# Are Data Available for Tracking Progress on Nutrition Policies, Programs, and Outcomes in Bangladesh?

Data DENT
Data for Decisions to Expand Nutrition Transformation

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**Authors:**

International Food Policy Research Institute: Manita Jangid, Sumanta Neupane, Samuel Scott, Phuong Hong Nguyen, Sunny Kim, Purnima Menon

UNICEF Regional Office South Asia: Zivai Murira, Harriet Torlesse

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# Abbreviations

| | |
|---|---|
| ANC | Antenatal Care |
| ARI | Acute Respiratory Infection |
| BDHS | Bangladesh Demographic and Health Survey |
| BMI | Body Mass Index |
| BMS | Breast Milk Substitute |
| CMAM | Community Based Management Of Malnutrition |
| CSBA | Community-Based Skilled Birth Attendant |
| DHIS | District Health Information System |
| eLENA | e-Library of Evidence for Nutrition Actions |
| EPI | Expanded Program on Immunization |
| ESP | Essential Health Service Package |
| FP | family planning |
| FWV | Family Welfare Visitor |
| GNMF | Global Nutrition Monitoring Framework |
| HAZ | Height-for-Age Z-Score |
| HNPSIP | Health Nutrition And Population Strategic Investment Plan |
| IFA | Iron and Folic Acid |
| IFPRI | International Food Policy Research Institute |
| IPHN | Institute of Public Health Nutrition |
| IMCI | Integrated Management of Childhood Illness |
| IMCI–N | Integrated Management of Childhood Illness–Nutrition |
| IYCF | infant and young child feeding |
| KMC | Kangaroo Mother Care |
| MA | medical assistant |
| MAD | Minimum Acceptable Diet |
| MAM | moderate acute malnutrition |
| MICS | Multiple Indicator Cluster Survey |
| MNP | Micronutrient Powder |
| MUAC | Mid-Upper Arm Circumference |
| NCD | Noncommunicable Disease |
| NGMN | National Guideline for Maternal Nutrition |
| NIP | National Immunization Policy |

| | |
|---|---|
| NIPORT | National Institute of Population Research and Training |
| NNP | National Nutrition Policy |
| NNS | National Nutrition Service |
| NPAN | National Plan of Action for Nutrition |
| NSIYCF | National Strategy for Infant and Young Child Feeding |
| NSMH | National Strategy for Maternal Health |
| PHC | Primary Health Care |
| PNC | Postnatal Care |
| ROSA | Regional Office for South Asia |
| SACMO | Sub Assistant Community Medical Officer |
| SAM | severe acute malnutrition |
| SBA | Skilled Birth Attendant |
| SBCC | Social Behavior Change Communication |
| SDG | Sustainable Development Goal |
| WASH | Water, Sanitation and Hygeine |
| WHO | World Health Organization |
| WHZ | Weight-for-Height Z-Score |
| WRA | Women of Reproductive Age |
| WAZ | Weight-for-Age Z-Score |
| UNICEF | United Nations Children's Fund |
| USI | Universal Salt Iodization |
| VGD | Vulnerable Group Development |

# Executive Summary

The World Health Organization (WHO) and other global nutrition and health agencies recommend nutrition actions throughout the life-course to address malnutrition in all its forms. In this report, we examine how Bangladesh's nutrition policies and programs address recommended nutrition actions, determinants, and outcomes. We review population-based surveys to assess the availability of data on nutrition actions, nutrition outcomes, and determinants of these outcomes; we also assess the data availability in administrative data systems for selected nutrition actions and outcomes.

Our policy review identified a total of 53 recommended evidence-based nutrition actions; of these, 51 were applicable to Bangladesh, and 47of those were addressed in the country's nutrition policies and programs. Nutrition actions that were not included in current policies and programs were: deworming during preconception and advice on consuming calcium during pregnancy. In terms of the two nutrition actions targeting early childhood, food supplementation and iron and folic acid (IFA) supplementation were not addressed by either policies or programs. National strategies and plans recognized and aimed to address all key determinants of nutrition; they also expressed an intent to address all Sustainable Development Goal (SDG) nutrition targets for maternal, infant, and young child nutrition. The Global Nutrition Monitoring Framework (GNMF) targets related to underweight among non-pregnant women 15 to 49 years and overweight among school children and adolescents five to 19 years were not addressed in the national strategies.

Of the 47 actions that Bangladesh's policies and programs address, our data review indicated that population-based surveys contained data on only 19 actions. However, of the 29 selected actions reviewed in the administrative data system, data was available only 24 actions. Data was not available from population-based surveys on a number of indicators, including to the following: IFA supplementation and deworming during adolescence; IFA supplementation during preconception; indicators focused on pregnant women including calcium supplementation, deworming, and counseling during pregnancy; indicators aimed at the postnatal period including breastfeeding support, optimal feeding of low-birth-weight infants, IFA supplementation, and food supplementation; indicators targeting early childhood including counseling on breastfeeding, counseling on complementary feeding, iron-containing micronutrient powder (MNP), growth monitoring, counseling on nutritional status, identification of severe or moderate underweight, and inpatient management of severe acute malnutrition (SAM). Administrative data systems did not contain data on counseling on exclusive breastfeeding during pregnancy, assessment of birth weight, breastfeeding support, optimal feeding of low-birth-weight infants and counseling of mothers on Kangaroo Mother Care (KMC) during pregnancy. Population-based surveys contained data on most indicators related to immediate and underlying determinants of undernutrition. In terms of outcomes related to children under five, administrative data systems and population-based surveys contained data on low birthweight, stunting, wasting, underweight, and overweight; for adolescents 11 to 19 years and non-pregnant women they contained data only on underweight. Data was available on overweight, hypertension and diabetes among adults in population-based surveys. Population based survey did not collect data on anemia among women and children.

In conclusion, Bangladesh's policy landscape for nutrition is robust; however, the gaps in data availability for tracking progress on nutrition are much greater than the gaps in the

policies and programs that are designed to address the recommended actions. Future population-based surveys and future modifications of other data systems should aim to fill the identified data gaps for nutrition actions and few indicators under nutrition outcomes.

# 1 Introduction

The World Health Organization (WHO) and other global nutrition and health agencies recommend nutrition actions throughout the life-course to address malnutrition in all its forms. It is anticipated that if evidence-based nutrition actions are implemented, supportive policies and legislation are introduced, and functioning health, education, and social protection systems are established, then countries will be able to improve the nutrition and health status of their women and children, from which economic development and increased equity will inevitably follow (Nguyen et al. 2020).

As global recommendations are updated based on available evidence, it is anticipated that national governments and partners will, in turn, build on these recommendations to update national policies and programs. In addition, as countries develop national and subnational nutrition strategies and align policies and programs to these strategies, it will be critical to efficiently track progress on the roll-out of nutrition actions. Alongside the tracking of progress on nutrition actions, countries must also know whether programs are on track to help achieve change in key determinants of nutrition status and, ultimately, in nutrition outcomes. However, little is known in the South Asia region about policy coherence with globally recommended actions. Even less is known about the degree to which countries are able to track their progress on interventions, determinants, and outcomes as they build their national nutrition strategies.

To address this gap, the International Food Policy Research Institute's (IFPRI) South Asia Office, in collaboration with the UNICEF Regional Office for South Asia (ROSA) and others, examined the alignment of national nutrition policies and programs with recommended global nutrition actions, and then assessed the availability of national data for tracking progress on nutrition. An overview was then compiled of the nutrition policies, programs, and data information systems for tracking nutrition actions, determinants, and outcomes in all the countries of the South Asia region, including Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. This report presents findings for Bangladesh.

It has two major objectives:

1) To assess the extent to which Bangladesh's policies and programs a) address the recommended nutrition actions across the life-course; b) recognize both immediate and underlying determinants of nutrition; and c) aim to tackle the key relevant nutrition outcomes; and

2) To examine the availability of data for tracking progress on nutrition actions, determinants, and outcomes in Bangladesh.

Review findings are intended to provide an evidence base that will further support national governments and their partners in identifying gaps in nutrition actions and in improving data availability to better track progress on nutrition actions, determinants, and outcomes.

# 2 Approach

The approach and methods used for the policy review and for the data-availability review are described below. The review focuses primarily on the critical period from preconception to early childhood, but, where relevant, we also include information pertaining to noncommunicable disease (NCD) outcomes that have been part of national strategies.

## 2.1 Methods: Policy Review

The policy review required three steps: first, to create a base framework of nutrition actions, determinants, and outcomes; second, to assemble national nutrition policies, strategies, and implementation guidelines; and third, to synthesize information on nutrition actions, determinants, and outcomes against the base framework.

### *2.1.1 Identification of nutrition actions, determinants, and outcomes*

Global guidance documents recommend several nutrition actions throughout the life-course, that is, in adolescence and preconception, during pregnancy, around delivery, postnatally, and in early childhood. We identified a long list of recommended evidence-based nutrition actions from various sources (Box 1).

**Box 1. Sources of recommended evidence-based nutrition actions**

- *Essential Nutrition Actions: Mainstreaming Nutrition Through the Life-Course* (WHO 2019)
- *Guideline: Implementing Effective Actions for Improving Adolescent Nutrition* (WHO 2018)
- *Recommendations on Antenatal Care for a Positive Pregnancy Experience* (WHO 2016)
- *WHO Recommendations on Health Promotion Interventions for Maternal and Newborn Health 2015* (WHO 2015)
- *WHO Recommendation on Postnatal Care of the Mother and Newborn* (WHO 2013)
- *Making Pregnancy Safer: The Critical Role of the Skilled Attendant. A Joint Statement by WHO, ICM and FIGO* (WHO 2004)
- "Measuring the Coverage of Nutrition Interventions Along the Continuum of Care: Time to Act at Scale." (Gillespie et al. 2019)
- *The Global Strategy for Women's, Children's and Adolescents' Health 2016–2020* (EWEC 2016)
- "Evidence-Based Interventions for Improvement of Maternal and Child Nutrition: What Can Be Done and at What Cost?" (Bhutta et al. 2013)

Appendix 1 presents a full list of the identified nutrition actions by life-course. This list formed the frame of reference for the review of policies and programs.

To identify whether current policies and plans recognize and address immediate and underlying determinants of nutrition, we used the conceptual framework laid out under the following:

- Strategy for Improved Nutrition of Children and Women in Developing Countries (UNICEF 1991), and
- "Maternal and Child Undernutrition and Overweight in Low-Income and Middle-Income Countries" (Black et al. 2008).

