop cost estimates. Once the nutrition advocacy planning process has been completed in a country,

support for the implementation of the nutrition advocacy plans may be needed depending on the country context. The four steps in this manual are the initial planning phase for nutrition advocacy in a country, and they allow for strategic and coordinated nutrition advocacy outreach to be completed over several years as a next step. In order to move the nutrition agenda forward in a country, implementation of the nutrition advocacy plans is essential after these initial four steps are completed. Also, nutrition advocacy plans and materials may need to be updated every 2–5 years depending on the country context, while PROFILES and nutrition costing estimates should be updated about every 10 years (depending on availability of new survey data).

Illustrative Timeline and Key Steps for Nutrition Advocacy Planning Process Using PROFILES and Nutrition Costing



11. What data are needed for PROFILES and nutrition costing?

For any given country, PROFILES requires country-specific data on the starting prevalence of various nutrition problems; information on key demographic, economic, and education indicators; and assumptions about what the targets for improvement in nutrition should be. Nutrition costing requires country-specific data on local unit costs of goods and services and population projections. Assumptions are made about the structure of the nutrition program, the scale of services to be provided, and the types of interventions or services that will be included. The information needed for PROFILES is country-specific secondary data. Because these estimates can inform the national planning process for investment in nutrition, it is important to obtain general agreement and consensus in the country on the information sources to use to populate the models and agreement that the information used in the models is deemed the most representative and acceptable by national experts.

Handout: Scientific Basis for the Nutrition Problems and Consequences Addressed in PROFILES

PROFILES estimates reductions in the number of deaths and permanent disabilities, reductions in childhood overweight/obesity, and the gains in human capital and economic productivity that can result from improvement in the prevalence of several nutrition indicators, namely, iron deficiency anemia; low birth weight; suboptimal breastfeeding practices; vitamin A deficiency; iodine deficiency; and childhood stunting, underweight, and wasting. Each nutrition indicator has a model in PROFILES that is based on the evidence in the scientific literature that demonstrates an association between that nutrition indicator and an outcome of interest. For example, stunting, underweight, and wasting are leading causes of child mortality. In addition, human capital losses attributed to stunting are related to poor cognitive development that can result in less learning over time. Economic productivity losses attributed to stunting and iodine deficiency also are related to poor physical and cognitive development, which affect school performance and, later in life, earning potential. Economic productivity losses related to iron deficiency anemia among adults reflect decreased capacity to do manual labor. The following figure shows the nutrition indicators for which PROFILES calculates consequences. For each nutrition indicator listed that is assumed to improve, PROFILES calculates a corresponding improvement in a specific health, human capital, or economic outcome in terms of lives saved, human capital gained, or economic productivity gained, respectively. The table also provides the rationale and evidence base used to develop each model.

Figure Nutrition Problems Addressed in PROFILES and the Benefits of Reducing Various Forms of Malnutrition on Health, Economic, and Human Capital Outcomes

↓ Maternal anemia	→	↓ Maternal and perinatal mortality
↓ Low birth weight	→	↓ Infant mortality
↓ Suboptimal breastfeeding practices	→	↓ Child mortality ↓ Child overweight/obesity
↓ Late initiation of breastfeeding	→	↓ Neonatal mortality
↓ Vitamin A deficiency	→	↓ Child mortality
↓ Iodine deficiency	→	↓ Permanent disabilities in children
↓ Childhood stunting, underweight, and wasting	→	↓ Child mortality
↓ Stunting	→	↑ Human capital
↓ Stunting, anemia, and iodine deficiency	→	↑ Economic productivity

Table: Scientific Basis for Each of the Nutrition Indicators Included in the *PROFILES Spreadsheet Workbook*

This table provides information on the rationale and assumptions for each nutrition problem that is used in the *PROFILES Spreadsheet Workbook*. For each outcome or consequence of malnutrition, the potential benefits of reducing malnutrition according to specified targets[a] are calculated, expressed in terms of deaths averted, productivity gained, etc."

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Estimated Reductions in Death, Disability, and Obesity			
Stunting, underweight, and wasting among children under 5 years related to under-5 child mortality Children 0–59 months of age with low height-for-age, weight-for-age, and weight-for-height, by severity level (moderate, severe) (%)	PROFILES calculates mortality related to each anthropometric indicator of undernutrition (stunting, underweight, and wasting) by degree of severity using odds ratios from Olofin et al. (2013) as cited in Black et al. (2013). These odds ratios of mortality for each grade of malnutrition are: • Stunting: mild 1.5, moderate 2.3, severe 5.5 • Underweight: mild 1.5, moderate 2.6, severe 9.4 • Wasting: mild 1.6, moderate 3.4, severe 11.6 PROFILES estimates the prevalence of mild stunting, underweight, and wasting from those reported for moderate and severe, assuming that the associated indicators (height-for-age, weight-for-age, and weight-for-height) are normally distributed. Because many children with malnutrition can have more than one form of malnutrition at any given time (e.g., concurrent stunting and wasting or concurrent underweight and wasting), deaths related to each of these indicators cannot be totaled.	For each anthropometric indicator, the population attributable fraction (PAF) is calculated as a function of the prevalence of each severity category (mild[b], moderate, and severe) and the relative risk. The total number of deaths among children 6–59 months of age is then multiplied by the PAF to determine the number of deaths related to each form of undernutrition.	Child mortality: number of deaths among children 6–59 months of age (often referred to as "under-5s") when results/estimates are reported related to each kind of undernutrition (stunting, underweight, and wasting), broken down by severity category and for all severity categories combined.

c. Improved scenario targets for a reduction in the prevalence of mild, moderate, and severe categories of malnutrition (stunting, underweight, and wasting) are based on a target reduction in the combined prevalence of moderate and severe malnutrition. To avoid setting targets for different severity categories that violate the principles of the normal distribution, PROFILES allocates a single target reduction across all severity categories in a way that is consistent with and preserves the normal distribution of z-scores. PROFILES uses a spreadsheet function for the normal distribution to translate a given single target prevalence of malnutrition (moderate plus severe) to a corresponding increase in the mean z-score using a standard deviation that may vary. The default value for this standard deviation is the mean of an assumed standard deviation of z-scores in the current (malnourished) population (based on analysis of DHS datasets from many surveys) and one, the standard deviation in the reference population. Then, using the same standard deviation, a spreadsheet function for the normal distribution is used to calculate a target prevalence for each severity category (mild, moderate, and severe).

d. PROFILES estimates the consequences of three kinds of malnutrition (underweight, stunting, and wasting) for each of three severity categories (mild, moderate, and severe). Often only the prevalence of moderate and severe malnutrition is reported. In this situation PROFILES uses a spreadsheet function for the normal distribution to calculate the prevalence of mild growth deficit, using the known prevalence of moderate plus severe as the probability, the mean z-score, and a standard deviation that differs from the standard normal assumption. The value of the standard deviation for this purpose is a variable in the PROFILES model that has been determined by analysis of DHS datasets from many surveys.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Anemia during pregnancy related to maternal and perinatal mortality Pregnant women with low hemoglobin (Hb < 11 g/dl) (%)	Anemia during pregnancy is an important contributor to maternal mortality, including through an increased risk of death from postpartum hemorrhage. Anemia during pregnancy also contributes to perinatal mortality, e.g., through increasing the risk of preterm delivery. The PROFILES spreadsheets calculate the contribution of iron deficiency anemia to maternal and perinatal deaths based on the work by Stoltzfus et al. (2004) with updated relative risk information for maternal deaths from Black et al. (2013), and presuming that 50% of anemia is due to iron deficiency (an assumption that was also made by Stoltzfus et al.). The relative risks (RRs) used in PROFILES are: • RR of maternal mortality related to a 1 g/dl increase in hemoglobin: 0.71 • RR of perinatal mortality related to a 1 g/dl increase in maternal hemoglobin: 0.72 (for countries in Africa) or 0.84 (elsewhere)	Mean hemoglobin among pregnant women is calculated as a function of the prevalence of anemia, the cutoff level to define anemia (11 g/dl), and the standard deviation of anemia (derived from the prevalence of anemia[c]). The model similarly calculates the mean hemoglobin level in the absence of iron deficiency as a function of the same variables and the proportion of anemia due to iron deficiency. The population attributable fraction (PAF) is then calculated from the difference between these two mean hemoglobin estimates and the RR of maternal (or perinatal) death associated with a 1 g/dl increase in hemoglobin. The number of deaths related to iron deficiency anemia is then calculated by multiplying the PAF by the current number of maternal (or perinatal) deaths.	Maternal mortality and perinatal mortality: number of maternal and perinatal deaths due to iron deficiency anemia during pregnancy.

c. Stoltzfus et al. (2003) provide estimates of the standard deviation of hemoglobin level as a function of iron deficiency, with larger standard deviations observed in populations where anemia prevalence is higher. The authors report the standard deviation differences as a stepwise pattern: When the anemia prevalence is less than 15%, the SD is 1; when anemia is greater than 15% but less than 30%, the standard deviation is 1.2; and when anemia is greater than 30%, the standard deviation is 1.5. In PROFILES, which uses the country-specific anemia prevalence and the standard deviation (from Stoltzfus) to estimate mean hemoglobin levels, these steps can—for some years in the improved scenario—lead to incongruous and contradictory results at transition points, where one estimate jumps to the next, so that mortality (a function of the mean hemoglobin level) may appear to go up as anemia prevalence goes down. PROFILES therefore uses the same information but smooths the change in SD across these prevalence boundaries in a way that preserves the expected continuity in the relationship between anemia and its consequences.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Vitamin A deficiency (VAD) related to mortality among children 6–59 months of age Children 6–59 months with low serum retinol (including mild, subclinical VAD) (%)	Children with severe VAD are at risk of blindness resulting from xerophthalmia and corneal ulceration. Mild VAD, which is much more widespread, increases the risk of dying from common childhood diseases (e.g., diarrhea and measles). The relative risks (RR) used in PROFILES is: • RR of mortality related to mild VAD > 6 months: 1.75[d]	The population attributable fraction (PAF) of child deaths related to VAD is calculated as a function of the prevalence of VAD and the relative risk. Child deaths related to VAD are estimated by multiplying the PAF by the total number of child deaths.	Child mortality: number of deaths related to VAD among children 6–59 months of age.
Low birth weight (LBW) related to infant mortality Newborns with low birth weight (%)	LBW, defined as a weight of < 2,500 g at birth, can be caused by preterm birth and/or intrauterine growth retardation. Using information from literature on increased risk of neonatal or post-neonatal mortality among infants with LBW (Alderman and Behrman 2004) and country-specific LBW information and mortality rates, PROFILES calculates the population attributable fraction and excess number of deaths related to LBW. The relative risks (RRs) used in PROFILES are: • RR of neonatal death related to LBW: 4 • RR of post-neonatal infant death related to LBW: 2	The population attributable fraction (PAF) of infant deaths related to LBW is calculated as a function of the prevalence of LBW and the RR of neonatal and post-neonatal death due to LBW. Infant deaths related to LBW are then estimated by multiplying the PAF by the total number of neonatal and post-neonatal deaths.	Neonatal and post-neonatal mortality: number of infant deaths related to LBW.

d. A meta-analysis of vitamin A supplementation trials concluded that children 6–59 months who received vitamin A supplements were, on average, 23% less likely to die than children not receiving supplements (Beaton et al. 1993). The relative risk of death among children with vitamin A deficiency, compared with non-deficient children, is derived from findings presented in that publication and found to be 1.75 (Jay Ross, personal communication, August 2016).

