Global Nutrition Policy Review 2016 - 2017:
Country progress in creating enabling policy environments for promoting healthy diets and nutrition (DRAFT)
Contents
1. Introduction ........................................................................................................ 3
2. Methods .............................................................................................................. 4
  2.1. Questionnaire development and data collection ........................................ 4
  2.2. Data validation ................................................................................................ 6
  2.3. Inclusion criteria and presentation of results .............................................. 6
  2.4. Analysis of policy coherence ......................................................................... 6
  2.5. Analysis of progress since the 1st Global Nutrition Policy Review .......... 8
3. Results ............................................................................................................... 9
  3.1. Country response ......................................................................................... 9
  3.2. Policies, strategies and plans related to nutrition ...................................... 10
    3.2.1 Types of policy documents considered .............................................. 10
    3.2.2 Nutrition policies .................................................................................. 12
    3.2.3 Goals and targets included in national policies .................................... 13
    3.2.4 Action areas included in national policies ........................................... 17
  3.3. Coordination mechanisms .......................................................................... 19
    3.3.1 Coordination mechanisms in countries .............................................. 19
    3.3.2 Location of the coordination mechanisms ........................................... 20
    3.3.3 Members of coordination mechanisms ............................................... 21
  3.4. Nutrition capacities ..................................................................................... 22
  3.5. Nutrition actions and programmes being implemented ....................... 28
    3.5.1 Actions related to infant and young child nutrition .............................. 28
    3.5.2 Actions implemented through school health and nutrition programmes 35
    3.5.3 Actions to promote healthy diets and prevent overweight and obesity 45
    3.5.4 Actions related to vitamin and mineral nutrition ................................. 62
    3.5.5 Actions to prevent and treat acute malnutrition ................................... 69
    3.5.6 Actions related to nutrition and infectious disease ............................... 74
    3.5.7 Partners involved in delivering nutrition action ..................................... 76
    3.5.8 Delivery channels for nutrition actions ................................................. 80
    3.5.9 Targeting of nutrition interventions across the lifecycle .................... 82
    3.5.10 Monitoring and learning for scaling up nutrition action .................... 84
  3.6. Coherence in the policy environment for reaching the Global Nutrition Targets .. 89
    3.6.1. Stunting .............................................................................................. 89
    3.6.2. Anaemia ............................................................................................ 93
3.6.3. Overweight ......................................................................................................................... 96
3.6.4. Exclusive breastfeeding ....................................................................................................... 100
3.6.5. Wasting .............................................................................................................................. 103
4. Progress since the 1st Global Nutrition Policy Review ............................................................... 105
5. Conclusions .................................................................................................................................. 110
6. The way forward .......................................................................................................................... 117
7. References ...................................................................................................................................... 120
1. Introduction

The world continues to face great challenges of malnutrition, with one in three people directly affected by underweight, vitamin and mineral deficiency, or overweight, obesity and diet-related noncommunicable diseases (NCDs) (IFPRI 2016). Moreover, these conditions increasingly coexist in a nation, community, household, or even in the same individual across the life course. While more than 1.9 billion adults were overweight or obese worldwide in 2015, 462 million were underweight (NCD Risk Factor Collaboration, 2016a). In 2016, 155 million children under the age of five were affected by stunting while 41 million were overweight and 52 million were affected by wasting (UNICEF/WHO/World Bank, 2017).

While low- and middle-income countries now witness a rise in childhood overweight and obesity, especially in urban populations (Wang & Lobstein, 2006), poor nutrition continues to cause nearly half of deaths in children under five years of age (Black et al., 2013). Furthermore, some 1.6 billion people are anaemic, mainly due to iron deficiency (WHO & CDC, 2008). While undernutrition impedes children’s achievement of their full physical growth, economic, social, educational and occupational potential, unhealthy diets contribute not only to cause undernutrition, but also to the rise in overweight and obesity and in diet-related NCDs, which results in premature mortality (below 70 years of age) and the early onset of disease with high levels of disability. One in 12 adults worldwide now has diabetes, which is mostly type 2 diabetes linked to overweight and obesity, and very often undiagnosed (WHO, 2016h).

There have been many important developments in the global nutrition policy environment since 2009-2010 when the first Global Nutrition Policy Review (GNPR1) was conducted (WHO, 2013d). In 2011, the United Nations General Assembly (UNGA) adopted a political declaration on the prevention and control of NCDs (UN, 2011), which was a first global call for action on NCDs, and in 2014 progress was reviewed (UN, 2014). In 2012, the World Health Assembly (WHA) approved the Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition (WHO, 2014a) with six Global Nutrition Targets to be achieved by 2025, including reductions in young child stunting and wasting and no increase in overweight, as well as reducing maternal anaemia and low birth weight whilst increasing breastfeeding. In 2013, the WHA approved the Global Action Plan for the Prevention and Control of NCDs 2013-2020 (WHO, 2013b) together with the nine voluntary global NCD targets and 25 indicators.

At the second International Conference on Nutrition (ICN2) held in November 2014, Member States and the global community committed to eliminate malnutrition in all its forms and articulated in the Rome Declaration on Nutrition (FAO/WHO, 2014b) a common vision for global action which can be taken through the implementation of policy options described in the Framework for Action (FAO/WHO, 2014a). The ICN2 reiterated the commitments to achieve the six Global Nutrition Targets 2025, as well as the diet-related NCD targets 2025.

In September 2015, UNGA adopted the Agenda for Sustainable Development (UN, 2015) with 17 Sustainable Development Goals (SDGs), committing the international community to end poverty and hunger and achieve sustainable development by 2030. The SDG2 is to end hunger, achieve food security and improve nutrition and promote sustainable agriculture. The SDG3 is to ensure healthy lives and promote well-being for all at all ages. In April 2016, the UNGA proclaimed 2016 to 2025 the United Nations Decade of Action on Nutrition (UN, 2016). In May 2016, the WHA requested the
Director-General of the World Health Organization (WHO) (WHO, 2016m) to work with the Director-General of the Food and Agriculture Organization of the United Nations (FAO) to support Member States upon request in developing, strengthening and implementing their policies, programmes and plans to address the multiple challenges of malnutrition. The aim is to help countries develop and implement commitments for nutrition actions that are Specific, Measurable, Achievable, Relevant, and Time Bound (SMART) in the context of their nutrition situations and within the Framework of the Decade of Action on Nutrition (2016-2025).

The WHO guidance on effective nutrition programmes has also evolved considerably since GNPR1. An interpretation guide (WHO, 2010a) for the country profile indicators of the Nutrition Landscape Information System (NLIS) was published in 2010. The NLIS brings together and keeps up to date nutrition-related indicators in a standardized form for all Member States, allowing tracking over time as well as generation of easy to interpret country profiles. Guidelines on effective nutrition interventions has been maintained up-to-date in the WHO electronic Library of Evidence on Nutrition Actions (eLENA)\(^1\) since 2011. In November 2012, the Global database on the Implementation of Nutrition Action (GINA) was launched, and is providing valuable information on the implementation of numerous nutrition policies and interventions across the globe. The information collected in GNPR1 has all been fed into GINA, as will the results collected through the 2\(^{nd}\) Global Nutrition Policy Review (GNPR2) which was conducted in 2016 – 2017 to compile the updated information on countries' progress in implementing actions to achieve the Global Nutrition Targets 2025. Furthermore, in 2013 WHO published the Essential Nutrition Actions that listed proven effective nutrition interventions for improving maternal, infant and young child nutrition together with the evidence of best practice in delivery mechanisms including community-based programmes (WHO, 2013a). WHO in collaboration with UNICEF and the European Commission (EC), has also developed the Tracking Tool\(^2\) to help countries set their national targets and monitor progress.

The purpose of this report is to take stock on progress towards achieving the global targets and commitments of the ICN2 through examining the results of the GNPR2 to assess any major difference across the regions, identifying areas that have progressed well since GNPR1 as well as those that will need greater effort if the global targets for 2025 and 2030 are to be met. The outcomes of GNPR2 will also serve as a baseline for monitoring the implementation of the commitments of ICN2 and of the Decade of Action on Nutrition.

2. Methods

2.1. Questionnaire development and data collection

A comprehensive online questionnaire containing nine sections (Box 1) was developed by the WHO Department of Nutrition for Health and Development, with inputs from the six WHO Regional Offices, as well as from external experts and partner agencies. Web-based versions of the questionnaire were prepared on the WHO Dataform platform, in Arabic, English, French, Russian, and Spanish. The online versions of the questionnaire were prefilled with existing information contained in GINA, provided by countries through regular contacts, during GNPR1 and from partner

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\(^2\) Global targets tracking tool: [http://www.who.int/nutrition/trackingtool/en/](http://www.who.int/nutrition/trackingtool/en/)
organizations. These online versions of the questionnaire were disseminated to Member States through the WHO Regional and Country Offices to the Ministries of Health from July to November 2016. Member States were asked to review and update the prefilled information and incorporate any new or updated information that was available for their respective countries. The modular approach of the questionnaire allowed the person responsible for the relevant issues and programmes to complete different sections. Furthermore, an abbreviated questionnaire was developed as an off-line PDF form and disseminated in January 2017 to obtain information from Member States that had not completed the full online versions of the questionnaire. The abbreviated version of the questionnaire contained 42 questions covering the main top-level questions, but without the high level of detail requested in the full online versions. Responses from Member States were received until June 2017.

Box 1. Questionnaire structure and content overview

**SECTION 1: POLICIES, STRATEGIES AND PLANS RELATED TO NUTRITION**
This section aims to map out the main policies, strategies and plans which relate to improving nutrition and promoting healthy diets. These include not only comprehensive nutrition policies, but also those focusing on a specific nutrition issue, as well as policies, strategies and plans which address nutrition and dietary risk factors as part of the strategic action areas, such as NCD strategies, health sector strategic plans, social protection plans, food security strategies or national development plans.

**SECTION 2: COORDINATION MECHANISMS FOR NUTRITION**
This section aims to compile information on coordination mechanisms for nutrition. This includes multisectoral coordinating mechanisms (e.g. national nutrition council, technical working group, task force, advisory body or committee) which oversee, coordinate or harmonise nutrition or diet-related work.

**SECTION 3: NUTRITION CAPACITY**
This section aims to compile information on nutrition capacity in the country. This includes the existence of nutrition degrees, the number of nutrition professionals, and the training on nutrition for health personnel such as medical doctors, nurses and midwives.

**SECTION 4: NUTRITION ACTIONS, PROGRAMMES AND MEASURES BEING IMPLEMENTED**
This section aims to map out actions with an impact on nutrition across the lifecycle that are implemented in the country. For each action, information is collected on implementation details specific to the action, delivery mechanisms and target groups, and evaluation and lessons learnt.

- 4.1: ACTIONS RELATED TO IMPROVING MATERNAL, INFANT AND YOUNG CHILD NUTRITION
- 4.2: ACTIONS RELATED TO SCHOOL HEALTH AND NUTRITION PROGRAMMES
- 4.3: ACTIONS RELATED TO PROMOTING HEALTHY DIET AND PREVENTING OBESITY AND DIET-RELATED NCDs
- 4.4: ACTIONS RELATED TO IMPROVING VITAMIN AND MINERAL NUTRITION
- 4.5: ACTIONS RELATED TO PREVENTION AND TREATMENT OF ACUTE MALNUTRITION
- 4.6: ACTIONS RELATED TO ADDRESSING NUTRITION AND INFECTIOUS DISEASES
2.2. Data validation
The information and data reported by Member States were validated to the fullest extent possible, through reviewing documents submitted or identified by Member States and other resources which include partners’ databases as well as regional monitoring initiatives. After careful review, respondents in concerned countries were contacted to obtain any missing information or clarifications if necessary, and required documentations were further requested. The WHO Regional and Country Offices provided further verification of nutrition actions implemented in Member States. Overall, the team reviewed around 2,000 documents, including policies, strategies and action plans as well as protocols, guidelines and regulations underpinning the implementation of the programmes and actions. The bulk of documents reviewed were in Arabic, English, French, Russian and Spanish, in addition to some few documents in other languages reviewed with the assistance of the WHO team at different levels.

2.3. Inclusion criteria and presentation of results
Documents were included in the policy analyses (chapter 3.2) if they represented national, official documents currently in use. For example, policies were excluded from the analysis if they had been replaced by newer versions. Legislation, codes, regulations, protocols, and guidelines were also excluded from the policy analysis section, although many were relevant and used in other sections of the review. Coordination mechanisms were considered in the analyses (chapter 3.3) if they represented established mechanisms with a main objective of coordination across sectors, i.e. coordination mechanisms within a single institution were excluded from the review. Information on nutrition capacities (chapter 3.4) was scrutinized for any double-counting of trained professionals and checked against country resources in case of inconsistent responses. Unless otherwise indicated, action programmes and other legislative or voluntary measures were included in the analyses (chapter 3.5) as reported by Member States.

Each section commences with the top-level responses provided by country respondents to both the full and short questionnaire, followed by more detailed information for smaller numbers of countries that had responded to the full questionnaire or for which policies, protocols, guidelines and regulations were available to the team. Throughout the report, no answers have been excluded from the data presentations, thus denominators may vary within the same section.

2.4. Analysis of policy coherence
A cross modular analysis reviews the existence of relevant policies, coordination mechanisms, capacities and actions in groups of countries based on whether they are “on track” or “off track” to reach the global nutrition targets (chapter 3.7). The relevant elements in the policy environment were identified based on the interventions for which systematic reviews suggest links to the

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3 Including FAO food-based dietary guidelines, FAO/WHO GIFT, the Food Fortification Initiative, World Cancer Research Fund, the SUN network, the UNICEF NutriDash, the UNICEF/EAPRO salt fortification monitoring report, WHO WPRO Nutrition Country Profiles.
respective targets as listed in eLENA\textsuperscript{4}, on the interventions proposed in the respective WHO Global Nutrition Targets 2025 policy briefs\textsuperscript{5} as well as key interventions for improving breastfeeding practices listed in the WHO/UNICEF Global Strategy for Infant and Young Child Feeding (Table 1). As the prevention of stunting and wasting requires general improvements in maternal and child nutrition, the analysis also considered the extent of implementation of a package of interventions drawing from the Essential Nutrition Actions (WHO, 2013a) and the Lancet Nutrition Series 2013 (Bhutta et al., 2013). The interventions considered in this analysis were limited to those which countries reported on in the questionnaire and does not represent a complete set of interventions to address the Global Nutrition Targets.

The categorization of countries into on/off track groups for reaching the Global Nutrition Targets was based on analysis done by WHO in accordance with a set of rules provided by the WHO/UNICEF Technical Expert Advisory Group on Nutrition Monitoring (TEAM). These rules provide the cut-offs for on/off track based on a combination of prevalence and average annual progress rates. They also restrict country assessment to recentness of data (at least two points since 2008) as well as at least one data point beyond 2012 (WHO & UNICEF TEAM, 2017). For the purpose of this report, countries not complying with those two restrictions but that had at least two points to assess their average annual progress rates have nevertheless been included in the analyses. Inclusion of countries with less recent data was based on their two latest estimates for all targets except wasting, where first and latest data points were used to reflect longer term trends. This deviation from the TEAM’s recommended rules was implemented because the groups of countries available for analysis would otherwise have been very small and because the recentness of data was assessed as less relevant for analysing the association between policy environment and nutrition trends. Although many policies and programmes may be newer in date, policy development and subsequent implementation can be a long process and are therefore often a reflection of older data available at the time when the political priorities were made.

The cross modular analysis of policy environment in countries on or off track for reaching the Global Nutrition Targets, was done for five of the six global targets for which agreed dataset were available.\textsuperscript{6}

\textsuperscript{4}Interventions by global target: http://who.int/elena/global-targets/en/
\textsuperscript{5}Global Targets 2025: http://who.int/nutrition/global-target-2025/en/
\textsuperscript{6}At the time of preparing this report, data on low birth weight were not available.
Table 1: Interventions considered in the cross modular analysis of policy environment to reach the Global Nutrition Targets*

<table>
<thead>
<tr>
<th>Target</th>
<th>Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stunting</strong></td>
<td>Growth monitoring and promotion(^1), breastfeeding counselling(^{1,2}), BFHI(^2), complementary feeding counselling(^{1,2}), nutrition counselling in pregnancy(^2), iron-folic acid supplementation in pregnant women(^3) and in women of reproductive age(^1), vitamin A(^{1,2}) as well as zinc(^2) supplementation in children, and provision of foods for infants and young children(^1). In addition, the extent of implementation of a comprehensive maternal child nutrition intervention package was assessed.</td>
</tr>
<tr>
<td><strong>Anaemia</strong></td>
<td>Iron folic acid supplementation in pregnant women(^{1,2}), iron folic acid supplementation in women of reproductive age(^{1,3}), fortification of staple foods with iron(^{1,2}), nutrition counselling in pregnancy(^2), deworming(^4), optimal timing of cord clamping(^1).</td>
</tr>
<tr>
<td><strong>Child overweight</strong></td>
<td>Growth monitoring and promotion(^5), breastfeeding counselling(^{1,2}), BFHI(^{1,2}), complementary feeding counselling(^{1,2}), regulating marketing of complementary foods(^1), nutrition counselling in pregnancy(^1), school food standards(^5), vending machines(^5), dietary guidelines(^5), nutrition labelling(^5), reformulation (i.e. to reduce sugars intake)(^2), fiscal policies(^1), regulation of marketing of food and non-alcoholic beverages to children(^{1,2}), portion size control(^2), media campaigns(^1).</td>
</tr>
<tr>
<td><strong>Exclusive breastfeeding</strong></td>
<td>Breastfeeding counselling(^3), BFHI(^3), Infant feeding in difficult circumstances i.e. in the context of LBW, HIV and emergencies(^3), regulation of marketing of breast-milk substitutes(^3), maternity protection(^3).</td>
</tr>
<tr>
<td><strong>Wasting</strong></td>
<td>Growth monitoring and promotion(^3), breastfeeding counselling(^3), complementary feeding counselling(^1), nutrition counselling in pregnancy(^2), iron folic acid supplementation in pregnant women(^2), distribution of foods for infants and young children(^2), management of MAM(^{1,2}), management of SAM(^{1,2}). In addition, the extent of implementation of a comprehensive maternal child nutrition intervention package was assessed.</td>
</tr>
</tbody>
</table>

Note: *other interventions may exist in these sources, but were not assessed in the questionnaire and therefore not included in this table. Sources for associating targets with specific interventions: 1. Global Nutrition Targets policy briefs\(^7\), 2. eLENA interventions linked to the Global Nutrition Targets\(^8\), 3. WHO/UNICEF Global Strategy for Infant and Young Child Feeding (WHO/UNICEF, 2003)

2.5. Analysis of progress since the 1st Global Nutrition Policy Review

The results of GNPR2 were compared with the corresponding results of GNPR1 conducted in 2009-2010. Selected goals and actions from national policies, information on coordination mechanisms, and implementation of nutrition actions were compared by absolute percentage change between the two reports. This cross-sectional analysis includes all countries that responded to any of the reviews and was not limited to the countries that responded to both. The number and regional composition of respondents as well as steps taken to make results comparable (e.g. merging of pre-school age and school-age child overweight results in GNPR2 to be comparable with child overweight results in GNPR1) are described in detail in relation to every table.


\(^8\)Interventions by global target. http://who.int/elena/global-targets/en/
3. Results

3.1. Country response

Out of 194 WHO Member States, 172 Member States and one area responded to GNPR2, which equals to an overall response rate of 89% of Member States. Eighty-two Member States responded to all sections of the full questionnaire while 44 Member States responded only to some sections of the full questionnaire. An additional 46 Member States and 1 area responded to the abbreviated top-level questionnaire. The detailed information on the responses by Member States in different Regions and on the responses to different sections is provided in Table 2 and Table 3, respectively.

Table 2: Responses by region

<table>
<thead>
<tr>
<th>Region</th>
<th>Total Responses</th>
<th>Completed full questionnaire</th>
<th>Completed some sections of the full questionnaire</th>
<th>Completed abbreviated questionnaire</th>
<th>No response</th>
<th>Member State response rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFRO</td>
<td>41</td>
<td>20</td>
<td>6</td>
<td>15</td>
<td>6</td>
<td>87%</td>
</tr>
<tr>
<td>AMRO</td>
<td>30</td>
<td>10</td>
<td>11</td>
<td>9</td>
<td>5</td>
<td>86%</td>
</tr>
<tr>
<td>EMRO</td>
<td>21</td>
<td>11</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>EURO</td>
<td>44</td>
<td>21</td>
<td>17</td>
<td>6</td>
<td>9</td>
<td>83%</td>
</tr>
<tr>
<td>SEARO</td>
<td>11</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>WPRO</td>
<td>25 (1)</td>
<td>11</td>
<td>3</td>
<td>11 (1)</td>
<td>2</td>
<td>93%</td>
</tr>
<tr>
<td>All</td>
<td>172 (1)</td>
<td>82</td>
<td>44</td>
<td>46 (1)</td>
<td>22</td>
<td>89%</td>
</tr>
</tbody>
</table>

The respondents were: 41 of 47 Member States in the African Region (Algeria, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Chad, Comoros, Congo, Côte d’Ivoire, Democratic Republic of the Congo, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, South Africa, Swaziland, Togo, Uganda, United Republic of Tanzania, Zambia, Zimbabwe); 30 of 35 Member States in the Region of the Americas (Antigua and Barbuda, Argentina, Barbados, Belize, Bolivia (Plurinational State of), Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Peru, St Kitts and Nevis, Saint Lucia, Suriname, Trinidad and Tobago, United States of America, Uruguay, Venezuela (Bolivarian Republic of)); 21 of 21 Member States in the Eastern Mediterranean Region (Afghanistan, Bahrain, Djibouti, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Qatar, Saudi Arabia, Somalia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates, Yemen); 44 of 53 Member States in the European Region (Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Greece, Hungary, Iceland, Ireland, Israel, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxemburg, Malta, Montenegro, Netherlands, Norway, Poland, Republic of Moldova, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Uzbekistan); 11 of 11 Member States in the South-East Asia Region (Bangladesh, Bhutan, Democratic People’s Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, Timor-Leste); and 25 of 27 Member States in the Western Pacific Region (Australia, Brunei Darussalam, Cambodia, China, Cook Islands, Fiji, Japan, Lao PDR, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, New Zealand, Niue, Palau, Papua New Guinea, Philippines, Republic of Korea, Samoa, Singapore, Solomon Islands, Tonga, Tuvalu, Vanuatu, Vietnam) and 1 area (Guam)

The respondents were: 41 of 47 Member States in the African Region (Algeria, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Chad, Comoros, Congo, Côte d’Ivoire, Democratic Republic of the Congo, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, South Africa, Swaziland, Togo, Uganda, United Republic of Tanzania, Zambia, Zimbabwe); 30 of 35 Member States in the Region of the Americas (Antigua and Barbuda, Argentina, Barbados, Belize, Bolivia (Plurinational State of), Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Peru, St Kitts and Nevis, Saint Lucia, Suriname, Trinidad and Tobago, United States of America, Uruguay, Venezuela (Bolivarian Republic of)); 21 of 21 Member States in the Eastern Mediterranean Region (Afghanistan, Bahrain, Djibouti, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Qatar, Saudi Arabia, Somalia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates, Yemen); 44 of 53 Member States in the European Region (Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Greece, Hungary, Iceland, Ireland, Israel, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxemburg, Malta, Montenegro, Netherlands, Norway, Poland, Republic of Moldova, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Uzbekistan); 11 of 11 Member States in the South-East Asia Region (Bangladesh, Bhutan, Democratic People’s Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, Timor-Leste); and 25 of 27 Member States in the Western Pacific Region (Australia, Brunei Darussalam, Cambodia, China, Cook Islands, Fiji, Japan, Lao PDR, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, New Zealand, Niue, Palau, Papua New Guinea, Philippines, Republic of Korea, Samoa, Singapore, Solomon Islands, Tonga, Tuvalu, Vanuatu, Vietnam) and 1 area (Guam)

10 17 countries responded to some sections of the full questionnaire as well as the abbreviated top-level questionnaire. These are counted under top level questionnaire in Table 2 above to avoid double counts, but their detailed answers are included in the analyses under the respective programme areas.
### Table 3: Responses to each section of the questionnaire

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.1 Infant and young child nutrition</td>
</tr>
<tr>
<td>AFRO</td>
<td>40</td>
<td>39</td>
<td>39</td>
<td>39</td>
</tr>
<tr>
<td>AMRO</td>
<td>28</td>
<td>28</td>
<td>29</td>
<td>28</td>
</tr>
<tr>
<td>EMRO</td>
<td>19</td>
<td>21</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>EURO</td>
<td>39</td>
<td>41</td>
<td>36</td>
<td>41</td>
</tr>
<tr>
<td>SEARO</td>
<td>11</td>
<td>11</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>WPRO</td>
<td>25 (1)</td>
<td>24 (1)</td>
<td>25 (1)</td>
<td>24 (1)</td>
</tr>
<tr>
<td>Total</td>
<td>162 (1)</td>
<td>164 (1)</td>
<td>159 (1)</td>
<td>162 (1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Member States (number of areas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFRO</td>
</tr>
<tr>
<td>AMRO</td>
</tr>
<tr>
<td>EMRO</td>
</tr>
<tr>
<td>EURO</td>
</tr>
<tr>
<td>SEARO</td>
</tr>
<tr>
<td>WPRO</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

### 3.2. Policies, strategies and plans related to nutrition

#### 3.2.1 Types of policy documents considered

A total of 162 Member States and 1 area reported on the policies, strategies and plans (hereafter referred to as “policies”) relevant to improving nutrition and promoting healthy diets in their countries. These countries reported 863 documents of which 651 represented the most recent national policies and were included in the analyses\(^\text{12}\) (Figure 1). Sixty percent of the policies reported were developed since 2011, that is, since the first Global Nutrition Policy Review with many developed even more recently since the ICN2, especially the comprehensive nutrition policies. In terms of countries, 90% had policies developed in 2011 or later and 47% had policies developed in 2015 or later.