Finally, the reference list of nutrition outcome indicators came from nutrition targets under the Sustainable Development Goals (SDGs) and from additional targets that were included in the WHO's Global Nutrition Monitoring Framework (GNMF) (WHO 2017). To ensure country specificity, we also included additional nutrition outcomes that are stated in the country strategies; some of these were not included in either the SDG or GNMF list of targets.

### 2.1.2 *Nutrition policy and program documents*

We identified the government-issued nutrition-relevant policies, strategic plans, program implementation and operational guidelines (as of May 31, 2020). We accessed these documents through online searches, UNICEF regional and country offices, and key informants working in the region. Our final list of documents for Bangladesh included ten nutrition-relevant national policies/plans/strategies and five program documents, as well as program implementation guidelines currently in use (Box 2).

**Box 2. List of documents reviewed**

**Policy/plan/strategy**

- *Operational Plan for National Nutrition Services (NNS) 2017–2022* (Bangladesh, Directorate General of Health Services 2017b)
- *National Strategy on Prevention and Control of Micronutrient Deficiencies, Bangladesh (2015–2024* (Bangladesh, Directorate General of Health Services 2015)
- *Second National Plan of Action for Nutrition: 2016–2025* (Bangladesh, Ministry of Health and Family Welfare 2017)
- *National Immunization Policy* (Bangladesh, Directorate General of Health Services 2014)
- *Bangladesh Essential Health Service Package (ESP)* (Bangladesh, Ministry of Health and Welfare 2016a)
- *4th Health, Population and Nutrition Sector Programme: Operational Plan, (OP) (January 2017–June 2020): Maternal Neonatal Child and Adolescent Health* (Bangladesh, Directorate General of Health Services 2017a)
- *National Nutrition Policy 2015* (Bangladesh, Ministry of Health and Family Welfare 2015)

- *National Strategy for Adolescent Health 2017–2030* (Bangladesh, Ministry of Health and Welfare 2016c)
- *National Strategy for Infant and Young Child Feeding in Bangladesh* (Bangladesh, Institute of Public Health Nutrition 2007)
- *Bangladesh National Strategy for Maternal Health 2019–2030* (Bangladesh, Ministry of Health and Family Welfare 2019)

**Program document/program implementation guideline**

- *National Neonatal Health Strategy and Guidelines for Bangladesh* (Bangladesh, Ministry of Health and Welfare 2009)
- *Clinical Guidelines on Infant and Young Child Feeding (IYCF)* (Alive & Thrive, n.d.)
- *Operational Guideline for Adolescents Nutrition Interventions 2020* (Bangladesh, Institute of Public Health Nutrition 2020)
- *National Guidelines for the Facility-Based Management of Children with Severe Acute Malnutrition in Bangladesh* (Bangladesh, Institute of Public Health Nutrition 2017)
- *National Guidelines for the Management of Severely Malnourished Children in Bangladesh* (Bangladesh, Institute of Public Health Nutrition 2008)
- *National Guidelines for Community Based Management of Acute Malnutrition in Bangladesh (Bangladesh, Institute of Public Health Nutrition 2011)*

### 2.1.3 Synthesis of information

Among the nutrition actions that global guidance documents recommend, we first identified those that are applicable in Bangladesh.[1] We developed a spreadsheet on which to enter the information for each recommended and applicable nutrition action (policy name, year published, policy recommendations, program guideline name). We then reviewed Bangladesh's policies and programs to determine whether the recommended and applicable nutrition actions were being directly or indirectly addressed by the policies. If a nutrition action was addressed in the policy, we reviewed program implementation and operational guidelines to assess implementation status, recommendations, and geographic reach.

We assessed whether policies and strategies recognized the immediate and underlying determinants of nutrition and what activities were aimed at addressing these determinants; we did not, however, assess the overall adequacy of the activities aimed at addressing these determinants.

Finally, we reviewed the policies and plans to examine which nutrition outcomes were targeted. In addition to examining which global nutrition outcomes were targeted in the

[1] Some recommended nutrition actions are only applicable based on settings; for example, iron and folic acid supplementation for adolescents is only applicable if the anemia prevalence among WRA is more than 20 percent. Appendix 1 provides related details.

national plans, we also assessed whether country-specific nutrition outcomes were present as key policy targets.

Two IFPRI researchers reviewed the national policy and program documents and their mapping to the framework of actions, determinants, and outcomes; the resulting spreadsheet was cross-checked by staff at UNICEF regional and country offices.

## 2.2 Methods: Data Availability

For each of the nutrition actions, determinants, and outcomes in the framework described above, we assessed the availability of data for tracking progress both in population-based surveys and in administrative data sources. To assess data availability in population-based household surveys, we reviewed the questionnaires used in the Multiple Indicator Cluster Survey (MICS) 2019 (Bangladesh Bureau of Statistics and UNICEF Bangladesh 2019), the Bangladesh Demographic and Health Surveys (BDHS) 2017-18 and 2014 (National Institute of Population and Training [NIPORT], Mitra Associates, and ICF International 2014) Bangladesh Noncommunicable Disease (NCD) Risk Factor Survey 2018 (National Institute of Preventive and Social Medicine, Ministry of Health and Family Welfare and WHO Bangladesh 2018).

We assessed the data availability in administrative sources on 29 nutrition actions. Of 29, ten high-impact nutrition actions were from the *Lancet* framework (Black et al. 2013) and *Essential Nutrition Actions: Mainstreaming Nutrition Through the Life-Course* (WHO 2019). The data availability was reviewed and qualitatively assessed through an in-country consultative process coordinated by UNICEF Country District Health Information System (DHIS) focal points. IFPRI team also assessed the data availability on additional 19 actions found in District Health Information Systems 2 (DHIS 2), the Real Time Information Dashboard (Directorate of Health Services, n.d).

# 3 Findings: Overview of Policies and Programs in Bangladesh

In this section, we address 1) the extent to which policies and programs address recommended nutrition actions across the life-course; 2) the key determinants of malnutrition that are targeted in Bangladesh's policies; and 3) the key nutrition outcomes that are targeted in Bangladesh's policies.

## 3.1 To What Extent Do Policies and Programs Address Recommended Nutrition Actions?

Global guidance documents recommend a total of 53 nutrition actions through the life-course; of these, 51 nutrition actions were applicable in Bangladesh (Table 1).[2] Policies addressed 49 of these actions, and programs addressed 47. Both policies and programs addressed three of three nutrition actions for adolescents, three of four actions for preconception women, 15 of 16 actions for pregnant women, 12 of 12 actions for women during delivery and for postnatal care (PNC); policies addressed 16 of 16 actions for children, while programs addressed only 14 of 16 actions. Appendix 1 provides details on how policies and programs address recommended nutrition actions; Appendix 2 provides details on program implementation.

Bangladesh's nutrition policies and programs did not address deworming during preconception, advice on consuming calcium during pregnancy.

Food supplementation for complementary feeding and IFA supplementation during early childhood were addressed by policies, but not by programs.

[2] Actions that are not applicable include vitamin A and MNP supplementation during pregnancy.

**Table 1. Nutrition actions addressed and not addressed by policies and programs in Bangladesh, by life-course**

| Life-course | Nutrition actions | |
|---|---|---|
| | Addressed in national policies and programs | Not addressed in national policies and/or programs |
| **Adolescence** | • Daily or intermittent iron and folic acid (IFA) supplementation*<br>• Preventive deworming<br>• Food supplementation*** | |
| **Preconception** | • Daily or intermittent IFA supplementation<br>• Contraception<br>• Iodine supplementation | • Preventive deworming |
| **Pregnancy** | • Antenatal care (ANC) screening by a trained provider<br>• ANC screening by a trained provider during the first trimester<br>• Four or more ANC visits<br>• Daily or intermittent IFA supplementation<br>• Energy and protein dietary supplementation***<br>• Calcium supplementation<br>• Preventive deworming<br>• Tetanus toxoid vaccination<br>• Nutritional counseling on healthy diet<br>• Weight monitoring<br>• Advice about weight after weighing<br>• Advice on consuming IFA<br>• Advice on consuming additional food<br>• Advice on birth preparedness<br>• Advice on exclusive breastfeeding | • Advice on consuming calcium** |
| **Delivery and postnatal period** | • Institutional birth<br>• Skilled birth attendant<br>• Optimal timing (delayed) of umbilical cord clamping<br>• Assessment of birth weight<br>• Support for early breastfeeding and immediate skin-to-skin contact<br>• Optimal feeding of low-birth-weight infants<br>• Counseling of mothers of low-birth-weight infants on Kangaroo Mother Care (KMC)<br>• Postnatal care (PNC) for babies around day three, day seven, and within six weeks after birth<br>• PNC for women within three and seven days and within six weeks after delivery<br>• Breastfeeding counseling<br>• IFA supplementation<br>• Food supplementation for malnourished lactating women*** | |

| Life-course | Nutrition actions | |
|---|---|---|
| | Addressed in national policies and programs | Not addressed in national policies and/or programs |
| **Early Childhood** | • Breastfeeding counseling<br>• Counseling on appropriate complementary feeding<br>• Iron-containing micronutrient powder (MNP)[!]<br>• Zinc supplementation during diarrhea<br>• Oral rehydration salts (ORS) during diarrhea<br>• Vitamin A supplementation<br>• Preventive deworming<br>• Growth monitoring (weight assessment)<br>• Counseling on nutritional status<br>• Identification of severe or moderate underweight<br>• Inpatient management of severe acute malnutrition (SAM)<br>• Outpatient management of SAM[!!]<br>• Management of moderate acute malnutrition (MAM)<br>• Immunization | • Food supplementation for complementary feeding[!!]<br>• Daily IFA supplementation |

**Source:** Review of policies and programs (see Appendix 1 for details).

**Note:** [#] = currently a facility-based supplementation; a school-based supplementation to start in late 2020 and community-based supplementation to start in 2021; ** = maternal nutrition guidelines are under development; they are an adaptation of the WHO ANC 2016 guidelines which include advice on calcium consumption; *** = available in selected districts; [!] = only available in seven districts; [!!] = only available in Cox's Bazaar for Rohingya refugees.

## 3.2 Which Key Determinants of Malnutrition Are Targeted in Strategies?

We reviewed the latest strategy document, the *Second National Plan of Action for Nutrition (NPAN–II) 2016–2025* (Bangladesh, Ministry of Health and Family Welfare 2017). It recognized and included activities to address both immediate and underlying determinants of nutrition. Immediate determinants include inadequate intake by children, breastfeeding, complementary feeding, infectious diseases, and inadequate intake by mothers; underlying determinants are women's education and their appropriate age of marriage and childbirth, sanitation and hygiene, food security, and whether they are covered by social protection schemes (Table 2). Appendix 3 provides details on activities included in the strategies.