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Suboptimal breastfeeding practices related to mortality among children under 2 years Children under 2 years suboptimally breastfed, by age group (0–5 months and 6–23 months) and suboptimal breastfeeding practices (%)	Suboptimal breastfeeding practices (no breastfeeding, partial breastfeeding, or predominant breastfeeding when children are 0–5 months vs. exclusive breastfeeding; and no breastfeeding among children 6–23 months vs. any breastfeeding) are an important contributor to infant and young child mortality due to an increased risk of infection. Using information from literature on increased risk of infant mortality due to suboptimal breastfeeding by Lamberti et al. (2011) and country-specific breastfeeding information, PROFILES calculates the population attributable fraction (PAF) and the excess number of deaths (among children 0–5 months and 6–23 months) related to suboptimal breastfeeding. PROFILES uses the following relative risks (RRs): • RR of all-cause mortality, predominant breastfeeding vs. exclusive breastfeeding (0–5 months): 1.48 • RR of all-cause mortality, partial breastfeeding vs. exclusive breastfeeding (0–5 months): 2.84 • RR of all-cause mortality, no breastfeeding vs. exclusive breastfeeding (0–5 months): 14.4 • RR of all-cause mortality, no breastfeeding vs. partial breastfeeding (6–23 months): 3.69 For more information on this model see Oot et al. 2015 under the *Additional Reading List.*	For each suboptimal breastfeeding practice, the PAF is calculated as a function of the prevalence and the RR. Deaths in the relevant age group (0–5 months and 6–23 months) related to suboptimal breastfeeding are then calculated by multiplying the PAF by the total number of deaths in that age group.	Under-2 child mortality: number of deaths among children 0–5 and 6–23 months of age related to suboptimal breastfeeding.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Late initiation of breastfeeding (≥ 1 hour after birth) related to neonatal mortality	Late initiation of breastfeeding (after the first hour) increases the risk of death in the neonatal period (first 28 days). With recent declines in infant and child mortality globally, the prevention of neonatal mortality has become a higher priority. Research on the link between the initiation of breastfeeding and neonatal mortality can be difficult to interpret because newborns at highest risk of death may not be able to breastfeed in the first hour, because of either their illness or their treatment, a classic example of reverse causality. Virtually all research on the link between late initiation and neonatal mortality therefore excludes deaths in the first 2 days, when 55% of neonatal deaths occur (Sankar 2016). PROFILES uses a relative risk (RR) of death on days 3–27 among "ever breastfed" infants of 1.53, derived by pooling the analyses of Khan et al. (2015) and NEOVITA (2016). Population attributable fraction (PAF), calculated from the prevalence of late initiation and the RR, is used to calculate the number of neonatal deaths attributable to late initiation. These are in addition to any neonatal deaths that occur on the first 2 days (the majority) and any that occur among non-breastfed infants.	After excluding neonatal deaths among non-breastfed neonates and those occurring in the first 48 hours, PROFILES multiplies the PAF (calculated from the RR and the prevalence of late initiation) by the number of remaining neonatal deaths to estimate neonatal deaths related to late initiation of breastfeeding.	Neonatal mortality: number of neonatal deaths (in the first 28 days of life) related to the late initiation of breastfeeding.
Iodine deficiency in utero related to brain damage and disability Population with goiter (%)	Iodine deficiency is the main cause of preventable brain damage worldwide. Iodine deficiency among pregnant women and during the first few months of infancy leads to irreversible brain damage of various degrees of severity in the infant. Published literature finds an average reduction of up to 13.5 IQ points (Black et al. 2013) in affected communities.	Infants born with brain damage as a result of iodine deficiency are calculated as the goiter prevalence in the population multiplied by the total number of births.	Permanent disabilities: number of infants born with brain damage related to iodine deficiency during gestation.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Suboptimal breastfeeding related to future overweight and obesity at 48–59 months of age Exclusive breastfeeding for 6 months (%)	Infants who are not exclusively breastfed have a higher risk of overweight/obesity later in life (Horta et al. 2015). The PROFILES coefficient for this model is based on FANTA analysis of a subset of the 24 studies analyzed by Horta et al. Five studies were selected because they compared infants exclusively breastfed for 6 months with infants not exclusively breastfed for 6 months, and because the overweight/obesity outcome was observed later in childhood (at around 4 years) rather than in adolescence or adulthood. The pooled analysis of these five studies yields an odds ratio of 1.48, which is what is used in this PROFILES model. For more information on this model see Oot et al. 2016a under the *Additional Reading List.*	The PAF is calculated as a function of the prevalence of the risk factor (not being exclusively breastfed at 4–5 months) and the relative risk of obesity among children 4 years of age who were not exclusively breastfed for 6 months. The number of children age 4 years whose overweight or obesity is related to not exclusively breastfeeding for 6 months is then calculated by multiplying the PAF by the number of overweight and obese children age 48–59 months in the population.	Overweight and obesity among children 4 years of age: number of children 4 years of age whose overweight or obese is related to not being exclusively breastfed for 6 months.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Estimating Losses and Gains in Economic Productivity			
Stunting among children 24–35 months of age related to future productivity Children 24–35 months with low height-for-age (stunting), by severity level (moderate, severe) (%)	Growth deficit early in life is related to productivity loss in adulthood. PROFILES estimates the impact of growth deficit in children on future labor productivity based on the fact that stunting developed during the first 2 years of life is generally maintained throughout life and that the productivity of adults is related to their stature. Reduced adult stature due to stunting is a proxy indicator for various nutritional and other insults that can affect physical and mental development (the issue is not short stature per se). Using coefficients based on published scientific literature, PROFILES estimates reduced adult productivity related to both decreased physical capacity and reduced intellectual ability (affecting school achievement). Alderman et al. (2006) present evidence that a 5.1% reduction in child height results in a 14% reduction in lifetime earnings, suggesting an elasticity of productivity with respect to height of 2.7 (14/5.1), used by PROFILES to estimate the effect of severe and moderate stunting on the present value of future productivity.	The lifetime discounting factor (LDF) at age 2 is calculated as a function of the discount rate, workforce entry and exit ages, and expected survival. This LDF can be interpreted as the equivalent number of future years of productivity of the average child in the absence of stunting. The present value of future lifetime productivity of the current cohort of children 2 years of age is calculated as the product of the age-2 population, the average annual wage, the LDF, and the economic activity rate. The model uses coefficients derived from the 2006 World Health Organization Growth Standards that express moderate and severe stunting at 2 years of age in terms of proportional height deficits. These are then used with the elasticity of productivity with respect to height (2.7) and the prevalence of moderate and severe stunting to calculate the present value of the total reduction in future productivity associated with each category of stunting in the population.	Economic productivity losses related to stunting: present value of future productivity losses related to moderate and severe stunting among children 24–35 months of age.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Anemia among adult men and women related to productivity losses Women 15–64 years with low hemoglobin (%) Men 15–64 years with low hemoglobin (%) If data are only available for women of reproductive age: Women of reproductive age (15–49 years) with low hemoglobin (%)	Anemia among the working-age adult population contributes to reduced productivity for those engaged in physical labor, especially heavy physical labor. The PROFILES model uses the coefficients developed by Horton and Ross (2003) for the effects of iron deficiency anemia on reduced capacity to carry out any type of physical labor and heavy physical labor. Specifically, they estimate that the proportional reduction in productivity in manual labor among anemic adults is 5%, with a further reduction by 12% in heavy manual labor.	Productivity losses for each sex are calculated as the product of the number of adults of working age (15–64 years), the annual wage for manual labor, the economic activity rate in manual labor (and in heavy manual labor), the prevalence of anemia, and the proportional reduction in wages related to anemia (weighted to reflect the proportion of manual labor that is heavy).	Economic productivity losses related to anemia: value of productivity losses related to anemia among adult men and women 15–64 years of age and among non-pregnant women of reproductive age (15–49 years of age).

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Anemia among children related to future productivity losses Children under 5 and 5–14 years of age with low hemoglobin (%)	Anemia among children 0–14 years of age reduces future productivity both directly (by causing permanent cognitive deficits) and indirectly (by reducing learning). The PROFILES model is based on coefficients proposed by Horton and Ross (2003) who suggest that childhood anemia reduces future productivity by 2.5% and that this effect accumulates throughout childhood. Thus, each completed year of anemia "locks in" 1/15 of the total future productivity effect, from birth to the 15th birthday.	The lifetime discounting factor (LDF) for children 0–14 years of age is calculated as a function of the discount rate, workforce entry and exit ages, and expected survival. This LDF can be interpreted as the equivalent number of future years of productivity of the average child in the absence of anemia. The future lifetime productivity of the current cohort of children 0–14 years of age is calculated as the product of the current child population, the average annual wage, the LDF, and the economic activity rate. The total impact of anemia on future productivity accumulates over 15 years, so each year only 1/15 of this future lifetime productivity is at risk. PROFILES calculates the present value of the future productivity losses related to childhood anemia by multiplying 1/15 of the present value of future productivity by the anemia prevalence and the proportion reduction in future productivity related to anemia (0.025). Childhood is divided between children under 5 and children 5–14 years of age because anemia information is sometimes available for only one of these age groups.	Future productivity losses related to anemia among children: present value of future productivity losses among children under 5 and children 5–14 years of age currently with anemia.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Intrauterine iodine deficiency related to future productivity losses Population with goiter (%)	Iodine deficiency during pregnancy results in damage to the brain of the developing fetus, leading to permanent physical and intellectual disabilities ranging from cretinism to mild impairment. Using information from published literature, PROFILES assumes that the future productivity of children born to mothers with a goiter is reduced by 10.7%[e] to estimate the negative impact of intrauterine iodine deficiency (as reflected in the goiter rate).	The lifetime discounting factor (LDF) at birth is calculated as a function of the discount rate, workforce entry and exit ages, and expected survival. The future lifetime productivity of the current cohort of newborn children is calculated as the product of the number of live births, the average annual wage, the LDF, and the economic activity rate. This is then multiplied by the total goiter rate and the 10.7% productivity reduction among affected infants to estimate the present value of future productivity losses related to iodine deficiency during pregnancy.	Economic productivity losses related to iodine deficiency: present value of future productivity losses related to permanent impairment among infants born to mothers with iodine deficiency.
Low birth weight (LBW) related to future economic productivity Infants born with LBW (%)	LBW is related to future economic productivity through its relationship with fetal undernutrition and with stunting. The PROFILES model is based on the work of Alderman and Behrman (2004), who conclude that total productivity gain from preventing LBW is 5–10% of lifetime earnings, or a point estimate of 7.5%, divided between 2.2% from reduced stunting and 5.3% from improved cognitive development (directly and through its effect on schooling). A 7.5% increase in productivity from preventing LBW is equivalent to a proportional reduction in productivity (from LBW) of 7.5/107.5, or 0.07. PROFILES applies this reduction to the future lifetime productivity in all sectors of the economy.	The lifetime discounting factor (LDF) at birth is calculated as a function of the discount rate, workforce entry and exit ages, and expected survival. The future lifetime productivity of the current cohort of newborn children is calculated as the product of the number of live births, the average annual wage, the LDF, and the economic activity rate. PROFILES then calculates future productivity losses related to LBW by multiplying the present value of future productivity by the prevalence of LBW and the proportional reduction related to LBW (0.07).	Economic productivity losses related to LBW: present value of future productivity losses among infants born with LBW.

e. The percentage reduction in future productivity among infants born to mothers with goiter (10.7%) is derived from the following assumptions: 1) the prevalence among newborns of cretinism and moderate mental impairment is equal to 0.0343 and 0.1029, respectively, of the total goiter rate; 2) the prevalence of mild impairment is equal to the total goiter rate minus the combined total of cretinism and moderate impairment; and 3) the proportion of future productivity lost due to cretinism, moderate impairment, and mild impairment due to iodine deficiency is 1, 0.25, and 0.054, respectively.

Which nutrition problem—input	Why this model is justified—rationale/assumptions	How this model calculates the estimates	Which type of estimates are calculated—outcomes
Estimating Human Capital Losses and Gains in Terms of Learning			
Stunting among children related to human capital losses in terms of learning ability Children 24–35 months with low height-for-age, (moderate and severe stunting) (%)	Several studies have established an association between the early insult of stunting in young children and poorer cognitive development and school performance (Grantham-McGregor et al. 2007; Glewwe et al. 2001). Stunted schoolchildren perform less well in math and reading tests relative to their peers who were well nourished earlier in childhood. Poor performance on standardized educational tests as a result of poor cognitive development reflects a loss of learning potential that, over time, also affects learning. PROFILES uses 0.8 grade equivalents lost per school year per 1 standard deviation unit reduction in the mean height-for-age z-score, derived from the results of Glewwe et al. (2001). For more information on this model see Oot et al. 2016b under the *Additional Reading List.*	The "equivalent school years of learning" lost due to stunting are calculated as the product of the number of children 24–35 months of age in the population, the number of years of schooling per child according to the country's education policy (discounted to the present because these years are in the future), the mean height-for-age z-score for children 24–35 months (based on country-specific stunting prevalence), and the coefficient (0.8 grade equivalents lost per school year).	Loss of human capital related to stunting: equivalent school years of learning lost related to moderate and severe stunting among children 24–35 months of age.

Additional Models in PROFILES: Addressing Risk Factors of Stunting

PROFILES also estimates reductions in the prevalence of stunting related to two risk factors of stunting: inadequate dietary diversity and teenage pregnancy. These models were developed to bring additional attention to addressing stunting, one of the long-standing and intractable nutrition problems in many developing countries.

Many developing countries have succeeded in implementing programs at scale to iodize salt (to eliminate iodine deficiency) and distribute vitamin A capsules to supplement children under age 5 through child health days. For countries that have consequently reduced or eliminated iodine and vitamin A deficiencies and where wasting prevalence is below 5 percent, the more intractable problems that remain—for which PROFILES can calculate estimates—are stunting and iron-deficiency anemia. Interventions to address iron-deficiency anemia are relatively efficacious and effective, although programmatic implementation at scale remains difficult. In contrast, reducing stunting is more complex and requires a wide range of interventions implemented in tandem and at scale. For example, based on their estimates, stunting among children 2 years of age is attributable to 18 different risk factors in 137 developing countries (see figure). Danaei et al. (2016) conclude that programs to prevent stunting should shift from a narrow focus on infants and children to include improvements in the general living conditions of mothers and families. For the purposes of nutrition advocacy, it is therefore important to convey the complexity of reducing stunting and consider how addressing each risk factor could contribute to reducing the prevalence.

For this reason, two additional models have been developed and included in the PROFILES workbook to quantify the reduction in stunting if dietary diversity in children under age 2were improved and if the proportion of births to mothers below the age of 20 were reduced. These two models focus on two common risk factors for stunting for which we have both an adequate body of research to develop the models and sufficient country-level survey data to calculate the impact on stunting prevalence. Importantly, although these two models illustrate how stunting could be reduced by addressing these two risk factors, unless the many other risk factors for stunting are also addressed, prevalence would likely remain high.