The majority of policies were dedicated to nutrition, notably 342 comprehensive or topic-specific nutrition policies in 145 countries (89%) (Figure 2). Among these, 127 countries (78%) had comprehensive nutrition policy documents and 85 countries (52%) had policy documents focusing on specific nutrition topics such as infant and young child nutrition, obesity, healthy diet, or vitamin and mineral nutrition. Forty-seven countries had multiple comprehensive nutrition policy documents. Usually these represented documents of different levels of operationalization. For example, a country could have a high-level nutrition policy, a ten-year nutrition strategy, and a shorter-term nutrition action plan. In some cases, especially in EURO, they represented different

\(^{11}\) The area Guam is included in the Western Pacific Region.

\(^{12}\) A total of 212 documents were excluded as follows: 50 were older policies, strategies or plans that had been replaced by newer versions, 63 were laws, 40 were guidelines or protocols, 40 had incomplete information to be assessed, 17 were programmes, projects or campaigns, and 2 were duplications.
geographical and administrative areas within the same country. Only a handful of countries had separate nutrition policy documents issued by different government sectors.

In addition to dedicated nutrition policies, the analyses also considered other government policies in which nutrition is one out of several strategic areas. These included 76 NCD policies in 61 countries, 154 health sector policies in 93 countries, 33 other sectoral policies (e.g. food and agriculture, social protection) in 26 countries and 46 national development strategies and plans with nutrition components in 41 countries.

Figure 1. Number of different types of policy documents considered in 163 countries and period when they were developed
3.2.2 Nutrition policies

The majority of countries with nutrition policies in all regions had developed these in 2011 or later, i.e. after conducting GNPR1 (Figure 3). Furthermore, one third of countries had nutrition policies developed in 2015 or later, i.e. after the ICN2. Almost half of the countries in had nutrition policies developed post ICN2.

In total, 39% of the countries reported that their nutrition policies had costed operational plans associated with them (Figure 4). Costed operational plans were most common in countries in EMRO (71%) and SEARO (60%) and the least common among countries in AMRO (23%) and EURO (25%).

Figure 3. Countries with recently developed nutrition policies
The sector most often involved in the implementation of nutrition policies was the Ministry of Health, followed by education and agriculture. The extent of the involvement of different sectors varied from region to region (Figure 5).

3.2.3 Goals and targets included in national policies

Overall, the Global Nutrition Targets were included in more than half of countries’ policies (Figure 6). Reducing or preventing child overweight was the target most often included (i.e. by 78% of countries responding). This was especially common in AMRO, EURO and WPRO, but also in other regions where undernutrition remains a great challenge, such as AFRO and SEARO. Most of the countries in AFRO with a child overweight target had introduced this as new policy target in 2012 or later, which likely reflects the influence of the Global Nutrition Targets adopted by the WHA in 2012.

The second most common target included was increasing rates of exclusive breastfeeding for 6 months, which was included by 78% of countries, reflecting the universality of this “double duty action” addressing all forms of malnutrition. The lower inclusion in EURO may be due to several countries recommending exclusive breastfeeding for shorter duration (4-6 months).
The targets related to undernutrition - stunting, anaemia, low birth weight and wasting – were most frequently included in national policies in AFRO and SEARO, where they were reported by more than 75% of all countries in these regions. Although anaemia is a wide spread global nutrition problem, only half of the countries had policy targets on anaemia. The exception being those in SEARO where over 80% countries included anaemia targets.

Goals, targets or indicators related to the Global Nutrition Targets were most commonly included in comprehensive nutrition policies (Figure 6). In addition, IYCF strategies and national health policies often had goals to increase rates of exclusive breastfeeding whereas NCD plans often included goals to reduce child overweight. Furthermore, stunting was often included in national development plans.

Figure 6. Inclusion of goals, targets or indicators related to the Global Nutrition Targets in national policies in 163 countries

![Figure 6](image)

Figure 7. Inclusion of goals, targets or indicators related to the Global Nutrition Targets in different categories of 651 national policies in 163 countries

![Figure 7](image)
As for the **diet-related NCD targets**, most countries reported to have goals, targets or indicators related to diabetes and to overweight in adults or adolescents (Figure 8). Not surprisingly, most of these were included in the NCD policies, although almost half of the national comprehensive nutrition policies also included goals to reduce adult or adolescent overweight and diabetes.

**Figure 8. Inclusion of goals, targets or indicators related to the diet-related Global NCD Targets in national policies in 163 countries**

Considering all the goals, targets and indicators included in national policies, stunting was the most frequently included undernutrition target reported by 60% of countries, slightly more than underweight at 58% (Figure 9). The relatively high inclusion of underweight in children - even though it is not a global nutrition target - reflects the continued influence from the Millennium Development Goals era when this was one of the indicators. Underweight in women or adolescent girls, however, is still not frequently included in national policies despite the increased attention to the role of maternal nutrition.

Anaemia was the vitamin and mineral deficiency most commonly included in national policies, slightly ahead of iodine deficiency disorders and vitamin A deficiency. The AFRO and SEARO regions showed the highest percentages of policy goals related to undernutrition and micronutrient deficiencies, whereas they were not included in the policies of many countries in the EURO region.

Concerning infant and young child feeding, related goals, targets and indicators for practices other than exclusive breastfeeding were less often included in national policies, especially the indicator on minimum acceptable diet which has been adopted by the WHA as part of the Global Nutrition Monitoring Framework.

Goals, targets or indicators related to overweight and obesity were more often included in the policies than diet-related NCDs, however this may be explained by an underreporting of NCD policies to the questionnaire focusing on nutrition. Overweight and obesity goals, targets and indicators were especially prevalent among AMRO, EURO, and WPRO regions. The most common goals, targets and indicators of dietary habits were fruit and vegetable intake, followed by intake of salt/sodium,
fats and then sugars. Fat intake usually concerned saturated or trans fatty acids, whereas sugars intake more often concerned added sugars than free sugars (WHO, 2015b).

**Figure 9. Inclusion of goals, targets or indicators in national policies in 163 countries**

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undernutrition</td>
<td></td>
</tr>
<tr>
<td>Low birth weight</td>
<td>56%</td>
</tr>
<tr>
<td>Stunting in children</td>
<td>60%</td>
</tr>
<tr>
<td>Underweight in children</td>
<td>58%</td>
</tr>
<tr>
<td>Wasting in children</td>
<td>55%</td>
</tr>
<tr>
<td>Underweight in women</td>
<td>39%</td>
</tr>
<tr>
<td>Underweight in adolescent girls</td>
<td>15%</td>
</tr>
<tr>
<td>Vitamin and mineral deficiencies</td>
<td></td>
</tr>
<tr>
<td>Anaemia in any target group</td>
<td>58%</td>
</tr>
<tr>
<td>Vitamin A deficiency</td>
<td>43%</td>
</tr>
<tr>
<td>Iodine deficiency disorders</td>
<td>44%</td>
</tr>
<tr>
<td>Infant and young child nutrition</td>
<td></td>
</tr>
<tr>
<td>Early initiation by 1 hr</td>
<td>48%</td>
</tr>
<tr>
<td>Exclusive breastfeeding up to 6 months</td>
<td>72%</td>
</tr>
<tr>
<td>Continued breastfeeding</td>
<td>58%</td>
</tr>
<tr>
<td>Complementary feeding</td>
<td>63%</td>
</tr>
<tr>
<td>Minimum acceptable diet</td>
<td>26%</td>
</tr>
<tr>
<td>Overweight and obesity in adults</td>
<td></td>
</tr>
<tr>
<td>Overweight and obesity in adolescents</td>
<td>67%</td>
</tr>
<tr>
<td>Overweight and obesity in school age children</td>
<td>54%</td>
</tr>
<tr>
<td>Overweight in children</td>
<td></td>
</tr>
<tr>
<td>Overweight in children</td>
<td>78%</td>
</tr>
<tr>
<td>Raised blood glucose/diabetes</td>
<td>47%</td>
</tr>
<tr>
<td>Raised blood pressure</td>
<td>47%</td>
</tr>
<tr>
<td>Raised blood cholesterol</td>
<td>29%</td>
</tr>
<tr>
<td>Dietary habits</td>
<td></td>
</tr>
<tr>
<td>Fat intake</td>
<td>45%</td>
</tr>
<tr>
<td>Salt/sodium intake</td>
<td>53%</td>
</tr>
<tr>
<td>Potassium intake</td>
<td>6%</td>
</tr>
<tr>
<td>Total carbohydrate intake</td>
<td>15%</td>
</tr>
<tr>
<td>Dietary fibre intake</td>
<td>17%</td>
</tr>
<tr>
<td>Sugars intake</td>
<td>39%</td>
</tr>
<tr>
<td>Fruit and vegetable intake</td>
<td>63%</td>
</tr>
<tr>
<td>Dietary diversity score</td>
<td>18%</td>
</tr>
</tbody>
</table>
3.2.4 Action areas included in national policies

Among actions related to maternal, infant, and young child nutrition, breastfeeding promotion and counselling was included in national policies by more countries than any other action (74%) (Figure 10). Despite the high level of breastfeeding counselling indicated, fewer countries have gone beyond general breastfeeding promotion to institutionalise this action through the BFHI (59%) or to train health professionals on breastfeeding (48%). Policy actions related to infant feeding in difficult situations (i.e. in the context of low birth weight, HIV, and emergencies) varied greatly by region, and any of these were reported by more than half of countries only in AFRO and SEARO. Regulation of marketing of complementary foods is not yet addressed by many countries (17%), half of which had included the action area in national policies developed in 2015 or later, probably as result of Member States’ interest in the topic area and WHO efforts to develop guidance (WHO, 2016b).

The most common policy action in school health and nutrition was nutrition in the school curriculum, followed by provision of school meals, and standards on types of foods and beverages available in schools. Provision of school meals was most common in AFRO, AMRO and SEARO, whereas school food standards were most common in WPRO. Growth monitoring among children in school was commonly included as a policy action among the majority of SEARO countries.

Policy actions to promote healthy diets were more related to education and information than to regulative measures. The most common policy actions were nutrition education and counselling on healthy diet, media campaigns on healthy diet and nutrition, and dietary guidelines. Of the remaining actions in this category, only the regulation of marketing of foods and non-alcoholic beverages to children was included by more than half of countries in one region (AMRO).

A high percentage of countries included micronutrient supplementation and food fortification in their national policies. Within micronutrient supplementation, vitamin A and iron/folic acid were the most common schemes globally. Additionally, SEARO countries frequently included zinc supplementation and MNPs in their policies. Salt iodization was the most common food fortification programme included in national policess.

Policy actions related to acute malnutrition and nutrition and infectious disease were only widely included in AFRO and SEARO, with most countries having expressed policy actions on management of moderate and severe acute malnutrition and on deworming. The majority of countries in AFRO also had policies covering nutritional care and support of people living with HIV/AIDS.

Overall, all regions had a high inclusion of policy actions related to maternal, infant, and young child nutrition, school health and nutrition, and healthy diet. Policy actions related to vitamin and mineral nutrition were slightly less common in EURO and WPRO, while policy actions related to acute malnutrition and nutrition and infectious disease varied even more across regions (Figure 11).

Since laws were excluded from the analysis there may be an underreporting of policy actions commonly implemented by regulation, e.g. food fortification or regulation of marketing. Furthermore, routine actions being implemented through the health system and well-integrated into national protocols, e.g. iron folic acid supplementation to pregnant women or timely cord clamping, may not have been explicitly expressed in the national policies. The implementation of nutrition actions and programmes is covered in section 3.5.
Figure 10. Inclusion of action areas related to nutrition in national policies in 163 countries

<table>
<thead>
<tr>
<th>Maternal, infant and young child nutrition</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counselling on healthy diet and nutrition during pregnancy</td>
<td>56%</td>
<td></td>
<td></td>
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<tr>
<td>Growth monitoring and promotion</td>
<td>61%</td>
<td></td>
<td></td>
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<tr>
<td>Breastfeeding promotion/counselling</td>
<td>74%</td>
<td></td>
<td></td>
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<tr>
<td>Baby-friendly Hospital Initiative (BFHI)</td>
<td>59%</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Counselling on feeding and care of LBW infants</td>
<td>26%</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Counselling on infant feeding in the context of HIV</td>
<td>34%</td>
<td></td>
<td></td>
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<tr>
<td>Infant feeding in emergencies</td>
<td>26%</td>
<td></td>
<td></td>
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<tr>
<td>Implementation of maternity protection</td>
<td>47%</td>
<td></td>
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</tr>
<tr>
<td>Training of health professionals on breastfeeding</td>
<td>48%</td>
<td></td>
<td></td>
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<tr>
<td>International Code of Marketing of Breast-milk substitutes</td>
<td>54%</td>
<td></td>
<td></td>
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<tr>
<td>Complementary feeding promotion/counselling</td>
<td>50%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Complementary food provision</td>
<td>23%</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Regulation on marketing of complementary foods</td>
<td>17%</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School health and nutrition programmes</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stadards on types of foods and beverages available in schools</td>
<td>42%</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Nutrition in the school curriculum</td>
<td>63%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hygienic cooking facilities and clean eating environment</td>
<td>27%</td>
<td></td>
<td></td>
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<tr>
<td>Provision of school meals/school feeding programme</td>
<td>52%</td>
<td></td>
<td></td>
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<tr>
<td>School fruit and vegetable scheme</td>
<td>24%</td>
<td></td>
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<tr>
<td>School milk scheme</td>
<td>15%</td>
<td></td>
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<tr>
<td>Distribution of take-home rations</td>
<td>4%</td>
<td></td>
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<tr>
<td>Monitoring of children’s growth in schools</td>
<td>28%</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>School gardens</td>
<td>33%</td>
<td></td>
<td></td>
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<tr>
<td>Dietary guidelines</td>
<td>55%</td>
<td></td>
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</tr>
<tr>
<td>Nutrition labelling</td>
<td>48%</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Reformulation of foods and beverages</td>
<td>31%</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Fiscal policies</td>
<td>27%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulation of marketing of food and non-alcoholic beverages...</td>
<td>39%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portion size control</td>
<td>15%</td>
<td></td>
<td></td>
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<tr>
<td>Media campaigns on healthy diet and nutrition</td>
<td>60%</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Nutrition education and counselling on healthy diet</td>
<td>75%</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Micronutrient supplementation</td>
<td>61%</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Food fortification</td>
<td>69%</td>
<td></td>
<td></td>
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<tr>
<td>Biofortification</td>
<td>12%</td>
<td></td>
<td></td>
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<tr>
<td>Nutrition education on dietary diversity and consumption of...</td>
<td>39%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Promotion and implementation of properly timed cord...</td>
<td>9%</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Nutrition in emergencies/humanitarian settings</td>
<td>31%</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Food distribution/supplementation for prevention of acute...</td>
<td>41%</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Management of moderate acute malnutrition</td>
<td>37%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management of severe acute malnutrition</td>
<td>39%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutritional care &amp; support for people living with HIV</td>
<td>36%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutritional care &amp; support for people with TB</td>
<td>17%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deworming for soil transmitted helminth</td>
<td>39%</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Figure 11. Main action areas included in national policies in 163 countries

3.3. Coordination mechanisms

3.3.1 Coordination mechanisms in countries

A total of 165 countries responded to the section on coordination mechanisms, and 132 of these countries reported details on such mechanisms. All the countries in SEARO and the great majority of countries in AFRO, AMRO and EMRO had coordination mechanisms, while a third of the countries in EURO and WPRO did not have such mechanisms.

About half of the countries with mechanisms had one coordination mechanism set up in their countries to address food and nutrition issues, while the other half had multiple coordination mechanisms related to food and nutrition (Figure 12). In countries with multiple coordination mechanisms, these were often established to focus on specific nutrition issues (e.g. breastfeeding, food fortification, reduction of trans fatty acids) or to include particular constituencies (e.g. nutrition partners’ groups). Multiple mechanisms were also commonly established at different levels. For example, half of the countries with mechanisms established at the President or Prime Minister level, also had other coordination mechanisms that addressed nutrition in other institutions.

Furthermore, many countries reported on mechanisms that were not primarily focused on nutrition but where nutrition was being integrated (e.g. NCD working group, coordination committee for national health programme) and in some cases separate subgroups had been established on nutrition (e.g. sub-committee on nutrition of the maternal and child health committee).

13 The 165 countries reported 289 coordination mechanisms of which 271 were included the analyses whereas 18 were excluded as they were single institutions, policies or programmes rather than coordination mechanisms. Four countries which only reported mechanisms that were excluded are included in the ‘no mechanisms’ category in Figure 10.
### 3.3.2 Location of the coordination mechanisms

The Ministry of Health was the most common government agency where the coordination mechanism to address food and nutrition issues were established, ranging from 90% in SEARO to 71% in AFRO (Figure 13). Mechanisms in high governmental offices (i.e. Office of the President or the Prime Minister) could further facilitate the multisectoral coordination necessary to address nutrition issues; such mechanisms were most common in AFRO and SEARO. Coordination mechanisms were also located in a variety of other offices including Ministries of Commerce and Industry and Social Welfare.

**Figure 13. Place or sector where coordination mechanisms are located in 105 countries providing detailed information**

![Chart showing location of coordination mechanisms](chart.png)
3.3.3 Members of coordination mechanisms

All the coordination mechanisms have government members (Figure 14), most often health, followed by agriculture and education (Figure 15). The relatively high percentages across many sectors suggest a high level of intersectoral involvement in coordination mechanisms to integrate nutrition actions across the multiple sectors.

As for the nongovernment stakeholders involved, it is striking to note the high prevalence of private sector involvement in the coordination mechanisms at the country level across all regions. In AFRO, the private sector was involved in the general nutrition coordination mechanisms, whereas in other regions they were often involved in mechanism focusing on specific topics (e.g. food fortification). In AFRO and SEARO, some countries had established mechanisms reflecting their involvement in SUN, sometimes in addition to existing mechanisms.

Figure 14. Membership of coordination mechanisms in 105 countries providing detailed information

[Graph showing membership percentages across different regions and sectors for government, UN, NGO, donor, academia, and private stakeholders.]

Figure 15. Government members of coordination mechanisms in 73 countries providing detailed information on sectors involved

[Graph showing sector involvement in different regions and the total.]
3.4. Nutrition capacities

A total of 159 Member States and one area reported on various aspects of nutrition capacities in their countries. The data collected for this part of the GNPR2 were later used to inform the development of the indicator on trained nutrition professionals of the Global Nutrition Monitoring Framework adopted by the 68th WHA in May 2015 (68(14)) (Box 2).

The majority (73%) of countries reported to have **higher education institutions that offer training in nutrition**\(^{14}\), however more than one third of countries in AFRO and WPRO did not have nutrition courses in higher education institutions (Figure 16). The most common higher education training programmes were in public health nutrition and clinical nutrition, and in some regions, community nutrition and nutrition science (Figure 17). Few countries included nutrition education and counselling skills in higher education. Several countries commented that many of the subject areas were provided in the one course, mostly nutrition and/or dietetics degree or master’s level courses. Public health nutrition courses were most commonly offered at the master’s level, whereas clinical nutrition courses were most common at the bachelor’s level (Figure 18).

---

14 152 countries responded to the question on higher training institutions, of which 80 provided detailed information
Figure 18. Types and level of higher nutrition education offered in 80 countries providing detailed information

The vast majority of countries in all regions reported having nutrition professionals\(^{15}\), i.e. trained nutritionists or dieticians (Figure 19). However, the density of nutrition professionals varied greatly between the countries (Figure 20). Most countries in all regions had low densities as expressed per 100,000 population. Six countries\(^{16}\) reported to have no nutritionist or dietician. Among the 118 countries that had nutrition professionals and provided their number, 37 countries\(^{17}\) nutrition professional densities lower than 1/100 000 population. The highest absolute density as well as largest spread of densities between countries in the region were seen in AMRO, while WPRO had the highest average density. The lowest average density was in AFRO, which also had the lowest variation in densities.

Figure 19. Availability of nutrition professionals in 155 countries

\(^{15}\) 155 countries responded to the question on nutrition professionals, of which 124 provided detailed information

\(^{16}\) 1 in AMRO, 1 in EMRO and 4 in EURO.