**Table 2. Immediate and underlying determinants recognized and addressed in national strategies**

| Potential indicators | Recognized and addressed |
|---|---|
| **Immediate determinants** | |
| **1. Inadequate nutrient intake by children** | |
| *Breastfeeding* | |
| Early initiation of breastfeeding | ✓ |
| Exclusive breastfeeding | ✓ |
| Continued breastfeeding | ✓ |
| *Complementary feeding* | |
| Timely introduction of complementary feeding | ✓ |
| Minimum dietary diversity | ✓ |
| Minimum meal frequency | ✓ |
| Minimum acceptable diet | ✓ |
| **2. Infectious diseases** | |
| Diarrhea | ✓ |
| Acute respiratory infection (ARI) | ✓ |
| **3. Inadequate nutrient intake by mothers** | ✓ |
| **Underlying determinants** | |
| **1. Women's status** | |
| Completion of high school | ✓ |
| Early marriage | ✓ |
| Early childbirth | ✓ |
| **2. Sanitation and hygiene** | |
| Use of improved sanitation facilities | ✓ |
| Safe water, handwashing | ✓ |
| Safe disposal of faeces | ✓ |
| **3. Food security** | ✓ |
| **4. Socio-economic conditions** | |
| Covered by social protection schemes | ✓ |

✓=Addressed; ✗=Not addressed

**Source:** *NPAN–II (2016–2025)* (Bangladesh, Ministry of Health and Family Welfare 2017)

## 3.3 Which Nutrition Outcomes Are Targeted by Bangladesh's Strategies?

In order to determine which nutrition outcomes were targeted by Bangladesh's strategies, we reviewed three strategy documents: 1) *Second Plan of Action for Nutrition (NPAN–II) 2016–2025* (Bangladesh, Ministry of Health and Family Welfare 2017); 2) *National Nutrition Policy (NNP) 2015* (Bangladesh, Ministry of Health and Family Welfare 2015)*; and* 3) *Operational Plan for National Nutrition Services (NNS) 2017–2022* (Bangladesh, Directorate General of Health Services 2017b). These strategies together aimed to track progress of all five maternal, infant, and young child nutrition outcome targets in the SDGs, including low birth weight, stunting, wasting, overweight among children under five years, and anemia among women of reproductive age (WRA) (Table 3); these indicators are also included under the GNMF. Among the additional nutritional outcome indicators, the GNMF has underweight and overweight among WRA and overweight among school-age children five to 19 years; of these three, Bangladesh's strategies intended to track progress of overweight among WRA.

National strategies also intended to track progress of underweight among children under five years and among adolescent girls 11 to 19 years, and anemia among pregnant women and among adolescent girls 15 to 19 years. These indicators were country specific and were available in the country strategies we reviewed; they were not, however, available under the SDGs and the GNMF.

Strategies did not track progress of underweight among non-pregnant women 15 to 49 years or overweight among school-age children and adolescents five to 19 years, which are a part of the GNMF. Finally, Bangladesh's nutrition policies addressed global goals around NCD–related outcomes (Table 3).

Country-specific nutrition targets included in Bangladesh's national policies include short stature among adolescent girls 15 to 19 years.

**Table 3. Nutrition outcomes on which Bangladesh's strategies are focused**

| Nutrition outcomes | Sources | Included in country policy/plan |
|---|---|---|
| **Global nutrition goals/targets** | | |
| Low birth weight (infants) | SDG | ✓ |
| Stunting (children zero to 59 months) | SDG | ✓ |
| Wasting (children zero to 59 months) | SDG | ✓ |
| Overweight (children zero to 59 months) | SDG | ✓ |
| Anemia (non-pregnant women 15 to 49 years) | SDG | ✓ |
| Underweight (non-pregnant women 15 to 49 years) | GNMF | ✗ |
| Overweight (school-age children and adolescents five to 19 years) | GNMF | ✗ |
| Overweight (women over 18 years) | SDG | ✓ |
| Overweight (men over 18 years) | SDG | ✓ |
| Hypertension (adults over 18 years) | SDG | ✓ |
| Diabetes (adults over 18 years) | SDG | ✓ |
| **Additional country-specific nutrition goals/targets** | | |
| Underweight (children zero to 59 months) | | ✓ |
| Anemia (children six to 59 months) | | ✓ |
| Anemia (adolescent girls 11 to 19 years) | | ✓ |

✓=Addressed; ✗=Not addressed

**Source:** *NPAN–II (2018–2025)* (Bangladesh, Ministry of Health and Family Welfare 2017); *NNP 2015* (Bangladesh, Ministry of Health and Family Welfare 2015).

**Note:** SDG = Sustainable Development Goal; GNMF = Global Nutrition Monitoring Framework.

# 4 Findings: Data Availability for Tracking Progress on Nutrition in Bangladesh

## 4.1 Availability of Data on Program and Policy Actions

Multiple data sources exist in Bangladesh, the Multiple Indicator Cluster Survey (MICS) 2019 and the Bangladesh Demographic and Health Surveys (BDHS) 2017-18 and 2014, and Bangladesh NCD Risk Factor Survey (NCDRFS) 2018 (National Institute of Preventive and Social Medicine, Ministry of Health and Family Welfare and WHO Bangladesh 2018) are the primary nationally representative population-based surveys. The District Health Information System (DHIS 2) is the primary administrative data system.

Of the 47 nutrition actions that Bangladesh's policies and programs addressed, our review of population-based surveys revealed that the surveys provided data to assess coverage of only 19 actions; this included two aimed at women during preconception, six for women during pregnancy, six for women during delivery and in the postpartum period, and five actions for early childhood (Table 4). We assessed DHIS 2 for data availability on 29 nutrition actions; of these 29, data on only 24 nutrition actions could be found in DHIS 2.

None of the data sources, population-based surveys, or administrative data systems contained data on actions for adolescents (Table 4). Regarding actions aimed at women during preconception, data was missing on daily IFA supplementation. For women during pregnancy, data was missing on nutrition counseling, calcium supplementation, preventive deworming, advice on consuming calcium, advice on consuming IFA, advice on birth preparedness, and advice on exclusive breastfeeding. For women during delivery and in the postnatal period, data was not available in any of the sources with regard to support on breastfeeding and skin-to-skin contact, optimal feeding of low-birth-weight babies, counseling of mothers of low-birth-weight infants on Kangaroo Mother Care (KMC), breastfeeding counseling, and food supplementation for malnourished lactating women. DHIS 2 collected data on counseling on nutritional status during early childhood.

**Table 4. Data availability on nutrition actions across the life-course**

| Nutrition actions | Data availability | | | |
|---|---|---|---|---|
| | Population-based surveys | | | Administrative data sources |
| | MICS 2019 | BDHS 2017-18 | BDHS 2014 | DHIS 2 |
| **Adolescence** | | | | |
| Daily or intermittent iron and folic acid (IFA) supplementation | ✗ | ✗ | ✗ | – |
| Preventive deworming | ✗ | ✗ | ✗ | – |
| Food supplementation | ✗ | ✗ | ✗ | – |
| **Preconception** | | | | |
| Daily or intermittent IFA supplementation | ✗ | ✗ | ✗ | – |
| Contraception | ✓ | ✓ | ✓ | ✓ |
| Iodine supplementation | ✓ | ✗ | ✗ | – |
| **Pregnancy** | | | | |
| Any antenatal care (ANC) screening by a trained provider | ✓ | ✓ | ✓ | ✓ |
| ANC screening by a trained provider during the first trimester | ✓ | ✓ | ✓ | ✓ |
| Four or more ANC visits | ✓ | ✓ | ✓ | ✓ |
| Energy and protein dietary supplementation | ✗ | ✗ | ✗ | – |
| Daily or intermittent IFA supplementation | ✗ | ✓ | ✗ | ✓ |
| Calcium Supplementation | ✗ | ✗ | ✗ | – |
| Preventive deworming | ✗ | ✗ | ✗ | – |
| Tetanus toxoid vaccination | ✓ | ✗ | ✗ | – |
| Nutritional counseling on healthy diet | ✗ | ✗ | ✗ | ✓ |
| Weight monitoring | ✗ | ✓ | ✓ | ✓ |

| Nutrition actions | Data availability | | | |
|---|---|---|---|---|
| | Population-based surveys | | | Administrative data sources |
| | MICS 2019 | BDHS 2017-18 | BDHS 2014 | DHIS 2 |
| Advice about weight after weighing | ✗ | ✗ | ✗ | – |
| Advice on consuming IFA | ✗ | ✗ | ✗ | – |
| Advice on consuming additional food | ✗ | ✗ | ✗ | ✓ |
| Advice on birth preparedness | ✗ | ✗ | ✗ | – |
| Advice on exclusive breastfeeding | ✗ | ✗ | ✗ | ✗ |
| **Delivery and postnatal period** | | | | |
| Institutional birth | ✓ | ✓ | ✓ | ✓ |
| Skilled birth attendant | ✓ | ✓ | ✓ | ✓ |
| Optimal timing (delayed) of umbilical cord clamping | ✗ | ✗ | ✗ | – |
| Assessment of birth weight | ✓ | ✓ | ✗ | ✗ |
| Support for early breastfeeding and immediate skin-to-skin contact | ✗ | ✗ | ✗ | ✗ |
| Optimal feeding of low-birth-weight infants | ✗ | ✗ | ✗ | ✗ |
| Counseling of mothers of low-birth-weight infants on Kangaroo Mother Care (KMC) | ✗ | ✗ | ✗ | ✗ |
| Postnatal care (PNC) for babies around day three and day seven, and within six weeks after birth | ✓ | ✓ | ✓ | ✓ |
| PNC for women within three and seven days of delivery, and within six weeks after delivery | ✓ | ✓ | ✓ | ✓ |
| Breastfeeding counseling | ✗ | ✓ | ✗ | – |
| IFA supplementation | ✗ | ✗ | ✗ | ✓ |
| Food supplementation for malnourished lactating women | ✗ | ✗ | ✗ | – |
| **Children (zero to 59 months)** | | | | |
| Breastfeeding counseling | ✗ | ✗ | ✗ | ✓ |

| Nutrition actions | Data availability | | | |
|---|---|---|---|---|
| | Population-based surveys | | | Administrative data sources |
| | MICS 2019 | BDHS 2017-18 | BDHS 2014 | DHIS 2 |
| Counseling on appropriate complementary feeding | ✗ | ✗ | ✗ | ✓ |
| Iron-containing micronutrient powder (MNP) | ✗ | ✗ | ✗ | ✓ |
| Zinc supplementation during diarrhea | ✓ | ✓ | ✓ | ✓ |
| Oral rehydration salts (ORS) during diarrhea | ✓ | ✓ | ✓ | - |
| Vitamin A supplementation | ✗ | ✓ | ✓ | ✓ |
| Preventive deworming | ✗ | ✓ | ✗ | ✓ |
| Growth monitoring (weight assessment) | ✗ | ✗ | ✗ | ✓ |
| Counseling on nutritional status | ✗ | ✗ | ✗ | ✓ |
| Identification of severe or moderate underweight | ✗ | ✗ | ✗ | ✓ |
| Inpatient management of severe acute malnutrition (SAM) | ✗ | ✗ | ✗ | ✓ |
| Outpatient management of SAM | ✗ | ✗ | ✗ | – |
| Management of moderate acute malnutrition (MAM) | ✗ | ✗ | ✗ | – |
| Immunization | ✗ | ✓ | ✓ | ✓ |

✓=Available; ✗=Not available; - = Not included in review

**Source:** Questionnaires of the MICS 2019, BDHS 2017-18, BDHS 2014, and DHIS 2.

**Note:** MICS = Multiple Indicator Cluster Survey; BDHS = Bangladesh Demographic and Health Survey; DHIS = District Health Information System.