Figure Risk Factors of Stunting

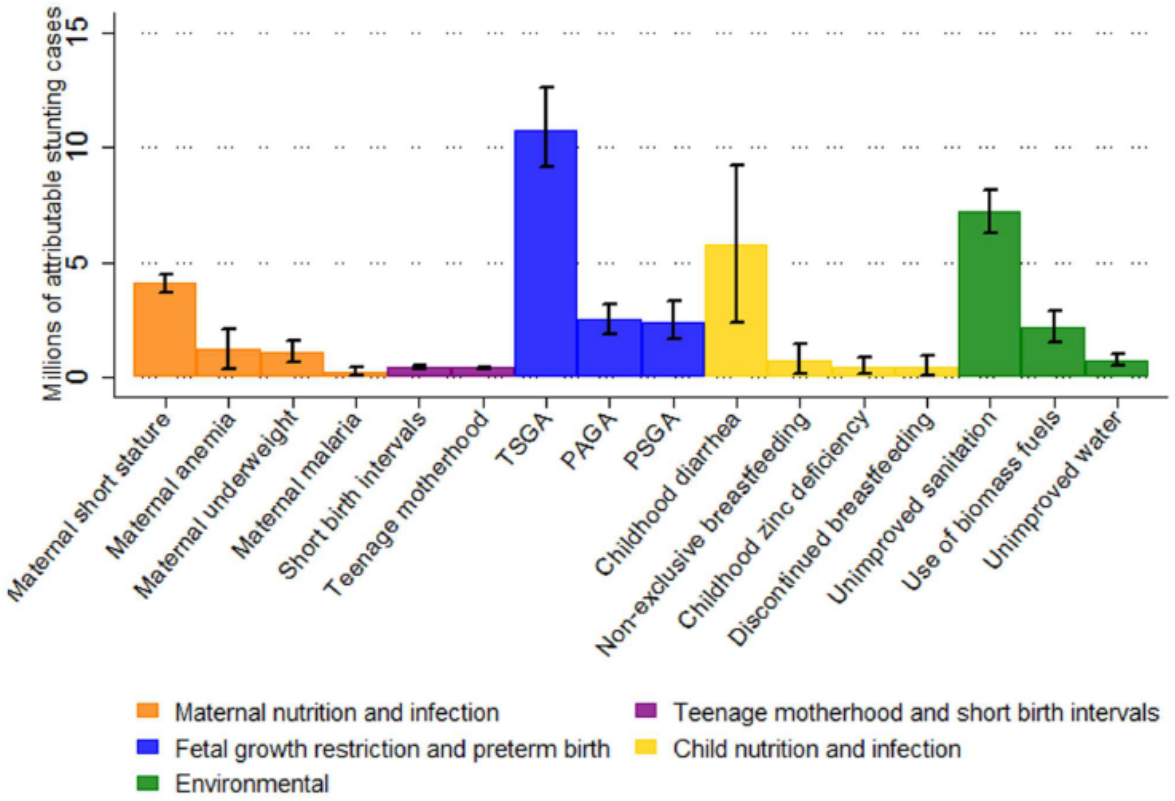


Fig 1. Risk factors ranked within each cluster by number of attributable stunting cases in children aged 2 y in 137 developing countries in 2011. Whiskers indicate 95% confidence intervals. Effects are not additive because each case of stunting can be attributed to more than one risk factor. Untreated HIV infection is not included because exposure data for all countries were not available. PAGA, preterm, appropriate for gestational age; PSGA, preterm, small for gestational age; TSGA, term, small for gestational age.

doi:10.1371/journal.pmed.1002164.g001

Source: Danaei et al. 2016

The table on the next page provides the rationale and evidence base used to develop the stunting risk factor models. However, it is important to note that the impact of a specific risk factor can vary widely between regions and countries. Because of this variability, it is important to interpret the results of these models cautiously. Also, these models do not attempt to quantify the combined effects of the two risk factors because this combination has not been studied. Even if we did understand how these risk factors interact in research subjects, the available survey data do not provide information on how they overlap in the population. The consequences of these risk factors and the benefits of reducing them should therefore be considered separately and not added together.

Table Scientific Basis for Each Model on Risk Factors to Reduce Stunting Included in the PROFILES Spreadsheet Workbook

Which nutrition problem(input)	Why this model is justified (rationale/assumptions)	How this model calculates the estimates	Which type of estimates are calculated (outcomes)
Inadequate dietary diversity related to childhood stunting Proportion of children 6–23 months not receiving food from at least four defined food groups in the previous 24 hours (%)	Among the many factors thought to influence child health and nutrition, complementary feeding (after 6 months, when breast milk alone is no longer sufficient) is among the most important. Although complementary feeding is a complex set of behaviors with many dimensions, dietary diversity during the critical period from 6–23 months has proven to be the aspect most consistently correlated with child growth. Although dietary diversity may be difficult to define in practice, given wide variations in foods and feeding practices across cultures, a tested and globally accepted indicator of minimum dietary diversity has been adopted by DHS and international agencies for household surveys. PROFILES uses a RR of stunting related to not meeting minimum dietary diversity of 1.22, derived from information provided by Marriot et al. (2012).	The population attributable fraction (PAF) is calculated as a function of the prevalence of inadequate dietary diversity and the relative risk of child stunting related to inadequate dietary diversity. The number of children who are stunted related to inadequate dietary diversity is then calculated by multiplying the PAF by the total number of cases of stunting in the population age 24–35 months.	Number of children age 24–35 months who are stunted (moderate plus severe) related to inadequate dietary diversity at 6–23 months

Teenage pregnancy related to child stunting percentage of children born to a mother less than 20 years of age (%)	Young maternal age is associated with poor maternal health and with a variety of consequences for the child such as poor birth outcomes and growth deficits, including stunting. Child stunting, in turn, is a risk factor for mortality and a variety of health and developmental problems that can reduce learning ability and economic potential throughout the life span. The relationship between teenage pregnancy and child stunting can depend on socioeconomic status and tends to be stronger in urban settings. It also varies across countries and regions (Fink et al. 2014). Although the relationship between teenage pregnancy and child stunting may depend on the context, there is a need in all countries to appreciate the potential impact of improvements in the timing of pregnancy and childbirth. PROFILES uses a RR of stunting related to teenage pregnancy of 1.20, derived by pooling RRs provided by Fink et al. (2014) for children of different birth orders born to mothers in different age strata (<18 and 18-19 years)).	The PAF is calculated as a function of the proportion of births to mothers less than 20 years of age (among all births) and the relative risk of child stunting related to teenage pregnancy. The number of children stunted related to teenage pregnancy is then calculated by multiplying the PAF by the total number of children who are stunted among the population of children age 24–35 months.	Number of children age 24–35 months who are stunted (moderate plus severe) related to teenage pregnancy

Handout: PROFILES Reference List and Additional Reading List

PROFILES Reference List

The PROFILES spreadsheet uses coefficients from peer-reviewed literature and country-specific information to quantify the country-level consequences of malnutrition. The following are references that provide either the specific values or the basis for estimating the coefficients used in the PROFILES spreadsheet.

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World Health Organization. 2011. "Haemoglobin Concentrations for the Diagnosis of Anaemia and Assessment of Severity." Vitamin and Mineral Nutrition Information System. Geneva: World Health Organization. Available at: http://www.who.int/vmnis/indicators/haemoglobin.pdf.

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Additional Reading List

The purpose of this reading list is to provide PROFILES workshop facilitators/participants with a list of additional resources that may be helpful to review prior to conducting/participating in the workshop. The following resources are referenced in the PROFILES workshop PowerPoint materials and/or provide additional context to the relationships and outcomes examined through the PROFILES spreadsheets.

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Oot, L.; Sethuraman, K.; Ross, J.; and Sommerfelt, A.E. 2016b. *The Effect of Suboptimal Breastfeeding on Preschool Overweight/Obesity: A Model in PROFILES for Country-Level Advocacy.* Washington, DC: FHI 360/FANTA.

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Handout: Overview of the Approach Used in PROFILES Models to Calculate Estimates

PROFILES consists of a set of computer-based models that calculate consequences if malnutrition does not improve over a defined time period and the benefits of improved nutrition over the same time period, including lives saved, disabilities averted, human capital gains, and economic productivity gains. Conceptually, the basic approach in PROFILES is to compare two scenarios: a "status quo" scenario and an "improved" scenario.

The **status quo scenario** assumes there will be no change from the current situation throughout the chosen time period (the number of years for which estimates are calculated), aside from projected changes in population size and structure. The prevalence of each nutrition problem remains the same every year in the status quo scenario.

In contrast, in the **improved scenario**—with results estimated for the same time period—it is expected that nutrition interventions that are known to be effective are implemented at scale and succeed in reaching the stated targets in terms of improvements in the prevalence of the various nutrition problems.

Box 3. Key PROFILES Terms

Time period: The period (number of years) for which the PROFILES estimates will be calculated

Starting prevalence: The prevalence at the start of the time period for which the *PROFILES Spreadsheet Workbook* will calculate estimates

Target prevalence: The prevalence at the final year of the chosen time period

Targeted reduction in prevalence: The proportion reduction in prevalence to reach the target prevalence

The targets reflect the proportion by which nutrition problems will be reduced over the chosen time period and are determined and agreed upon through stakeholder meetings and a PROFILES workshop. In the status quo scenario, the negative consequences are expressed, for example, in terms of deaths, disabilities, and losses in human capital and in economic productivity. Differences between the status quo and the improved scenarios reflect the benefits of improved nutrition, expressed as lives saved, disabilities averted, human capital gains, and economic productivity gains.

The figure provides an illustrative example of the approach used in PROFILES to calculate estimates for child deaths (and lives saved) related to stunting. For the purpose of providing an example of how PROFILES calculates the estimates for the status quo and the improved scenario (which has a decreasing prevalence of stunting), the number of children under 5 has been kept constant. But in the actual PROFILES model, there is usually an increase in the number of children each year based on population projections. The graphs show how the status quo scenario (Figure A within Figure 2) vs. the improved scenario (Figure B) is used to provide estimates of lives saved (or deaths averted) related to stunting among children under 5 years during a 10-year period. Figure C shows the number of lives saved, calculated by subtracting the number of deaths in the improved scenario from the number of deaths in the status quo

scenario. A comparable approach is used in PROFILES to estimate the benefits related to other nutrition indicators.

The calculations in the PROFILES spreadsheet models presume that, while effective interventions would be put in place, they would not be implemented at scale from the start but would be implemented gradually over the selected time period and that improvement in the nutrition indicators and consequently lives saved would be gradual. For this reason, the estimates of lives saved or economic productivity gains are smaller than the total number of lives lost or economic productivity lost over the chosen time period. For example, the graphs in Figure 2 show that, despite the decrease in the prevalence of stunting with the improved scenario, at the end of the 10-year time period, the number of lives lost is still greater than the number of lives saved. This is because it is assumed that the decrease in the prevalence of stunting will be linear and therefore reductions in child mortality attributable to stunting will be gradual, and as such the gains in lives saved will also be gradual. This same basic approach is used in all the models in PROFILES.

Nutrition interventions are not included in the *PROFILES Spreadsheet Workbook*; however, the country-level nutrition advocacy process can more broadly raise the need for various nutrition services, interventions, programs, or issues related to the nutrition policy environment.

Figure **Status Quo Scenario vs. Improved Scenario: Approach Used in PROFILES to Calculate Estimates of Lives Saved and Economic Productivity Gains Related to Various Nutrition Indicators**

Illustrative Example of Number of Lives Saved (or Deaths Averted) Related to Stunting for Children under 5 Years, 2013–2022

Figures A–C provide an illustrative example of the approach used in PROFILES to calculate estimates for child deaths (and lives saved) related to stunting. (Information shown in these graphs is not from [insert country] PROFILES [insert year].) For the purpose of providing an example of how PROFILES calculates the estimates for the status quo and the improved scenario, the number of children under 5 has been kept constant. But, in the actual PROFILES model, there is usually an increase in the number of children under 5 each year based on population projections. The graphs show how the status quo scenario (Figure A) vs. the improved scenario (Figure B) is used to provide estimates of lives saved (or deaths averted) related to stunting among children under 5 years during a 10-year period. Figure C shows the number of lives saved, calculated by subtracting the number of deaths in the improved scenario from the number of deaths in the status quo scenario. A comparable approach is used in PROFILES to estimate the number of lives saved (or deaths averted) related to other nutrition indicators and to estimate economic productivity gains related to selected nutrition indicators.