\(^{17}\) 17 in AFRO, 2 in AMRO, 5 in EMRO, 7 in EURO, 4 in SEARO, and 2 in WPRO.
More than 80% of countries in all regions reported training of health workers in maternal, infant and young child nutrition\textsuperscript{18}. Preservice training was most common in EURO, while in-service training was most common in AFRO, EMRO and SEARO (Figure 21). Among countries with preservice training in nutrition, most curricula for any health worker category had less than 20 hours allocated to any of the three topics, i.e. acute malnutrition, growth monitoring and promotion, or breastfeeding and complementary feeding counselling. Furthermore, few countries allocated 40 or more hours in the curricula for any topic (Figure 22). Most relevant WHO training courses are at least 20 hours (WHO/UNICEF, 2009a) or even longer (e.g. 40 hours) (WHO, 2008; WHO, 2012a; WHO/UNICEF, 2006; WHO, 2009).

The health workers who received training in nutrition were most often nurses, followed by medical doctors and nutritionists, whereas community health workers and midwives were less often trained in nutrition (Figure 23). Whether this is due to more training of these cadres or better availability of information on their training could not be determined. Such training programmes were more common in AFRO and SEARO and as part of preservice training in AMRO (data not shown).

\textsuperscript{18} 152 countries responded to the question on training of frontline health workers, of which 52 provided detailed information
Figure 21. Training of health workers on maternal, infant and young child nutrition in 152 countries

Figure 22. Hours in curricula for different MIYCN preservice training of different health worker categories in 39 countries providing detailed information
Figure 23. Categories of health workers trained and training topic areas covered in 52 countries providing detailed information

![Bar chart showing categories of health workers and training topic areas](image)

- Of the 52 countries, 24 had both preservice and in-service training, 15 had preservice training only and 13 had in-service training only.

Box 2. Feasibility and validity of nutrition workforce indicators derived from the 2nd Global Nutrition Policy Review

Towards developing indicators for monitoring nutrition capacities as part of the Global Nutrition Monitoring Framework

In May 2014, Member States approved six core outcome indicators to be included in the Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition (CIP-MIYCN) Global Monitoring Framework (GMF). In May 2015, Member States approved 14 additional required core indicators to monitor progress towards the six target outcomes at national and global levels with reporting commencing in 2016 (WHA68(14)) (WHO, 2015d). However, four of these indicators needed further development and therefore were recommended to be reviewed by the EB once available and reporting only to begin on 2018. Amongst the latter was the nutrition workforce density indicator ‘Number of trained nutrition professionals per 100,000 population’. Definition of this indicator proved challenging however, since no such indicator was in common use and a further elaboration and operationalization was requested by Member States. The WHO/UNICEF Technical Expert Advisory Group on Nutrition Monitoring (TEAM) subsequently engaged the Capacity Building Working Group (CBWG) of the World Public Health Nutrition Association (WPHNA) to evaluate the feasibility and validity of various indicators proposed by TEAM. As part of this work, the 2nd Global Nutrition Policy Review was identified as the most recent and the most comprehensive data set, in terms of covering the highest number of the proposed indicators for a large number of countries. The Review results were therefore used to inform the development of the following...
1) Density of post-secondary training institutions that offer a degree in nutrition and/or another degree program with a nutrition-specific track/minor. Based on the 2nd Global Nutrition Policy Review experience, collecting such data was deemed as feasible: Countries that were asked for details about higher education courses seemed readily able to provide them although accuracy was not verified. A crude indicator on “availability of nutrition training institutions” as well as a “nutrition course score” were explored. The “nutrition course score” could be calculated for 115 of the 160 countries (72%). Validation with linear modelling using univariate analysis of variance found that only one of the six MIYCN outcomes examined (wasting) was significantly associated with both indicators related to nutrition training institutions. Furthermore, there was a very high correlation between the two indicators, suggesting no substantial additional value in calculating the “nutrition course score” above asking about “availability of nutrition training institutions”.

2) Density of trained nutrition professionals. Collecting these data were also considered feasible through questionnaires like the 2nd Global Nutrition Policy Review; most countries asked easily provided information on numbers of nutritionists and dieticians. Low income countries had a higher response rate than high income countries. Two indicators were explored: one crude indicator on “availability of nutrition professionals” as well as a “density of nutrition professionals” were calculated. The density indicator could be calculated for 123 of the 160 countries reporting on the nutrition workforce (77%). Due to the low numbers of nutrition professionals in many countries, the density was expressed per 10,000,000 rather than per 100,000. Validation with linear modelling using univariate analysis of variance found only one MIYCN outcome (child overweight) that was significantly associated with the question concerning the existence of nutritionists and dietitians working in nutrition related areas, but four of the six examined (child overweight, stunting, wasting, low birth weight) were significantly associated with the ‘nutritionist-dietician density’ score. This result suggests that calculating the density score provides substantial additional value for indicating nutrition capacity.

3) Frontline health workers trained in key nutrition service delivery. The low response rates to these questions in the 2nd Global Nutrition Policy Review indicate they may be less feasible. Two indicators were constructed: “hours of cadre preservice training in the three key MIYCN areas” and “density of health workers having received in-service training on the MIYCN areas over the past 2 years”. Because of the relatively low number of countries providing data on preservice hours and in-service numbers valid indicator scores could only be calculated for 39 (24%) and 37 (23%) of the 160 responding countries, respectively. Between preservice and in-service indicators there was no linear or ranked correlation, therefore they would need to be treated as separate indicators. Validation with linear modelling using univariate analysis of

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19 Yes/no to top line question.
20 Number of positive responses to courses in each subject area at each tertiary level course, maximum 28.
21 Yes/no to top line question.
22 The sum of nutritionists and dieticians per 10,000,000 population. The denominator was the total mid-year population of the country, using UN 2015 country population data. Results were expressed per 10,000,000 population due to the small density in many countries to produce density scores
23 Sum of hours of preservice training across all cadres within each key MIYCN area to create three specific scores then calculated as the sum of these to create one overarching score.
24 Sum of numbers receiving in-service training across all cadres within each key MIYCN area to create three scores, each specific to a MIYCN area, then calculated as the sum of these to create one overarching score for all areas
variance found only one MIYCN outcome (low birth weight) that was significantly associated with hours of preservice health professional training indicators. The validation step for health professional in-service training density indicators found a strong and significant model for the association between one of the training topics (breastfeeding and complementary feeding) and one MIYCN outcome (exclusive breastfeeding).

In conclusion, it would appear from this analysis that the density of trained nutritionists and dieticians working in nutrition-related areas is the indicator that has the greatest validity as an indicator of nutrition capacity. Furthermore, nearly all countries can identify whether trained nutritionists and dieticians are working in the country. Of these about 80% could provide numbers, with higher reporting rates in LMICs than HICs. It is clear from the responses to the questions that many countries are still unclear about the importance of capacity in nutrition and an authoritative guidance paper from WHO would help to resolve this. The specificity of the questions used are also being improved in order to facilitate the construction of the indicators in the future.

3.5. Nutrition actions and programmes being implemented

3.5.1 Actions related to infant and young child nutrition

Appropriate infant and young child feeding is key for achieving good nutrition in early life and has implications for nutrition and health later in life. Children and adolescents who were breastfed as babies are less likely to be overweight or obese, and to suffer from type 2 diabetes in adulthood (Horta, Loret de Mola & Victora, 2015b). They also perform better on intelligence tests and have higher school attendance (Horta, Loret de Mola & Victora, 2015a). Breastfeeding is associated with higher income in adult life. Improving child development and reducing health costs results in economic gains for individual families as well as at the national level. Longer durations of breastfeeding also contribute to the health and well-being of mothers reducing the risk of ovarian and breast cancer (Feng, Chen & Shen, 2014; Islami et al., 2015) and helping space pregnancies. The WHO recommends that mothers initiate breastfeeding within one hour of birth and that infants be exclusively breastfed for the first six months of life to achieve optimal growth, development and health (WHO, 2013g). Thereafter, to meet their evolving nutritional requirements, infants should receive nutritionally adequate and safe complementary foods, while continuing to breastfeed for up to two years or beyond. The Global Strategy on Infant and Young Child Nutrition calls on countries to develop and implement comprehensive infant and young child feeding policies that protect, promote and support breastfeeding and complementary feeding (WHO/UNICEF, 2003). This requires effective training of health workers and peer counsellors to provide skilled support to all mothers to practice the recommended feeding practices, including in difficult situations and through the implementation of the Baby-friendly Hospital Initiative. Furthermore, countries should enact legislation to implement the International Code of Marketing of Breast-milk Substitutes and to further protect infant feeding from commercial influence, as well as maternity protection protecting breastfeeding rights of working mothers.

A total of 162 Member States and one area responded regarding the implementation of actions related to infant and young child nutrition. Breastfeeding counselling, growth monitoring and promotion, and complementary feeding counselling were implemented by more than 80% of the countries.

25 The Code was not included in the questionnaire because WHO published an update of country status in 2016.
countries in all regions except EMRO, where implementation of some programmes were slightly lower (Figure 24). Whilst breastfeeding counselling was widely implemented, specific programmes such as the BFHI were implemented by less than 80% of countries in all regions. In AFRO, AMRO and SEARO, 80% or more of countries reported to have protocols for infant feeding in difficult situations.

The concept of Growth Monitoring and Promotion (GMP), which is largely based on the experiences developed by pioneers of Primary Health Care in LMICs in the eighties (Morley & Woodland, 1979), involves monitoring children’s growth and counselling on nutrition. More than 80% of countries used GMP as an opportunity to take and record measurements, discuss with parents, counsel on nutrition and ensure follow-up (Figure 25). The WHO Child Growth Standards were used as growth reference by more than 80% of countries in all regions except EURO where only 45% of countries used the
WHO Standards (data not shown). Other GMP components mentioned included linkages with supplementary food programmes and referral to health services.

The most common measurements taken during GMP were weight (98%) and height/length (90%) (Figure 26). Some countries, largely in AFRO, reported to be measuring mid-upper arm circumference (MUAC). MUAC is most commonly used to screen for children that are severely wasted and require therapeutic feeding (WHO, 2013f), with the advantage that it doesn’t require measuring both weight and height. Other measurements mentioned included head circumference, which is used to screen for micro and/or macrocephaly, which are extremely rare conditions.

Many countries reported tracking indicators derived from the measurements. Stunting and wasting were the most commonly tracked indicators in AFRO, EMRO, SEARO and WPRO, whereas overweight was more common in AMRO and EURO (Figure 27). The lowest tracking of indicators was in SEARO, where countries less often reported tracking these indicators, however, 5 of the 8 SEARO countries mentioned tracking underweight. Recent evidence from the literature (Ashworth, Shrimpton & Jamil, 2008) confirms the conclusions of an early WHO paper on growth monitoring (WHO, 1986), that the most important way to carry out GMP is to weigh children regularly and plot their weight for age on the growth chart, with monthly weighing where possible concentrated in the first twelve months of life. Two successive falterings of weight growth in the first year of life have also been shown more recently to be indicative of length growth faltering (Onyango et al., 2015). Plausible evidence from LMICs where they have implemented regular community based GMP in young children indicate that such programmes do have impact (WHO, 2013a). GMP was most frequently undertaken monthly, especially in AFRO, SEARO and AMRO (Figure 28). During vaccination and routine health care was the second most common response globally and the most common response in EMRO.
Figure 26. Measurements taken as part of GMP in 93 countries providing detailed information

Figure 27. Indicators tracked during GMP in 82 countries providing detailed information

Figure 28. Frequency of GMP in 73 countries reporting specific frequencies

As was the case for policies, **breastfeeding counselling** was the intervention most often reported to be implemented by countries in all regions, reflecting the universality of this double duty action which is important to prevent both undernutrition as well as overweight and obesity.

All the components of breastfeeding counselling reported were very high for all the countries, especially in AFRO and SEARO (Figure 29). More than 90% of countries in AFRO and SEARO included all the recommended breastfeeding practices in their counselling activities. In other regions, national recommendations sometimes diverted from the international guidance. Some countries mentioned recommending 4 months of exclusive breastfeeding or 1 year of continued breastfeeding. However, informing mothers is not sufficient to improve breastfeeding rates, and they need skilled support to gain confidence, improve feeding techniques, and prevent or resolve breastfeeding problems. Counselling on attachment and positioning, which is key to successful breastfeeding, was widely reported in all regions, except EURO where one third of countries did not include this. Furthermore, most countries reported that breastfeeding counselling takes place at antenatal care (90%) as well as at post-natal check-ups (88%).
Although breastfeeding counselling was the most commonly implemented intervention, fewer countries (70%) reported implementing the Baby-friendly Hospital Initiative (BFHI). The BFHI is a global effort launched by WHO and UNICEF in 1991 to protect, promote and support breastfeeding in maternity facilities through implementing the Ten Steps to Successful Breastfeeding and the International Code of Marketing Breast-milk Substitutes and its subsequent relevant WHA provisions. Since then, the global BFHI materials have been revised, updated and expanded for integrated care (WHO/UNICEF, 2009b). A separate report on national implementation of the BFHI (WHO, 2017) has been prepared by WHO based on an earlier set of responses to the GNPR26, supplemented with additional sources of information, and the results presented here are drawn from that report. The vast majority of countries have implemented BFHI and most of them had introduced BFHI in the early 1990s, soon after it was launched globally, but not all had an operational BFHI programme as of 2016–17. Only 20% of countries had ever designated more than half of their facilities as Baby-friendly. The overall coverage of births by the BFHI is estimated to be 10% globally as of 2016. This percentage varies widely by region, with a coverage rate of over 35% in the European region but less than 5% in Africa and Southeast Asia. Although WHO/UNICEF guidance states that facilities need to be reassessed approximately every three years to ensure that they continue to adhere to the criteria, only half of countries with an active BFHI programme had established a reassessment process and most of these countries reported that reassessment occurs less often than every five years.

Almost two thirds of countries reported having protocols for infant feeding in exceptionally difficult circumstances as recommended in the WHO Global Strategy on Infant and Young Child Feeding (2002) (WHO/UNICEF, 2003). The most common protocols were on infant feeding in the context of HIV in AFRO (79%) and in the context of LBW in SEARO (70%) (Figure 30).

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26 The current report on implementation considers 3 additional countries to the BFHI report.
National guidelines on feeding and care of premature or low-birth-weight infants (<2500g) most often covered the establishment of breastfeeding (96%) and cup-feeding with mother’s own milk for those that cannot breastfeed (87%) (Figure 31). The promotion of kangaroo care was less common globally, but still reported by the vast majority of countries in EMRO and SEARO. Feeding with donor human milk for those that cannot be fed mother’s own milk was the least common component reported by countries, two thirds of which reported the existence of safe and affordable milk-banking facilities as part of donor milk feeding and the remaining that wet nurses were recruited within families.

In line with WHO guidelines (WHO/UNICEF, 2016), antiretroviral therapy for the mother has become the most common component of national protocols on infant feeding in the context of HIV followed by replacement feeding (Figure 32). In all regions except AFRO, more national guidelines address replacement feeding than breastfeeding promotion and support, especially counselling on attachment and positioning which is especially important in the context of HIV to prevent breast conditions that may enhance transmission of virus (Figure 33). More than half of the countries addressing replacement feeding reported that there are free distribution programmes by government or foundations (data not shown).
Counselling and support to mothers for breastfeeding was the most common component included in protocols or guidelines related to infant feeding in emergencies, but less than half mentioned establishing safe havens where distressed mothers may breastfeed (Figure 34). However, many protocols included policies on the use and distribution of BMS and required a needs assessment for IYCF in the emergency context.
Regulation of marketing of breast-milk substitutes is an important measure to protect breastfeeding not only in difficult situations, but in all contexts. The WHO/UNICEF/IBFAN report on the implementation of the International Code of Marketing of Breast-milk Substitutes shows that as of March 2016, 135 countries had at least some form of legal measure in place covering some provisions of the Code (WHO/UNICEF/IBFAN, 2016). This represents significant progress since 2011, when only 103 countries had relevant legal measures in place. However, only 39 countries have comprehensive legislation or other legal measures reflecting all or most provisions of the Code. Global sales of breast-milk substitutes reached US$ 40 billion in 2013, and growth in sales exceeds 10% annually in many low- and middle-income countries. Unless stricter regulatory frameworks are adopted and coupled with independent, quantitative monitoring and compliance enforcement in order to counter the impacts of formula marketing (Piwoz & Huffman, 2015), breastfeeding rates, especially in LMICs, are unlikely to meet their targets.

The most common components of the reported complementary feeding counselling interventions were timely introduction of complementary foods at 6 months, continued frequent, on-demand breastfeeding until at least 2 years, good hygiene and proper food handling, variety of foods to ensure nutrient needs are met, and appropriate amounts and frequency of meals (Figure 35). The use of fortified complementary foods or micronutrient supplements as well as cooking demonstrations were less frequent globally but more often reported by countries in AFRO and SEARO. Furthermore, 82% of countries reported to use tools and job aids, the great majority of which were based on locally available foods.

Figure 35. Components of complementary foods counselling in 114 countries providing detailed information

3.5.2 Actions implemented through school health and nutrition programmes
Schools constitute an important setting to protect, promote and support good nutrition in children, which could not only help them establish lifelong healthy dietary practices but also have impact on their families and in their communities. Comprehensive school-based nutrition and health programmes, like the Nutrition-Friendly Schools Initiative (NFSI), address multiple components such as school food and beverage standards including for meals served, involvement of parents and the communities in improving nutrition among school children, curricula on nutrition and healthy diets, the school environment such as vending machines or areas for physical activity, and school health and nutrition services. While these components alone have positive effects, multi-faceted programmes are particularly associated with a range of positive outcomes including healthier weight, diet, and physical activity levels among school children.27

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Out of 152 Member States and one area responding to the sections on School Health and Nutrition (SHN) programmes, 136 countries reported to have such programmes. The proportion of responding countries that reported having SHN programmes varied little across the regions with EMRO being the lowest at 79% (Figure 36). The most common SHN programme component reported was nutrition education included in school curriculum followed by training of school staff. Provision of school meals was reported by more than two thirds of countries in AFRO, AMRO and SEARO, but was less common in EURO and WPRO. However, more than two thirds of countries in EURO and WPRO had standards or rules for foods and beverages available in schools. School fruit and vegetable schemes were also more common than provision of school meals in EURO.

Figure 36. School health programmes and their components in 153 countries

<table>
<thead>
<tr>
<th>Component</th>
<th>Any SHN programme</th>
<th>Training of school staff eg teachers canteen staff school</th>
<th>Standards or rules for foods and beverages available in schools</th>
<th>Ban on vending machines in schools</th>
<th>Hygienic cooking facilities and clean eating environment in schools</th>
<th>Provision of school meals, school feeding programme</th>
<th>School fruit and vegetable scheme</th>
<th>School milk scheme</th>
<th>Take-home rations distributed through schools</th>
<th>Micronutrient supplementation eg iron supplementation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>92%</td>
<td>58%</td>
<td>21%</td>
<td>8%</td>
<td>45%</td>
<td>74%</td>
<td>13%</td>
<td>11%</td>
<td>13%</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>88%</td>
<td>50%</td>
<td>54%</td>
<td>13%</td>
<td>63%</td>
<td>71%</td>
<td>25%</td>
<td>26%</td>
<td>25%</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td>79%</td>
<td>58%</td>
<td>58%</td>
<td>26%</td>
<td>42%</td>
<td>47%</td>
<td>16%</td>
<td>35%</td>
<td>16%</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>79%</td>
<td>51%</td>
<td>81%</td>
<td>27%</td>
<td>51%</td>
<td>35%</td>
<td>51%</td>
<td>35%</td>
<td>51%</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>79%</td>
<td>60%</td>
<td>50%</td>
<td>10%</td>
<td>60%</td>
<td>70%</td>
<td>40%</td>
<td>40%</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>80%</td>
<td>68%</td>
<td>68%</td>
<td>24%</td>
<td>64%</td>
<td>40%</td>
<td>32%</td>
<td>32%</td>
<td>32%</td>
<td>24%</td>
</tr>
<tr>
<td></td>
<td>82%</td>
<td>57%</td>
<td>55%</td>
<td>18%</td>
<td>53%</td>
<td>55%</td>
<td>29%</td>
<td>29%</td>
<td>29%</td>
<td>20%</td>
</tr>
</tbody>
</table>

28 Detailed information was provided by 94 of the 136 countries on a total of 121 SHN programmes (15 countries reported more than one programme).
The earliest SHN programmes dated back to the 1930s, while the majority were from 2000 or later and 17% from 2015 or later. The SHN programmes were most commonly implemented at primary school level in all regions (Figure 37). Pre-school level SHN programmes were most common in SEARO and the less common in AFRO and WPRO, while secondary level SHN programmes were most common in WPRO and the less common in AFRO and AMRO.
The most common SHN programme objectives were related to fostering a healthy diet and lifestyle habits and educating children and improving knowledge about healthy diet and lifestyle habits (Figure 38). Two thirds of countries had SHN programmes aiming to reduce or prevent childhood overweight or obesity. Such programmes could be crucial to halting the rise in diabetes and obesity, which is target 7 of the Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020 (WHO, 2013b). The fifth recommendation of the report on the Commission on Ending Childhood Obesity (WHO, 2016i) concerns the implementation of comprehensive programmes that promote healthy school environments, health and nutrition literacy, and physical activity among school-age children and adolescents.

SHN programmes aiming to reduce or prevent undernutrition were reported by over half the countries. Micronutrient deficiencies can certainly be tackled in the school setting with periodic deworming and micronutrient supplementation, and are especially important when directed at adolescent girls (Aguago & Menon, 2016).

Objectives related to the prevention of undernutrition were most common in AFRO and SEARO, whereas those related to prevention of overweight and obesity were most common in AMRO, EURO and WPRO (Figure 39). Other less common objectives included improving academic performance, school attendance, the children’s cooking and food hygiene skills, and school enrolment.
Figure 38. SHN programme objectives in 94 countries providing detailed information

<table>
<thead>
<tr>
<th>Objective</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce or prevent child undernutrition (stunting, wasting, micronutrient deficiencies)</td>
<td>55%</td>
</tr>
<tr>
<td>Reduce or prevent childhood overweight or obesity</td>
<td>66%</td>
</tr>
<tr>
<td>Foster healthy diet and lifestyle habits</td>
<td>81%</td>
</tr>
<tr>
<td>Educate children and improve knowledge about healthy diet and lifestyle habits</td>
<td>79%</td>
</tr>
<tr>
<td>Improve children’s skills (e.g. cooking, food hygiene)</td>
<td>41%</td>
</tr>
<tr>
<td>Improve school enrolment</td>
<td>37%</td>
</tr>
<tr>
<td>Improve school attendance</td>
<td>47%</td>
</tr>
<tr>
<td>Improve academic performance</td>
<td>47%</td>
</tr>
<tr>
<td>Tackle health inequalities</td>
<td>37%</td>
</tr>
<tr>
<td>Reduce food insecurity and hunger</td>
<td>40%</td>
</tr>
<tr>
<td>Support the agriculture sector by creating farm to school linkages (e.g. cereals, milk, fruit and vegetables supply)</td>
<td>29%</td>
</tr>
</tbody>
</table>

Figure 39. SHN programme objectives related to prevent undernutrition or overweight and obesity in 94 countries

The most commonly reported standards or rules for foods and beverages available in schools (e.g. school meals, vending machines, snack bars), were those for foods and beverages served for lunch or other mealtimes in school canteens and cafeterias, as well as foods and beverages being sold in the school, be it through tuck shops or vending machines (Figure 40). The least common type of standard or rule concerned the types of food and beverages being sold in the immediate vicinity of the school.