## 4.2 Availability of Data on Key Determinants

Both the MICS 2019 and the BDHS 2017-18 and 2014 rounds had data on immediate determinants, including breastfeeding, complementary feeding, infectious diseases (acute respiratory infection and diarrhea), nutrient intake by mothers, and sanitation and hygiene practices (Table 5); for underlying determinants, data was collected on women's status and on sanitation and hygiene indicators. Only BDHS 2017-18 and 2014 had data on women who were married before 18 years of age.

The only four indicators that were not included in either the MICS 2019 or the BDHS 2017-18 and 2014 were dietary diversity of pregnant women, safe disposal of faeces of children under two years, food insecurity of households, and whether households were covered by social protection schemes.

DHIS 2 contained data on only six out of 20 indicators on determinants; it had data on only a few indicators for immediate determinants, including early initiation of breastfeeding, exclusive breastfeeding, continued breastfeeding, introduction of complementary feeding, and infectious diseases (ARI and diarrhea). DHIS 2 contained no data on underlying determinants, except for covered under social protection schemes.

**Table 5. Potential indicators and data availability on immediate and underlying determinants**

| Determinants | Potential indicators | Data availability | | | |
|---|---|---|---|---|---|
| | | MICS 2019 | BDHS 2017-18 | BDHS 2014 | Administrative Data |
| **Immediate determinants** | | | | | |
| **Nutrient intake by children** | | | | | |
| *Breastfeeding* | | | | | |
| | Percentage of infants zero to five months who were breastfed within one hour of birth | ✓ | ✓ | ✓ | ✓ |
| | Percentage of infants zero to five months who were fed only breast milk | ✓ | ✓ | ✓ | ✓ |
| | Percentage of children six to 23 months who had been breastfed in the 24 hours preceding the survey | ✓ | ✓ | ✓ | ✗ |
| *Complementary feeding* | | | | | |
| | Percentage of children six to eight months who had been introduced to solid, semi-solid, or soft foods | ✓ | ✓ | ✓ | ✓ |
| | Percentage of children six to 23 months who were consuming food from at least four out of the seven defined food groups | ✓ | ✓ | ✓ | ✗ |
| | Percentage of children six to 23 months who were breastfed and who also achieved the minimum dietary diversity and age-appropriate minimum meal frequency | ✓ | ✓ | ✓ | ✗ |
| | Percentage of children six to 23 months who received a minimum acceptable diet apart from breast milk | ✓ | ✓ | ✓ | ✗ |
| **Infectious diseases** | | | | | |
| | Percentage of children zero to 59 months who had had diarrhea in the last week | ✓ | ✓ | ✓ | ✓ |
| | Percentage of children zero to 59 months who had had acute respiratory infection (ARI) (fever and chest drawing) in the last week | ✓ | ✓ | ✓ | ✓ |
| **Nutrient intake by mothers** | | | | | |
| | Percentage of currently pregnant women who were consuming foods from at least five out of the ten food groups | ✗ | ✗ | ✗ | ✗ |

| Determinants | Potential indicators | Data availability | | | |
|---|---|---|---|---|---|
| | | MICS 2019 | BDHS 2017-18 | BDHS 2014 | Administrative Data |
| **Underlying determinants** | | | | | |
| **Women's status** | | | | | |
| | Percentage of women aged 15 to 49 years who had completed their high school (ten+ years of schooling) | ✓ | ✓ | ✓ | ✗ |
| | Percentage of women aged 20 to 24 years who had been married before their eighteenth birthday | ✗ | ✓ | ✓ | ✗ |
| | Percentage of women aged 20 to 24 years who had given birth to a child before their twentieth birthday | ✓ | ✓ | ✓ | ✗ |
| **Sanitation and hygiene** | | | | | |
| | Percentage of households with children under two years in which the house had a toilet | ✓ | ✓ | ✓ | ✗ |
| | Percentage of children under two years who were living in households with safe water | ✓ | ✓ | ✓ | ✗ |
| | Percentage of households with children under two years where the mother also used the toilet | ✓ | ✓ | ✓ | ✗ |
| | Percentage of households with children under two years which had a designated place for handwashing with soap | ✓ | ✓ | ✓ | ✗ |
| | Percentage of children under two years whose faeces were safely disposed of | ✗ | ✗ | ✗ | ✗ |
| **Food security** | | | | | |
| | Percentage of households moderately or severely food insecure | ✗ | ✗ | ✗ | ✗ |
| **Socio-economic conditions** | | | | | |
| | Percentage of households covered under social protection schemes | ✗ | ✗ | ✗ | ✓* |

✓=Available; ✗=Not available

**Source:** Questionnaires of the MICS 2019, BDHS 2017-18, BDHS 2014, and spreadsheet compiled by UNICEF Bangladesh country office on data availability in DHIS-2 2020.

**Note:** MICS = Multiple Indicator Cluster Survey; BDHS = Bangladesh Demographic and Health Survey; DHIS = District Health Information System; *Available in Ministry of Cultural Affairs administrative document

## 4.3 Availability of Data on Nutrition Outcomes

Data on childhood stunting, wasting, and overweight were available in the MICS 2019 and the BDHS 2017-18 and BDHS 2014. BDHS 2017-18 also included data on low birthweight. Neither the MICS 2019 nor the BDHS 2017-18 and 2014 contained data on anemia among non-pregnant women and adolescent girls, overweight among school-age children and adolescents five to 19 years, underweight among children, or short stature among adolescent girls 15 to 19 years. BDHS 2017-18 contained data on overweight among men, diabetes and hypertension among adults.

The DHIS 2 contained data on most nutrition outcomes targeted by Bangladesh's policies and programs (Table 6); it contained data on: childhood stunting; wasting, overweight and underweight among children under five. Data on NCD-related outcomes were available in NCDRFS 2018. None of the sources contained data on anemia among non-pregnant women, overweight, anemia and short stature among adolescents.

**Table 6. Data availability on nutrition outcomes**

| | Outcome indicators | Data availability | | | | |
|---|---|---|---|---|---|---|
| | | MICS 2019 | BDHS 2017-18 | BDHS 2014 | NCDRFS 2018 | Administrative data |
| **SDG** | Low birthweight (percentage of infants born with birthweights under 2500 grams) | ✗ | ✓ | ✗ | - | ✗ |
| | Stunting (percentage of children 0 to 59 months who were below -2 HAZ) | ✓ | ✓ | ✓ | - | ✓ |
| | Wasting (percentage of children 0 to 59 months who were below -2 WHZ) | ✓ | ✓ | ✓ | - | ✓ |
| | Overweight (percentage of children 0 to 59 months who were above 2 WAZ) | ✓ | ✓ | ✓ | - | ✓ |
| | Anemia (percentage of non-pregnant women 15 to 49 years who were anemic) | ✗ | ✗ | ✗ | - | ✓ |
| **GNMF** | Underweight (percentage of non-pregnant women 15 to 49 years who had a BMI of less than 18.5 kg/m$^2$) | ✗ | ✓ | ✓ | ✓ | ✓ |
| | Overweight (percentage of children and adolescents five to 19 years who had a BMI-Z greater than 1) | ✗ | ✗ | ✗ | - | ✗ |
| | Overweight (percentage of women over 18 years who had a BMI greater than 25 kg/m$^2$) | ✗ | ✓ | ✓ | ✓ | ✓ |
| **SDG** | Overweight (percentage of men over 18 years who had a BMI greater than 25 kg/m$^2$) | ✗ | ✓ | ✗ | ✓ | ✗ |
| | Hypertensive (percentage of adults over 18 years who are had a systolic blood pressure above 140 mmHg and diastolic blood pressure above 90 mmHg) | ✗ | ✓ | ✗ | ✓ | ✗ |
| | Diabetic (percentage of adults over 18 years who had a fasting blood sugar level above 7.0 mmol/l [126 mg/dl]) | ✗ | ✓ | ✗ | ✓ | ✗ |
| **Country specific** | Underweight (percentage of children 0 to 59 months who were below -2 WAZ) | ✓ | ✓ | ✓ | - | ✓ |
| | Underweight (percentage of adolescent girls 11 to 19 years who had BMI under 18.5 kg/m$^2$) | ✗ | ✗ | ✗ | - | ✗ |
| | Anemia (percentage of adolescent girls 11 to 19 years who were anemic) | ✗ | ✗ | ✗ | - | ✗ |
| | Short stature (percentage of adolescent girls 15 to 19 years whose height was under 145 cm) | ✗ | ✗ | ✗ | - | ✗ |

✓=Available; ✗=Not available; - = Not applicable

**Source:** Questionnaires of the MICS 2019, BDHS 2014, NCDRFS 2018 and DHIS 2.

**Note:** MICS = Multiple Indicator Cluster Survey; BDHS = Bangladesh Demographic and Health Survey; NCDRFS = Noncommunicable Risk Factor Survey; DHIS = Demographic Health Information System; GNMF = Global Nutrition Monitoring Framework; HAZ = height-for-age z-score; WHZ = weight-for-height z-score; WAZ = weight-for-age z-score; BMI = body mass index; BMI-Z = body mass index z-score.