Figure A. Status Quo Scenario

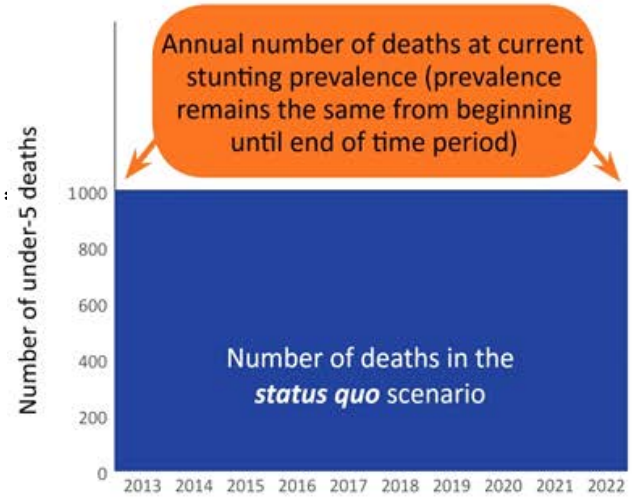


Figure B. Improved Scenario

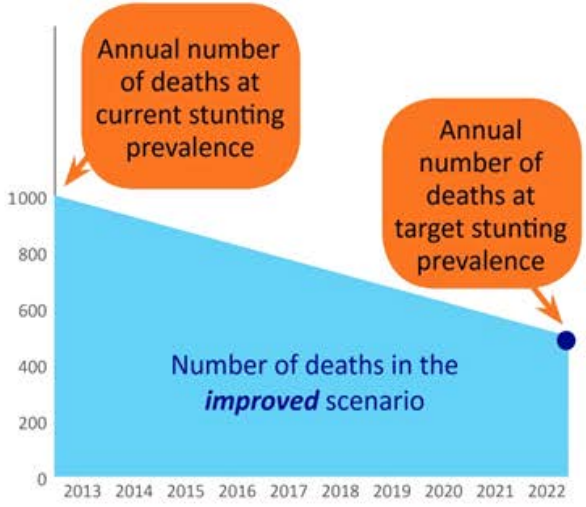
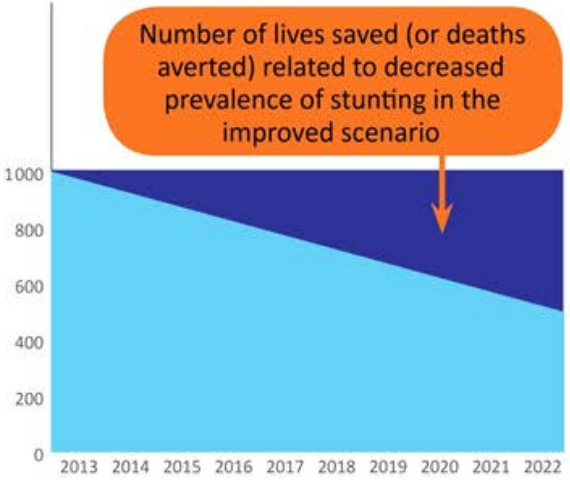


Figure C. Improved Scenario Superimposed on Status Quo Scenario



Handout: How to Interpret PROFILES Results

The *PROFILES Spreadsheet Workbook* calculates estimates for a set of health and development outcomes for a specified time period. Once participants have calculated all the estimates, it is important that they understand how to interpret and communicate to other stakeholders what the estimates mean in terms of the benefits of improving nutrition on health and development outcomes. This is because each model in the *PROFILES Spreadsheet Workbook* calculates an estimate for a specific relationship seen in the scientific literature.

The following table presents the input nutrition indicators, the output—health or development outcomes, and how to refer to each of the estimates in terms of losses and gains. Note that the term "related to" is used to describe the relationship between the nutrition indicator and the outcome of interest. This is a deliberate choice in order to not overstate the nature of the relationship between the nutrition indicator and the outcome of interest. Most of the problems for which PROFILES calculates estimates are based on relationships seen in the literature. Generally, these relationships have been shown consistently in various studies for each model and allow the inference made by the PROFILES estimates. Therefore, it is important for both facilitators and participants to consistently use the terms provided in the following tables when referring to each of the estimates generated by the *PROFILES Spreadsheet Workbook* for the status quo and improved scenarios.

Often participants would like to know if the estimates can be added together. One limitation with regard to adding any of the estimates (for example, economic productivity losses or lives saved) is that many forms of malnutrition can co-exist in one individual. For example, one child can be stunted, wasted, and have compounding micronutrient deficiencies of iodine, iron, and vitamin A. For this reason, for the economic productivity estimates it is recommended that the highest value be used and that the estimates not be added together. Similarly, for the health outcomes related to lives saved; estimates for vitamin A deficiency; wasting; underweight; and stunting; perinatal deaths; and low birth weight cannot be added together. But here again the highest value can be used.

Finally, participants may also like to know whether the estimates that the *PROFILES Spreadsheet Workbook* calculates are of an expected order of magnitude. To help participants reflect on this, the *PROFILES Spreadsheet Workbook* includes a section at the bottom of the Tables and Figures sheet that provides the total for that outcome of interest by the end of the time period. For example, child deaths related to stunting are only a part of all under-5 deaths related to all causes. So, in this case participants can compare the estimates of under-5 child deaths related to stunting in the status quo and improved scenarios to the overall under-5 child deaths related to all causes to see whether the under-5 deaths related to stunting fall within the overall under-5 child deaths that would occur by the end of the time period related to all causes. This can help participants put the results for a particular outcome in perspective relative to a broader outcome (e.g., all under-5 deaths related to all causes) by the end of the time period.

The table below specifies how to refer to losses and gains and defines specifically what each estimate is that PROFILES calculates. In contrast, the figures below provide a summary of how the PROFILES results are typically reported and used in advocacy materials. This specific wording is provided to ensure clear and consistent reporting and use of the results, which is essential for nutrition advocacy but also not to misinterpret or overstate what each of the estimates refers to.

Table PROFILES Inputs, Outputs, and How to Refer to Losses and Gains

Input—nutrition indicator	Output—development outcome	How to refer to the status quo/losses	How to refer to the gains
Health outcomes			
Stunting under 5 years	Under-5 child deaths/lives saved	Total number of under-5 child deaths related to stunting over the course of the time period	Total number of under-5 child lives that will be saved by reducing stunting over the course of the time period
Underweight under 5 years		Total number of under-5 child deaths related to underweight over the course of the time period	Total number of under-5 child lives that will be saved by reducing underweight over the course of the time period
Wasting under 5 years		Total number of under-5 child deaths related to wasting over the course of the time period	Total number of under-5 child lives that will be saved by reducing wasting over the course of the time period
Low birth weight	Infant deaths/lives saved	Total number of infant deaths related to low birth weight over the course of the time period	Total number of infant lives saved by reducing low birth weight over the course of the time period
Suboptimal breastfeeding	Under-2 child deaths/lives saved	Total number of under-2 child deaths related to suboptimal breastfeeding over the course of the time period	Total number of under-2 child lives that will be saved by reducing suboptimal breastfeeding over the course of the time period
Late initiation of breastfeeding	Neonatal deaths/lives saved	Total number of neonatal deaths related to late initiation of breastfeeding over the course of the time period	Total number of neonatal deaths that will be averted by reducing late initiation of breastfeeding over the course of the time period
Maternal anemia	Perinatal deaths/lives saved	Total number of perinatal deaths	Total number of perinatal deaths that will be averted by reducing maternal

Input—nutrition indicator	Output—development outcome	How to refer to the status quo/losses	How to refer to the gains
		related to maternal anemia over the course of the time period	anemia over the course of the time period
Maternal anemia	Maternal deaths/lives saved	Total number of maternal deaths related to maternal anemia over the course of the time period	Total number of maternal lives that will be saved by reducing maternal anemia over the course of the time period
Vitamin A deficiency	Under-5 child deaths/lives saved	Total number of under-5 child deaths related to vitamin A deficiency over the course of the time period	Total number of under-5 child lives saved by reducing vitamin A deficiency over the course of the time period
Suboptimal breastfeeding and child overweight/obesity	Child overweight/obesity	Total number of children who may become overweight/obese related to suboptimal breastfeeding practices over the course of time period	Total number of children for whom overweight/obesity is prevented by reducing suboptimal breastfeeding practices over the course of the time period
Iodine deficiency (goiter)	Permanent disabilities	Total number of permanent disabilities related to iodine deficiency in pregnancy over the course of the time period	Total number of permanent disabilities averted by reducing iodine deficiency in pregnancy over the course of the time period

Input—nutrition indicator	Output—development outcome	How to refer to the status quo/losses	How to refer to the gains
Economic productivity and human capital outcomes			
Stunting	Economic productivity	Total net present value of future productivity losses related to stunting over the course of the time period	Total net present value of future productivity that will be gained if stunting is reduced over the course of the time period
Anemia (adult)[20]		Total net present value of adult productivity losses related to anemia in adults over the course of the time period	Total net present value of future adult productivity that will be gained if anemia is reduced among adults over the course of the time period
Anemia (children)		Total net present value of future productivity losses related to childhood anemia over the course of the time period	Total net present value of future productivity that will be gained if childhood anemia is reduced over the course of the time period
Iodine deficiency (goiter)		Total net present value of future productivity losses related to iodine deficiency in pregnancy over the course of the time period	Total net present value of future productivity that will be gained if iodine deficiency in pregnancy is reduced as indicated over the course of the time period
Low birth weight		Total net present value of future productivity losses related to low birth weight over the course of the time period	Total net present value of future productivity gains related to a reduction in low birth weight over the course of the time period
Stunting	Learning ability	Total net present equivalent school years of learning lost related to stunting over the course of the time period	Total net present equivalent school years of learning that will be gained if stunting is reduced as indicated over the course of the time period

[20] If information is available only for men or only for women, the wording can be changed here to specify that.

Input—risk factor indicator	Output—nutrition outcome	How to refer to the status quo/losses	How to refer to the gains
Risk factors of stunting			
Inadequate dietary diversity	Reduced stunting	Total number of children aged 24–35 months who are stunted related to inadequate dietary diversity at 6–23 months over the course of the time period	Total number of children aged 24–35 months for whom stunting is averted related to improved dietary diversity at 6–23 months over the course of the time period
Teenage pregnancy		Total number of children aged 24–35 months who are stunted related to teenage pregnancy over the course of the time period	Total number of children aged 24–35 months for whom stunting is averted related to a reduction in teenage pregnancy over the course of the time period

Figure **Estimates of Future Losses in Lives, Economic Productivity, and Human Capital Associated with Various Nutrition Problems, for the Specified Time Period**

LIVES LOST	PERMANENT DISABILITIES	CHILDHOOD OVERWEIGHT/ OBESITY	ECONOMIC PRODUCTIVITY LOST	HUMAN CAPITAL LOST
# lives of children under 5 lost related to stunting	# children born with irreversible brain damage (ranging from severe brain damage to a decrease in IQ) related to maternal iodine deficiency	# children 48–59 months likely to become overweight/obese related to suboptimal breastfeeding practices	# national currency (US dollars in brackets) lost related to stunting	# equivalent school years of learning lost related to stunting
# lives of children under 5 lost related to underweight			# national currency (US dollars in brackets) lost related to low birth weight	
# lives of children under 5 lost related to wasting			# national currency (US dollars in brackets) lost related to iron deficiency anemia among adults (men and non-pregnant women)	
# lives of children under 5 lost related to low birth weight			# national currency (US dollars in brackets) lost related to iron deficiency anemia in children	
# lives of newborns lost to late initiation of breastfeeding			# national currency (US dollars in brackets) lost related to iodine deficiency in pregnancy	
# maternal deaths lost related to maternal anemia				
# lives of infants lost during the perinatal period related to maternal anemia				
# lives of children under 5 lost related to vitamin A deficiency				
# lives of children under age 2 lost related to suboptimal breastfeeding practices				

Figure **Estimates of Future Lives Saved, Economic Productivity Gained, and Human Capital Gained Due to Improvements in Nutrition for the Specified Time Period**

LIVES SAVED	PERMANENT DISABILITIES AVERTED	CHILDHOOD OVERWEIGHT/ OBESITY PREVENTED	ECONOMIC PRODUCTIVITY GAINED	HUMAN CAPITAL GAINED
# lives of children under 5 saved related to a reduction in stunting	# children saved from irreversible brain damage related to a reduction in maternal iodine deficiency	# children 48–59 months prevented from becoming overweight/obese related to improved breastfeeding practices	# national currency (US dollars in brackets) gains related to a reduction in stunting	# equivalent school years of learning gained related to a reduction in stunting
# lives of children under 5 saved related to a reduction in underweight			# national currency (US dollars in brackets) gains related to a reduction in low birth weight	For those in the 24–35-month age group in the year [end of time period], X equivalent school years of learning gained per child related to a reduction in stunting
# lives of children under 5 saved related to a reduction in wasting			# national currency (US dollars in brackets) gains related to improvements in iron deficiency anemia among adults (men and non-pregnant women)	
# lives of children under 5 saved related to increases in birth weight			# national currency (US dollars in brackets) gains related to improvements in iron deficiency anemia in children	
# lives of newborns saved related to improved early initiation of breastfeeding (within an hour of birth)			# national currency (US dollars in brackets) gains related to improvements in iodine deficiency in pregnancy	
# maternal lives saved related to a reduction in maternal anemia				
# lives of infants saved in the perinatal period related to a reduction in maternal anemia				
# lives of children under 5 saved related to improvements in vitamin A status				
# Infants' lives saved related to improved breastfeeding practices				

Figure **Estimates of Stunting among Children Age 24–35 Months Related to Improvements in Dietary Diversity and a Reduction in Teenage Pregnancy for the Specified Time Period**

Figure **Estimates of Stunting Prevented among Children Age 24–35 Months Related to Improvements in Dietary Diversity and a Reduction in Teenage Pregnancy for the Specified Time Period**

Template: Information Needed Worksheets

Worksheet: Information Needed—Anthropometry (used in sessions 6, 10, 11, and 12)

As a group, fill in the following information that is needed to calculate the PROFILES estimates.

Indicator	Age (mos.)	Starting prevalence (%)			Mean height/age z-score at 0-59 months*	Data source	Table #/page in source	Targeted reduction in prevalence (%)	Target prevalence (%)
		Severe	Moderate	Severe + moderate					
Stunting	0–59	____%	_____%	_____ %	_____	_____	_____	_____%	_____%
Provide information on why the source was selected:									
Provide information on how and why the target was selected:									
Additional notes:									

*Information is typically found in the Demographic and Health Survey in the same table as the prevalence information for stunting, wasting and underweight.