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29 84 countries reported to have standards for foods and beverages in schools, of which 64 provided detailed information.
The criteria used to determine the standards and rules were most often based on specific foods and beverages which are prohibited (e.g. sugar-sweetened beverages), limited (e.g. fried foods) or encouraged (e.g. fruit and vegetables), or on nutrient content (e.g. energy, fat, sugar or salt content). Globally, the most common nutrient content criteria were based on energy and/or salt content (Figure 41). SEARO countries had the most comprehensive inclusion of nutrients in the criteria, while AFRO the lowest. AFRO and AMRO criteria were most often based on energy, fats and salt; sugars were more common in EMRO and WPRO. School food and beverage standards criteria based on portion size were less common. The great majority of countries reported that that the criteria were set forth in a legislation, regulation or guideline.

Figure 40. Scope of school food and beverage standards in 64 countries

<table>
<thead>
<tr>
<th>Category</th>
<th>AFRO (n=3)</th>
<th>AMRO (n=6)</th>
<th>EMRO (n=7)</th>
<th>EURO (n=22)</th>
<th>SEARO (n=4)</th>
<th>WPRO (n=5)</th>
<th>Grand Total (n=47)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foods and beverages served for lunch in school canteens/cafeterias</td>
<td>67%</td>
<td>33%</td>
<td>67%</td>
<td>67%</td>
<td>33%</td>
<td>67%</td>
<td>67%</td>
</tr>
<tr>
<td>Foods and beverages served at other mealtimes, e.g. breakfast, after-school services</td>
<td>67%</td>
<td>33%</td>
<td>67%</td>
<td>67%</td>
<td>67%</td>
<td>67%</td>
<td>67%</td>
</tr>
<tr>
<td>Packed lunches, and other foods or beverages brought from home</td>
<td>33%</td>
<td>67%</td>
<td>33%</td>
<td>67%</td>
<td>33%</td>
<td>67%</td>
<td>33%</td>
</tr>
<tr>
<td>All foods and beverages being sold in school shops/stores, including tuck shops, and in vending machines</td>
<td>33%</td>
<td>67%</td>
<td>33%</td>
<td>67%</td>
<td>33%</td>
<td>67%</td>
<td>33%</td>
</tr>
<tr>
<td>Foods and beverages available at school events (e.g. sports days)</td>
<td>33%</td>
<td>67%</td>
<td>33%</td>
<td>67%</td>
<td>33%</td>
<td>67%</td>
<td>33%</td>
</tr>
<tr>
<td>Foods and beverages being sold in immediate vicinity of schools (e.g. &lt;250m)</td>
<td>33%</td>
<td>67%</td>
<td>33%</td>
<td>67%</td>
<td>33%</td>
<td>67%</td>
<td>33%</td>
</tr>
</tbody>
</table>

Figure 41. Nutrients covered in 47 countries with based criteria for school food and beverage standards
About half of the countries with school meal programmes\(^{30}\) reported that the menus were based on food-based dietary guidelines (Figure 42). This was the case in all regions except AFRO, where 38% were based on maximum levels of specific nutrients such as sugars, fats and salt, while just 31% were based on food-based dietary guidelines. Six countries with school meals programmes, mostly in AFRO, reported that no standards or guidance exist for the composition of the meals. The responsibility for planning school meals was said to be decided by nutritionists in 49% of the countries. The danger of school meals contributing to the rise in overweight and obesity in school children has been observed in some countries (Kennedy & Guthrie, 2016) and should be given considerable attention by the administrators of school meal programmes across the globe.

Foods for school meal programmes were usually procured in country or even local to the schools, except in AFRO where more than half of countries indicated that foods also were procured internationally. Fruits and vegetables were provided as part of school meals by the majority of countries, varying from 56% in AFRO and EMRO to 100% in WPRO (Figure 43). For those who provided information on the frequency of fruit and vegetables as part of school meals, this was provided 3-5 times per week.

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\(^{30}\) A total of 84 countries reported school meal programmes, of which 55 provided detailed information in the full questionnaire.
Most countries with specific **school fruit and vegetable schemes**\(^{31}\) in all regions provided fresh fruit and vegetables (Figure 44). Some countries - largely in EMRO and EURO - provided fruit juices or dried fruits as part of the schemes, whereas tinned fruits in water were most common in AMRO. The fruit and vegetables schemes were linked to nutrition education activities in most countries and to school gardens in nearly half of the countries. Visits to farms or cooking classes were less common.

**Figure 44. Content of school fruit and vegetable schemes in 36 countries providing detailed information about such schemes.**

Considering both the fruit and vegetables served through school meals and through separate fruit and vegetable schemes, an overall 60% of countries provided fruit and vegetables in schools.\(^{32}\) The highest proportion was in EURO (71%) and the lowest in EMRO (46%) (data not shown). However, as some countries are providing fruit juices containing free sugars or tinned fruits prepared in syrup as part of school fruit and vegetable schemes to promote healthy diets in school-age children, the role of fruits and vegetables in a healthy diet needs to be clearly defined to schools and authorities who determine school food procurements in countries.

The most common milks provided through **school milk schemes**\(^{33}\) were full fat/whole milk or low fat milk. Flavoured milks with added sugars or sweeteners were reported in 24% of countries, all of which were in AMRO and WPRO (Figure 45). Some of these countries even had school food and standards that included upper level limit on sugars, so the provision of these products would contradict the existing national standards. The provision of sweetened or flavoured milk in schools is surprising, as increased consumption of such sugar-sweetened beverages has been identified as contributing to increased consumption of sugars which is associated with childhood overweight and obesity (WHO, 2015b)\(^{34}\).

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\(^{31}\) School fruit and vegetable schemes were reported by a total of 44 countries of which 36 had provided detailed information in the full questionnaire.

\(^{32}\) Percentage of 94 countries for which such information was available.

\(^{33}\) School milk schemes were reported by 36 countries, of which 29 provided detailed information in the full questionnaire.

Nutrition education in the school curriculum\textsuperscript{35} was usually mandatory for primary schools. The most common content of the nutrition education was reported to be lessons on the links between nutrition and health, healthy diets to prevent overweight and obesity, and healthy diets to prevent undernutrition (Figure 46). Undernutrition was more common in AFRO and SEARO, whereas overweight and obesity were more common in the other regions. Hands-on cooking skills were most common in EURO and hands-on gardening skills were most common in SEARO. In countries reporting extracurricular nutrition education\textsuperscript{36}, activities were often linked to health centres and included cooking demonstrations, celebration of national nutrition days in the community, and learning about cultural aspects of nutrition in the local setting.

School gardens\textsuperscript{37} were used to promote healthy diets and for educational activities (Figure 47). Countries mentioned that school gardens provide an opportunity to educate children on nutrition, motivate and increase fruit and vegetable intake and can complement and increase the nutritional value of school feeding programmes. One of the main limitations for the implementation of school gardens seemed to be the availability of space. School gardens could also be an alternative for more sustainable, eco-conscious, and healthier diets.

\textsuperscript{35} Nutrition education in the school curriculum was reported by 93 countries of which 63 provided detailed information.

\textsuperscript{36} Extracurricular nutrition education was reported by 42 countries of which 28 provided detailed information.

\textsuperscript{37} School gardens were reported to be being used in SHN activities by 62 countries and 39 of them provided details on the programme.
Figure 47. Use of school gardens as part of SHN programmes in 39 countries

Monitoring children’s growth as part of SHN programmes\(^\text{38}\) was usually done by measuring height and weight annually, either through the schools or through visits to the health centres organized by the schools. These measurements were used to calculate different indicators (Figure 48). In EMRO and EURO, the most frequent indicator reported was overweight, whereas in AMRO underweight was most often reported. BMI was calculated by all countries in EURO and WPRO. The great majority of countries reported that they had protocols for growth monitoring which included performing referral as needed.

Figure 48. Indicators calculated as part of growth monitoring in schools in 43 countries providing detailed information

\(^{38}\) Monitoring growth was reported to be part of SHN programmes by 66 countries, of which 43 provided detailed information
3.5.3 Actions to promote healthy diets and prevent overweight and obesity

A poor diet is the leading global risk factor for ill health (Forouzanfar et al., 2015), and a healthy diet (WHO, 2015c) helps protect against malnutrition in all forms, as well as diet-related NCDs including diabetes, heart disease, stroke and cancer. The WHO-recommended dietary goals for the prevention of NCDs are that intake of total fat should not exceed 30% of total energy intake, saturated fat intake should not exceed 10% of total energy intake and trans-fat intake should not exceed 1% of total energy intake (WHO, 2003), with a shift in fat consumption away from saturated fat to polyunsaturated fat (FAO, 2010). Intake of sugars should be limited to less than 10% of total energy intake with additional health benefits to be obtained by further lowering to less than 5% of total energy intake (WHO, 2015b) and salt intake to less than 5g a day (WHO, 2012b). Across the globe, the food energy supply is increasing in the vast majority of countries regardless of income group, and at rates that are sufficient to explain concurrent body weight increases (Vandevijvere et al., 2015). This is also reflected in various studies of individual dietary intakes in countries: saturated fat intakes exceed 10% in more than half of countries (Micha et al., 2014); consumption of products high in sugars is increasing, especially sugar-sweetened beverages (Singh et al., 2015); and sodium intakes exceed the recommended intakes in almost all countries (Powles et al., 2013).

A total of 158 Member States and one area responded to the questions related to promotion of healthy diets and prevention of overweight and obesity, with varying rates for different actions and measures taken. Actions focusing on information to and education of the consumers were more widely implemented than structural actions to restrict availability and marketing of unhealthy foods and beverages. Globally, the majority of countries reported having dietary guidelines, regulation for nutrition labelling and nutrition and health claims, media campaigns on healthy diets, and counselling on nutrition and healthy diets through PHC (Figure 49). However, important variation exists across the regions, with AFRO and EMRO lagging behind other regions in developing dietary guidelines. About a third of countries in AFRO, EMRO and SEARO had regulations for nutrition and health claims, which were also the regions where nutrition labelling standards were lowest. Less than half of countries in EMRO conducted media campaigns.

The implementation of structural actions to improve the food environment was lower than informational and educational actions, and different regions seem to focus on different sets of actions. EURO had the highest implementation of any of these actions, with about three quarters of countries reporting measures to promote reformulation of foods and beverages. Furthermore, half of the EURO countries reported regulating the marketing of food and non-alcoholic beverages to children and almost a third had regulations to ban trans-fat. Almost half the AMRO countries had reformulation measures and trans-fat bans, while many countries also reported implementing fiscal policies to regulate the price of unhealthy food and beverages. More than half of WPRO countries had taken measures to implement fiscal policies, almost half reported marketing regulation, and almost a third reported portion size control measures. Few countries in AFRO and SEARO implemented any of these actions.
Figure 49. Actions and measures to promote healthy diets and prevent overweight and obesity among 159 countries.
National authorities were encouraged to develop food-based dietary guidelines based on locally available foods some two decades ago (WHO, 1998), when it was realised that nutrient-based dietary guidelines were not always that easy to communicate to the public at large. Food-based dietary guidelines translate nutrient recommendations into simple food-based information, using food guides, for example, that the public can easily understand. They focus on foods that are commonly consumed, indicating portion sizes and in some cases including some behavioural messages. Food-based dietary guidelines are intended to establish a basis for public food, nutrition, health and agricultural policies, as well as nutrition education programmes to foster healthy eating habits and lifestyles. Among countries that reported having dietary guidelines\(^{39}\), the most common ones were food-based dietary guidelines (Figure 50). Countries often had food-based dietary guidelines in addition to nutrient-based dietary guidelines, except in AFRO where half the countries had either type. The food-based dietary guidelines were usually developed by ministries of health in collaboration with ministries of food and agriculture and of education, whereas the nutrient-based

\(^{39}\) 115 countries reported to have different types of dietary guidelines, of which 81 provided detailed information.
dietary guidelines were usually developed by ministries of health in collaboration with nutrition experts.

Specific dietary guidelines for different population groups (e.g., adult, preschool children, school children, pregnant women) make them more suitable and effective to communicate and put into practice. Nutrient-based dietary guidelines more often related recommendations to specific population groups than food-based dietary guidelines (Figure 51).

It was reported that dietary guidelines were disseminated through media, during campaigns, through the health care system, and in schools. The most common use of dietary guidelines was for guidance and promotion of healthy dietary practices, as well as nutrition education and nutrition campaigns (Figure 52). Over half of the countries confirmed that they had specific food guides, in the forms of food pyramids, healthy plates, or various other shapes based on the national context (e.g., palm, tent, rainbow, coal pot, flag).

Many countries reported that their dietary guidelines also contained guidance on physical activity. Furthermore, several countries suggested that the successful implementation of dietary guidelines, particularly at the school level, should involve inclusion of the dietary guidelines in the school curriculum. Others reported that efforts to implement dietary guidelines at the community level should involve local leaders and community participation. Successful integration of environmental and health aspects into dietary guidelines as proposed by FAO (FAO, 2013) were also reported, and one country mentioned having done estimates of potential economic gains of following the dietary guidelines.

Figure 50. Type of dietary guidelines in 115 countries
The most common types of nutrition labelling of pre-packaged foods and beverages concerned nutrient declaration and list of ingredients. Nutrient declaration was reported by 80% or more of countries in AMRO, EURO and WPRO, but by less than half of countries in AFRO and SEARO (Figure 53). At an international level, the Codex Guidelines on Nutrition Labelling (CAC/GL 2 – 1985) provide detailed guidance on how nutrition labelling is to be implemented (FAO/WHO, 1985). Guideline updates over the past decade reflect alignment and policy coherence with WHO’s policies and guidance on preventing NCDs. These include an expansion of the list of mandatory nutrients to be declared (i.e. fat, saturated fat, sodium and total sugars) and establishment of nutrient reference values (NRVs) for NCDs (i.e. saturated fat, sodium and potassium) in accordance with WHO guidelines. The majority of countries providing detailed information reported that their nutrient declaration measures were mandatory, especially in AFRO and AMRO (Figure 54). Fewer countries from AFRO and SEARO reported such measures, which were predominantly voluntary. In countries with mandatory measures, energy value and amounts of protein, available carbohydrate, total fat, salt/sodium, and total sugars were the most common nutrients to be disclosed (each more than

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40 Based on those providing detailed information plus food-based dietary guidelines reviewed from countries answering the top-level questionnaire, where documentation obtained from the FAO Food-based dietary guidelines repository at http://www.fao.org/nutrition/education/food-dietary-guidelines/home/en/

41 Nutrient content declaration measures were reported by 103 countries, of which detailed information was reported or made available for 73 countries
The amounts of trans fatty acids, added sugars and dietary fibre were the least often mandatory (25% or less) (Figure 55).

Various front-of-pack labelling (FOPL)\(^{42}\) systems had been developed by many countries, particularly in AMRO, EURO and WPRO (Figure 53). In countries with FOPL systems, the information most often included on such labels were energy value, salt/sodium, total sugars, saturated fatty acids, and total fat (Figure 56). A mix of different elements were used to display this information, and sometimes several approaches were combined in these labels (Figure 57). The most common elements were summary indicators, such as endorsement logos which designed to provide consumers with an easy visual representation of food quality. The second most common way of displaying nutrient content was the proportion of recommended daily intakes (i.e. % GDA), whereas other visual representation such as the colour coding or traffic light system was reported by 16% of countries and increasing number of countries, in particular in AMRO, are using warning symbols. The front-of-pack labelling systems reported had been developed since 2009, and the majority were voluntary. Less than 10 countries reported actively monitoring whether food and beverage products bear the front-of-pack labels, and in some of these countries, they indicated that the information was obtained directly from food and beverage industries. The Codex Guidelines on Nutrition Labelling (CAC/GL 2 – 1985) also contains a provision for “supplementary nutrition information” and the Codex Committee on Food Labelling has agreed to start new work to review the guidance on FOPL, taking into consideration WHO’s evidence reviews on nutrition labelling and related on-going work.

Menu labelling\(^ {43}\), which has been shown to be an effective way of reducing energy consumed in restaurants and canteens (Littlewood et al., 2016), was less often implemented in all regions (Figure 53). Menu labelling measures were typically voluntary, and where mandatory, it was often linked to a certification scheme such as “healthy cafeterias,” for example. Menu labelling measures were typically developed since 2012 and was most practiced by food chains. Energy content was the component most often displayed on menu labels.

Figure 53. Types of nutrition labelling in 121 countries implementing such measures

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\(^{42}\) Front-of-pack labelling systems were reported by 53 countries, with detailed information available for 37 countries

\(^{43}\) Menu labelling was reported by 17 countries, of which 10 provided detailed information.
Figure 54. Mandatory and voluntary nutrient content declaration in 73 countries with detailed information available

![Bar chart showing nutrient content declaration in 73 countries](chart1)

Figure 55. Mandatory nutrient contents to be declared in national measures on nutrient declaration in 65 countries with detailed information available.

![Bar chart showing mandatory nutrient contents](chart2)

Figure 56. Nutrients included in FOP systems in 37 countries providing detailed information

![Bar chart showing nutrients in FOP systems](chart3)
Measures to regulate or guide nutrition and health claims typically used criteria based on specific nutrients and/or requirements that the claim must be substantiated (Figure 58). The majority of countries in AMRO, SEARO and WPRO also used criteria based on predefined lists of foods and beverages. Virtually all countries with nutrient-based criteria followed the upper level conditions specified in the Codex guidelines for making claims that a product is “low” in or “free” from energy, total fat, saturated fatty acids, cholesterol, sugars, sodium, etc. Similarly, they used the lower level conditions specified in the Codex guidelines for making claims that product is a “source” of, or is “high” in protein, vitamins and minerals, dietary fibre, etc. Many countries also mentioned instances where claims were not allowed, such as infant and young child products, alcoholic beverages, and other “non-nutritious” products such as coffee, tea, kava, and spices.

The earliest nutrition and health claims regulations dated from 1980, but most were since 2007 with about 10% developed within the past 2 years, i.e. since the ICN2. Claims were often linked to nutrition labelling laws. Only 10 countries reported monitoring the use of claims, and a few of these referred to published reports that had studied the use and sometimes the impact of such claims.

Many countries emphasized the need for nutrition and health claims (i.e. that the food produces a health benefit) to be based on evidence of impact. However, reports exist that small and medium enterprises, often making up the majority of food producers in many regions, find such processes to be complex, time consuming, and financially expensive (Buttriss, 2015).

Figure 58. Nutrient criteria used to determine eligibility of health and nutrition claims in 69 countries providing detailed information
A range of food and beverage products were subject to reformulation to reduce the content of saturated fats, trans fats, sugars and salt/sodium\(^{45}\). The most common measures related to salt reduction, particularly in breads, but also in processed meat, cheeses, ready-made meals and sauces (Figure 59). Sugars were most often reduced in yoghurts and sugar-sweetened beverages, saturated fats from butter and cheeses and trans fats from oils and margarines.

Guidelines and regulations on reformulation were usually voluntary and addressed salt reduction (Figure 60). Less than half of countries mentioned sugars reduction (e.g. sugar-sweetened beverage policies), reduction of saturated fats, or trans fats. A relatively higher proportion of trans fat reformulation measures were mandatory, possibly reflecting the increasing number of countries with regulations on trans-fat bans. Two thirds of the countries had set specific reformulation targets, of which targets for salt/sodium were the most common. Some countries mentioned that reformulation targets have been set on hundreds of food products, whereas other countries focus on some key food sources (e.g. salt in breads, trans fats in oils) or foods targeted at vulnerable groups (e.g. school meal foods).

Countries usually worked with food industries on reformulation through voluntary commitments from individual companies, although many also described cross-sectoral agreements (e.g. all bread manufacturers). Guidelines and regulations on reformulation were usually linked to salt reduction, although some mentioned sugar-sweetened beverage policies or trans-fat ban, or as part of requirements for implementing front-of-pack labelling. Some countries described negotiating reformulation targets with the food and beverage industries, whereas others called for more voluntary actions. Very often the challenge for smaller countries is that much of the processed food is produced outside the country, so dialogue must take place with manufacturers abroad. Along with governments’ efforts to stimulate reformulation and consumer demand, the food retailers play an important role in driving the demand for healthier foods and beverages through continuous campaigns on healthier choices.

\(^{45}\) 60 countries reported on processes for reformulation of unhealthy food and beverage products, 48 of which provided detailed information.
Figure 59. Foods and beverages subject to reformulation of four nutrients in 48 countries providing detailed information

Figure 60. Mandatory and voluntary reformulation in 44 countries providing information

Trans-fats can be industrially produced by the partial hydrogenation of vegetable and fish oils, but also occur naturally in meat and dairy products from ruminant animals (e.g. cattle, sheep, goats, camels, etc.). Industrially-produced trans-fats are the predominant source of dietary trans-fats in most populations and can be found in baked and fried foods (e.g. doughnuts, cookies, crackers, pies, etc.), prepared snacks and partially hydrogenated cooking oils and spreads. A number of countries have begun introducing bans on industrially produced trans-fats through legislative measures. The

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46 Trans-fats bans were reported by 26 countries, detailed information was available for 20 of them
earliest of these legislative documents was from 2006 but the majority from 2014 onwards. The vast majority of trans-fat bans were mandatory (Figure 61).

Bans typically applied to all foods and all settings, but in some countries, it only applied to schools, for imported food, for oils/margarines, or for infant and young child foods. Just four countries mentioned that the trans-fat content of foods (especially cakes, snacks, oils and margarines, but some also in breads, processed meats, sauces, ice creams) was being monitored to ensure compliance with bans. Three countries had previous assessments, and two of these reported reductions of trans fatty acid levels over time.

Several countries that did not have a ban currently mentioned that they were planning such bans, or in many cases, they observed that some food manufacturers voluntarily reduced the level of trans-fats.

Figure 61. Scope of trans-fat ban in 20 countries providing detailed information

Interest in using fiscal policies to control the consumption of unhealthy foods has increased since 2011 when the UN General Assembly recommended "fiscal measures" as a means to improve diets and address NCDs as a matter of priority in national development plans (UN, 2011). More than half of the countries with fiscal policies had increased taxes on unhealthy foods and beverages and almost a quarter had introduced subsidies of healthier foods and beverages (Figure 62).

**Increased taxes on unhealthy foods and beverages** were most often applied to sugar-sweetened beverages, followed by non-sugar-sweetened beverages, energy drinks, and juices. The earliest of taxes reported on unhealthy foods originated from 1933 as a “luxury tax” on chocolate, not for health purposes but for creating income. Most of the tax laws on unhealthy food and beverages were from 2011 or later. The criteria for determining whether food and beverages are taxable or not, were most often based on sugars levels and sometimes on energy density. Several countries reported tax policies which weren’t clear whether they would encourage healthier behaviours or not by inducing a consumer price preference. For example, some had taxes of 10-20% on all beverages, but it was unclear from the laws whether the higher range was applied for unhealthier varieties such

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47 Thirty-seven countries reported using fiscal policies to improve dietary intakes, of which detailed information was available for 25

48 Reported by 20 countries, of which detailed information was available for 12 countries
as sugar-sweetened beverages and lower range for healthier options (e.g. aerated waters). In 2015, WHO convened a technical meeting which concluded that there is reasonable and increasing evidence that appropriately designed taxes on sugar-sweetened beverages would result in proportional reductions in consumption, especially if aimed at raising the retail price by 20% or more (WHO, 2016c).