# 5 Conclusions and Recommendations

## 5.1 Policy Gaps

Bangladesh has a robust nutrition policy framework and various programs that are intended to deliver nutrition actions throughout the life-course. Findings show that policies and programs address 47 of the 51 recommended nutrition actions that are applicable in Bangladesh. Gaps in addressing nutrition actions are more concentrated for women during preconception and early childhood. Neither Bangladesh's nutrition policies nor its programs currently address preventive deworming during preconception, and advice on consuming calcium during pregnancy, or food supplementation for complementary feeding and IFA supplementation during early childhood. In addition, it is promising that national strategies recognize and address all key determinants of nutrition; they also aim to tackle a range of globally accepted nutrition goals. Country-specific goals related to child underweight and adolescent anemia are also included in Bangladesh policies.

## 5.2 Data Gaps

There are wide gaps in the data on nutrition actions that is available from population-based surveys. Data is available in the MICS 2019, BDHS 2017-18 and BDHS 2014 on only 19 of the 47 nutrition actions that policies and programs address. The DHIS 2 administrative system collects data on 24 of the 29 actions included in our review. Regarding determinants of undernutrition, the MICS 2019, the BDHS 2017-18, the BDHS 2014, and the DHIS 2 together contain data on only 18 of the 20 indicators. Except for dietary diversity among pregnant women, data is collected for all immediate determinants. Across the data sources, of the ten underlying determinants of undernutrition, data is unavailable for safe disposal of faeces. In order to close the current data gaps, several important adjustments can be recommended:

- Future rounds of these surveys should collect information on IFA supplementation and deworming among adolescent girls, and calcium supplementation and deworming among pregnant women.
- Population-based surveys should collect data on counseling indicators, including advice on weight gain, and additional food during pregnancy; counseling indicators targeting the postnatal period and early childhood should also be included.
- The BDHS 2017-18, BDHS 2014 and MICS 2019 cover most indicators on determinants; data gaps exist, however, in the DHIS 2 with regard to indicators on underlying social determinants that may prove useful in equity analyses.
- Population-based surveys and administrative data systems should collect data on nutrition outcome indicators where no data is available: overweight among children and adolescents five to 19 years, anemia among adolescent girls 11 to 19 years, and short stature of adolescent girls 15-19 years. These are emerging challenges and should be tracked.

## 5.3 Recommendations

This report is intended to spark discussions among the nutrition policy community in Bangladesh and where relevant, to support decisions about closing both policy and data gaps. Our primary recommendations are noted below.

- Assess whether the gaps identified in our nutrition policy review are relevant to close in the context of the current burden of malnutrition in Bangladesh; if relevant consider updating national nutrition strategies to fully encompass all forms of malnutrition.
- Review opportunities for strengthening nutrition data collection—both via surveys and administrative data—to close gaps in data needed for tracking progress on existing policies and programs. Given the data gaps identified in our review, efforts to improve the availability of data on child nutrition interventions are likely most important.

# 6 Appendices

## 6.1 Appendix 1: Nutrition Actions Addressed by Policies and Programs

| S.N | Nutrition actions | References | Nutrition action is applicable | Policy | | Program | |
|---|---|---|---|---|---|---|---|
| | | | | Nutrition action is addressed by policy | Policy document name | Program availability and program name | Geographic coverage (1 = Pilot; 2 = Scale up in select districts; 3 = Nationwide) |
| | **Adolescence** | | | | | | |
| 1 | **Intermittent or daily iron and folic acid (IFA) supplementation** *(Intermittent If anemia prevalence is more than 20 percent and daily if anemia prevalence is more than 40 percent among non-pregnant women)* | (WHO 2019) | ✓ 26 percent (National Micronutrients Status Survey 2011–12 NMSS 2013) | ✓ | National Nutrition Policy (NNP) 2015; National Strategy for Adolescent Health (NSAH) 2017–2030 | ✓ **Adolescent Nutrition Program; National Nutrition Services (NNS)** | 2 |
| 2 | **Preventive deworming** *(If prevalence of any soil-transmitted helminth infection is 20 percent or higher among adolescents 11 to 19 years)* | (WHO 2018) | Data not available | ✓ | NSAH 2017–2030 | ✓ **Adolescent Nutrition Program; NNS** | 3 |
| 3 | **Food supplementation** *(All countries, all settings)* | *e-Library of Evidence for Nutrition Actions* (eLENA) (WHO, n.d.) | ✓ | ✓ | NSAH 2017–2030 | ✓ **School Health Program** | 2 |

| S.N | Nutrition actions | References | Nutrition action is applicable | Policy | | Program | |
|---|---|---|---|---|---|---|---|
| | | | | Nutrition action is addressed by policy | Policy document name | Program availability and program name | Geographic coverage (1 = Pilot; 2 = Scale up in select districts; 3 = Nationwide) |
| | **Preconception** | | | | | | |
| 4 | **Daily or intermittent IFA supplementation** *(Intermittent if anemia prevalence is more than 20 percent and daily if anemia prevalence is more than 40 percent among non-pregnant women)* | (WHO 2019) | ✓ (Bangladesh,National Institute of Population Research and Training, Mitra and Associates, Measure DHS 2013) | ✓ | NNP 2015 | ✓ **IFA Supplementation Program** | 3 |
| 5 | **Preventive deworming** *(If prevalence of any soil-transmitted helminth infection is 20 percent or higher among women of reproductive age 15 to 49 years)* | (WHO 2019) | ✓ | ✗ | NA | ✗ | NA |
| 6 | **Contraception** *(All countries, all settings)* | Every Woman Every Child, 2016–2030 (EWEC 2016) | ✓ | ✓ | NNP 2015 | ✓ **Essential Health Service Package (ESP)—Preconception care** | 3 |
| 7 | **Iodine supplementation** *(If 20 percent or fewer households have access to iodized salt and pregnant women are difficult to reach)* | (WHO 2019) | ✓ | ✓ | Salt Iodization Law, 1989 . | ✓ **Universal Salt Iodization (USI) program** | 3 |

| S.N | Nutrition actions | References | Nutrition action is applicable | Policy | | Program | |
|---|---|---|---|---|---|---|---|
| | | | | Nutrition action is addressed by policy | Policy document name | Program availability and program name | Geographic coverage (1 = Pilot; 2 = Scale up in select districts; 3 = Nationwide) |
| | **Pregnancy** | | | | | | |
| 8 | **Antenatal care (ANC) screening by a trained provider** *(All countries, all settings)* | (WHO 2004, 2016) | ✓ | ✓ | Health Nutrition and Population Strategic Investment Plan (HNPSIP) 2016–21; National Strategy for Maternal Health (NSMH) 2019–2030 | ✓ **ESP—ANC** | 3 |
| 9 | **ANC screening by a trained provider during first trimester** *(All countries, all settings)* | (WHO, 2004, 2016) | ✓ | ✓ | HNPSIP 2016–21; NSMH 2019–2030 | ✓ **ESP—ANC** | 3 |
| 10 | **Four or more ANC visits** *(All countries, all settings)* | (WHO, 2004, 2016) | ✓ | ✓ | HNPSIP 2016–21; NSMH 2019–2030 | ✓ **ESP—ANC** | 3 |
| 11 | **Energy and protein dietary supplementation** *(If underweight prevalence among women is more than 20 percent)* | (WHO 2019) | ✓ 1 12 percent (BDHS 2017-18) | ✓ | Second National Plan of Action for Nutrition (NPAN–II) 2016–2025 | ✓ **Community Based Management Of Malnutrition (CMAM)** | 2 |
| 12 | **Daily or intermittent IFA supplementation** *(Daily in all countries, all settings; intermittent if anemia prevalence among pregnant women is less than 20 percent or daily iron is not acceptable due to side-effects)* | (WHO 2019) | ✓ | ✓ | NNP 2015 | ✓ **NNS** | 3 |

[1]Even though the action was not applicable, country's policy and program had addressed this action. Therefore, we considered the action applicable.

| S.N | Nutrition actions | References | Nutrition action is applicable | Policy | | Program | |
|---|---|---|---|---|---|---|---|
| | | | | Nutrition action is addressed by policy | Policy document name | Program availability and program name | Geographic coverage (1 = Pilot; 2 = Scale up in select districts; 3 = Nationwide) |
| 13 | **Vitamin A supplementation** *(Where five percent or more of women have a history of night blindness in pregnancies in the past three to five years, or if 20 percent or more of pregnant women have vitamin A deficiency)* | (WHO 2019) | ✗ | ✗ | NA | ✗ | NA |
| 14 | **Calcium supplementation** *(Where dietary calcium intake is low)* | (WHO 2019) | ✓ | ✓ | NNP 2015 | ✓ **NNS** | 3 |
| 15 | **Iron-containing micronutrient powder (MNP) supplementation** (Settings with a high prevalence of nutritional deficiencies) | (WHO 2019) | ✗ | ✗ | NA | ✗ | NA |
| 16 | **Preventive deworming** *(Where pregnant women have a 20 percent or higher prevalence of infection with hookworm or T. trichiura infection AND a 40 percent or higher prevalence of anemia)* | (WHO 2019) | ✓ | ✓ | National Guideline for Maternal Nutrition (NGMN) 2020 (under development) | ✓ **ESP—ANC** | 3 |
| 17 | **Tetanus toxoid vaccination** *(All countries, all settings)* | (WHO 2016) | ✓ | ✓ | HNPSIP 2016–21; NSMH 2019–2030 | ✓ **ESP—ANC** | 3 |

| S.N | Nutrition actions | References | Nutrition action is applicable | Policy | | Program | |
|---|---|---|---|---|---|---|---|
| | | | | Nutrition action is addressed by policy | Policy document name | Program availability and program name | Geographic coverage (1 = Pilot; 2 = Scale up in select districts; 3 = Nationwide) |
| 18 | **Nutritional counseling on healthy diet** *(If underweight prevalence among women is more than 20 percent)* | (WHO 2019) | ✓ 31 percent (BDHS 2014) | ✓ | NNP 2015 | ✓ **ESP—ANC** | 3 |
| 19 | **Weight monitoring** *(All countries, all settings)* | (WHO 2016) | ✓ | ✓ | HNPSIP 2016–21 | ✓ **ESP—ANC** | 3 |
| 20 | **Advice about weight after weighing** *(All countries, all settings)* | (WHO 2016) | ✓ | ✓ | HNPSIP 2016–21 | ✓ **ESP—ANC** | 3 |
| 21 | **Advice on consuming calcium** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NNP 2015 | ✗ | NA |
| 22 | **Advice on consuming IFA** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NNP 2015 | ✓ **NNS** | 3 |
| 23 | **Advice on consuming additional food** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NNP 2015 | ✓ **NNS** | 3 |
| 24 | **Advice on birth preparedness** *(All countries, all settings)* | (WHO 2015) | ✓ | ✓ | HNPSIP 2016–21; NSMH 2019–2030 | ✓ **ESP—ANC** | 3 |
| 25 | **Advice on exclusive breastfeeding** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NSMH 2019–2030 | ✓ **NNS** | 3 |