Indicator	Age (mos.)	Starting prevalence (%)			Mean height/age z-score at 24-35 months*	Data source	Table #/ page in source	Targeted reduction in prevalence (%)	Target prevalence (%)
		Severe	Moderate	Severe + moderate					
Stunting	24–35	____%	_____%	_____%	_____	_____	_____	_____%	_____%
Provide information on why the source was selected:									
Provide information on how and why the target was selected:									
Additional notes:									

*Information is typically found in the Demographic and Health Survey in the same table as the prevalence information for stunting, wasting and underweight.

Indicator	Age (mos.)	Starting prevalence (%)			Mean weight/age z-score at 0-59 months*	Data source	Table #/page in source	Targeted reduction in prevalence (%)	Target prevalence (%)
		Severe	Moderate	Severe + moderate					
Underweight	0–59	_____%	_____%	_____%	_____	_____	_____	_____%	_____%
Provide information on why the source was selected:									
Provide information on how and why the target was selected:									
Additional notes:									

*Information is typically found in the Demographic and Health Survey in the same table as the prevalence information for stunting, wasting and underweight.

Indicator	Age (mos.)	Starting prevalence (%)			Mean weight/ height z-score at 0-59 months*	Data source	Table #/ page in source	Targeted reduction in prevalence (%)	Target prevalence (%)
		Severe	Moderate	Severe + moderate					
Wasting	0–59	____%	_____%	_____%	_____	_____	_____	_____%	_____%
Provide information on why the source was selected:									
Provide information on how and why the target was selected:									
Additional notes:									

*Information is typically found in the Demographic and Health Survey in the same table as the prevalence information for stunting, wasting and underweight.

Indicator	Age (months)	Prevalence of weight-for-height above +2 SD	Data source	Table number/ page in source
Overweight/ obesity	48–59	_____%	_____	_____
Provide information on why the source was selected:				
Additional notes:				

Worksheet: Information Needed—Low Birth Weight and Breastfeeding (used in sessions 6, 10, and 11)

As a group, fill in the following information that is needed to calculate the PROFILES estimates.

Low birth weight (LBW) among newborn infants with a known birth weight

Indicator	Starting prevalence (%)	Data source	Table #/ page in source	Targeted reduction in prevalence (%)	Target prevalence (%)
LBW (birth weight below 2,500 g)	_____%	_____	_____	_____%	_____%
Provide information on why the source was selected:					
Provide information on how and why the target was selected:					
Additional notes:					

Breastfeeding practices (during the 24 hours before the interview) among children 0–5 months of age

Exclusive, predominant, partial, and no breastfeeding for infants 0–5 months are defined as follows.

- Exclusive breastfeeding refers to those who received only breast milk from his or her mother or a wet nurse, or expressed breast milk, and no other liquids or solids except vitamins, mineral supplements, or medicines in drop or syrup form.
- Predominant breastfeeding refers to those who received breast milk as the predominant source of nourishment during the previous day. Predominant breastfeeding allows oral rehydration salts, vitamin and/or mineral supplements, ritual fluids, water and water-based drinks, and fruit juice. Other liquids, including non-human milk and food-based fluids, are not allowed, and no semi-solid or solid foods are allowed.
- Partial breastfeeding refers to those who received breast milk as well as non-human milk, food-based fluids, and semi-solid and/or solid foods.
- No breastfeeding refers to those who did not receive any breast milk.

Indicators needed to calculate the suboptimal breastfeeding and mortality model for children 0-5 months of age are:

- Exclusive breastfeeding (0–5 months of age), %
- Predominant breastfeeding (0–5 months of age), %
- Partial breastfeeding (0–5 months of age), %
- No breastfeeding (0–5 months of age), %

An example of how to find the indicators necessary to generate PROFILES estimates is demonstrated through the use of the Tanzania 2010 Demographic and Health Survey (DHS). The Tanzania 2010 DHS divides breastfeeding status into the following categories:

- Exclusively breastfed
- Plain water only
- Non-milk liquids/juice
- Other milk
- Complementary foods

These groups are hierarchical and mutually exclusive, and their percentages add to 100%. Therefore, to obtain the percentage for “predominant breastfeeding,” within each age group in the report table, you would add the percentages for “plain water only” and “non-milk liquids/juice.” To obtain the percentage for “partial breastfeeding,” you would add the percentages for “other milk” and “complementary foods.”

Indicator	Starting prevalence (%)	Data source	Table #/page in source	Targeted reduction in prevalence (%)	Target prevalence (%)
Early initiation of breastfeeding (within 1 hour of birth)	_____%	_____	_____	_____%	_____%
Ever breastfed	_____%	_____	_____	_____%	_____%
Never breastfed*	_____%	_____	_____	_____%	_____%
Exclusive breastfeeding (0–5 months of age)	_____%	_____	_____	_____%	_____%
Predominant breastfeeding (0–5 months of age)	_____%	_____	_____	_____%	_____%
Partial breastfeeding (0–5 months of age)	_____%	_____	_____	_____%	_____%
No breastfeeding* (0–5 months of age)	_____%	_____	_____	_____%	_____%
Exclusive breastfeeding (4–5 months of age)	_____%	_____	_____	_____%	_____%
Provide information on why the source was selected:					
Provide information on how and why the target was selected:					
Additional notes:					

*These indicators are calculated automatically by the PROFILES spreadsheet.

Breastfeeding practices (during the 24 hours before the interview) among children 6–23 months of age

Any breastfeeding and no breastfeeding for **children 6–23 months** are defined as follows:

- **No breastfeeding** refers to those who were not breastfed at the time of the survey (this comprises children who were no longer breastfed and those who were never breastfed).
- **Any breastfeeding** refers to all other children who were still breastfeed

Indicators needed to calculate the suboptimal breastfeeding and mortality model for children 6–23 months of age are:

- Any breastfeeding (6–23 months), %
- No breastfeeding (6–23 months), %

To calculate the percentage of children 6–23 months who were not breastfed or who were in the category "any breastfeeding", you may need to do a weighted average if, for example, you are using a DHS as the source of information. For example, a table in the Zimbabwe 2010-2011 DHS (Table 11.3) report shows breastfeeding practices according to the following age groups: 6–8, 9–11, 12–17, and 18–23 months. To get the "no breastfeeding" prevalence among children 6–23 months, a weighted average must be calculated[21]. To do a weighted average, take the percentage for each age group and multiple it by the denominator (N) (total number of children) for that age group to obtain the numerator for the age group (age group % x N). Then add up the values (numerators) for the four age groups and then divide that number by the total N for the four age groups combined.

Using the information in the table below, the equation would be as follows: (326 x 0.035) + (321 x 0.065) + (586 x 0.174) + (377 x 0.703) = 399.

Then, this sum is divided by the total number of children 6–23 months to give you the weighted average and the percentage of children in this age group who are not breastfed: 399/1,610 = 0.248 or 24.8%.

To then determine the percentage of children 6–23 months with "any breastfeeding," subtract the percentage of "no breastfeeding" infants from 100%, i.e., if 24.8% of infants are not breastfed, then "any breastfeeding" is 75.2%.

[21] The example uses the column showing the percentage "not breastfeeding" because this information is commonly available, although in the Zimbabwe DHS report there is also a column showing the percentage who are "currently breastfeeding."

Table Example Information for Calculating Weighted Average for Indicators on No/Any Breastfeeding at 6–23 Months

From a table in the source			Calculated		
Age group (months) (a)	**% not breastfed (b)**	**Number of children in the age group (c)**	**Numerator (d)** **d=c*b**	**% not breastfed 6–23 months (e)** **e=d*100/c**	**% any breastfed 6–23 months (f)** **f=100%-e**
6–8	3.5%	326	=326*3.5%=11		
9–11	6.5%	321	=321*6.5%=21		
12–17	17.4%	586	=586*17.4%=102		
18–23	70.3%	377	=377*70.3%=265		
		↓ sum of rows above (from source or calculated)	↓ sum of rows above (calculated)		
6–23		1,610	399	399/1,610 =24.8%	100%-24.8% =75.2%

Indicator	**Starting prevalence (%)**	**Data source**	**Table # page in source**	**Targeted reduction in prevalence (%)**	**Target prevalence (%)**
Any breastfeeding (6–23 months)	_____%	_____	_____	_____%	_____%
No breastfeeding (6–23 months)*	_____%	_____	_____	_____%	_____%
Provide information on why the source was selected:					
Provide information on how and why the target was selected:					
Additional notes:					

*This indicator is calculated automatically by the PROFILES spreadsheet.

Worksheet: Information Needed—Micronutrients (used in sessions 6, 10, and 11)

As a group, fill in the following information that is needed to calculate the PROFILES estimates.

Anemia

Indicator	Starting prevalence (%)	Data source	Table # page in source	Targeted reduction in prevalence (%)	Target prevalence (%)
Pregnant women (15–49 years) (hemoglobin < 11 g/dl)	_____%	_____	_____	_____%	_____%
Adult women (15–49 years) (hemoglobin < 12 g/dl)	_____%	_____	_____	_____%	_____%
Adult men (15–49 years)* (hemoglobin < 13 g/dl)	_____%	_____	_____	_____%	_____%
Children (6–59 months) (hemoglobin < 11 g/dl)	_____%	_____	_____	_____%	_____%
Children (5–14 years)** (hemoglobin < 12 g/dl)	_____%	_____	_____	_____%	_____%
Provide information on why the source was selected:					
Provide information on how and why the target was selected:					
Additional notes:					

*This exact age group does not have to be available as some countries have different age groups for anemia among men. In addition, this information may not be available in every country. If that is the case, skip this indicator.

** Note if a percentage is not available for the entire age group (5-14 years), then the user may need to compute a weighted average that combines the prevalence of anemia for two separate groups to find the weighted average percentage for the entire group. An example of how to do a weighted average can be found above in Table 1.

Vitamin A Deficiency (including subclinical)

Indicator	Starting prevalence (%)	Data source	Table #/page in source	Targeted reduction in prevalence (%)	Target prevalence (%)
Children 6–59 months with vitamin A deficiency	_____%	_____	_____	_____%	_____%
Provide information on why the source was selected:					
Provide information on how and why the target was selected:					
Additional notes:					

Iodine Deficiency

Indicator	Starting prevalence (%)	Data source	Table #/page in source	Targeted reduction in prevalence (%)	Target prevalence (%)
% with goiter	_____%	_____	_____	_____%	_____%
Other information on iodine deficiency (if needed):					
Provide information on why the source was selected:					
Provide information on how and why the target was selected:					
Additional notes:					

Worksheet: Risk Factors of Stunting (used in sessions 6 and 12)

As a group, fill in the following information that is needed to calculate the PROFILES estimates.

Inadequate dietary diversity

Indicator	Starting prevalence of risk factor (%)	Data source	Table #/ page in source	Targeted reduction in prevalence of risk factor (%)	Target prevalence of risk factor (%)
Inadequate dietary diversity (fewer than four foods groups) among children 6–23 months	_____%	_____	_____	_____%	_____%
Provide information on why the source was selected:					
Provide information on how and why the target was selected:					
Additional notes:					

Stunting Risk Factor Estimates – Teenage Pregnancy

Children born to teenage mothers (The model on increased risk for stunting among children born to teenage mothers).

One of the models on risk factors for stunting requires information on the proportion of children who are born to teenage mothers among all births born during a time period. Possible sources of this include DHS surveys and the UN WPP database.

If the report from a DHS survey is used as the source, this information can usually be derived from a table called "Assistance during delivery" (or something similar); that table shows information by various background characteristics, including "Mother's age at birth" (the categories are generally: <20, 20–34, and 35–49 years). For example, in the report for the Zambia DHS 2013–2014, the table shows the "percent distribution of live births in the five years preceding the survey by person providing assistance during delivery, percentage of births assisted by a skilled provider, and percentage delivered by caesarean section, according to background characteristics." In this survey, 2,480 children were born to mothers who were teenagers (<20 years); the table also shows that the total number of births was 13,383. Hence, among all the births, 18.5 percent (2,480/13,383) were born to teenage mothers.

If the information necessary to calculate the percentage of births born to teenage mothers is not available from a DHS survey, the UN WPP database can be used (https://esa.un.org/unpd/wpp – accessed March 12, 2018). The following description indicates how to use the UN WPP to access this information and reflects the structure and wording on the UN WPP website at present (March 2018):

1. Click on "Download Data Files."
2. Then, under "Major topic/Special groupings," click on "Fertility indicators." Download the Excel file named "Births by Age of Mother."
3. After opening the file, notice that the sheet named "Estimates" shows estimates for 5-year groupings from "1950–1955" through "2010–2015." Future projections are shown in four separate sheets, each reflecting a different assumption regarding the fertility variant. Each of these sheets shows projections from "2015–2020" through "2095–2100." The sheets in this file show estimates of the number of births by mother's age in 5-year age groups, from "15–19" through "45–49."
4. To obtain the percentage born to teenage mothers (this is labeled as 15–19 years in this data source), first find the country and identify the 5-year time period that encompasses the first year of the PROFILES time period.
5. Next, calculate the sum of births across all the age groups.
6. Then find the number of births to teenage mothers (15-19 years).
7. Finally, to find the percentage among all births that are born to teenage mothers, divide the number of births to teenage mothers by the sum of births across all the age groups.