The earliest measures to ensure subsidies of healthier foods and beverages 49 were from the 1960s. From the few countries that details on the measures employed, the subsidized products included milk, breads, pasta or rice, cereals, yoghurt, cheeses, oils, fresh meat, and fruits and vegetables.

Few countries reported removing taxes 50 or subsidies 51 as means to encourage healthier dietary patterns. Of those providing any details, taxes had been removed on milk, breads, pasta or rice in one country, and on fruits and vegetables in another country, whereas subsidies had been removed on palm oil in a third country.

Few countries had evaluated their fiscal policies in support of healthier diets. One exception is the evaluation of the tax on sugar-sweetened beverages in Mexico which observed reduced purchases of taxed beverages containing sugars and increased purchases of other beverages such as bottled water (Colchero et al., 2016). The results achieved in Mexico also suggested that the level of tax should be at least 20% of the price (PAHO, 2015), and that such taxes should be accompanied by other measures such as increased access and availability of drinking water, promotion of healthy foods and beverages, as well as changing agricultural practices to increase local production of healthy food and beverages. Some countries commented that subsidies are easier to implement and monitor than taxes. Other countries mentioned challenges of economic cooperation and industry complaints as result of taxation of unhealthy foods and beverages.

Figure 62. Type of fiscal policies among 37 countries reporting such policies

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49 Subsidies of healthier foods and beverages were reported by 9 countries, of which four countries provided details
50 Removing tax from healthier foods and beverages was reported by five countries, details provided by two countries
51 Removing subsidies on unhealthy food and beverages was reported by 4 countries, of which one country provided details
Many countries, especially in EURO, had implemented measures related to the regulation of marketing of foods and non-alcoholic beverages to children, which was recommended by the World Health Assembly in 2010 (WHO, 2010b). The main purpose of the WHA Recommendation was to guide efforts by Member States in designing new and/or strengthening existing policies to reduce the impact on children of marketing of foods and non-alcoholic beverages high in saturated fatty acids, trans-fatty acids, sugars, or salt. Evidence indicates that unhealthy food and beverage marketing increases dietary intake and preference for energy-dense, nutrient-poor foods and beverages (Sadeghirad et al., 2016). The food industry spends an estimated $US 40 billion a year globally on advertising processed and often unhealthy foods and beverages (Millstone & Lang, 2003). Moreover, children are often the ones most likely to be targeted by such marketing (Consumers International, 2003).

The measures reported for regulating such activities were either guidelines or codes and although mostly mandatory, not all were incorporated into laws or regulations. Some countries had adopted laws specifically for advertising of food and beverages to children, other countries had measures focusing more on promoting healthy diets where marketing was one component while other countries again had more general advertising laws. The majority of countries reported that the Ministry of Health was responsible for developing the approach, but some countries reported that the industry was heavily involved, as a leader of developing voluntary guidelines, as active in public private partnerships with government to develop guidelines, developing nutrient criteria or lists of specific food and drink products (e.g. fast food, sugar-sweetened beverages, energy drinks), or doing self-regulation.

The principal objectives were to reduce children’s exposure to marketing of unhealthy foods and beverages; to prevent misleading marketing messages for children; to reduce or prevent childhood obesity; and to foster healthy diets and lifestyle habits. The majority of the 18 countries that had set a definition of age of children covered by the measures, reported that it applied to children up to the age of 12 or 13 years. Two countries reported that it applied to children up to age of 18 years and one that it applied to children up to the age of 9 years.

Countries reported a mix of different approaches employed to define which foods and beverages are covered in the regulatory or other measures to control the advertising of foods to children (Figure 63). Some measures covered all foods and beverages, however, more than half the countries used specific food and drink products or categories, and many countries had developed nutrient profile model based on WHO regional office orientations (WHO Regional Office for Europe, 2015; WHO Regional Office for the Western Pacific, 2016; PAHO, 2016). Half of the countries reported that television, radio, and outdoor advertising were covered by their regulatory or other measures (Figure 64). However, many other communication channels are used as well, including promotions, sponsorships, internet advertisements, and social media platforms.

52 Forty-one countries reported on the measures taken regarding the marketing of foods and non-alcoholic beverages to children, for which detailed information was available for 30 countries
Over the last four decades, portion sizes have progressively increased in most higher income countries. From 1977 to 1998, portion sizes and energy intakes for a variety of foods have increased markedly, especially in fast food establishments in the USA (Neilsen & Popkin, 2003). This trend continued through the first decade of the 21st century, with new large size portions introduced for hamburgers, burritos, candy bars, and beverages (Young & Nestle, 2012). Although systematic reviews confirm that people consistently consume more food and drink when offered larger sized portions than when offered smaller-sized ones (Hollands et al., 2015; French et al., 2014), few countries reported measures related to portion size control\textsuperscript{53}. Furthermore, many of the measures

\textsuperscript{53} 16 countries reported measures related to portion size control of which 14 provided detailed information
were based on information to consumers rather than structural changes in the food and drink environment. Approaches relying on consumer education included guidelines of “healthy plates” showing right serving size and composition, often as part of FBDGs, as well as efforts to ensure that advertisements show appropriate portions. However, whilst behavioural interventions may change eating patterns and attitudes of children and their parents and caregivers, changing the food environment through regulatory actions could lead to a reduction in the portion sizes. In this respect, some countries reported implementing mandatory serving sizes in schools based on school food standards.

Some countries without measures described that the food and beverage industry had taken steps to reduce portion sizes of sugar-sweetened beverages and snacks. One country said that this happened after the government introduced stricter labelling such as a mandatory Guideline Daily Amount. Despite the common reliance on industry self-regulation and private public partnerships, there is no evidence of their effectiveness or safety. Public regulation and market interventions are the only evidence based mechanism to prevent harm caused by the unhealthy commodity industry (Moodie et al., 2013).

Many countries reported to be implementing media campaigns. The great majority were conducted for limited time periods and in 2015 or later, while continuous campaigns were much less frequent. The objectives of the media campaigns mostly related to raising awareness on how to consume healthy diets, including increasing fruit and vegetable consumption as well raising awareness of the health effects of high dietary intakes of fats, sugars and salt/sodium (Figure 65). Less frequent objectives were related to portion size control, how to use nutrition labels, and the interpretation of nutrition and health claims, which constitute potential areas for improvements. Many countries also mentioned that the promotion of physical activity, of infant and young child feeding, the use of local products, the use of fortified foods, as well as food safety and hygiene were part of these media campaigns.

Figure 65. Objectives of media campaigns in 64 countries providing detailed information

<table>
<thead>
<tr>
<th>Objective</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raise population awareness on health effects of high intake of fats, sugars and salt/sodium</td>
<td>72%</td>
</tr>
<tr>
<td>Raise population awareness on how to consume healthier diets, including how to include more fruits and vegetables in the diet</td>
<td>41%</td>
</tr>
<tr>
<td>Raise population awareness on portion size control</td>
<td>38%</td>
</tr>
<tr>
<td>Raise population awareness on how to use nutrition labels</td>
<td>30%</td>
</tr>
<tr>
<td>Raise population awareness on how to interpret nutrition and health claims</td>
<td>100%</td>
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</tbody>
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The majority of countries in all regions had campaigns to increase fruit and vegetables consumption (Figure 66). In EURO, campaigns on salt reduction were most frequent, whereas in EMRO reduction of total fat intake was most frequent along with increased fruit and vegetable intake. Campaigns

54 106 countries reported to be implementing media campaigns, 64 of which provided detailed information on a total of 106 campaigns. 25 countries reported on more than one campaign.
focusing on reduction of sugars intake were conducted by the majority of countries in AMRO, EMRO, EURO and WPRO. Countries in EMRO most consistently focused on a wide range of nutrients and foods in their campaigns. Trans-fatty acids were the least frequently addressed in campaigns, globally and in all regions. A published literature review found that media campaigns for fruit and vegetable consumption, fat intake, and breastfeeding are the most successful compared to other health topics (Snyder, 2007).

Figure 66. Nutrients and foods addressed in media campaigns in 64 countries

The channels most used for media campaigns on nutrition were predominantly TV, Radio, and Internet including social media. Other channels less frequently mentioned were printed material such as pamphlets and handouts, as well as billboards and posters and outreach through traditional arts and performances or mobile vans. The media campaigns targeted the entire population in the majority of countries. Some countries campaigns targeting food supply actors which largely focused on salt reduction or fruit and vegetable consumption.

Several countries highlighted the importance of a mix of strategies to be effective. This is in line with evidence in the literature that while mass media campaigns alone are capable of influencing knowledge related to healthy behaviors, the use of laws and entertainment and education-based approaches show greater promise of affecting the behaviors (Randolph, Whitaker & Arellano, 2012). Further lessons learnt included the importance of role models and positive deviance approach for achieving behavior change including the need to balance negative and positive messages, i.e. the “dos” and the “don’ts”.

A large number of countries reported to be providing education and counselling on nutrition and healthy diets55, most often through Primary Health Care (Figure 67). In some countries, it was not yet a routine service and would only be delivered in the large hospitals or to persons at risk of obesity or NCDs. One country reported providing a nutrition counselling programme as a “green prescription”, offering participation in a total of 5 meetings to discuss what constitutes a healthy diet

55 155 countries reported that they were implementing counselling on healthy diets and nutrition, of which 88 provided detailed information.
and how to achieve it. Workplaces, markets or other food outlets, and food security programmes represented underutilised opportunities where nutrition education may be strengthened.

Nutrition education activities are most effective when they involve multiple components and implemented alongside changes in the food and drink environment (Hawkes, 2013). Countries frequently reported the use of various tools for nutrition education, with the vast majority of these referring to food-based dietary guidelines, and some additionally mentioned other tools such as flip charts, images, motivational interviewing, and leaflets. The most common forms and approaches used in the delivery of nutrition education were information education and communication with aids such as pamphlets, posters, guidelines, and question-answer sessions (Figure 68). However, effective counselling through targeted behaviour change communication or participatory dialogue were reported by less than half of the countries.

The most common areas covered in these nutrition education activities were the health effects of high intakes of fats, sugars and salt/sodium as well as how to consume healthier diets including more fruits and vegetables (Figure 69). Less frequently, the nutrition education and counselling was related to portion sizes or gave practical skills on how to use nutrition labels or interpret nutrition and health claims.

Figure 67. Settings where nutrition education and counselling on healthy diets is provided in 88 countries providing detailed information on their programmes

Figure 68. Forms or approaches used in delivering nutrition education in 88 countries providing detailed information
3.5.4 Actions related to vitamin and mineral nutrition
The best way of preventing vitamin and mineral deficiencies is to ensure consumption of a balanced and diversified diet that is adequate in all micronutrients. Unfortunately, this is not being achieved everywhere, as indicated by the high prevalence of anaemia, vitamin A deficiency and iodine deficiency disorders. (Stevens et al., 2015). Actions to further improve vitamin and mineral nutrition beyond a balanced diet generally includes micronutrient supplementation and fortification of foods with micronutrients.

A total of 159 Member States and one area responded to the questionnaire concerning their actions to improve vitamin and mineral nutrition. **Vitamin and mineral supplementation** was most often targeted at pregnant women, as reported by more than 80% of countries in all regions except EURO (Figure 70). As pregnant women often attend ANC at later stages of pregnancy in many regions (Bucher et al., 2015), reaching them in the pre-pregnancy period may be equally important. However, no more than half of countries in any region reported to have supplementation schemes targeted at women of reproductive age. In contrast, supplementation schemes targeted at children were more common and reported by more than 80% of countries in AFRO, EMRO and SEARO.

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56 159 countries reported on actions related to vitamin and mineral nutrition supplementation schemes, with detailed information available for X countries.
WHO recently issued comprehensive recommendations on antenatal care (ANC) for a positive pregnancy experience (WHO, 2016n), which recommends daily iron and folic acid for all pregnant women to prevent maternal anaemia, puerperal sepsis, low birth weight, and preterm birth. It also contains context-specific recommendations for intermittent iron and folic acid supplementation as well as supplementation with calcium and vitamin A.

The most common vitamin and mineral supplementation programme for pregnant women was iron, usually in the form of iron combined with folic acid and taken daily (Figure 71). The provision of other vitamin and mineral supplements during pregnancy was much less common, including multiple micronutrient supplements, calcium, iodine, and vitamin A, although some regions report higher implementation such as calcium in SEARO and multiple micronutrient supplementation in EMRO.

Multiple micronutrient supplementation did not seem to be in lieu of iron and folic acid supplementation as most countries reporting the former also implemented the latter. Few countries specified the composition of the multiple micronutrients provided. Only one in 12 countries providing detailed information on calcium dose reached 1500 mg per day, which indicate challenges in the feasibility of implementing this recommendation, in addition to the costs of the supplements.

Low dose supplementation of vitamin A in pregnant women was reported by only one country in EMRO.

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57 138 countries reported to implement vitamin and mineral supplementation schemes targeted at pregnant women, of which 102 provided detailed information.
The most common vitamin and mineral supplementation schemes in women of reproductive age\textsuperscript{58} were folic acid followed by iron, with the most common supplements being iron and folic acid combined. WHO recommends periconceptional folic acid supplementation to prevent neural tube defects.\textsuperscript{59} The WHO recommendation for the prevention of anaemia and iron deficiency in menstruating adult women and adolescent girls is intermittent iron and folic acid supplementation in populations where the prevalence is 20\% or higher (WHO, 2011a) and daily supplementation where the prevalence of anaemia is 40\% or higher (WHO, 2016i). All countries in EURO, SEARO, WPRO reported weekly iron-folic acid supplementation schemes to this target group whereas daily schemes were more common in the other regions (Figure 72).

The most common type of vitamin and mineral supplementation in children\textsuperscript{60} was vitamin A, especially in AFRO and SEARO but also in parts of other regions where vitamin A deficiency is a

\textsuperscript{58} 57 countries reported to implement vitamin and mineral supplementation schemes targeted at women of reproductive age, of which 42 provided detailed information


\textsuperscript{60} 105 countries reported vitamin and mineral supplementation in children, of which 74 provided detailed information
public health problem. High-dose vitamin A supplementation is recommended in infants and children 6–59 months of age in settings where vitamin A deficiency is a public health problem (Figure 73) (WHO, 2011b). Many of these programmes were initiated in the 1970s or earlier, and countries have reported successfully integrating strategies to deliver vitamin A supplements to infants and children together with immunizations during routine health visits and through periodic outreach on child health days.

The next most commonly reported micronutrient supplements provided to children were multiple micronutrient powders. WHO has recently recommended iron-containing micronutrient powders for point-of-use fortification of foods consumed by infants and young children 6-23 months of age and children aged 2-12 years in populations where the prevalence of anaemia in children is a public health problem (WHO, 2016p). All of the MNP programmes were initiated in 2008 or later. In settings where anaemia is highly prevalent, daily iron supplementation is recommended for these children for three consecutive months in a year as a public health intervention for preventing iron deficiency and anaemia in infants, young children, and school children (WHO, 2016j). Iron supplementation in children was most commonly reported in AMRO.

Zinc supplementation was most commonly provided in AFRO, AMRO, and SEARO. Zinc supplementation has been shown to reduce the duration and severity of diarrhoea and to prevent subsequent episodes in areas where child undernutrition is common (Lamberti et al., 2013). WHO and UNICEF recommend children with diarrhoea are given zinc supplementation for 10-14 days together with oral rehydration salts (WHO/UNICEF, 2004).

Figure 73. Different vitamins and minerals provided to children in 105 countries

The most common food fortification programme61 was for salt, followed by wheat and oil (Figure 74). The foods least frequently reported as fortified by countries were condiments, rice, maize, and sugar. There was little variation across the regions regarding these proportions, except that rice was as common as wheat fortification in SEARO countries, and maize fortification was more common in AFRO than in any other region.

61 151 countries reported on food fortification programmes being implemented, of which 113 provided detailed information.
Figure 74. Reported implementation of different food fortification programmes in 151 countries

<table>
<thead>
<tr>
<th>Food Fortification</th>
<th>AFRO (n=37)</th>
<th>AMRO (n=24)</th>
<th>EMRO (n=19)</th>
<th>EURO (n=31)</th>
<th>SEARO (n=10)</th>
<th>WPRO (n=23)</th>
<th>Grand Total (n=144)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat fortification</td>
<td>59%</td>
<td>67%</td>
<td>63%</td>
<td>26%</td>
<td>40%</td>
<td>43%</td>
<td>50%</td>
</tr>
<tr>
<td>Maize fortification</td>
<td>30%</td>
<td>22%</td>
<td>0%</td>
<td>11%</td>
<td>0%</td>
<td>0%</td>
<td>14%</td>
</tr>
<tr>
<td>Rice fortification</td>
<td>3%</td>
<td>17%</td>
<td>0%</td>
<td>4%</td>
<td>40%</td>
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<td>10%</td>
</tr>
<tr>
<td>Oil fortification</td>
<td>44%</td>
<td>22%</td>
<td>33%</td>
<td>31%</td>
<td>20%</td>
<td>19%</td>
<td>31%</td>
</tr>
<tr>
<td>Salt fortification</td>
<td>92%</td>
<td>70%</td>
<td>89%</td>
<td>81%</td>
<td>90%</td>
<td>63%</td>
<td>81%</td>
</tr>
<tr>
<td>Condiments fortification</td>
<td>9%</td>
<td>0%</td>
<td>0%</td>
<td>4%</td>
<td>20%</td>
<td>14%</td>
<td>7%</td>
</tr>
<tr>
<td>Sugar fortification</td>
<td>19%</td>
<td>22%</td>
<td>5%</td>
<td>7%</td>
<td>0%</td>
<td>0%</td>
<td>11%</td>
</tr>
</tbody>
</table>
The most common nutrients used in the **fortification of staple foods (i.e. wheat, maize, rice)** were iron and folic acid, while fortification with zinc, vitamin A, and B12 were reported by fewer countries (Figure 75). The SEARO countries added all five micronutrients in any of the reported staple foods, whereas the EURO countries reported the least frequent fortification with these micronutrients. Wheat was by far the most commonly used vehicle (Figure 74) and the vast majority of countries that reported maize or rice fortification were also fortifying wheat. WHO recently issued guidelines on fortification of maize flour and corn meal with iron to prevent iron deficiency and with folic acid to reduce the risk of neural tube defects (WHO, 2016k) and is currently in the process of updating guidelines on fortification of wheat and rice.

Most fortification of staple foods was mandatory, especially in AFRO and AMRO, but least so in EURO. Legislation related to fortification of wheat flour was enacted from the 1970s and onwards, whereas the earliest legislation on maize and rice fortification was enacted during the 1990s. Most laws regarding the fortification of staple foods are relatively recent however, with almost half from the past five years.

**Figure 75. Nutrients added to staple foods in 76 countries**

<table>
<thead>
<tr>
<th>Region</th>
<th>Iron</th>
<th>Folic acid</th>
<th>Zinc</th>
<th>Vit A</th>
<th>B12</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFRO (n=23)</td>
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<td>78%</td>
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<td>33%</td>
</tr>
<tr>
<td>AMRO (n=15)</td>
<td>100%</td>
<td>97%</td>
<td>20%</td>
<td>25%</td>
<td>33%</td>
</tr>
<tr>
<td>EMRO (n=12)</td>
<td>100%</td>
<td>91%</td>
<td>27%</td>
<td>22%</td>
<td>36%</td>
</tr>
<tr>
<td>EURO (n=9)</td>
<td>100%</td>
<td>93%</td>
<td>36%</td>
<td>36%</td>
<td>46%</td>
</tr>
<tr>
<td>SEARO (n=6)</td>
<td>100%</td>
<td>93%</td>
<td>36%</td>
<td>36%</td>
<td>46%</td>
</tr>
<tr>
<td>WPRO (n=11)</td>
<td>100%</td>
<td>93%</td>
<td>36%</td>
<td>36%</td>
<td>46%</td>
</tr>
<tr>
<td>Grand Total(n=76)</td>
<td>100%</td>
<td>93%</td>
<td>36%</td>
<td>36%</td>
<td>46%</td>
</tr>
</tbody>
</table>

**Oil fortification** was more often applied to locally produced oils than imported ones. The most common nutrient added to oils/margarines was vitamin A with little variation across the regions (Figure 76). The fortification of oil with iodine was much less commonly reported globally, and was more frequently reported to be added to oils and margarines in countries of EMRO and WPRO. The majority of oil fortification programmes were mandatory, including all programmes in AFRO, AMRO and WPRO. The earliest legislation on oil fortification was from the 1960s, with about half from the past five years.

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62 Fortification of wheat, maize and/or rice was reported by 76 countries, of which 55 provided detailed information. Of these countries, 71 were fortifying flour, 18 fortifying maize and 13 fortifying rice

63 41 countries reported to be implementing oil fortification, of which detailed information was provided by 33 countries.
Iodine was added to salt in almost all the countries that reported, but salt iodization was not always mandatory (Figure 77). This was particularly true in EURO where most salt was reported to be iodized (92%), but it was mandatory in just 44% of countries. Salt iodization legislation more often applied to table salt than to salt for processed foods, which was often mentioned in national legislation to be exempted in the case where the iodine may interfere with the food processing.\textsuperscript{64} Most countries mentioned that it applied to both locally produced and imported salt. The earliest salt legislation was from the 1960s and more than one third of the laws and regulations were from before 2000, and another third were from the past five years. Universal Salt Iodization (USI) has been widely implemented at high scale for the past decades, with three quarters of households worldwide having access to iodized salt (UNICEF, 2016). WHO recommends fortification of food-grade salt with iodine as a safe and effective strategy for the prevention and control of iodine deficiency (WHO, 2014h).

Fortification of other foods such as sugar and condiments were much less common. Fortification of sugar (mostly with vitamin A) was reported by 15 countries, primarily in AFRO and AMRO. About half of these programmes were mandatory and half were voluntary. Fortification of condiments — usually

\textsuperscript{64} Detailed information on salt iodization legislation was provided by 83 countries.

68
on a voluntary basis with iron and/or iodine and voluntary – was only reported by eight countries, largely in AFRO, SEARO and WPRO.

3.5.5 Actions to prevent and treat acute malnutrition

Malnutrition in children, particularly severe acute malnutrition (SAM), increases the risk of death from common childhood illnesses and contributes to 45% of deaths in children under five years of age (WHO, 2016a). Globally, as of 2016, an estimated 52 million preschool-age children were wasted, of which 17 million were severely wasted (UNICEF/WHO/World Bank, 2017). The majority of these children live in Asia, particularly Southern Asia where wasting has become a critical public health problem with a sub-regional rate of 15.4%. In food insecure settings, such as emergencies, food distribution programmes may be implemented, to prevent acute malnutrition. Moderate acute malnutrition (MAM) is ideally managed by dietary interventions based on locally available foods. However, in food insecure settings the distribution of supplementary foods is usually necessary, either targeted at vulnerable groups or context specific blanket distributions to the whole population (e.g. all children from 6 months to 5 years of age). The management of SAM requires special therapeutic foods in combination with medical treatment.