| S.N | Nutrition actions | References | Nutrition action is applicable | Policy | | Program | |
|---|---|---|---|---|---|---|---|
| | | | | Nutrition action is addressed by policy | Policy document name | Program availability and program name | Geographic coverage (1 = Pilot; 2 = Scale up in select districts; 3 = Nationwide) |
| | **Delivery and postnatal** | | | | | | |
| 26 | **Institutional birth** *(All countries, all settings)* | (EWEC 2016) | ✓ | ✓ | HNPSIP 2016–21; NSMH 2019–2030 | ✓ **ESP—Normal Delivery** | 3 |
| 27 | **Skilled birth attendant** *(All countries, all settings)* | (EWEC 2016) | ✓ | ✓ | HNPSIP 2016–21; NSMH 2019–2030 | ✓ **ESP—Normal Delivery** | 3 |
| 28 | **Optimal timing (delayed) of umbilical cord clamping** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | National Neonatal Health Strategy and Guidelines for Bangladesh (2009) | ✓ **ESP—Newborn Care** | NA |
| 29 | **Assessment of birth weight** *(All countries, all settings)* | (WHO 2013) | ✓ | ✓ | HNPSIP 2016–21 | ✓ **ESP—Newborn Care** | 3 |
| 30 | **Support for early breastfeeding and immediate skin-to-skin contact** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NPAN–II 2016–2025 | ✓ **ESP—Newborn Care** | 3 |
| 31 | **Optimal feeding of low-birth-weight infants** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NNP 2015 | ✓ **ESP—Newborn Care** | 3 |
| 32 | **Counseling of mothers of low-birth-weight infants on Kangaroo Mother Care (KMC)** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NNP 2015 | ✓ **ESP—Newborn Care** | 3 |

| S.N | Nutrition actions | References | Nutrition action is applicable | Policy | | Program | |
|---|---|---|---|---|---|---|---|
| | | | | Nutrition action is addressed by policy | Policy document name | Program availability and program name | Geographic coverage (1 = Pilot; 2 = Scale up in select districts; 3 = Nationwide) |
| 33 | **Postnatal care (PNC) for babies around day three, day seven, and within six weeks after birth** *(All countries, all settings)* | (EWEC 2016) | ✓ | ✓ | HNPSIP 2016–21; NSMH 2019–2030 | ✓ **ESP—PNC** | 3 |
| 34 | **Postnatal care for women within three and seven days and within six weeks after delivery** *(All countries, all settings)* | (EWEC 2016) | ✓ | ✓ | HNPSIP 2016–21; NSMH 2019–2030 | ✓ **ESP—PNC** | 3 |
| 35 | **Breastfeeding counseling** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NSMH 2019–2030 | ✓ **ESP—PNC** | 3 |
| 36 | **IFA supplementation** *(With a 20 percent or higher population prevalence of gestational anemia)* | (WHO 2019) | ✓ | ✓ | NNP 2015 | ✓ **NNS** | 3 |
| 37 | **Food supplementation for malnourished lactating women** *(All countries, all settings)* | (WHO 2018) | ✓ | ✓ | NPAN–II 2016–2025 | ✓ **World Food Programme (WFP) program** | 2 |
| | **Early childhood** | | | | | | |
| 38 | **Breastfeeding counseling** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NPAN–II 2016–2025 | ✓ **NNS** | 3 |
| 39 | **Counseling on appropriate complementary feeding** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NNP 2015; NPAN–II 2016–2025 | ✓ **NNS** | 3 |

| S.N | Nutrition actions | References | Nutrition action is applicable | Policy | | Program | |
|---|---|---|---|---|---|---|---|
| | | | | Nutrition action is addressed by policy | Policy document name | Program availability and program name | Geographic coverage (1 = Pilot; 2 = Scale up in select districts; 3 = Nationwide) |
| 40 | **Food supplementation for complementary feeding** *(In food-insecure populations)* | Bhutta et al. 2013; eLENA (WHO, n.d.) | ✓ | ✓ | Targeted supplementation (for Rohingyas through WFP) | ✗ | NA |
| 41 | **Iron-containing MNP** *(In which the prevalence of anemia in children under five years of age is 20 percent or more)* | (WHO 2019) | ✓ 33 percent (NMDCS 2015) | ✓ | NNP 2015 | ✓ **NNS** | 2 |
| 42 | **Daily IFA supplementation** *(Daily if anemia prevalence among children aged six to 59 months is 40 percent or more; intermittent for children aged 24 to 59 months if anemia prevalence among this group is 20 percent or more).* | (WHO 2019) | ✓ 33 percent (NMDCS 2015) | ✗ | NA | ✗ | NA |
| 43 | **Zinc supplementation during diarrhea** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NNP 2015 | ✓ **NNS** | 3 |
| 44 | **Oral rehydration salts (ORS) during diarrhea** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NNP 2015 | ✓ **Integrated Management of Childhood Illness (IMCI)** | 3 |

| S.N | Nutrition actions | References | Nutrition action is applicable | Policy | | Program | |
|---|---|---|---|---|---|---|---|
| | | | | Nutrition action is addressed by policy | Policy document name | Program availability and program name | Geographic coverage (1 = Pilot; 2 = Scale up in select districts; 3 = Nationwide) |
| 45 | **Vitamin A supplementation** *(Where the prevalence of night blindness is one percent or more in children aged 24 to 59 months, or the prevalence of vitamin A deficiency is 20 percent or higher in infants and children aged six to 59 months)* | (WHO 2019) | ✓ 20 percent (NMSS 2013) | ✓ | NNP 2015 | ✓ **NNS** | 3 |
| 46 | **Preventive deworming** *(Living in areas where the baseline prevalence of any soil-transmitted infection is 20 percent or higher among children aged 12 months and older)* | (WHO 2019) | ✓ | ✓ | NNS Operational Plan | ✓ **NNS** | 3 |
| 47 | **Growth monitoring (weight assessment)** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | National Strategy for Infant and Young Child Feeding (NSIYCF) 2007 | ✓ **ESP— Assessment of Nutritional Status** | 3 |
| 48 | **Counseling on nutritional status** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NSIYCF 2007 | ✓ **ESP— Assessment of Nutritional Status** | 3 |
| 49 | **Identification of severe or moderate underweight** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NNP 2015 | ✓ **NNS** | 3 |

| S.N | Nutrition actions | References | Nutrition action is applicable | Policy | | Program | |
|---|---|---|---|---|---|---|---|
| | | | | Nutrition action is addressed by policy | Policy document name | Program availability and program name | Geographic coverage (1 = Pilot; 2 = Scale up in select districts; 3 = Nationwide) |
| 50 | **Inpatient management of severe acute malnutrition (SAM)** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NNP 2015 | ✓ **NNS** | 3 |
| 51 | **Outpatient management of SAM** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NNP 2015 | ✓ **CMAM** | NA |
| 52 | **Management of moderate acute malnutrition (MAM)** *(All countries, all settings)* | (WHO 2019) | ✓ | ✓ | NNP 2015 | ✓ **CMAM** | NA |
| 53 | **Immunization** *(All countries, all settings)* | (EWEC 2016) | ✓ | ✓ | NIP 2014 | ✓ **Expanded Program on Immunizations (EPI)** | 3 |

Note: NA=Not applicable

## 6.2 Appendix 2: Program Implementation/Operational Guidelines for Nutrition Actions

| S.N | Nutrition actions | Program<br>Implementation/operational guidelines |
|---|---|---|
| | **Adolescence** | |
| 1 | Daily or intermittent iron and folic acid (IFA) supplementation | *Operational Guideline for Adolescent Nutrition Interventions (2020)* *(Bangladesh, Institute of Public Health Nutrition 2020)*: In recent guidelines (yet to be officially released), the age category for "adolescents" has been revised to ten to 19 years; the recommended dose for intermittent IFA supplementation has been revised to once a week during the school year. The program will be implemented through health facilities, secondary schools, and community platforms. The first phase will be implemented in all schools for in-school adolescents; in the next phase, out-of-school adolescents will be reached out to through madrasas, community clubs, etc. Due to supply issues faced currently at the government level, the dosage of IFA supplementation that is provided to adolescent girls remains the same as that given to pregnant women; later, the dose will be revised (as per WHO recommendations) to 60 mg of iron and 2800 µg of folic acid. Provision of IFA supplementation for primary and secondary school children five to 19 years is limited to children who attend schools. |
| 2 | Preventive deworming | Twice-yearly deworming is recommended for all secondary school children (April and October); this has been implemented by the Communicable Disease Control (CDC) unit of the Directorate General of Health Services (DGHS) since 2007. For out-of-school adolescent girls, deworming announcements are made at community places (mosques and community clubs), by community leaders, and they are also called to schools to receive the dosage.<br>*National Strategy on Prevention and Control of Micronutrient Deficiencies Bangladesh (2015–2024)* (Bangladesh, Directorate General of Health Services 2015) specifies that adolescent girls 13 to 19 years be provided weekly IFA supplementation and twice-yearly deworming through schools and adolescent community clubs. |
| 3 | Food supplementation | *Second National Plan of Action for Nutrition (NPAN–II) 2016–2025* (Bangladesh, Ministry of Health and Family Welfare 2017) aims to promote food supplementation for targeted pregnant women and lactating mothers who are severely malnourished |
| | **Preconception** | |
| 4 | Daily or intermittent IFA supplementation | *Government Circular on IFA supplementation (2012)* states that all newly married women should receive IFA supplementation; however, due to implementation gaps, this service is delivered in only a few places. No proper monitoring mechanism is in place and no program documentation or report is available. The government is currently drafting the National Maternal Nutrition Guidelines (adapted from the 2016 WHO Antenatal Care Guidelines) which includes guidelines for non-pregnant women. The recommended IFA supplementation dose is twice weekly at three-day intervals; supplementation should continue for three months, followed by a three-month gap. |
| 5 | Contraception | *Bangladesh Essential Health Service Package (ESP) (2016)* (Bangladesh, Ministry of Health and Welfare 2016a) offers family planning services under the ESP which include client history, clinical examination, and distribution/application of family planning materials. |
| 6 | Iodine supplementation | *Operational Plan for National Nutrition Service (NNS) (OP NSS 2017–2022)* (Bangladesh, Directorate General of Health Services 2017b) aims to support monitoring systems, for example, testing for quality assessment of salt. |