Teenage Pregnancy

Indicator	Starting prevalence of risk factor (%)	Data source	Table #/page in source	Targeted reduction in prevalence of risk factor (%)	Target prevalence of risk factor (%)
Proportion of children born to a mother less than 20 years of age (%)	_____%	_____	_____	_____%	_____%
Provide information on why the source was selected:					
Provide information on how and why the target was selected:					
Additional notes:					

Worksheet: Demographic and Other Information Needed (used in sessions 8, 10, and 11)

Fill in the following information that was assigned to your group.

Population Information		
Total population (most recent official estimate/projection)	**Data source**	**Table number/page in source**
_____	_____	_____
Rationale for choosing source of information:		

Mortality Information			
Indicator	**Ratio/Rate**	**Data source**	**Table number/ page in source**
Maternal mortality ratio	_____ deaths/100,000 live births	_____	_____
Perinatal mortality rate	_____ deaths/1,000 births	_____	_____
Neonatal mortality rate	_____ deaths/1,000 births	_____	_____
Infant mortality rate	_____ deaths/1,000 births	_____	_____
Under-5 mortality rate	_____ deaths/1,000 births	_____	_____
Rationale for choosing source(s) of information:			

Additional Information on How to Calculate Manual Labor

PROFILES requires several indicators on manual labor to generate the economic productivity estimates. These indicators include:

- Number of males and females employed in manual labor X 100/number of males and females of working age, %
- Number of females employed in manual labor X 100/ number of females of working age, %
- Number of males employed in manual labor X 100/number of males of working age, %
- Proportion of manual labor that is "heavy" (approximately 10% is often used), %

In most countries, there is no singular manual labor indicator available and therefore it must be calculated using categories of employment. Typically, Labor Force Surveys (or other surveys containing employment information) contain tables with categories of multiple types of employment (e.g., agriculture, mining, domestic services). An example is shown in the table on the next page.

The table (showing employment by industry), from a 2006 Tanzania Labor Force Survey, is an example of the types of categories that have been used to calculate manual labor in previous PROFILES workshops. The table below shows the percent of males and females employed by industry category among persons who are working. During a PROFILES workshop in Tanzania, the group reviewed and discussed labor categories similar to those listed in the table; in the Tanzania workshop, special tabulations had been provided to workshop participants by the National Bureau of Statistics. The yellow highlighted employment categories in Table 2 were determined to be manual labor jobs. The group then added the percentage of each labor category (highlighted in yellow) for males and females to get the total percentage of manual labor by gender, and for both males and females combined. As shown in the red circles in the table, the totals were 77.2% for males, 86.3% for females, and 81.9% for both combined. Note, this is just an example as PROFILES workshop participants will need to discuss the available categories of employment in their country-specific employment information source and agree upon what should be counted as manual labor.

In order to arrive at the indicators required by the *PROFILES Spreadsheet Workbook*, the percentages for manual labor shown in the table below would need to be multiplied by the employment-to-population ratio[22] (referred to as the "employment ratio" in the 2006 survey) for males (80.8%), females (77.6%), and both combined (79.2%). Hence among the working age population the percentage are:

- Males and females employed in manual labor: 64.9%
- Females employed in manual labor: 67.0%
- Males employed in manual labor: 62.4%

[22] Although the employment-to-population ratio is not required in the spreadsheet, this indicator might be needed for some calculations to arrive at information required by the spreadsheet, as is the case in this example.

Table Example Information from the 2006 Tanzania Labor Force Survey Used to Calculate Manual Labor

Labor Force Survey 2006	Percentage among employed/working persons:			Percentage among employed/working persons:			
	Male	Female	Total	Male	Female	Total	
Agriculture/ hunting/ forestry	70.6	79.7	75.3	70.6	79.7	75.3	
Fishing	2.1	0.3	1.2	2.1	0.3	1.2	
Mining & quarry	0.9	0.1	0.5	0.9	0.1	0.5	
Manufacturing	3.4	1.9	2.6				
Electricity, gas & water	0.2	0	0.1				
Construction	2.1	0.1	1.1	2.1	0.1	1.1	
Wholesale & retail trade	9.3	6.1	7.6				
Hotels & restaurants	1.1	2.8	2				
Transport/storage & communication	2.9	0.2	1.5				
Financial intermediation	0.1	0.1	0.1				
Real estate/renting & business activities	0.8	0.1	0.5				
Public admin & defense	1.9	0.3	1.1				
Education	1.6	1.2	1.4				
Health & social service	0.5	0.7	0.6				
Other community/social & personal service activities	1	0.4	0.7				
Private households with employed persons	1.5	6.1	3.8	1	1.5	6.1	3.8
Total	100	100	100				
Manual labor (sum yellow categories) among employed					77.2	86.3	81.9

This example used information from a labor force survey; other potential sources of information include other types of national surveys (if they include labor statistics) or possibly some international sources such as international labour.org (ILO) or Food and Agriculture Organization of the United Nations (FAO) databases.

Employment Information **Indicator**	**Percentage**	**Data source**	**Table number/ page in source**
Employment in all sectors			
Employed[23]/population (referred to as economic activity rate or labor force participation rate)	_____ %	_____	_____
Employment in manual labor*			
Number of males and females employed in manual labor X 100/number of males and females of working age, %	_____ %	_____	_____
Number of females employed in manual labor X 100/ number of females of working age	_____ %	_____	_____
Number of males employed in manual labor X 100/number of males of working age	_____ %	_____	_____
Proportion of manual labor that is "heavy" (approximately 10% is often used)	_____ %	_____	_____
Rationale for choosing source(s) of information:			

Economic Information **Indicator**	**Data**	**Data source**	**Table number/ page in source**
Average annual wage (in national currency)			
Manual labor	_____	_____	_____
All sectors	_____	_____	_____
Exchange rate			
Exchange rate (per US$1)	_____	_____	_____
Gross domestic product (GDP)			
GDP per capita	_____	_____	_____
Rationale for choosing source(s) of information:			

[23] This rate includes people who are available for work as well as those who are actually working.

Education Information			
Indicator	**Data**	**Data source**	**Table number/ page in source**
Primary school starting age (in years)	____ years	_____	_____
Number of years of school (duration of schooling according to education policy)*	____ years	_____	_____
Rationale for choosing source(s) of information:			

* This could include secondary education if it is recommended in the country-specific education policy. If a country does not have a goal/expectation that all children complete primary school, or if there is no education policy available, use the recommended number of years of primary school based on universal recommendations by the Organization for Economic Cooperation and Development, the European Union, and UNESCO Institute for Statistics in the *International Standard Classification of Education (ISCED) 2011*, which is 6 years of primary school.

Handout: Glossary of Terms in the Context of PROFILES

TERM/PHRASE	DEFINITION/USAGE
Acute malnutrition	(See wasting.)
Anemia	A sign of malnutrition. When the amount of hemoglobin in the blood is inadequate, a person is said to suffer from anemia, which reduces the oxygen-carrying capacity of red blood cells. Anemia can be caused by iron deficiency due to low dietary intake, poor absorption of iron, or blood loss. However, anemia is also caused by infectious diseases such as malaria, hookworm infestation, and schistosomiasis, and genetic diseases. Pregnant women, infants, and young children are particularly vulnerable to anemia. Maternal anemia increases the risk of maternal and perinatal mortality, preterm birth, and low birth weight. In children, anemia impairs cognitive development, and in adults, it reduces work productivity (especially heavy physical labor). Anemia is typically defined as having a blood hemoglobin level less than 11 g/dl in pregnant women and children under 5 years, less than 11.5 g/dl in children 5–11 years of age, less than 12 g/dl in non-pregnant women and children 12–14 years of age, and less than 13 g/dl in men. (Some surveys/studies might use a cutoff of 12 g/dl for children 5–11 years of age).
Anthropometry	The study and technique of human body measurement. It is one tool used to measure and monitor the nutritional status of an individual or group. Examples of anthropometric measures include weight and height, which are used to form indices such as weight-for-height, height-for-age, and weight-for-age. Three indicators of undernutrition (wasting, stunting, and underweight) included in PROFILES are derived from these indices.
Body mass index (BMI)	Defined as an individual's body mass (in kg) divided by height (in meters) squared: BMI = kg/m^2. BMI is used to identify moderate and severe undernutrition among adults but can also be used to identify overweight and/or obesity.
Chronic malnutrition	(See stunting.)
Cretinism	A severe mental and physical disability that occurs in the children of women who have severe iodine deficiency in early pregnancy. (Also see iodine deficiency disorders.)

TERM/PHRASE	DEFINITION/USAGE
Dietary diversity	Minimum dietary diversity is defined as the proportion of children 6–23 months of age who receive foods from four or more food groups. Dietary diversity serves as a proxy for adequate nutrient density of foods, and evidence indicates that consumption of at least four food groups would mean that the child had a high likelihood of consuming at least one animal-source food, one fruit or vegetable, and a staple food. The seven food groups used to define minimum dietary diversity include: 1) grains, roots, and tubers; 2) legumes and nuts; 3) dairy products (milk, yogurt, cheese); 4) flesh foods (meat, fish, poultry, and liver/organ meats); 5) eggs; 6) vitamin-A-rich fruits and vegetables; and 7) other fruits and vegetables.
Discounting	(See economic productivity.)
Early initiation of breastfeeding	Putting an infant to the breast (to breastfeed) within an hour of birth.
Economic activity rate, also called labor force participation rate	The proportion of the working age population (15–64 years) actually working or available to work (the numerator includes employed and unemployed). This is distinguished from the employment--to-population-ratio, which does not include the unemployed in the numerator.
Economic productivity	PROFILES estimates the present day value of future productivity taking into account expected mortality from other causes and using a discount rate. Discounting reflects the human tendency to devalue anything in the future; it is independent of inflation and is determined by the "social discount rate," usually taken as 3% per year. The models use current country-specific employment and labor force participation rates, and current divisions between different occupations. In PROFILES, among children, estimates of future economic productivity losses attributed to stunting, iodine deficiency, and iron deficiency anemia are related to poor physical and cognitive development, which affects school performance and, later in life, earning potential. Economic productivity losses are also estimated in relation to iron deficiency anemia among adults, which is a reflection of decreased capacity to do manual labor. In PROFILES, when contrasting the results between the status quo and the improved scenarios, the difference reflects the benefits of improved nutrition expressed as economic productivity gains (or, put another way, economic productivity losses averted).
Equivalent school years of learning	Used in PROFILES to quantify human capital losses in terms of reduced learning ability related to stunting. This unit of measurement sums the deficit in children's reduced learning ability across all the years when a child is supposed to be in school according to a country's education policy.
Exclusive breastfeeding	The feeding of an infant only with breast milk from his or her mother or a wet nurse, or expressed breast milk, and no other liquids or solids except vitamins, mineral supplements, or medicines in drop or syrup form. Exclusive breastfeeding is recommended until an infant reaches 6 months of age.

TERM/PHRASE	DEFINITION/USAGE
Goiter	Abnormal enlargement of the thyroid gland in the neck. Iodine deficiency can cause goiter. Goiter can be assessed by inspection and palpation of the thyroid gland, or by ultrasonography.
Human capital	Intangible collective resources possessed by individuals and groups within a given population. These resources include all the knowledge, talents, skills, abilities, experience, intelligence, training, judgment, and wisdom possessed individually and collectively, the cumulative total of which represents a form of wealth available to nations and organizations to accomplish their goals. Human capital is available to generate material wealth for an economy or a private firm. In a public organization, human capital is available as a resource to provide for the public welfare. How human capital is developed and managed may be one of the most important determinants of economic and organizational performance.
Improved scenario	(See PROFILES.)
Iodine deficiency disorders	A range of abnormalities that result from iodine deficiency, including goiter, cretinism, and reduced IQ. Iodine deficiency during fetal life is the main cause of preventable brain damage worldwide. Iodine deficiency among pregnant women and during the first few months of infancy leads to irreversible brain damage of various degrees of severity in the infant.
Lives saved	In the context of PROFILES, lives saved reflects the number of lives saved due to a reduction in the prevalence of various nutrition problems (such as stunting, wasting, underweight, vitamin A deficiency, anemia, suboptimal breastfeeding practices, and low birth weight) in the improved scenario of PROFILES. (Also see PROFILES.)
Low birth weight	Refers to when an infant weighs less than 2,500 g (5.5 lbs) at birth. It is usually an outcome of intrauterine growth retardation and/or preterm birth. Low birth weight is not only closely associated with increased risk of fetal and neonatal mortality and morbidity, but also with increased risk of inhibited growth, poor cognitive development, and chronic diseases later in life.
Malnutrition	Malnutrition is an abnormal physiological condition caused by inadequate, excessive, or imbalanced intake of nutrients. It includes undernutrition, overweight/obesity, and micronutrient deficiencies. Undernutrition is a consequence of a deficiency in nutrient intake and/or absorption in the body. Different forms of undernutrition, which can appear isolated or in combination, include wasting and/or bilateral pitting edema (acute malnutrition), stunting (chronic undernutrition), underweight (combined form of wasting and stunting), and micronutrient deficiencies. Undernutrition in women is associated with increased risk of maternal mortality and delivering babies with low birth weight. In children, undernutrition is associated with increased risk of illness and death, as well as compromised physical and cognitive development.
Micronutrients	Essential vitamins and minerals required in small amounts by the body throughout the life cycle.