A total of 148 Member States and one area responded concerning their actions to prevent and treat acute malnutrition. The majority of countries reported that they had food distribution programmes for the prevention of acute malnutrition, as well as programmes for the treatment of MAM and SAM (Figure 78). AFRO had the highest proportion of countries with all three types of programmes. SEARO, which has the largest number and the highest prevalence of wasting in children, had the second highest implementation of programmes to manage MAM or SAM.

Figure 78. Actions to prevent and treat acute malnutrition in 149 countries
Food distribution programmes\(^{65}\) are often part of nutrition-sensitive interventions (Ruel & Alderman, 2013) such as social safety nets that are employed to address the underlying causes of malnutrition, especially in populations threatened with food insecurity. These programmes complement the investments in nutrition-specific interventions which tackle the immediate causes of malnutrition (Bhatta et al., 2013). The majority of the food distribution programmes reported by the countries were from 2008 and later, while several dated back to the 1940s. The majority were either emergency food aid programmes and/or special foods for infants and young children (Figure 79).

Emergency food aid programmes were most common in AFRO and SEARO and least common in EURO. Direct food-based transfers such as food for work schemes were far less frequent, ranging from 0% in EURO to 48% in AFRO. The majority of the emergency food aid and direct food-based transfer programmes targeted specific groups (e.g. infant and young children, preschool age children, pregnant and lactating women, elderly, refugees, Ebola affected households, food insecure households). Many of these programmes included fortified foods as part of rations, especially fortified blended foods and fortified oils, but some also provided fortified biscuits and fortified wheat flour. Some countries mentioned distribution of lipid-based nutrition supplements (LNS) as part of emergency food aid to selected groups (pregnant women, lactating women). The reported energy content of emergency food aid rations ranged from 1844 kcal/day to 2300 kcal/day, whereas that of food transfers ranged from 250 kcal/day to 1954 kcal/day.

Special foods for infants and young children were common among country reports across all regions varying from 67% in AMRO to 36% in WPRO. These programmes were often linked to MAM programmes. The most common foods provided were ready-to-use infant formula (RUIF) and complementary food supplements including fortified products such as corn soy blend (CSB).

Take-home rations distributed through schools were the least frequently reported type of food distribution schemes reported by countries. Some countries also mentioned various subsidisation programmes for vulnerable groups, such as food stamps or food coupons.

Figure 79. Types of food distribution schemes in 83 countries providing details

\(^{65}\) 83 countries reported food distribution programmes, of which 50 provided detailed information
Dietary management of children with moderate acute malnutrition (MAM)\textsuperscript{66} is ideally based on the optimal use of locally available nutrient-dense foods to improve nutritional status of children, which prevents them becoming severely acutely malnourished and failing to thrive (WHO, 2012c). In situations of food shortage or where some nutrients are not sufficiently available through local foods, supplementary foods have been used to treat children with MAM. Supplementary foods are specially formulated foods in ready-to-eat or in milled form that are both energy and nutrient dense.

The earliest programmes were from 1950s and 1970s, but most MAM programmes were initiated in 2009 and later. Three quarters of the countries with MAM programmes reported to have a MAM protocol. All MAM programmes were targeted at children 6-59 months. In addition, about half the countries also targeted children 0-5 months and about a third targeted other groups including children up to 18 years and pregnant and lactating women. In children 6-59 months, MAM was usually assessed by measuring weight-for-height or weight-for-length. Only three countries relied solely on MUAC. All countries addressing MAM in the age group 0-5 months, assessed MAM by weight-for-length.

The components of the MAM programmes most commonly included breastfeeding promotion and support and nutrition counselling (Figure 80), which were reported by more than 80% of countries in all regions. Nutrition counselling mostly included instruction to increase intake of animal-source foods high in nutrients and to increase intake of plant-source foods high in nutrients. Instruction on the processing of plant-source foods high in anti-nutrients (e.g. through soaking, germination, malting or fermentation) was less common globally, although most common in AFRO and SEARO. Activities to identify and address the underlying causes of malnutrition were reported by 75% of countries in all regions. Food security interventions were reported by at least 60% of countries in AFRO, AMRO and WPRO, and water sanitation and hygiene interventions in at least 40% of all countries. The least frequently reported component of MAM programmes were conditional or non-conditional cash transfers which were only common in AFRO and AMRO.

More than two thirds of countries provided supplementary foods through the MAM programme. Ready-to-Use-Supplementary Foods (RUSFs) was most common in EMRO and WPRO, whereas fortified blended foods (e.g. Corn-Soy Blend (CSB) were most common in AFRO and SEARO. The appropriate choice of supplementary food would depend on the context. Evidence from a systematic review in 2013 suggested that fortified blended foods may be equally effective and cheaper than RUSF in treating children with MAM (Lazzerini, Rubert & Pani, 2013). WHO is currently reviewing the efficacy, effectiveness and safety of different types of supplementary foods. Premixed complementary foods for sale in low- and middle-income countries have been found to often lack an adequate nutrient composition (Masters, Nene & Bell, 2016).

Among the lessons learnt, countries mentioned the importance of community involvement and the need to increase the focus on prevention. Additionally, some countries linked families of children admitted to the MAM programme to other income generating programmes in the local area in order to strengthen resilience.

\textsuperscript{66} 83 countries reported programmes related to the management of MAM, of which detailed information was available for 59 countries.
The earliest programmes reported for the management of children with severe acute malnutrition (SAM) dated from the 1970s. Most of the countries with SAM programmes reported having protocols. The great majority of these protocols had been developed in 2008 or later after the WHO/WFP/SCN and UNICEF Joint Statement on Community-Based Management of Severe Acute Malnutrition (WHO/WFP/UNSCN/UNICEF, 2007) and almost two-thirds in 2011 or later since GNPR1, but only about a third had been developed after 2013, which is when the WHO guidelines were last updated. The 2007 joint statement allowed out-patient treatment with specially-formulated foods, as it is generally better for both the children and their families that they are treated at home. The 2013 guidelines further provide evidence-informed recommendations on a number of specific issues related to the management of severe acute malnutrition in infants and children, such as admission and discharge criteria and management of infants with SAM who are less than 6 months of age.

The target groups of the SAM programmes were generally children 6-59 months as well as children 0-5 months. In addition, nearly one fourth of the countries mentioned other target groups including children older than 5 years, pregnant and lactating women, elderly, HIV or TB patients, refugees, or any person with severe acute malnutrition. The great majority of countries assessing SAM in children aged 6-59 months used weight-for-height, or weight-for-length less than 3 Z scores. In addition, 75% of these countries reported using Mid-Upper Arm Circumference (MUAC) less than 11.5 cm. Across the regions, weight-for-height/length was more frequently reported than MUAC, except in AFRO where some countries relied solely on MUAC. Bilateral pitting oedema was also reported to be a criterion for SAM in children of any age group in most countries. All countries reported assessing SAM in children 0-5 months of age by using weight-for-length.

All countries with SAM programmes reported to have inpatient treatment and a great majority also had outpatient treatment. There was a consistent high reporting of using the recommended admission criteria for children with SAM in both age groups (Figure 81). Additionally, several countries reported admitting children with SAM weighing less than 3 or 4 kg even if older than 6 months or if care givers are unable to care for the child.

67 87 countries reported to have programmes for management of SAM, of which detailed information was available for 63 countries
Figure 81. Admission criteria for children 0-5 months and 6-59 months with SAM to inpatient care in 63 countries providing detailed information

Most countries reported regular screening for SAM and many conducted active screening in the communities by Community Health Workers monthly or by trained villagers who complete village registers of child malnutrition. Some countries rely on opportunities when children attend clinic based growth monitoring promotion sessions or during outreach campaigns (e.g. vaccinations, micronutrient supplementation). Several countries reported the involvement of nongovernmental organizations in the screening and treatment of SAM.

Countries reported a combination of discharge criteria, including regained appetite and/or breastfeeding effectively, weight for length/height equal to or above 2 Z score, no bilateral pitting oedema for at least 2 weeks, and MUAC equal to or greater than 125 mm (Figure 82). Several countries used stricter criteria for discharge, notably weight-for-height or weight-for-length $\geq -1.5$ Z-score. Furthermore, some countries still used the previous criteria in the 2007 joint statement of 15% or 20% weight gain for two consecutive visits.

Several countries noted that SAM management requires sufficient number of trained staff and that SAM management skills need regular refresher training because new knowledge and approaches are frequently available. Furthermore, follow-up of discharged children is essential, preferably at home with ample time for nutrition counselling and cooking demonstrations. All of this is in consonance with the evidence available from the literature on treatment of SAM, which has often concluded that
because the prevalence of SAM is highest in resource poor environments there is usually a substantial mismatch between the many patients requiring treatment and the few skilled staff and scarce resources available to treat them (Collins et al., 2006). Furthermore, gaps in our ability to estimate the effectiveness of overall treatment approaches for SAM and MAM persist, largely due to the lack of high quality programme evaluations (Lenters et al., 2013).

3.5.6 Actions related to nutrition and infectious disease

Undernutrition increases the risk of infectious disease and vice versa. Undernutrition is highly prevalent among those with tuberculosis (TB) and HIV and can accelerate disease progression. Therefore, targeted programmes of nutritional assessment, care and support are needed for people living with active TB and/or HIV (UNAIDS, 2014). Furthermore, soil-transmitted helminth and other parasites can also contribute to malnutrition by causing malabsorption of nutrients, loss of appetite, and diarrhoea. Deworming to reduce worm and parasite load - along with improved water, sanitation and hygiene as well as health education - are recognized as important underlying conditions to improve nutrition.

A total of 144 Member States and one area responded to the questions on actions related to nutrition and infectious disease. The most commonly reported intervention was nutritional care and support for people living with HIV, followed by deworming, and nutritional care and support for people with active tuberculosis (Figure 83). There was much regional variation in the responses, reflecting regional differences in these epidemics. Nutritional care and support for HIV programmes were most commonly reported by countries in AFRO and AMRO, and least frequently reported by countries in WPRO and EURO. AFRO was also the region where countries most often reported nutritional care and support for TB. Deworming was most frequently reported by countries in SEARO followed by AFRO and WPRO.

Figure 83. Actions related to nutrition and infectious disease in 145 countries

<table>
<thead>
<tr>
<th>Nutritional care and support in HIV</th>
<th>100%</th>
<th>50%</th>
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</tr>
</thead>
<tbody>
<tr>
<td>AFRO (n=38)</td>
<td>87%</td>
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</tr>
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<td>AMRO (n=21)</td>
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<td>43%</td>
<td>31%</td>
</tr>
<tr>
<td>EMRO (n=16)</td>
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<td>31%</td>
<td>50%</td>
</tr>
<tr>
<td>EURO (n=10)</td>
<td>34%</td>
<td>50%</td>
<td>35%</td>
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<td>50%</td>
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</tr>
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<tbody>
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<td>AFRO (n=39)</td>
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</tr>
<tr>
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<tr>
<td>WPRO (n=21)</td>
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<tr>
<td>Total (n=136)</td>
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</tr>
</tbody>
</table>
Nutritional assessment, counselling, and support are critical components of preventing and managing undernutrition in individuals affected by HIV. The most common component of nutritional care and support for people living with HIV was nutrition counselling (Figure 84). Virtually all countries reported to provide counselling on the prevention of undernutrition in their HIV programmes. Two thirds also included counselling on healthy diets for the prevention of obesity and diet related NCDs, including half of the countries in AFRO – the region with the largest number of countries with such programmes. Nutrition assessment and food or nutrition support were reported by two thirds of the countries. Fortified food supplements or food baskets were more often provided than micronutrients or vouchers for food.

Figure 84. Components of nutritional care and support to people living with HIV in 53 countries providing detailed information

Like for HIV, nutritional assessment, counselling, and support are critical components of preventing and managing undernutrition in individuals affected by TB (WHO, 2013e). The most common component of nutritional care and support for people with active tuberculosis was nutrition counselling (Figure 85). Virtually all countries reporting such programmes gave advice about the prevention of undernutrition, whereas half also gave advice on the prevention of obesity and diet related NCDs. Nutrition assessment was reported by three quarters of the countries, whereas food or nutrition support was reported by over half the countries. Again, fortified food supplements or food baskets were more often provided than micronutrients or vouchers for food.

Figure 85. Components of nutritional care and support to TB patients in 39 countries providing detailed information

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68 81 countries reported to be implementing nutritional care and support for people living with HIV, 53 of which provided detailed information

69 67 countries reported to be implementing nutritional care and support for people with TB, 39 of which provided detailed information
In areas where helminth infections are common, periodic treatment of children and of pregnant women after the first trimester will reduce infections and may thereby improve nutritional status. The great majority of countries reporting deworming campaigns for soil transmitted helminth provided anthelminthic drugs along with education on health and hygiene (Figure 86). However, less than half of the countries provided adequate sanitation, which sustainably eliminates the root causes of worm infestations. All deworming campaigns targeted pre-school age and/or school-aged children. Furthermore, about half the countries had deworming directed towards pregnant women, except in WPRO where half the countries instead had programmes directed towards women of reproductive age (data not shown).

Figure 86. Components of deworming campaigns in 46 countries providing detailed information

<table>
<thead>
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<tbody>
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<tr>
<td>Education on health and hygiene</td>
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</tr>
<tr>
<td>Provision of adequate sanitation</td>
<td>46%</td>
</tr>
</tbody>
</table>

3.5.7 Partners involved in delivering nutrition action

Improving nutrition requires multi-stakeholder and intersectoral involvement and collaboration amongst government, UN agencies, NGOs, the private sector, and other groups such as donor agencies, civil society, community groups, and academic institutions. Virtually all countries in all regions reported that the government was responsible for or involved in the implementation, funding, and monitoring of nutrition programmes in all nutrition areas (Figures 87, 88, 89).

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70 69 countries reported to be implementing deworming, 46 of which provided detailed information

71 The analysis of stakeholder involvement in implementation considers interventions being implemented within IYCN (breastfeeding counselling and promotion, complementary feeding and promotion, growth monitoring and promotion), school health and nutrition programmes, promotion of healthy diet (increase tax on unhealthy foods and beverages, increase subsidies on healthier foods and beverages, media campaigns on healthy diet, nutrition education and counselling for healthy diets, trans-fat ban), vitamin and mineral nutrition (supplementation in pregnant women, women of reproductive age, and children), acute malnutrition (food distribution, management of MAM and of SAM), nutrition and infectious disease (nutrition counselling and support in HIV and in TB, deworming campaigns). The analysis of stakeholder involvement in funding considers interventions being implemented within IYCN (breastfeeding counselling and promotion, complementary feeding and promotion, growth monitoring and promotion), school health and nutrition programmes, promotion of healthy diet (increase subsidies on healthier foods and beverages, increase tax on unhealthy foods and beverages, media campaigns on healthy diet, nutrition education and counselling for healthy diets, trans-fat ban), vitamin and mineral nutrition (supplementation of pregnant women, WRA, and children), acute malnutrition (food distribution, management of MAM, management of SAM), nutrition and infectious disease (nutrition counselling and support in HIV and in TB, deworming campaigns). The analysis of stakeholder involvement in monitoring considers interventions being implemented within vitamin and mineral nutrition (food fortification of wheat, maize, rice, oil, salt), promotion of healthy diet (front-of-pack labelling, menu labelling, nutrient declaration, portion size control, reformulation of foods and beverages, regulation of marketing to children), and school health and nutrition programmes (school food standards).
NGOs, both national and international, were involved in more than 75% of countries in all regions, usually as implementing partners and most often supporting infant and young child feeding and nutrition and infectious disease (Figures 87, 88, 89). The interventions most often supported by NGOs were breastfeeding counselling and nutritional care and support in HIV and TB, especially in AFRO, SEARO and WPRO.

UN agencies were involved in more than two thirds of countries in AFRO, EMRO, SEARO and WPRO, supporting implementation of or funding nutrition programmes, particularly those related to acute malnutrition and nutrition and infectious disease (Figures 87, 88, 89). The interventions most often supported by the UN were management of SAM and MAM, deworming campaigns, and vitamin and mineral supplementation to children.

The private sector - mainly consisting of private clinics and hospitals, media companies, and food manufacturing companies - were involved in more than two thirds of countries in AFRO, AMRO, EMRO and SEARO, most often supporting implementation of food fortification, reformulation and fiscal policies (Figures 87, 88, 89). After government, the private sector was the most involved partner on many interventions to support healthy diets, such as reformulation, labelling, and trans-fat bans. The high level of involvement of the private sector in delivering nutrition actions in countries reiterates the need for transparent processes to address and manage conflicts of interest. WHO is developing a set of tools to identify and address conflict of interest at different stages of the policy cycle (WHO, 2016o).

Figure 87. Involvement of partners in nutrition programmes being implemented in 129 countries providing detailed information

Figure 88. Roles of partners involved in nutrition programmes being implemented in 129 countries providing detailed information
Figure 89. Involvement of partners in different nutrition programmes being implemented in 129 countries providing detailed information

Amongst the government sectors, the ministry of health was the most involved sector in all regions, for all the roles of nutrition programming, and virtually in all nutrition programmes being implemented (Figure 90, 91, 92).\(^2\) Infant and young child nutrition interventions were primarily handled by the health sector; however, the questionnaire did not include questions on implementation of the International Code of Marketing of Breast-milk Substitutes or maternity protection for working mothers, which would have required the involvement of trade and labour, respectively. The ministry of education was the second most involved sector in all regions, notably as an implementer of school health and nutrition programmes. In addition to health and education, school health and nutrition programmes in AMRO often involved agriculture and in AFRO, social welfare.

Figure 90. Involvement of government sectors in nutrition programmes being implemented in 127 countries providing detailed information

\(^2\) See previous footnote
Despite having important roles to play, the non-health sectors had little involvement in protecting, promoting and supporting healthy diets. For example, 9 out of 11 countries with reformulation measures reported the health sector to be involved, whereas only one country mentioned the agriculture sector and another the trade sector. The education sector mainly engaged in nutrition education as well in regulating marketing of foods and beverages to children in the school setting. The agriculture sector was most often in monitoring food and nutrition labelling measures and trans-fat bans, whereas the trade and finance sectors were engaged in fiscal policies.

Gaps in sector involvement also existed for vitamin and mineral nutrition. The trade and industry sectors engaged in fortification programmes in about a third of countries, particularly those related to oil, wheat and salt, but the agriculture sector was less involved. Acute malnutrition and nutrition and infectious disease were also handled by the health sector, although social welfare often was involved in food distribution programmes and education in deworming campaigns.
3.5.8 Delivery channels for nutrition actions

Across all regions, the primary delivery channel utilised for implementing any nutrition intervention was the health system (Figure 93). The vast majority of countries also used schools, the food chain, communities, and shops, pharmacies or markets as delivery channels for implementing nutrition interventions. Media was less utilised in EMRO, whereas food aid and food security programmes were less utilised in AMRO, EURO, and WPRO.

The health system was also the primary delivery channel within most nutrition intervention areas (Figure 94). Schools were commonly used as delivery channels for actions to promote healthy diet (nutrition education, standards to regulate marketing, and ban on vending machines), infectious disease (deworming), and vitamin and mineral nutrition (use of fortified foods, mainly iodized salt, or supplementation programmes). Communities played a prominent role in the delivery of interventions in all areas except school health and nutrition programmes. Shops, pharmacies and markets were important channels for obtaining fortified foods and for certain vitamin and mineral supplements. Food aid and food security programmes were used not only for food distribution but also for distribution of fortified foods and for nutrition education and counselling. Interventions targeting the food chain primarily related to labelling, fortification of salt and wheat, and reformulation. Interventions using the media were mainly comprised of media campaigns on healthy diets, with fewer countries regulating commercial marketing to children in media. Workplaces were used for nutrition education and counselling activities.

Actions to promote healthy diets and vitamin and mineral nutrition were delivered through the greatest number of channels. However, there is great potential in further utilising these delivery channels in areas that are relevant in all settings, i.e. infant and young child nutrition, school health and nutrition, healthy diets, and vitamin and mineral nutrition. As noted in chapter 3.5.3, structural actions to change the food and drink environment are not widely implemented in all regions. Promotion of healthy diets may further expand into delivery channels not yet fully exploited, such as communities and workplaces, in order to accelerate scaling-up. Similarly, vitamin and mineral nutrition could be better ensured through communities and in food aid and food security programmes. The lower utilisation of delivery channels in acute malnutrition and nutrition and infectious disease reflects their dependency on country context, and therefore implementation is lower because not all countries need to implement these interventions. Chapter 3.7 analyses the implementation of relevant actions based on country context in relation the global nutrition targets.

73 The analysis of delivery channels considered implementation of interventions within IYCN (growth monitoring and promotion, breastfeeding and complementary feeding counselling and BFHI), school health and nutrition programmes, promotion of healthy diet (nutrition labelling and claims, reformulation, trans fat ban, portion size control, fiscal policies, regulation of marketing of food and non-alcoholic beverages to children, media campaigns and nutrition education and counselling for healthy diets), vitamin and mineral nutrition (supplementation programmes and food fortification of wheat, maize, rice, salt, oil), acute malnutrition (food distribution programmes and management of MAM and SAM), nutrition and infectious disease (nutrition counselling and support in HIV and in TB, deworming campaigns).
Figure 93. Delivery channels utilised for implementing nutrition interventions in 82 countries providing details on all sections of the questionnaire

Figure 94. Delivery channels utilised for implementing different nutrition programmes in 137 countries providing details
3.5.9 Targeting of nutrition interventions across the lifecycle

More than 90% of countries in almost all regions were implementing nutrition programmes targeting “the first 1,000 days” and beyond - pregnant and lactating women, infants and young children, pre-school age children and school-age children (Figure 95). In EURO, specific nutrition programmes targeting pre-school age children or pregnant and lactating women were slightly less common than in other regions.

**Infants and young children** were targeted through breastfeeding and complementary feeding counselling, other IYCF programmes, certain vitamin and mineral supplementation schemes such as iron supplementation and MNPs, and food distribution to infants and young children to prevent acute malnutrition (Figure 96). The entire **pre-school age children** population was addressed through growth monitoring and promotion activities, management of MAM and SAM, and through health and nutrition programmes in pre-school institutions. Vitamin and mineral supplementation in this age group included mostly vitamin A but also iron supplements as well as zinc in the case of diarrhoea. Deworming was also common in the under-five age group. As expected, **school age children** and **adolescents** were largely addressed through school-based programmes. Many countries also had specific actions targeting this age group to promote healthy diets, e.g. regulation of marketing of food and beverages and media campaigns. School-based deworming programmes were also common.

Programmes targeting **pregnant and lactating women** mainly concerned vitamin and mineral supplementation, especially iron and folic acid. Several countries reported on nutrition education focusing on healthy diets or media campaigns targeting this group, and some countries implemented deworming among pregnant women or included them in programmes to manage MAM or SAM. Programmes targeting **women of reproductive age** were less common and mainly comprised of supplementation with iron or folic acid as well as media campaigns for healthy diets.

Programmes specifically targeting **adults** or **elderly** were the least often reported and largely consisted of media campaigns and nutrition education to promote healthy diets.