| S.N | Nutrition actions | Program |
|---|---|---|
| | | Implementation/operational guidelines |
| | **Pregnancy** | |
| 7 | Antenatal care (ANC) screening by a trained provider | *National Neonatal Health Strategy and Guidelines for Bangladesh (2009)* (Bangladesh, Ministry of Health and Welfare 2009) ANC is provided by skilled providers; at the community level, ANC is provided by Community-Based Skilled Birth Attendants (CSBAs), and at health facilities ANC is provided by other skilled personnel such as a Family Welfare Visitor (FWV), nurse-midwife, medical assistant (MA) or Sub Assistant Community Medical Officer (SACMO), doctors, and specialists. |
| 8 | ANC screening by a trained provider during the first trimester | *National Neonatal Health Strategy and Guidelines for Bangladesh (2009)* (Bangladesh, Ministry of Health and Welfare 2009) recommends a timeline of ANC visits of: the first visit within the first six weeks of delivery, the second visit at 26 weeks, the third visit at 32 weeks, and the fourth visit at 38 weeks. |
| 9 | Four or more ANC visits | *National Neonatal Health Strategy and Guidelines for Bangladesh (2009)* (Bangladesh, Ministry of Health and Welfare 2009) recommends a timeline of ANC visits of: the first visit within the first six weeks of delivery, the second visit at 26 weeks, the third visit at 32 weeks, and the fourth visit at 38 weeks. |
| 10 | Energy and protein dietary supplementation | *Second National Plan of Action for Nutrition (NPAN–II) 2016–2025* (Bangladesh, Ministry of Health and Family Welfare 2017) aims to promote food supplementation for targeted pregnant women and lactating mothers who are severely malnourished *National Guidelines for Community Based Management of Acute Malnutrition in Bangladesh* (Bangladesh, Institute of Public Health Nutrition 2011): Under Community Based Management Of Malnutrition (CMAM) pregnant women with severe acute malnutrition receives Nutritional Supplement (NS) for two weeks, if NS is available. |
| 11 | Daily or intermittent IFA supplementation | *National Strategy on Prevention and Control of Micronutrient Deficiencies, Bangladesh (2015–2024)* (Bangladesh, Directorate General of Health Services 2015) recommends a daily dose of 60 mg of elemental iron and 400 µg of folic acid throughout the pregnancy. |
| 12 | Calcium supplementation | *National Strategy on Prevention and Control of Micronutrient Deficiencies, Bangladesh (2015–2024)* (Bangladesh, Directorate General of Health Services 2015) As per WHO recommendations, a total daily dosage of 1.5 to 2.0 g elemental calcium per day, divided into three doses, is provided to pregnant women from the twentieth week of gestation. |
| 13 | Preventive deworming | *Bangladesh Essential Health Service Package (ESP) (2016)* (Bangladesh, Ministry of Health and Welfare 2016a) states that deworming is one of the components of ANC under ESP. |
| 14 | Tetanus toxoid vaccination | *National Neonatal Health Strategy and Guidelines for Bangladesh (2009)* (Bangladesh, Ministry of Health and Welfare 2009) recommends a tetanus toxoid shot during ANC visits. |
| 15 | Nutritional counseling on healthy diet | *Operational Plan for National Nutrition Service (NNS) (OP NSS 2017–2022)* (Bangladesh, Directorate General of Health Services 2017b) Pregnant women are counseled on dietary improvement during ANC services and during domiciliary visits of the health and family planning workers as part of ESP. The NSS also aims to conduct social behavior change communication (SBCC) activities to improve community awareness of maternal diet and nutrition care. The minimum package of nutrition for maternal nutrition is promoted by the Institute of Public Health Nutrition (IPHN). Key deliverables in the plan are IFA supplementation, dietary counseling, and weight gain during pregnancy. |

| S.N | Nutrition actions | Program |
|---|---|---|
| | | Implementation/operational guidelines |
| 16 | Weight monitoring | *Bangladesh Essential Health Service Package (ESP) (2016)* (Bangladesh, Ministry of Health and Welfare 2016a) Assessment of nutritional status is one of the components of ANC under ESP. |
| 17 | Advice about weight after weighing | *Bangladesh Essential Health Service Package (ESP) (2016)* (Bangladesh, Ministry of Health and Welfare 2016a) Assessment of nutritional status is one of the components of ANC under ESP. |
| 18 | Advice on consuming IFA | *Operational Plan for National Nutrition Service (NNS) (OP NSS 2017–2022)* (Bangladesh, Directorate General of Health Services 2017b) aims to strengthen health education and counseling of pregnant and lactating mothers and caregivers at the Integrated Management of Childhood Illness–Nutrition (IMCI–N) corner.<br>*National Neonatal Health Strategy and Guidelines for Bangladesh* (Bangladesh, Ministry of Health and Welfare 2009) recommends various interventions at the community and home level for pregnant women. One of the interventions is nutrition and health; this includes counseling pregnant women to take the recommended iron and folic acid tablets to reduce maternal anemia. |
| 19 | Advice on consuming additional food | *Operational Plan for National Nutrition Service (NNS) (OP NSS 2017–2022)* (Bangladesh, Directorate General of Health Services 2017b) aims to strengthen health education and counseling of pregnant and lactating mothers and caregivers at IMCI–N corners.<br>*National Neonatal Health Strategy and Guidelines for Bangladesh* (Bangladesh, Ministry of Health and Welfare 2009) recommends various interventions at the community and home level for pregnant women. One of the interventions is nutrition and health; this includes counseling pregnant women to eat an extra serving of a staple food, to eat foods rich in vitamins and minerals, and to avoid a low-calorie diet. |
| 20 | Advice on birth preparedness | *National Neonatal Health Strategy and Guidelines for Bangladesh* (Bangladesh, Ministry of Health and Welfare 2009) states that on their third and fourth ANC visits, pregnant women should receive instructions for delivery and should make plans for the birth. |
| 21 | Advice on exclusive breastfeeding | *Clinical Guideline on IYCF* (Alive & Thrive, n.d.) provides information to be disseminated to women during pregnancy; it counsels women regarding breastfeeding, including advice on initiating breastfeeding within one hour of birth, information on the benefits of breastfeeding in general, and advice on early initiation of and exclusive breastfeeding.<br>*National Neonatal Health Strategy and Guidelines for Bangladesh* (Bangladesh, Ministry of Health and Welfare 2009) states that pregnant women should receive recommendations for breastfeeding/contraception on the third and fourth ANC visits. |
| | **Delivery and postnatal** | |
| 22 | Institutional birth | *National Neonatal Health Strategy and Guidelines for Bangladesh* (Bangladesh, Ministry of Health and Welfare 2009) recommends that childbirth should ideally take place in a facility with the capacity to manage emergencies. |
| 23 | Skilled birth attendant | *Bangladesh Essential Health Service Package (ESP) (2016)* (Bangladesh, Ministry of Health and Welfare 2016a) states that deliveries should only be conducted where a skilled birth attendant (SBA) is available. Home deliveries are acceptable if they are attended by a CSBA who performs a service only until the woman is transferred to an institutional environment. |
| 24 | Optimal timing (delayed) of umbilical cord clamping | *National Neonatal Health Strategy and Guidelines for Bangladesh* (Bangladesh, Ministry of Health and Welfare 2009) recommends ensuring an appropriate core care. |

| S.N | Nutrition actions | Program<br>Implementation/operational guidelines |
|---|---|---|
| 25 | Assessment of birth weight | *National Neonatal Health Strategy and Guidelines for Bangladesh* (Bangladesh, Ministry of Health and Welfare 2009) recommends weighing all neonates at the health facility and community levels to identify low-birth-weight babies. |
| 26 | Support for early breastfeeding and immediate skin-to-skin contact | *National Neonatal Health Strategy and Guidelines for Bangladesh* (Bangladesh, Ministry of Health and Welfare 2009) recommends various interventions for newborn care; one of the recommended interventions is that all health workers should provide immediate attention to skin-to-skin contact and initiation of breastfeeding within one hour of birth. |
| 27 | Optimal feeding of low-birth-weight infants | *Clinical Guideline on IYCF* (Alive & Thrive, n.d.) recommends following a procedure in the feeding of low-birth-weight babies: for low-birth-weight infants who are not able to breastfeed effectively, food must be given by an alternative oral feeding method (cup/spoon/direct expression into mouth) or by intra-gastric tube feeding. If the mother is unable to breastfeed her low-birth-weight infant, options include expressed breast milk from his or her mother, or donor breast milk. |
| 28 | Counseling of mothers of low-birth-weight infants on Kangaroo Mother Care (KMC) | *Operational Plan for Maternal Neonatal Child and Adolescents Health (2017–2022)* (Bangladesh, Directorate General of Health Services 2017a) aims to provide KMC for management of preterm/low-birth-weight babies; the program provides KMC training for doctors and nurses to manage preterm low-birth-weight babies at Upazila (sub-unit of district) and higher-level facilities. The program establishes a standard KMC corner in all Upazila and district-level facilities and ensures material and logistical supplies. |
| 29 | Postnatal care (PNC) for babies around day three, day seven and within six weeks after birth | *Operational Plan for Maternal Neonatal Child and Adolescents Health (2017–2022)* (Bangladesh, Directorate General of Health Services 2017a) provides PNC in a facility and home visits by community health workers.<br>*Bangladesh Essential Health Service Package* (Bangladesh, Ministry of Health and Welfare 2016a): PNC is one of the components of ESP. |
| 30 | PNC for women within three and seven days and within six weeks after delivery | *Operational Plan for Maternal Neonatal Child and Adolescents Health (2017–2022)* (Bangladesh, Directorate General of Health Services 2017a) provides PNC in a facility and home visits by community health workers. |
| 31 | Breastfeeding counseling | *National Neonatal Health Strategy and Guidelines for Bangladesh* (Bangladesh, Ministry of Health and Welfare 2009) recommends health workers (including community-level health workers) who pay postnatal visits to counsel on general breastfeeding problems and to refer as necessary. |
| 32 | IFA supplementation | *National Strategy on Prevention and Control of Micronutrient Deficiencies, Bangladesh (2015–2024)* (Bangladesh, Directorate General of Health Services 2015) recommends a daily dose of 60 mg of elemental iron and 400 µg of folic acid until 90 days after delivery. |
| 33 | Food supplementation for malnourished lactating women | World Food Programme has a program for malnourished lactating women in selected districts. |