TERM/PHRASE	DEFINITION/USAGE
Micronutrient deficiencies	A consequence of reduced micronutrient intake and/or absorption in the body. The most common forms of micronutrient deficiencies are related to iron, vitamin A, and iodine deficiency.
Mortality	(See subcategories below.)
Infant mortality	The probability of dying before the first birthday, expressed as number of deaths per 1,000 live births.
Maternal mortality	The maternal mortality ratio is defined as the ratio of the number of maternal deaths per 100,000 live births. In population surveys, maternal deaths are generally defined as deaths during the reproductive process—that is, during pregnancy, childbirth, or within 2 months after the birth of a child or termination of a pregnancy.
Neonatal mortality	The probability of dying during the neonatal period, expressed as number of deaths per 1,000 live births. The neonatal period is generally defined as the first 28 days of life. In population surveys, deaths in the first month of life are often used in neonatal mortality estimates.
Perinatal mortality	The probability of dying during the perinatal period, generally defined as the number of stillbirths plus deaths in the first week of life per 1,000 total births.
Under-5 mortality	The probability of dying before the fifth birthday, expressed as number of deaths per 1,000 live births.
Nutrition advocacy	A platform to create movement toward greater political and social commitment for nutrition in a country. It is defined and shaped by the specific country context. Nutrition advocacy can support a given country at any stage along the way to providing nutrition services and reducing malnutrition. A central focus of nutrition advocacy is to promote accountability for nutrition and strengthen nutrition governance. For example, nutrition advocacy can serve to support the development of a nutrition policy, investment of resources to strengthen and expand implementation of nutrition services, greater coordination between government and nongovernmental organizations that play an important role in providing nutrition services across the country, or a variation of these.
Nutrition costing	Estimates the costs of implementing a comprehensive set of nutrition programs in a country or prioritized geographic area over a specific time period. Nutrition costing is developed in the country, considering the country-specific context, and is the result of a collaborative and participatory process during which multisectoral stakeholders engage in defining the assumptions on which nutrition costing is based—for instance, selecting necessary interventions and activities, and defining a management structure for service provision—which in turn allows identification of the required inputs for each activity and estimation of the program cost for a specified time period.

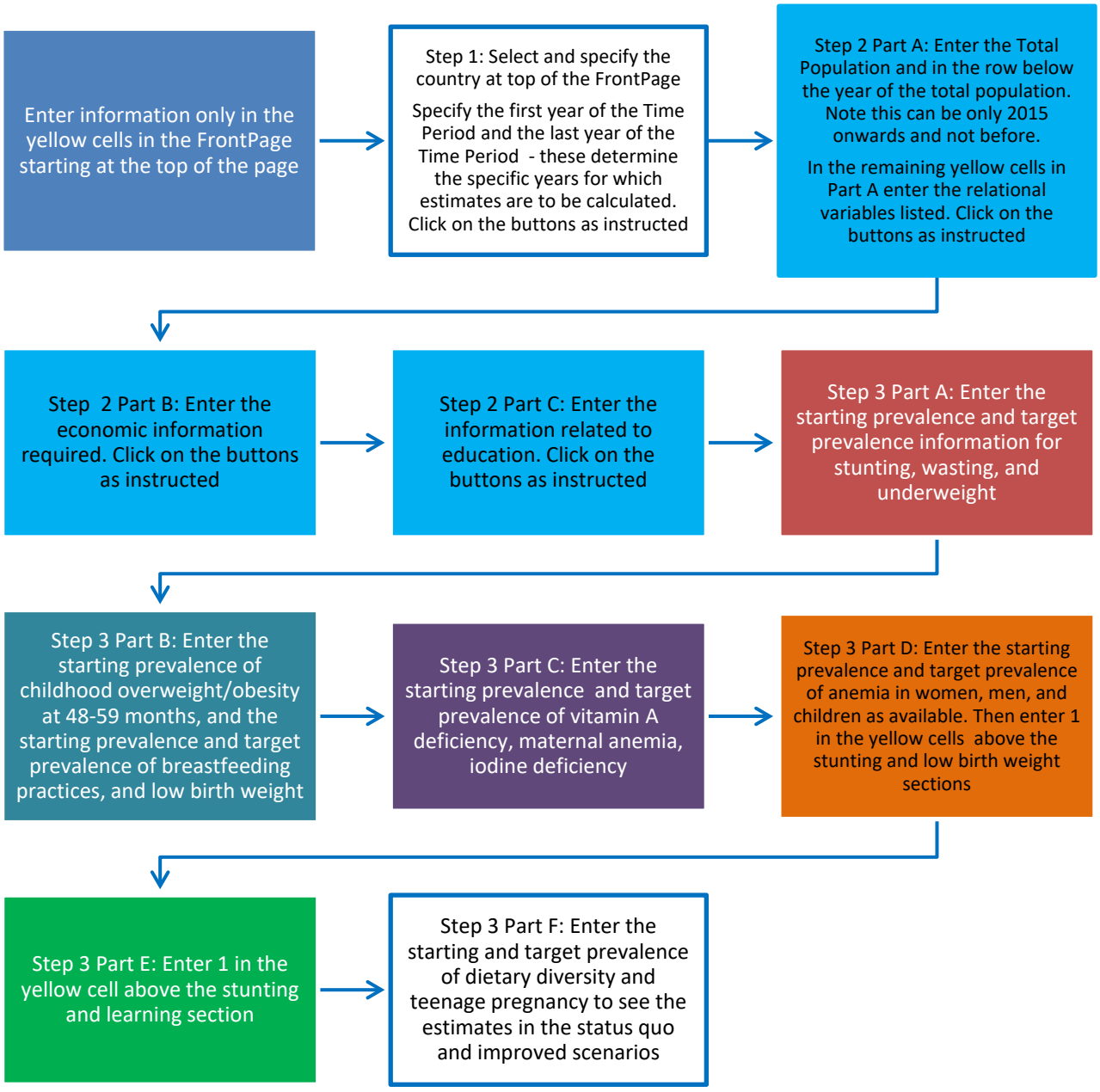
TERM/PHRASE	DEFINITION/USAGE
Odds ratio	A measure of association between a risk factor and a disease (or health outcome). Specifically, in a case control study, the odds ratio is the odds that a case (one with the disease) was exposed to the risk factor divided by the odds that a control (one without the disease) was exposed to the same risk factor.
Permanent disability	Within the context of PROFILES, permanent disability refers to the lifelong impairment or loss of a person's physical or mental abilities due to a nutritional condition early in life.
Population attributable fraction (PAF)	Proportion (fraction) of a disease (or health outcome) in a population that is attributable to a specific risk factor or that could be avoided by eliminating the risk factor. PAF is calculated as a function of the prevalence of exposure to the risk factor and the relative risk. An example from PROFILES is the proportion of child deaths attributable to underweight.
Prevalence	Refers to the number of cases of a disease that are present in a particular population at a given time, often expressed as percentage or proportion. PROFILES uses point prevalence—which is the prevalence at a point in time, often referred to as a snapshot of a population.
PROFILES	Developed to support nutrition advocacy, PROFILES consists of a set of computer-based models that calculate consequences if malnutrition does not improve over a defined time period and the potential benefits of improved nutrition over the same time period, including lives saved, disabilities averted, human capital gains, and economic productivity gains. To calculate estimates, PROFILES requires current country-specific nutrition data that are identified and agreed upon in collaboration with stakeholders in the country. The basic approach in PROFILES is to provide two scenarios: a “status quo” scenario and an “improved” scenario. The status quo scenario assumes there will be no change from the current situation throughout the chosen time period (the number of years for which estimates are calculated), aside from projected changes in population size and structure. The prevalence of each nutrition problem remains the same every year in the status quo scenario. In contrast, in the improved scenario—with results estimated for the same time period—it is expected that nutrition interventions that are known to be effective are implemented at scale and succeed in reaching the stated targets in terms of improvements in the prevalence of the various nutrition problems. Although nutrition interventions are not included in the PROFILES models, the subsequent steps in the nutrition advocacy process can address the need for various nutrition services, interventions, programs, or issues related to the nutrition policy environment. The improved scenario prevalence targets for the various nutrition problems are determined and agreed upon through stakeholder meetings and a PROFILES workshop.

TERM/PHRASE	DEFINITION/USAGE
Relative risk	Measures the association between a risk factor and a disease or health outcome. It describes the likelihood of developing disease in a group exposed to the risk factor compared to a non-exposed group. The relative risk is a ratio calculated as the risk of disease among those exposed to the risk factor divided by the risk among the non-exposed.
Risk factor	Any characteristic that increases the likelihood of a disease (or health outcome).
Starting prevalence in PROFILES	The prevalence at the start of the time period for which the *PROFILES Spreadsheet Workbook* will calculate estimates. This may or not be the current prevalence of a nutrition condition because national surveys are done a few years apart and existing data may be not be current. Therefore, it is recommended that PROFILES use the most recent or the most credible prevalence data available as identified by stakeholders.
Status quo scenario	(See PROFILES.)
Stunting/stunted	Stunting, or chronic malnutrition, describes nutritional status as measured by height-for-age. A child who is below -2 standard deviations from the World Health Organization 2006 Growth Standards reference median for height-for-age is considered to be too short for his/her age, or stunted, which is a condition reflecting chronic nutritional deficiency. Stunting is a result of prolonged or repeated episodes of undernutrition often starting before birth. This type of undernutrition is best addressed through preventive maternal health programs aimed at pregnant women, infants, and children under 2 years of age. Program responses to stunting require longer-term planning and policy development.
Suboptimal breastfeeding practices	The breastfeeding model in PROFILES looks at suboptimal breastfeeding practices as no, partial, or predominant breastfeeding when children are 0–5 months versus exclusive breastfeeding and as no breastfeeding among children 6–23 months versus any breastfeeding. Suboptimal breastfeeding practices are an important contributor to infant and young child mortality due to an increased risk of infection. In PROFILES, predominant breastfeeding among infants 0–5 months of age refers to those who received breast milk as the predominant source of nourishment during the previous day. Predominant breastfeeding allows oral rehydration salts, vitamin and/or mineral supplements, ritual fluids, water and water-based drinks, and fruit juice. Other liquids, including non-human milk and food-based fluids, are not allowed, and no semi-solid or solid foods are allowed. Partial breastfeeding among infants 0–5 months of age refers to those who received breast milk as well as non-human milk, food-based fluids, and/or semi-solid/solid foods.
Target prevalence in PROFILES	This refers to the prevalence at the final year of the chosen time period. For example, if the starting prevalence is 35%, stakeholders may decide that the target prevalence by the end of the time period is 15%. That is what the prevalence should be by the final year of the time period.

TERM/PHRASE	DEFINITION/USAGE
Targeted reduction in prevalence in PROFILES	Refers to the proportion reduction in prevalence to reach the target prevalence.
Teenage pregnancy: Births to teenage mothers	Among all births, the percentage of births that are to mothers less than 20 years of age.
Time period in PROFILES	Refers to the period (number of years) for which the PROFILES estimates will be calculated.
Undernutrition	(See malnutrition.)
Underweight	Describes nutritional status as measured by weight-for-age among children under 5. Underweight is a composite form of undernutrition that includes elements of stunting and/or wasting and is defined by a weight-for-age z-score below -2 standard deviations from the reference median (World Health Organization 2006 Child Growth Standards).
Vitamin A deficiency	Vitamin A is an essential nutrient required for maintaining immune function, eye health, vision, growth, and survival in human beings. Vitamin A-deficient children are at risk of severe visual impairment and blindness (xerophthalmia—including Bitot's spots and corneal ulceration—is among the ophthalmic manifestations of vitamin A deficiency). They also have a higher risk of death (e.g., from diarrhea and measles). A common indicator of vitamin A deficiency is the level of retinol (a form of vitamin A) in blood. The recommended cutoff for mild (or subclinical) vitamin A deficiency among children is < 0.70 µmol/l.
Wasting/wasted	Wasting, or acute malnutrition, describes nutritional status as measured by weight-for-height. A child who is below -2 standard deviations from the World Health Organization 2006 Growth Standards reference median for weight-for-height is considered to be too thin, or wasted, which is a condition reflecting acute or recent nutritional deficit. It is a result of a sudden lack of an adequate amount or variety of food or severe and/or repeated infections. Severe wasting is a form of undernutrition that can be fatal. There are different levels of severity of acute malnutrition: moderate acute malnutrition and severe acute malnutrition.
Weight-for-age	(See underweight.)
Weight-for-height	(See wasting.)

TERM/PHRASE	DEFINITION/USAGE
Z-score	The World Health Organization (WHO) Global Database on Child Growth and Malnutrition uses a z-score system to express the anthropometric value as number of standard deviation (SD) units (or z-scores) below or above the reference mean or median value. WHO uses a cutoff point of < -2 SD to classify low weight-for-age, low height-for-age, and low weight-for-height as moderate and severe underweight, stunting, and wasting. WHO uses a cutoff point of < -3 SD to define severe underweight, stunting, and wasting.

Handout: PROFILES Data Entry Diagram



Template: Nutrition Advocacy Plan

Problem	
Changes the Problem Calls for	
Final Audience Segmentation	People most affected by malnutrition:
	People who directly influence those most affected by malnutrition:
	People who indirectly influence people most affected by malnutrition:
Strategic Approach/ Framing	

Advocacy Audiences

Note: The number of advocacy audiences below will depend on the country context and priorities set during the nutrition advocacy planning workshop.