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74 The analysis of target groups considered implementation of interventions within IYCN (growth monitoring and promotion, breastfeeding and complementary feeding counselling, infant feeding in difficult situations, and BFHI), school health and nutrition programmes, healthy diets (regulation of marketing of foods and non-alcoholic beverages to children, media campaigns, and nutrition education and counselling for healthy diets), vitamin and mineral nutrition (supplementation programmes and food fortification of wheat, maize, rice, oil, salt), acute malnutrition (food distribution to infants and young children, management of MAM and SAM), nutrition and infectious disease (nutrition counselling and support in HIV and in TB, deworming campaigns).
Figure 95. Implementation of nutrition interventions targeting different population groups across the life cycle in 82 countries providing detailed information on all modules of the questionnaire

![Graph showing implementation of nutrition interventions across different population groups in 82 countries.](image)

Figure 96. Implementation of different nutrition programme areas and target groups addressed in 133 countries providing detailed information

![Graph showing implementation of different nutrition programme areas and target groups.](image)

All individuals in an intervention target group (e.g. pregnant women, women of reproductive age, children 6-59 months, school age children, individuals with HIV/TB) were usually eligible to receive those interventions. Some countries reported that nutritional care and support in HIV or TB were typically intended for those with or at risk of poor nutritional status. Vitamin and mineral supplementation was sometimes only provided based on nutritional risk, while zinc supplementation in children was often specified for children with diarrhoea. In some cases, eligibility for school health and nutrition programmes was determined by food security status.
3.5.10 Monitoring and learning for scaling up nutrition action

Successful scaling up of nutrition action requires monitoring implementation progress and ensuring the interventions reach the intended target groups, evaluation of their impact, and learning lessons for more efficient implementation.

**Monitoring of intervention coverage** was high across all regions, primarily in AFRO, SEARO and WPRO, where all countries reported collection of coverage data for any of their nutrition interventions (Figure 97). In all regions, coverage data was usually collected routinely, while many countries also collected it through surveys, especially in AFRO (Figure 98). Despite most countries monitoring coverage of nutrition interventions, fewer countries reported having coverage data for any given nutrition area (Figure 99). Only about half of the countries reported having coverage data for interventions in most of the nutrition areas, with even fewer countries having coverage data available for interventions to promote healthy diets and prevention of obesity and NCDs. The single interventions most often monitored were management of moderate or severe acute malnutrition, vitamin A supplementation in children and deworming. Routine collection was most common across all nutrition areas, but surveys were also quite common for collecting coverage data for interventions related to acute malnutrition and vitamin and mineral nutrition (Figure 100).

Actual coverage data were most often reported for vitamin and mineral nutrition interventions, followed by IYCN and acute malnutrition, and the least often for healthy diets as this only included one intervention (counselling on healthy diets) (Figure 101). High intervention coverages of more than 80% were most often achieved for IYCN and school health and nutrition programmes, whereas acute malnutrition interventions most often had lower intervention coverages. The single interventions most often reported to be implemented at high coverages were breastfeeding and complementary feeding counselling, school fruit and vegetable schemes, and zinc supplementation to children.

Figure 97. Coverage monitoring of any intervention being implemented in 129 countries providing detailed information

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75 The analysis of coverage monitoring considered interventions being implemented within IYCN (counselling and promotion of breastfeeding and complementary feeding, growth monitoring and promotion), school health and nutrition programmes (school meals, school fruit and vegetable schemes, school milk schemes, school take-home rations, nutrition education), promotion of healthy diets (counselling for healthy diet), vitamin and mineral nutrition (supplementation schemes in pregnant women, women of reproductive age and children), acute malnutrition (management of MAM and SAM, food distribution) and nutrition and infectious disease (nutrition counselling and support in HIV and TB, and deworming campaigns).
Figure 98. Source of coverage data by region in 106 countries with coverage monitoring data providing detailed information.

![Region Coverage Data](image)

Figure 99. Coverage monitoring in different nutrition intervention areas in 129 countries providing detailed information.

![Intervention Area Coverage](image)

Figure 100. Source of coverage data by nutrition area in 106 countries with coverage monitoring data providing detailed information.

![Nutrition Area Coverage](image)
Monitoring and enforcement of regulations\textsuperscript{76}, either formal or informal, took place in almost all countries across all regions with such measures (Figure 102). Fewer countries had formal monitoring mechanisms, but they were still established in the majority of countries. Likewise, both informal and formal monitoring mechanisms were present for most countries in all nutrition areas (Figure 103). Of any single intervention, school food standards were monitored most often, but not always through formal mechanisms. There was great variation between actions to promote healthy diet. While nutrition labelling was monitored through formal mechanisms by the majority of countries, fewer countries had mechanisms established to monitor and enforce measures for portion size control, reformulation of foods and beverages, and regulation of marketing of foods and non-alcoholic beverages to children. Salt fortification was monitored more often than other fortified foods.

\textsuperscript{76} The analysis of monitoring and enforcement of regulations considered measures being implemented within school health and nutrition (school food standards), promotion of healthy diets (nutrition labelling (nutrient declaration, front of pack, menu), portion size control, reformulation, regulation of marketing to children) and vitamin and mineral nutrition (food fortification of wheat, maize, rice, oil and salt).
The primary role and responsibility of monitoring mechanisms was to monitor compliance followed by applying sanctions to identified violations (Figures 104, 105). However, public dissemination of monitoring results or sanctions applied were less common in all regions and areas. This was consistent across all regions and nutrition areas, except in WPRO where sanctions were less common.
Figure 105. Roles and responsibilities of monitoring and enforcement mechanisms of existing regulations by nutrition area

The majority of countries in all regions reported evaluation of nutrition programmes being implemented (e.g. impact studies, process evaluation, cost-effectiveness analysis), especially in the AFRO region (Figure 106). Among the nutrition areas, more countries conducted evaluations of IYCN interventions and vitamin and mineral interventions than other types (Figure 107). The single interventions most often evaluated were breastfeeding counselling and salt fortification, although less than half of countries implementing these interventions reported doing so.

Figure 106. Evaluation of any nutrition programme being implemented in 133 countries providing detailed information

Figure 107. Evaluation of different nutrition programmes being implemented in 133 countries providing detailed information

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77 The analysis of evaluation of nutrition programmes considered interventions being implemented within IYCN (breastfeeding counselling and promotion, complementary feeding counselling and promotion, growth monitoring and promotion), school health and nutrition programmes, promotion of healthy diet (dietary guidelines, fiscal policies, nutrition and health claims, nutrition education and counselling for healthy diet, nutrition labelling, portion size control, reformulation, regulation of marketing of food and non-alcoholic to children, trans fat ban), vitamin and mineral nutrition (supplementation programmes and food fortification of wheat, maize, rice, salt, oil), acute malnutrition (management of MAM and SAM, food distribution), and nutrition and infectious disease (nutrition counselling and support in HIV and in TB, deworming campaigns).
3.6. Coherence in the policy environment for reaching the Global Nutrition Targets

In order to assess whether countries are addressing their nutrition challenges adequately cross-modular analyses of the policy environment were carried out based on whether they were “on track” or “off track” to reach five of the six global nutrition targets. The methodology for selection of relevant elements in the policy environment and categorization of countries is described in the methods (chapter 2.4).

3.6.1. Stunting

To achieve the global target of reducing the number of stunted children by 40% by 2025, affected countries need to implement comprehensive nutrition programmes focusing on the first 1,000 days from a woman’s pregnancy to her child’s second birthday (WHO, 2014f). Policies, coordination mechanisms, capacities and actions in support of such programmes were analysed for 94 countries based on whether they were “on track” or “off track” to achieve the global target. Most of the “on track” countries had stunting rates below 20% (Table 4), which is the threshold defining the stunting prevalence as low (WHO, 1995) traditionally used to identify countries with a stunting problem. Ten countries with higher rates, all in the range of 20-40%, had showed significant improvements and were therefore classified as “on track” using the TEAM rules for required average annual rate of reduction (AARR). The majority of countries in both of the “off track” groups had stunting rates above 20%.

Table 4. Stunting rates and on/off track status in 94 countries

<table>
<thead>
<tr>
<th>Stunting &lt; 20%</th>
<th>Off track - Some progress</th>
<th>Off track - No progress or worsening</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>3</td>
<td>7</td>
<td>38</td>
</tr>
<tr>
<td>Stunting &gt;= 20%</td>
<td>10</td>
<td>29</td>
<td>56</td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
<td>32</td>
<td>94</td>
</tr>
</tbody>
</table>

78 132 countries had answered all the relevant GNPR2 sections that were used to analyse policy coherence for stunting reduction, 24 of these did not have stunting data and 14 did not have two data points for stunting required for estimating the AARR, resulting in 94 countries. 38 of the 94 countries had recent data and had been assessed using TEAM’s recommended rules, whereas 56 had been assessed using similar methods for the purpose of this report as described in the methods (chapter 2.4).
The policy environment in the 94 countries was analysed based on their “on/off track” status and stunting prevalence. Countries with a significant stunting problem more often had relevant policy environment than countries with lower stunting rates (Figure 108). This is likely a result of the intensified global attention to stunting since the first Lancet Series on nutrition in 2008, which advocated for scaling-up effective nutrition interventions in the first 1,000 days period in countries with stunting rates of 20% or higher.

Further investigation of the 56 countries with high rates of stunting showed a consistent pattern between being on or off track and having a relevant policy environment (Figure 109). More than 80% of these countries had policy goals on stunting, regardless of their “on/off track” status. However, less than two thirds of countries “off track with no progress or worsening” had relevant policy actions to tackle stunting, even for key infant and young child nutrition interventions such as breastfeeding counselling, which was the second most common policy action in all countries (Figure 10 in chapter 3.2.3).

Furthermore, over 80% of countries in all groups had coordination mechanisms for nutrition as well as training for health workers in MIYCN. Among countries providing detailed information, the majority in all groups reported that their coordination mechanisms addressed MIYCN and about half that training of health workers included breastfeeding and complementary feeding counselling and growth monitoring and promotion.

To address stunting adequately it is necessary to implement a comprehensive package of interventions to improve maternal and child nutrition. The vast majority of countries in all groups reported relevant infant and young child feeding interventions, iron-folic acid supplementation in pregnant women, and vitamin A supplementation in children. But only the “on track” countries seemed to address the pre-pregnancy period through supplementation programmes targeted at women of reproductive age. The “on track” group was also found to provide zinc supplementation to children more often. The implementation of the majority of interventions in the maternal and child nutrition intervention package was high in all groups but lowest in countries “off track with no progress or worsening”.

It should be noted that stunting results from several household, environmental, socioeconomic and cultural factors. This means that in addition to the policies and programmes analysed here, stunting reduction requires diverse and nutrition-sensitive action in multiple sectors.

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79 A similar pattern was not seen when the countries with rates below 20% were included.
80 Described in chapter 2.4.
Figure 108. Policy environment in 94 countries with stunting rates above and below 20%\textsuperscript{81}

<table>
<thead>
<tr>
<th>Policy Goal on Stunting</th>
<th>Stunting &lt; 20% (n=38)</th>
<th>Stunting &gt;= 20% (n=56)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy action on Growth Monitoring and Promotion</td>
<td>66%</td>
<td>84%</td>
</tr>
<tr>
<td>Policy action on breastfeeding promotion/counselling</td>
<td>79%</td>
<td>84%</td>
</tr>
<tr>
<td>Policy action on complementary feeding promotion/counselling</td>
<td>47%</td>
<td>80%</td>
</tr>
<tr>
<td>Policy action on nutrition counselling in pregnancy</td>
<td>61%</td>
<td>70%</td>
</tr>
<tr>
<td>Policy action on iron supplementation or iron fortification</td>
<td>37%</td>
<td>59%</td>
</tr>
</tbody>
</table>

Coordination mechanism exists for nutrition
- Stunting < 20% (n=38) | 74% |
- Stunting >= 20% (n=56) | 93% |

Training of health workers in MIYCN
- Stunting < 20% (n=38) | 89% |
- Stunting >= 20% (n=56) | 96% |

Growth Monitoring and Promotion
- Stunting < 20% (n=38) | 92% |
- Stunting >= 20% (n=56) | 98% |

Breastfeeding counselling
- BFHI
- Stunting < 20% (n=38) | 97% |
- Stunting >= 20% (n=56) | 100% |

Complementary feeding counselling
- Stunting < 20% (n=38) | 61% |
- Stunting >= 20% (n=56) | 96% |

Iron folic acid supplementation in pregnant women
- Stunting < 20% (n=38) | 13% |
- Stunting >= 20% (n=56) | 36% |

Iron folic acid supplementation in women of reproductive age
- Stunting < 20% (n=38) | 29% |
- Stunting >= 20% (n=56) | 46% |

Vitamin A supplementation in children
- Stunting < 20% (n=38) | 18% |
- Stunting >= 20% (n=56) | 43% |

Zinc supplementation in children
- Stunting < 20% (n=38) | 24% |
- Stunting >= 20% (n=56) | 43% |

Distribution of foods for infants and young children
- Stunting < 20% (n=38) | 45% |
- Stunting >= 20% (n=56) | 79% |

Implementing more than half of interventions in maternal child nutrition package

\[81\] Of the 38 countries with stunting rates lower than 20%, 4 were in AFRO, 12 in AMRO, 4 in EMRO, 10 in EURO, 2 in SEARO and 6 in WPRO, whereas of the 56 countries with stunting rates of 20% or higher, 32 were in AFRO, 3 in AMRO, 7 in EMRO, 1 in EURO, 8 in SEARO and 5 in WPRO.
Figure 109. Policy environment in 56 countries\textsuperscript{82} with stunting rates of 20% or higher being on or off track for reaching the global nutrition target of reducing number of stunted children by 40% by 2025

\textsuperscript{82} Of the 10 countries with stunting rates of 20% or higher being “on track”, 5 were in AFRO, 1 in AMRO, 1 in EMRO and 3 in SEARO; of the 29 countries with stunting rates of 20% or higher being “off track with some progress” 17 were in AFRO, 1 in AMRO, 2 in EMRO, 1 in EURO, 5 in SEARO and 3 in WPRO; whereas of the 17 countries with stunting rates of 20% or higher being “off track with no progress or worsening” 10 were in AFRO, 1 in AMRO, 4 in EMRO and 2 in WPRO.
3.6.2. Anaemia

While the causes of anaemia are variable, it is estimated that half of cases are due to iron deficiency. Public health strategies to prevent and control anaemia include improvements in dietary diversity, food fortification with iron, folic acid, and other micronutrients, distribution of iron-containing supplements, and control of infections and malaria (WHO, 2014b). Policies, coordination mechanisms, capacities and actions in support of such programmes were analysed for 132 countries with data that allowed assessment of their status towards achieving the anaemia reduction target (Table 5). Most of the 132 countries had anaemia rates of 20% or higher, which is the threshold for identifying countries where anaemia is a moderate public health problem (WHO/CDC, 2008). Furthermore, most of the countries were “off track with no progress or worsening” for reaching the global anaemia target, while no country was “on track”.

Table 5. Anaemia rates and on/off track status in 132 countries

<table>
<thead>
<tr>
<th>Anaemia rates</th>
<th>On track</th>
<th>Off track - some progress</th>
<th>Off track - no progress or worsening</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20%</td>
<td>0</td>
<td>3</td>
<td>19</td>
<td>22</td>
</tr>
<tr>
<td>&gt;=20%</td>
<td>0</td>
<td>36</td>
<td>74</td>
<td>110</td>
</tr>
<tr>
<td>Grand Total</td>
<td>0</td>
<td>39</td>
<td>93</td>
<td>132</td>
</tr>
</tbody>
</table>

As with stunting, countries with higher levels of anaemia tended to have more relevant policy environments (Figure 110), which indicate a commitment to respond to the problem. Regardless of anaemia rates, countries that were “off track with some progress” consistently had more relevant policy environments than those that were “off track with no progress or worsening” (Figure 111). The differences between the groups making some or no progress were also more profound than when considering high or low anaemia rates only. For example, countries “off track with some progress” had mandatory fortification of staple foods with iron more than twice as often as the countries “off track making no progress or worsening”. Furthermore, their policies more often had anaemia goals or actions on supplementation or fortification, deworming and optimal timing of cord clamping. Specific anaemia or cord clamping protocols were also more common. This indicates that a favourable policy environment is paying off in terms of making better progress, although no country is yet “on track”.

The insufficient improvements in anaemia rates despite high reporting of key interventions may reflect other implementation challenges. That 80% of countries with higher anaemia rates reported to provide iron supplements to women during pregnancy suggests that these interventions may not be benefiting the intended target groups effectively. Even when the distribution of iron supplements through antenatal clinics is high, it is recognized that often few mothers consume enough of the supplements, i.e. the compliance is low (Sununnasuk, D’Agostino & Fiedler, 2015; Sanghvii, Harvey & Wainwright, 2010). There are several examples in the literature, however, where compliance and programme effectiveness are improved when iron supplements are delivered through community

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83 136 countries had answered all the relevant GNPR2 sections that were used to analyse policy coherence for anaemia reduction, 4 of these did not have anaemia estimates, resulting in 132 countries included in the analysis. All countries had recent data and had been assessed using TEAM’s recommended rules.
based workers instead of antenatal clinics (Winichagoon, 2002; Menendez et al., 1994) or adolescent girls through schools (Aguayo, Paintal & Singh, 2013).

Figure 110. Policy environment in 132 countries with anaemia rates in women of reproductive age above and below 20%\textsuperscript{84}

\textsuperscript{84} Of the 22 countries with anaemia rates < 20%, 8 were in AMRO, 9 in EURO and 5 in WPRO; whereas of the 110 countries with anaemia rates \geq 20%, 38 were in AFRO, 14 in AMRO, 16 in EMRO, 17 in EURO, 10 in SEARO and 15 in WPRO.
Figure 111. Policy environment in 140 countries being off track with some or no progress for reaching the global nutrition target of halving anaemia in women of reproductive age.

<table>
<thead>
<tr>
<th>Policies</th>
<th>Off track: Some progress (n=39)</th>
<th>Off track: No progress or worsening (n=94)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy goal on anaemia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policy action on supplementation or fortification with iron</td>
<td>50%</td>
<td>49%</td>
</tr>
<tr>
<td>Policy action on deworming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policy action on optimal timing of cord clamping</td>
<td>15%</td>
<td>7%</td>
</tr>
<tr>
<td>Coordination mechanisms exists for nutrition</td>
<td>87%</td>
<td>82%</td>
</tr>
<tr>
<td>Training of health workers in MIYCN</td>
<td>97%</td>
<td></td>
</tr>
<tr>
<td>Protocol on anaemia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iron or iron-folic acid supplementation in pregnant women</td>
<td>70%</td>
<td>90%</td>
</tr>
<tr>
<td>Iron or iron-folic acid supplementation in women of reproductive age</td>
<td>22%</td>
<td>33%</td>
</tr>
<tr>
<td>Fortification of staple food with iron</td>
<td>48%</td>
<td></td>
</tr>
<tr>
<td>Mandatory fortification of staple food with iron</td>
<td>38%</td>
<td>79%</td>
</tr>
<tr>
<td>Policy action on deworming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policy action on optimal timing of cord clamping</td>
<td>40%</td>
<td>46%</td>
</tr>
</tbody>
</table>

85 Of the 39 countries “off track with some progress”, 21 were in AFRO, 11 in AMRO, 1 in EMRO, 2 in EURO, 2 in SEARO and 2 in WPRO; whereas of the 93 countries “off track with no progress or worsening”, 17 were in AFRO, 11 in AMRO, 15 in EMRO, 24 in EURO, 8 in SEARO and 18 in WPRO.
3.6.3. Overweight

Overweight and obesity are complex, multifaceted problems. In many countries, these conditions exist alongside a continuing problem of undernutrition and micronutrient deficiencies, creating a “double burden” of malnutrition. Therefore, coherent and comprehensive strategies are needed not just to reduce undernutrition but also to effectively and sustainably prevent and manage overweight and obesity (WHO, 2014d). Policies, coordination mechanisms, capacities and actions in support of such programmes were analysed for 82 countries based on whether they were “on track” or “off track” to achieve the global target. About half of the countries had child overweight rates of 6% or higher (Table 6), which is the global baseline level (WHO & UNICEF TEAM, 2017). Within both these groups, slightly more countries were “on track” than “off track” to achieve the global target of no increase in child overweight by 2025.

Table 6. Overweight rates and on/off track status in 82 countries

<table>
<thead>
<tr>
<th>Overweight rates</th>
<th>On track</th>
<th>Off track</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overweight&lt;6%</td>
<td>25</td>
<td>15</td>
<td>40</td>
</tr>
<tr>
<td>Overweight&gt;6%</td>
<td>23</td>
<td>19</td>
<td>42</td>
</tr>
<tr>
<td>Grand Total</td>
<td>48</td>
<td>34</td>
<td>82</td>
</tr>
</tbody>
</table>

Countries with higher overweight rates reported policies and actions related to promotion of healthy diets more often, but those related to MIYCN less often (Figure 112). However, the differences between the two groups were small. Important policy gaps exist as less than half of countries with higher childhood overweight rates had relevant policies or actions on important measures such as reformulation, fiscal policies, regulation of marketing of food and non-alcoholic beverages to children, and portion size control.

Regardless of overweight level, countries “on track” tended to have more relevant policy goals and actions but similar or lower implementation of interventions to promote healthy diets than the “off track” countries (Figure 113). The largest differences were seen for policies on food-based dietary guidelines, nutrition labelling, regulation of marketing of food and non-alcoholic beverages to children, and portion size control, which were more frequent in the “on track” group as compared to the “off track” group.

Having relevant policies indicates commitment to take action, but this must be followed up with implementation of relevant actions and measures. While many countries included relevant actions in their policies, they hadn’t always taken the next steps and passed legislation to actually implement them. Furthermore, as was noted in chapter 3.5.3, actions to promote healthy diets generally focused on information (e.g. media campaigns, dietary guidelines) rather than structural approaches (e.g. reformulation, fiscal measures, portion size control, bans on vending machines in schools).

86 Thresholds for public health significance for childhood overweight are currently being established.
87 105 countries had answered all the relevant GNPR2 sections that were used to analyse policy coherence for child overweight. Of these 5 did not have overweight data, 18 did not have the two data points required for estimating the AARR, resulting in 82 countries. 33 of the 82 countries had recent data and had been assessed using TEAM’s recommended rules, whereas 49 had been assessed for the purpose of this report as described in the methods (chapter 2.4).
Therefore, great potential exists in strengthening these actions and measures, which were low in all countries.

National coordination mechanisms and capacity strengthening of health workers were reported slightly more often in countries “on track” to achieve the target. Among 38 countries with child overweight of 6% or higher that provided detailed information, almost all the countries “on track” had coordination mechanisms focusing on healthy diets against just half the countries “off track”.

Figure 112. Policy environment in 82 countries with childhood overweight rates above or below the global baseline of 6%.