| S.N | Nutrition actions | Program |
|---|---|---|
| | | Implementation/operational guidelines |
| | **Early childhood** | |
| 34 | Breastfeeding counseling | *Clinical Guideline on IYCF* (Alive & Thrive, n.d.) recommends various types of counseling to mothers/family members by health workers, including on the importance and benefits of feeding *sal dudh* (initial breast milk) within one hour of birth, exclusive breastfeeding for six months, feeding homemade food in addition to breast milk after six months, and the importance of breastfeeding up to two years of age. |
| 35 | Counseling on appropriate complementary feeding | *Operational Plan for National Nutrition Service (NNS) (OP NSS 2017–2022)* (Bangladesh, Directorate General of Health Services 2017b) aims to implement SBCC in order to promote complementary feeding. The NSS aims to update the National Strategy for Infant and Young Child Feeding (2007) to provide guidance on strategies, interventions, and actions for a comprehensive approach to the protection, promotion, and support of infant and young child feeding (IYCF) in Bangladesh. |
| 36 | Micronutrient powder (MNP) supplementation | *Operational Plan for National Nutrition Service (NNS) (OP NSS 2017–2022)* (Bangladesh, Directorate General of Health Services 2017b) aims to provide MNP to targeted children aged six to 23 months as per the National Strategy on Prevention and Control of Micronutrient Deficiencies, Bangladesh (2015–2024) (Bangladesh, Directorate General of Health Services 2015). This strategy recommends the use of MNP in the diet of children six to 23 months and children 24 to 59 months. |
| 37 | Zinc supplementation during diarrhea | *Operational Plan for National Nutrition Service (NNS) (OP NSS 2017–2022)* (Bangladesh, Directorate General of Health Services 2017b) aims to provide zinc during episodes of diarrhea at IMCI–Nutrition corners. |
| 38 | Oral rehydration salts (ORS) during diarrhea | *Operational Plan for National Nutrition Service (NNS) (OP NSS 2017–2022)* (Bangladesh, Directorate General of Health Services 2017b) aims to provide ORS along with zinc at IMCI–N corners during episodes of diarrhea. |
| 39 | Vitamin A supplementation | National Vitamin A Plus Campaign: All children six to 59 months should receive vitamin A capsules every six months. |
| 40 | Preventive deworming | *Operational Plan for National Nutrition Service (NNS) (OP NSS 2017–2022)* (Bangladesh, Directorate General of Health Services 2017b) aims to provide deworming tablets to children aged 24 to 59 months twice a year as per strategy/guidelines. |
| 41 | Growth monitoring (weight assessment) | *Operational Plan for National Nutrition Service (NNS) (OP NSS 2017–2022)* (Bangladesh, Directorate General of Health Services 2017b) calls for the periodic measuring of children under five, as per guidelines. |
| 42 | Counseling on nutritional status | *Operational Plan for National Nutrition Service (NNS) (OP NSS 2017–2022)* (Bangladesh, Directorate General of Health Services 2017b) states that, after measurement, the mother/caregiver will receive counseling and services as appropriate. |

| S.N | Nutrition actions | Program |
|---|---|---|
| | | Implementation/operational guidelines |
| 43 | Identification of severe or moderate underweight | *National Guidelines for the Facility-Based Management of Children With Severe Acute Malnutrition in Bangladesh* (Bangladesh, Institute of Public Health Nutrition 2017): 1) Children under six months with SAM should be identified in the community through screening which involves assessment of visible wasting, a weight-for-length z-score (WLZ) under -3, and bipedal oedema. 2) Active community-level case identification of children six to 59 months with SAM is done through rapid screening methods, including mid-upper arm circumference (MUAC) measurement, weight-for-height z-scores (WHZ), and observation of bipedal edema.<br>Regarding passive identification at the facility level: children with complications come to the facility, whereas children with diarrhea are usually presented in IMCI–Nutrition corners or pediatric units (SAM bed). Secondary and tertiary: there is no system for identifying children with SAM who do not have complications. |
| 44 | Inpatient management of severe acute malnutrition (SAM) | *Operational Plan for National Nutrition Service (NNS) (OP NSS 2017–2022)* (Bangladesh, Directorate General of Health Services 2017b) aims to update SAM guidelines as per the latest WHO recommendations. Management of SAM children under six months will also be developed and incorporated into the guideline and training module. The current guideline does not cover inpatient management of SAM for children under six months.<br>National Guidelines for the Facility-Based Management of Children with SAM in Bangladesh (2017); National Guidelines for the Management of SAM Children in Bangladesh (Bangladesh, Institute of Public Health Nutrition 2008): Inpatient treatment of SAM cases is conducted and NNS aims to update SAM guidelines as per the latest WHO recommendations. |
| 45 | Outpatient management of SAM | *National Guidelines for Community Based Management of Acute Malnutrition in Bangladesh* (Bangladesh, Institute of Public Health Nutrition 2011): Nutritional treatment and medical management of children with SAM without complications at an outpatient site (or community outreach site). |
| 46 | Management of MAM | *National Guidelines for Community Based Management of Acute Malnutrition in Bangladesh* (Bangladesh, Institute of Public Health Nutrition 2011): Outpatient site (or outreach site) manages MAM children. |
| 47 | Immunization | *National Immunization Policy (NIP)* (Bangladesh, Directorate General of Health Services 2014) provides details on routine immunization of children. |

## 6.3 Appendix 3: Activities Included in National Strategies to Address the Key Determinants of Nutrition

| Key determinants of nutrition | Strategies that recognize | Activities included in national strategies |
|---|---|---|
| **1. Immediate determinants** | | |
| a. Inadequate intake by children | | |
| Breastfeeding | Second National Plan of Action for Nutrition: 2016–2025 (NPAN–II) | *Second National Plan of Action for Nutrition: 2016–2025 (NPAN–II)* (Bangladesh, Ministry of Health and Family Welfare 2017) calls for breastfeeding to start within one hour of birth to ensure appropriate care of the newborn, with exclusive breastfeeding up to age six months. It has planned the following activities:<br>• Promote breastfeeding during antenatal care (ANC) and postnatal care (PNC), including infant and young child feeding (IYCF)<br>• Strengthen legal protection (full implementation of *Breast-Milk Substitutes [BMS] Act 2013)*<br>• Baby-Friendly Hospital Initiative (BFHI), maternity leave etc.<br>• Scale up social behavior change communication (SBCC) campaigns for breastfeeding<br>• Scale up counseling and community support for breastfeeding<br>• Promote breastfeeding support in the workplace<br>• Initiate engagement with the Ministry of Labor and the private sector for protection of maternal leave rights. |
| Complementary feeding | NPAN–II | *NPAN–II* (Bangladesh, Ministry of Health and Family Welfare 2017) aims to encourage the provision of complementary food from age six months, three to four times per day, prepared at home (combining at least four food groups), with continuation of breastfeeding up to age two years. The following activities are planned:<br>• Promote appropriate and safe complementary feeding of infants and young children while continuing breastfeeding up to two years of age<br>• Promote hygienic practices (WASH) for complementary feeding of infants and young children while continuing breastfeeding<br>• Scale up counseling on relevant complementary feeding issues<br>• Conduct SBCC campaigns on breastfeeding and minimum acceptable diet (MAD) through Expanded Program on Immunization (EPI), ANC, PNC, family planning (FP), delivery care, and Integrated Management of Childhood Illness (IMCI) |

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| Infectious diseases | NPAN–II | (*NPAN–II)* (Bangladesh, Ministry of Health and Family Welfare 2017) aims to immediately treat any infection that may have adverse effects on nutrition. The following activities have been planned:<br>Provide training to staff at primary health care (PHC) centers on appropriate management of common illnesses including diarrhea, dysentery, pneumonia, ear infection, and parasitic infestation<br>Establish supply chain of adequate and appropriate medicines and staff at all PHC facilities in a timely manner. |
| b. Inadequate intake by mothers | NPAN–II | *NPAN–II* (Bangladesh, Ministry of Health and Family Welfare 2017) aims to promote the consumption of adequate quantities of nutritious food to prevent malnutrition in lactating mothers and to ensure appropriate care of children; it has instituted the following activity to improve maternal diet:<br>• Conduct SBCC activities to improve community awareness on maternal diet and care during lactation and encourage early health-seeking behavior. |
| **2. Underlying determinants** | | |
| a. Women's status | | |
| Education | NPAN–II | *NPAN–II* (Bangladesh, Ministry of Health and Family Welfare 2017) aims to conduct the following activities to complete girls' education:<br>• Scale up 'school stipend' for all school-going children/adolescents belonging to poor and vulnerable households<br>• Focus on education and training programs to motivate adolescents to complete their education<br>• Promote universal secondary school female education coverage. |
| Right age of marriage/childbirth | NPAN–II | *NPAN–II* (Bangladesh, Ministry of Health and Family Welfare 2017) aims to conduct the following activities to promote the delay of marriage and childbirth:<br>• Enforce law to prevent early marriage<br>• Conduct awareness-raising activities on the prevention of early marriage and early pregnancy<br>• Promote the advantages of family planning and birth spacing in awareness-raising activities<br>• Involve healthcare providers, community groups, and school managing committees to monitor school dropouts<br>• Promote the communication of the advantages of delayed pregnancy in health facilities. |

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| b. Sanitation and hygiene | NPAN–II | *NPAN–II* (Bangladesh, Ministry of Health and Family Welfare 2017) includes the following activities to promote sanitation and hygiene:<br>• Conduct mass media campaigns for improving food safety, and water, sanitation and hygiene (WASH) practices/SBCC to make safe and correct food choices and to improve hygiene practices.<br>• Scale up and expand WASH program at all levels including in rural/urban slums, and in squatters/community/remote areas<br>• Identify link between nutrition and WASH programs<br>• Organize media campaigns and community mobilization for WASH and nutrition<br>• Promote hygienic practices (WASH) for complementary feeding of infants and young children while continuing breastfeeding. |
| c. Food security | NPAN–II | *NPAN–II* (Bangladesh, Ministry of Health and Family Welfare 2017) aims to enhance food security at the household level; it aims to publicize and promote food-based dietary guidelines and ensure informed food selection and consumer rights. |
| d. Socio-economic conditions | NPAN–II | *NPAN–II* (Bangladesh, Ministry of Health and Family Welfare 2017) aims to enhance the nutritional value of food through the inclusion of multiple micronutrient-fortified foods such as rice and edible oils in the food basket; it intends to promote social protection programs which help reduce micronutrient deficiencies through targeted vulnerable sections of the population. It is recommended that some of the existing social protection programs, such as the Vulnerable Group Development (VGD) program, should be encouraged to further replace regular food with fortified foods. |

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