Audience #1:				
Desired Changes	•			
Key Barriers	•			
Advocacy Intent	•			
Implementation Matrix				
Indicators				
Means of Verification				
ACTIVITY	**MATERIALS TO SUPPORT ACTIVITIES**	**TIMELINE**	**PROPOSED RESPONSIBLE ORGANIZATIONS**	**POSSIBLE SUPPORTING ORGANIZATIONS**

Audience #2:				
Desired Changes	•			
Key Barriers	•			
Advocacy Intent	•			
Implementation Matrix				
Indicators:				
Means of Verification				
ACTIVITY	**MATERIALS TO SUPPORT ACTIVITIES**	**TIMELINE**	**PROPOSED RESPONSIBLE ORGANIZATIONS**	**POSSIBLE SUPPORTING ORGANIZATIONS**

Audience #3:				
Desired Changes	•			
Key Barriers	•			
Advocacy Intent	•			
Implementation Matrix				
Indicators:				
Means of Verification:				

Audience #4:				
Desired Changes •				
Key Barriers •				
Advocacy Intent •				
Implementation Matrix				
Indicators				
Means of Verification				
ACTIVITY	**MATERIALS TO SUPPORT ACTIVITIES**	**TIMELINE**	**PROPOSED RESPONSIBLE ORGANIZATIONS**	**POSSIBLE SUPPORTING ORGANIZATIONS**

Audience #5:				
Desired Changes •				
Key Barriers •				
Advocacy Intent •				
Implementation Matrix				
Indicators:				
Means of Verification				
ACTIVITY	**MATERIALS TO SUPPORT ACTIVITIES**	**TIMELINE**	**PROPOSED RESPONSIBLE ORGANIZATIONS**	**POSSIBLE SUPPORTING ORGANIZATIONS**

Audience #6:				
Desired Changes •				
Key Barriers •				
Advocacy Intent •				
Implementation Matrix				
Indicators				
Means of Verification				
ACTIVITY	**MATERIALS TO SUPPORT ACTIVITIES**	**TIMELINE**	**PROPOSED RESPONSIBLE ORGANIZATIONS**	**POSSIBLE SUPPORTING ORGANIZATIONS**

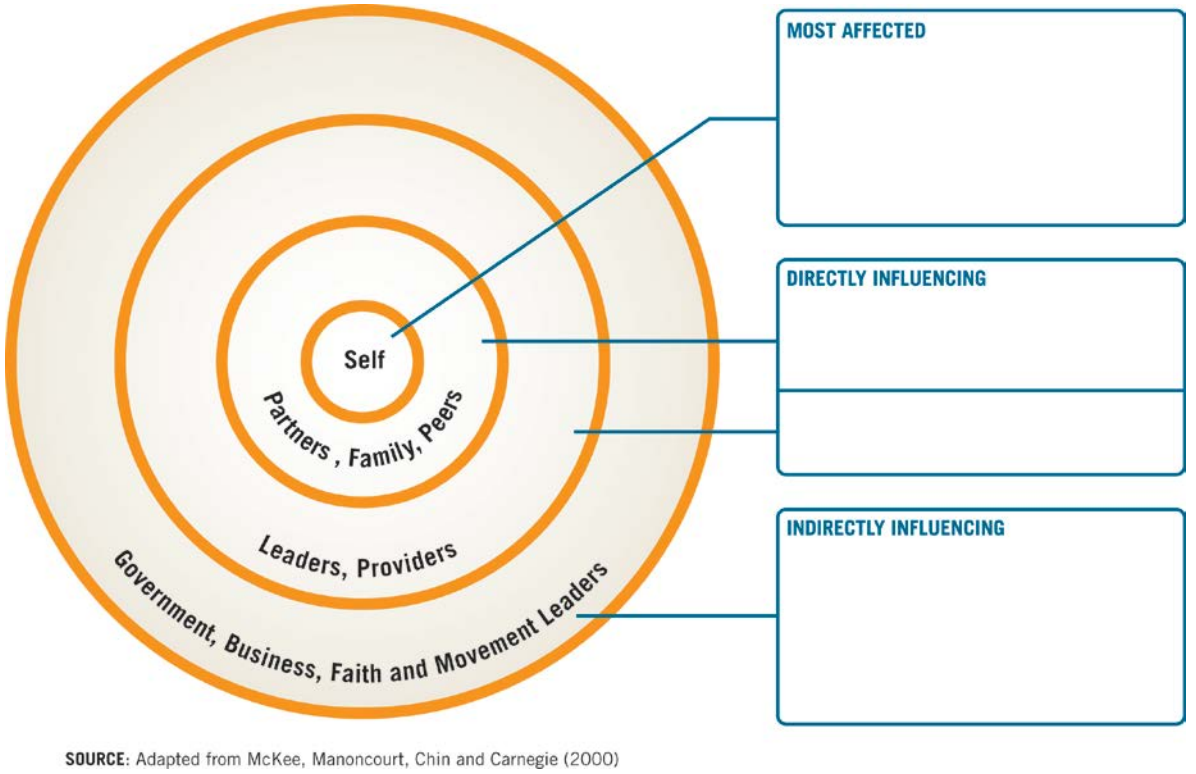
Audience #7:				
Desired Changes	•			
Key Barriers	•			
Advocacy Intent	•			
Implementation Matrix				
Indicators				
Means of Verification				
ACTIVITY	**MATERIALS TO SUPPORT ACTIVITIES**	**TIMELINE**	**PROPOSED RESPONSIBLE ORGANIZATIONS**	**POSSIBLE SUPPORTING ORGANIZATIONS**

Template: Agenda for the Nutrition Advocacy Planning Workshop

DAY ONE	
Time	**Session**
8:30–8:45 am	Welcoming Remarks
8:45–9:30 am	Session 1: Purpose of the Workshop—Why Advocacy and Why Now? Review of Agenda
9:30–10:00 am	Session 2: The Nutrition Situation in [insert country]
10:00–11:00 am	Session 3: Review of Existing Advocacy Activities and Materials
11:00–11:15 am	Break
11:15–11:45 am	Session 4: Components of a Nutrition Advocacy Plan Review of the Problem and Possible Solutions
11:45 am–12:30 pm	Session 5: Summary of PROFILES Estimates
12:30–1:00 pm	Session 6: Audience Analysis and Segmentation Using the Socio-Ecological Model
1:00–2:00 pm	Lunch
2:00–3:00 pm	Session 6 Continues: Audience Analysis and Segmentation Using the Socio-Ecological Model
3:00–3:30 pm	Session 7: Context Analysis
3:30–3:45 pm	Break
3:45–5:20 pm	Session 8: Desired Changes, Barriers, and Advocacy Intent for Each Audience
5:20–5:30 pm	Wrap-Up and Closing
DAY TWO	
Time	**Session**
8:30–9:00 am	Recap of Day One
9:00–10:00 am	Session 9: Discussion of Desired Changes, Barriers, and Advocacy Intent for Each Audience
10:00–10:30 am	Session 10: Revision of Desired Changes, Barriers, and Advocacy Intent for Each Audience
10:30–10:45 am	Break
10:45–11:45 am	Session 11: Advocacy Activities and Materials for Each Audience
11:45 am–1:00 pm	Session 12: Discussion of Advocacy Activities and Materials for Each Audience
1:00– 2:00 pm	Lunch
2:00–2:30 pm	Session 13: Revision of Advocacy Activities and Materials for Each Audience
2:30–3:30 pm	Session 14: Indicators and Means of Verification for Each Audience
3:30–3:45 pm	Break
3:45–5:20 pm	Session 15: Discussion of Indicators and Means of Verification for Each Audience
5:20–5:30 pm	Wrap-Up and Closing

DAY THREE	
Time	**Session**
8:30–9:00 am	Recap of Day Two
9:00–9:30 am	Session 16: Revision of Indicators and Means of Verification for Each Audience
9:30–10:30 am	Session 17: Timeline and Responsible/Supporting Organizations for Each Audience
10:30–10:45 am	Break
10:45 am–12:30 pm	Session 18: Discussion of Timeline and Responsible/Supporting Organizations for Each Audience
12:30–1:00 pm	Session 19: Revision of Timeline and Responsible/Supporting Organizations for Each Audience
1:00–2:00 pm	Lunch
2:00–3:30 pm	Session 20: Introduction to Material Planning Tool and Review of Draft Material
3:30–3:45 pm	Break
3:45–5:20 pm	Session 21: Discussion and Revision of Draft Material
5:20–5:30 pm	Wrap-Up and Closing
DAY FOUR	
Time	**Session**
8:30–10:30 am	Session 22: Review of the Completed Nutrition Advocacy Plan
10:30–10:45 am	Break
10:45 am–12:00 pm	Session 23: Material Planning Tool—Key Promise, Support Statement, and Call to Action
12:00–1:00 pm	Session 24: Material Planning Tool—Discussion of Key Promise, Support Statement, and Call to Action
1:00–2:00 pm	Lunch
2:00–2:30 pm	Session 25: Material Planning Tool—Revision of Key Promise, Support Statement, and Call to Action
2:30–3:30 pm	Session 26: Material Planning Tool—Key Content (Detailed Outline of Document) and How it Fits the Mix/Creative Considerations
3:30–3:45 pm	Break
3:45–4:45 pm	Session 27: Material Planning Tool—Discussion of Key Content (Detailed Outline of Document) and How it Fits the Mix/Creative Considerations
4:45–5:15 pm	Session 28: Material Planning Tool—Revision of Key Content (Detailed Outline of Document) and How it Fits the Mix/Creative Considerations
5:15–5:30 pm	Closing and the Way Forward

Template: Audience Analysis Worksheet



SOURCE: Adapted from McKee, Manoncourt, Chin and Carnegie (2000)

Directions:

- In the **center** are individuals (**self)**. Identify the members of this group by asking, "Who are the people most affected by the issue?"
- In the next ring are the **partners, family, and peers** of self. Identify the members of this ring by asking, "Who are the people who have contact with the individuals in the center ring and directly influence them?"
- In the next ring are the **leaders and providers,** Identify the members of this ring by asking: "Who in the community allows certain activities?" and "Who controls resources?" and "Who controls access to, the demand for, and the quality of health and nutrition services and products?"
- In the outermost "environmental" ring are the **government, business, faith and movement leaders**. Identify the members of this ring by asking, "Who indirectly influences the individuals in the center?"

Template: Material Planning Tool

	Illustrative Examples
1. Audience	
Who is the target of this material?	Policymakers and parliamentarians
2. Desired Changes	
What do you want the audience to change—perceptions, knowledge, feelings, topics of discussion, skills, or actions—after experiencing your communication?	• Draft and enact a policy on the fortification of micronutrients, including vitamin A, iron, and zinc • Enact a policy on code of marketing for breast milk substitutes • Draft and enact a policy on maternity protection, including the extension of maternity leave for 6 months and the provision of paternity leave • Increase resource allocation for nutrition programs
3. Obstacles and Barriers	
• Why are people not doing what they should be doing? (Would they change their behavior if they had more knowledge? Or is something else missing that prevents them from changing?) • Select <u>one</u> key barrier.	Inadequate awareness of the magnitude of the nutrition problem and the investment needed for nutrition
4. Advocacy Intent	
How will the advocacy communication address the key barrier?	By the end of 2016, policymakers and parliamentarians will have a greater understanding of the benefits of improving nutrition, which will result in a greater allocation of resources and increased commitment to policies that improve nutrition.
5. Message Brief	
Includes instructions for the design and development of the messages (by writers, designers, and producers)	
a. The **key promise** is the most compelling benefit of taking the desired action. The key promise should: • Represent a subjective experience in your audience's mind • Promise a reward in the (near) future • Be truthful and relevant to your audience	Investment in nutrition and commitment to policies that improve nutrition will result in a healthier and better educated constituency, leading to economic productivity gains for the country.
b. The **support statement** convinces the audience they will actually experience the benefit. It should provide reasons why the key promise outweighs the	Commitment to policies that promote micronutrient food fortification, restrict marketing of breast milk substitutes, and provide an enabling environment for women to exclusively breastfeed will decrease

key constraint (barriers). The support statement often becomes the message.	chronic malnutrition in the country and save the lives of mothers and children.
c. A **call to action** should tell your audience what you want them to do or where to go to use the new product.	Invest in programs, enforce existing laws, and enact policies that improve nutrition.
6. Key Content	
Outline the material's content and include sources of information for each section	
Nutrition situation	• Prevalence of stunting, wasting, and micronutrient deficiencies [Source: Demographic and Health Survey (DHS)] • Malnutrition's impact on health, education, and economic development [Source: PROFILES and Cost of Hunger in Africa (COHA)]
Policies to provide an enabling environment for nutrition	• Micronutrient food fortification policy and benefits • Code of marketing for breast milk substitutes policy and benefits • Maternity protection (maternity leave and paternity leave) policy and benefits
Proven solutions to improve nutrition [Source: Scaling Up Nutrition (SUN)]	• Interventions focused on prevention of malnutrition
Benefit to the country (Source: PROFILES and COHA)	• Improved health • Improved education • Economic productivity gains
Call to action	• Enact policies and enforce existing laws on food fortification, code of marketing for breast milk substitutes, and maternity protection • Invest more resources in the prevention of malnutrition
7. How It Fits the Mix and Creative Considerations	
• How does this material or activity relate to other materials or activities you are creating? • What else might be important to keep in mind when creating, producing, or distributing this communication product? • Will the material be presented in more than one language? What is the literacy level of your audience? Is there anything particular regarding style, layout, or visuals? What logos need to be used? How will the material be branded?	The fact sheet will be used in one-on-one meetings and during advocacy workshops with policymakers and parliamentarians. It will be used in conjunction with a multi-media presentation. The language for the fact sheet will be English and the literacy level is high for the target audience. The material will be branded with the government and partner logos.