88 Of the 45 countries with overweight rates < 6%, 22 were in AFRO, 2 in AMRO, 5 in EMRO, 1 in EURO and 4 in WPRO; whereas of the 55 countries with overweight rates >= 6%, 10 were in AFRO, 10 in AMRO, 5 in EMRO, 8 in EURO, 4 in SEARO and 5 in WPRO.
Figure 113. Policy environment in 82 countries on or off track for reaching the global nutrition target of no increase in child overweight by 2025

Of the 48 countries “on track” for reaching the child overweight target, 23 were in AFRO, 6 in AMRO, 5 in EMRO, 6 in EURO, 7 in SEARO and 1 in WPRO; whereas of the 34 countries “off track”, 9 were in AFRO, 6 in AMRO, 5 in EMRO, 3 in EURO, 3 in SEARO and 8 in WPRO.
3.6.4. Exclusive breastfeeding

To achieve the global target of increasing exclusive breastfeeding rates up to at least 50%, it is necessary to protect, promote, and support optimal breastfeeding practices at the health system, community and policy levels (WHO, 2014c). Policies, coordination mechanisms, capacities and actions in support of such programmes were analysed for 87 countries based on whether they had achieved exclusive breastfeeding rates of 50% and whether they were “on track” or “off track” to achieve the global target. Half of the “on track” countries still had rates below 50% but had showed significant improvements and were therefore classified as “on track” using the TEAM rules for required AARR (Table 7). The majority of “off track” countries had rates below 50%, in particular those countries “off track with no progress or worsening”.

Table 7. Exclusive breastfeeding rates and on/off track status in 87 countries<sup>90</sup>

<table>
<thead>
<tr>
<th>EBF level</th>
<th>“on track”</th>
<th>Off track: Some progress</th>
<th>Off track: No progress or worsening</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;50%</td>
<td>16</td>
<td>11</td>
<td>29</td>
<td>56</td>
</tr>
<tr>
<td>&gt;=50%</td>
<td>17</td>
<td>9</td>
<td>5</td>
<td>31</td>
</tr>
<tr>
<td>Grand Total</td>
<td>33</td>
<td>20</td>
<td>34</td>
<td>87</td>
</tr>
</tbody>
</table>

In contrast to stunting and anaemia, countries with exclusive breastfeeding rates of 50% or higher tended to have slightly more relevant policy environments than those with lower rates, indicating the need to build further commitment in the latter group (Figure 114).

Overall, countries “on track” more often had relevant policies than countries “off track” (Figure 115), in particular for infant feeding in difficult situations and regulation of marketing of breast-milk substitutes, although policy coverage of both of these remain low across the board. The “on track” group also more often had protocols on infant feeding in difficult situations, in addition to having policies that include this topic.

With regards to coordination and capacities, the “on track” and “off track with some progress” groups performed better than the “off track with no progress or worsening” group. Among 60 countries that had provided detailed information, having coordination mechanisms focusing on MIYCN was most common in countries “on track” whereas training for health workers on breastfeeding and complementary feeding was most common in countries “off track with some progress”.

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<sup>90</sup> 149 countries answered all the relevant GNPR2 sections that were used to analyse policy coherence for protecting, promoting and supporting exclusive breastfeeding. However, 43 of these did not have any data on exclusive breastfeeding rates and 19 did not have two data points for exclusive breastfeeding rates resulting in 87 countries being included. 37 of the 87 countries had recent data and had been assessed using TEAM’s recommended rules, whereas 50 had been assessed for the purpose of this report as described in the methods (chapter 2.4).
Figure 114. Policy environment in 87 countries with exclusive breastfeeding rates above or below 50%\textsuperscript{91}

\textsuperscript{91} Of the 31 countries with exclusive breastfeeding rates of 50% or higher, 15 were in AFRO, 3 in AMRO, 2 in EMRO, 1 in EURO, 6 in SEARO and 4 in WPRO, whereas of the 56 countries with exclusive breastfeeding rates lower than 50%, 20 were in AFRO, 12 in AMRO, 6 in EMRO, 11 in EURO, 3 in SEARO and 4 in WPRO.
Figure 115. Policy environment in 87 countries on or off track for reaching the global nutrition target of increasing rates of exclusive breastfeeding to at least 50% by 2025

Of the 33 countries being “on track”, 21 were in AFRO, 1 in AMRO, 2 in EMRO, 1 in EURO, 4 in SEARO and 4 in WPRO; of the 20 countries being “off track with some progress” 5 were in AFRO, 7 in AMRO, 1 in EMRO, 4 in EURO and 3 in SEARO; whereas of the 34 countries “off track with no progress or worsening” 9 were in AFRO, 7 in AMRO, 5 in EMRO, 7 in EURO, 2 in SEARO and 4 in WPRO.
3.6.5. Wasting

Achieving the global target of reducing and maintaining wasting to less than 5% requires identification and treatment of children with severe acute malnutrition as well as effective prevention strategies addressing the underlying causes of wasting in the communities (WHO, 2014g). Policies, coordination mechanisms, capacities and actions in support of such programmes and strategies were analysed for 105 countries based on whether they were “on track” or “off track” to achieve the global target. As per the TEAM rules, all countries with wasting rates lower than 5% are “on track” to achieve the global target and those with rates higher than 5% were “off track.” Among these “off track” countries, the majority were making no progress or worsening (Table 8).

Table 8. Wasting rates in the “on track” - and off track country groups

<table>
<thead>
<tr>
<th>Wasting rates</th>
<th>“on track”</th>
<th>Off track: Some progress</th>
<th>Off track: No progress or worsening</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wasting&lt;5%</td>
<td>57</td>
<td>0</td>
<td>0</td>
<td>57</td>
</tr>
<tr>
<td>Wasting&gt;=5%</td>
<td>0</td>
<td>13</td>
<td>35</td>
<td>48</td>
</tr>
<tr>
<td>Grand Total</td>
<td>57</td>
<td>13</td>
<td>35</td>
<td>105</td>
</tr>
</tbody>
</table>

Countries “off track” had more relevant policy environments than those “on track” (Figure 116), demonstrating their response to the problem. Amongst the “off track” countries with higher wasting rates, there was no overall consistent pattern in policy environment as was seen for stunting.

Those making “some progress” more often had policies focusing on maternal, infant and young child nutrition and food distribution programmes. They also more often had actions focusing on food distribution (general or directed at infants and young children). In contrast, those “making no progress or worsening” more often focused on management of moderate or severe acute malnutrition. However, the causes of wasting are highly contextual and interventions beyond those direct nutrition interventions assessed in this questionnaire may be more relevant.

The majority of countries reported to have coordination mechanism for nutrition and to be strengthening heath workers’ capacities for nutrition. Among 68 countries providing detailed answers, those with higher wasting rates – and especially those making some progress - more often had coordination mechanisms or capacity strengthening focusing on acute malnutrition.

---

136 countries had answered all the relevant GNPR2 sections that were used to analyse policy coherence for wasting. However, 24 of these did not have data on wasting and 7 did not have the two data points required to estimate the AARR, resulting in 105 countries. 43 of the 105 countries had recent data and had been assessed using TEAM’s recommended rules, whereas 62 had been assessed for the purpose of this report as described in chapter 2.4.
Figure 116. Policy environment in 105 countries on or off track for reaching the global nutrition target of maintaining wasting levels to below 5% by 2025\textsuperscript{94}

<table>
<thead>
<tr>
<th>Policy Goal</th>
<th>On track (n=57)</th>
<th>Off track: Some progress (n=13)</th>
<th>Off track: No progress or worsening (n=35)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy goal on wasting</td>
<td>69%</td>
<td>77%</td>
<td>89%</td>
</tr>
<tr>
<td>Policy action on Growth Monitoring and Promotion</td>
<td>77%</td>
<td>85%</td>
<td>85%</td>
</tr>
<tr>
<td>Policy action on breastfeeding promotion/counselling</td>
<td>81%</td>
<td>85%</td>
<td>80%</td>
</tr>
<tr>
<td>Policy action on complementary feeding promotion/counselling</td>
<td>71%</td>
<td>71%</td>
<td>77%</td>
</tr>
<tr>
<td>Policy action on nutrition counselling in pregnancy</td>
<td>65%</td>
<td>60%</td>
<td>77%</td>
</tr>
<tr>
<td>Policy action on iron supplementation or iron fortification</td>
<td>42%</td>
<td>54%</td>
<td>63%</td>
</tr>
<tr>
<td>Policy action on food distribution actions</td>
<td>40%</td>
<td>69%</td>
<td>77%</td>
</tr>
<tr>
<td>Policy action on management of MAM</td>
<td>39%</td>
<td>62%</td>
<td>69%</td>
</tr>
<tr>
<td>Policy action on management of SAM</td>
<td>35%</td>
<td>69%</td>
<td>71%</td>
</tr>
<tr>
<td>Coordination mechanism exists for nutrition</td>
<td>79%</td>
<td>86%</td>
<td>100%</td>
</tr>
<tr>
<td>Training of health workers in MIYCN</td>
<td>89%</td>
<td>100%</td>
<td>91%</td>
</tr>
<tr>
<td>Growth Monitoring and Promotion</td>
<td>95%</td>
<td>100%</td>
<td>97%</td>
</tr>
<tr>
<td>Breastfeeding counselling</td>
<td>98%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Complementary feeding counselling</td>
<td>89%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Iron folic acid supplementation in pregnant women</td>
<td>70%</td>
<td>82%</td>
<td>97%</td>
</tr>
<tr>
<td>Food distribution</td>
<td>56%</td>
<td>69%</td>
<td>77%</td>
</tr>
<tr>
<td>Distribution of food to IYC</td>
<td>33%</td>
<td>38%</td>
<td>31%</td>
</tr>
<tr>
<td>Management of MAM</td>
<td>56%</td>
<td>69%</td>
<td>83%</td>
</tr>
<tr>
<td>Management of SAM</td>
<td>53%</td>
<td>85%</td>
<td>97%</td>
</tr>
<tr>
<td>Implementing more than half of interventions in maternal child nutrition package</td>
<td>53%</td>
<td>71%</td>
<td>77%</td>
</tr>
</tbody>
</table>

\textsuperscript{94} Of the 57 countries with wasting rates lower than 5% and therefore “on track” to achieve the target, 14 were in AFRO, 17
The cross-modular analysis shows that while policies exist in most countries for ensuring that the global nutrition targets are met, the great majority of countries that are still affected by these problems are not yet making the necessary progress towards these goals. Countries affected by stunting, anaemia and wasting have more relevant policy environments than countries not affected by these conditions. For stunting and anaemia, countries that are more “on track” have more relevant policy environments than those more “off track”. On the other hand, countries with low rates of exclusive breastfeeding had less relevant policy environment than those with higher rates.

These finding are reminiscent of those found during the Landscape Analysis conducted in nine Sub-Saharan countries between 2008 and 2011 (Trübwasser et al., 2012) as well as many other countries outside of Africa, including those in the Americas and Asia (Nishida, Shrimpton & Darnton-Hill, 2009). Most of these found that although national nutrition policies often existed, in most places they still needed to be translated into effective programmatic actions. Furthermore, human resource capacity with relevant nutrition training was largely lacking. But it is not only in Africa, the Americas and Asia that this situation exists. A study of seven European countries (Kugelberg et al., 2012) found that supportive policy environments were largely lacking, with fragmented organizational structures and a workforce that is not cohesive enough to implement public health nutrition strategies.

The analysis only considered those that had responded to relevant modules of the questionnaire to analyse their policy environments. However, their composition did not differ much with regards to rates and “on/off track” status from those included in the analyses. Countries with sufficient epidemiological data on stunting (29), anaemia (56) and wasting (30) not considered in the analysis of policy environment had lower rates and were less often “off track with no progress or worsening”. The 38 countries with overweight data not considered more often had higher rates but were also more often “on track”. Among the 26 countries with sufficient data on exclusive breastfeeding not considered, fewer were “on track” and only one had rates of 50% or higher.

4. Progress since the 1st Global Nutrition Policy Review

The overall response rate of 89% of Member States is a considerable increase over GNPR1, when just 62% of Member States responded and reflects the growing importance being given to nutrition policies (IFPRI, 2016). The improvement was seen across all regions except EURO, with the biggest increases seen in EMRO, AFRO and SEARO. EURO had the highest response rate in the GNPR1, and remained at 83% of countries responding in GNPR2. However, there was a small change in the composition of countries with fewer Western European and more Eastern European countries responding to the GNPR2. EMRO went from being the region with the lowest response rate in GNPR1 (38%) to being the highest response rate in GNPR2 (100%). The vast majority of countries that responded to GNPR1 also responded to GNPR2.


in AMRO, 4 in EMRO, 10 in EURO, 1 in SEARO and 11 in WPRO; of the 13 countries “off track with some progress” 6 were in AFRO, 1 in AMRO, 1 in EMRO, 1 in EURO, 2 in SEARO and 3 in WPRO; whereas of the 35 countries “off track with no progress or worsening” 16 were in AFRO, 1 in AMRO, 7 in EMRO, 1 in EURO, 7 in SEARO and 3 in WPRO.
Most of the goals, indicators and action areas included in national policies, plans and strategies in GNPR2 have grown percentagewise since GNPR1 (Figure 117). This is especially so for stunting in children, breastfeeding and food fortification, all of which have grown by at least 9 percentage points. Overall, the inclusion of most topics has increased; however, this progress is not consistent across all regions. The largest increases concerned the inclusion of adult overweight and obesity in national policies in EMRO, food fortification in EURO, and zinc supplementation in SEARO, whereas the largest decreases were seen for undernutrition targets and vitamin and mineral action areas in WPRO. Small decreases were seen for low birth weight, complementary feeding, and nutrition and infectious disease. This applied to all regions except for low birth weight and complementary feeding in EMRO and complementary feeding and nutrition and infectious disease in AFRO. These differences likely reflect policy changes since the GNPR1 and not only a change in the composition of respondents as 90% of the countries had policies developed since 2011 which was after the collection of policies for GNPR1.

Figure 117. Change in inclusion of policy goals and actions between the GNPR1 and GNPR2

<table>
<thead>
<tr>
<th>Goal</th>
<th>GNPR1 (%)</th>
<th>GNPR2 (%)</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stunting in children</td>
<td>51%</td>
<td>60%</td>
<td>9%</td>
</tr>
<tr>
<td>Wasting in children</td>
<td>50%</td>
<td>55%</td>
<td>5%</td>
</tr>
<tr>
<td>Low birth weight</td>
<td>59%</td>
<td>56%</td>
<td>-3%</td>
</tr>
<tr>
<td>Overweight and obesity in children</td>
<td>78%</td>
<td>80%</td>
<td>2%</td>
</tr>
<tr>
<td>Overweight and obesity in adults</td>
<td>75%</td>
<td>82%</td>
<td>7%</td>
</tr>
<tr>
<td>Breastfeeding</td>
<td>76%</td>
<td>85%</td>
<td>9%</td>
</tr>
<tr>
<td>Complementary feeding</td>
<td>66%</td>
<td>63%</td>
<td>-3%</td>
</tr>
<tr>
<td>Vitamin A supplementation</td>
<td>37%</td>
<td>40%</td>
<td>3%</td>
</tr>
<tr>
<td>Iron and folic acid supplemenation</td>
<td>50%</td>
<td>50%</td>
<td>0%</td>
</tr>
<tr>
<td>Zinc supplementation</td>
<td>22%</td>
<td>29%</td>
<td>7%</td>
</tr>
<tr>
<td>Food fortification</td>
<td>48%</td>
<td>69%</td>
<td>21%</td>
</tr>
<tr>
<td>Nutrition and infection</td>
<td>46%</td>
<td>45%</td>
<td>-1%</td>
</tr>
</tbody>
</table>

Note: A total of 123 countries responded to the GNPR1, while 163 countries responded to GNPR2.

The greatest difference in the coordination mechanisms reported in GNPR2 as compared to GNPR1 is the location of the mechanism (Figure 118). More and more countries seem to set up a coordination mechanism in high governmental offices. The president or prime minister’s office as the location for nutrition coordination grew by 13% with the largest increase seen in AFRO, such that almost a third of countries now have their nutrition coordination at this level. This again reflects the growing importance of nutrition programmes and policies, as well as the increasing understanding that tackling all forms of malnutrition and diet-related NCDs requires multisectoral whole of government approaches. To ensure maximum coherence across sectors to tackle these problems, such mechanisms need to be placed above the various sectors involved in order to ensure high level political leadership (WHO Regional Office for South East Asia, 2015) and facilitate cooperation both vertically and horizontally across the multiple actors and levels involved (IFPRI, 2011). The
simultaneous decrease in countries with coordination mechanisms for nutrition set up in the
ministries of health or agriculture may indicate that these are being replaced by the high-level
mechanisms. There was a small increase in the participation of nongovernment partners over the
period.

Figure 118. Comparison of nutrition coordination mechanisms reported in GNPR1 and GNPR2

<table>
<thead>
<tr>
<th>Location of coordination mechanism</th>
<th>GNPR1</th>
<th>GNPR2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have coordination mechanism</td>
<td>76%</td>
<td>80%</td>
</tr>
<tr>
<td>President or Prime Minister’s Office</td>
<td>17%</td>
<td>30%</td>
</tr>
<tr>
<td>Ministry of Planning</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Ministry of Health</td>
<td>86%</td>
<td>81%</td>
</tr>
<tr>
<td>Ministry of Agriculture</td>
<td>19%</td>
<td>17%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Members of coordination mechanism</th>
<th>GNPR1</th>
<th>GNPR2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>UN</td>
<td>58%</td>
<td>61%</td>
</tr>
<tr>
<td>NGO</td>
<td>68%</td>
<td>70%</td>
</tr>
<tr>
<td>Donor</td>
<td>30%</td>
<td>36%</td>
</tr>
<tr>
<td>Academia</td>
<td>53%</td>
<td>59%</td>
</tr>
<tr>
<td>Private</td>
<td>48%</td>
<td>51%</td>
</tr>
</tbody>
</table>

Note: 119 countries provided information on nutrition coordination mechanisms for GNPR1 and 165 responded to the GNPR2. Detailed
information about the location and members of the coordination mechanisms were provided by 90 and 105 countries in the GNPR1 and
GNPR2, respectively.

Progress in relation to programmes to promote infant and young child nutrition showed little change
(Figure 119). This is because nearly all countries include such programmes in both reports. That is
the promotion of breastfeeding was reported by 98% of countries in GNPR1 and 99% in GNPR2, with
the promotion of improved complementary feeding reported by 87% and 93%, respectively.

The programming for school health and nutrition largely deteriorated across the two reviews. All the
regions saw large overall decreases in most programme components, with some exceptions such as
increased higher inclusion of deworming and safe drinking water in AFRO and growth monitoring
deworming in EMRO. This may well reflect an increased focus by national nutrition authorities
on the “1,000 days” window, which is a critical period for healthy growth and development as well
as stunting prevention. However, it is during school years that children can and should learn the
importance of a healthy diet and to eat healthy foods, and in so doing help to prevent all forms of
malnutrition. But the greatest decrease was seen in the school fruit and vegetable schemes. This is
an unfortunate trend that needs to be reversed, especially since one of the recommendations of the
Report on the Commission on Ending Childhood Obesity (WHO, 2016) concerns the implementation
of comprehensive programmes that promote healthy school environments, health and nutrition
literacy and physical activity among school-age children and adolescents. This decline may also be
explained in part by the different composition of responding countries between the two Reviews. As
previously mentioned, the number of EURO countries remained the same but the composition changed, while the number of countries reporting from AFRO and EMRO increased.

There has been considerable progress in the implementation of measures and programmes to promote healthy diets and prevention of obesity and diet-related NCDs. The biggest increases were in measures to implement nutrition labelling, nutrition counselling in primary health care, and media campaigns on healthy diets and nutrition. Among the regions, EURO and AFRO showed the greatest progress in interventions to promote healthy diets.

There has been little change in the programmes related to vitamin and mineral nutrition. The use of iron and folic acid supplements for pregnant women remains high, being reported by 75% of countries. The decrease in iron supplements for children especially in AFRO, SEARO and WPRO, probably reflects the increase in the use of micronutrient powders for children, for which guidelines were issued in 2013 (WHO, 2016p).

Between the two reviews, there was higher implementation of all interventions to prevent or manage acute malnutrition as well as those related to nutrition and infectious disease. This may be partly due to the larger number of AFRO, EMRO and SEARO countries responding, where such programmes are more relevant due to country context. The largest increases were seen for management of MAM and SAM, which may represent the high focus on scaling up these programmes and transforming isolated efforts and pilot projects into national programmes through developing protocols. As noted in chapter 3.5.5 almost two-thirds of countries with SAM protocols had developed these after GNPR1.
Figure 119. Comparison between GNPR1 and GNPR2 of nutrition actions implemented

<table>
<thead>
<tr>
<th>Health and nutrition programmes</th>
<th>MIYCN</th>
<th>School health and nutrition programmes</th>
<th>Healthy diet and prevention of obesity and diet-related NCDs</th>
<th>Vitamin and mineral nutrition</th>
<th>Prevention and treatment of acute infectious and non-infectious diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotion of breastfeeding</td>
<td>98</td>
<td>99</td>
<td></td>
<td></td>
<td>Treatment of moderate acute malnutrition (MAM)</td>
</tr>
<tr>
<td>BCC and/or counselling for improved complementary feeding</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
<td>Treatment of severe acute malnutrition (SAM)</td>
</tr>
<tr>
<td>Training of school staff on nutrition</td>
<td>83</td>
<td>57</td>
<td>-26%</td>
<td></td>
<td>Distribution of complementary foods</td>
</tr>
<tr>
<td>Ban on vending machines in schools</td>
<td>28</td>
<td>18</td>
<td>-10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hygienic cooking facilities and clean eating environment</td>
<td>71</td>
<td>53</td>
<td>-18%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School fruit and vegetables schemes</td>
<td>59</td>
<td>29</td>
<td>-30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School milk scheme</td>
<td>52</td>
<td>24</td>
<td>-28%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take-home rations distributed</td>
<td>10</td>
<td>9</td>
<td>-1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micronutrient supplementation</td>
<td>29</td>
<td>20</td>
<td>-9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deworming</td>
<td>34</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standards for marketing of FNAB to children in schools</td>
<td>48</td>
<td>24</td>
<td>-24%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring of children’s growth</td>
<td>57</td>
<td>44</td>
<td>-13%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safe drinking-water available free of charge</td>
<td>73</td>
<td>53</td>
<td>-20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food-based dietary guidelines (FBGD)</td>
<td>59</td>
<td>65</td>
<td></td>
<td></td>
<td>PW Iron and folic acid</td>
</tr>
<tr>
<td>Nutrient-based dietary guidelines (NBDG)</td>
<td>29</td>
<td>30</td>
<td></td>
<td></td>
<td>PW Calcium</td>
</tr>
<tr>
<td>Nutrition counselling in primary health care</td>
<td>53</td>
<td>83</td>
<td></td>
<td></td>
<td>PW Iodine</td>
</tr>
<tr>
<td>Nutrition labelling</td>
<td>49</td>
<td>81</td>
<td></td>
<td></td>
<td>CH Iron</td>
</tr>
<tr>
<td>Media campaigns on healthy diet and nutrition</td>
<td>43</td>
<td>72</td>
<td></td>
<td></td>
<td>CH Vitamin A</td>
</tr>
<tr>
<td>Regulations on marketing of FNAB to children</td>
<td>33</td>
<td>30</td>
<td></td>
<td></td>
<td>CH Zinc</td>
</tr>
<tr>
<td>Reformulation of foods and beverages</td>
<td>28</td>
<td>43</td>
<td></td>
<td></td>
<td>CH Micronutrient powders</td>
</tr>
<tr>
<td>Reduce trans fatty acids (TFA) from processed foods</td>
<td>11</td>
<td>22</td>
<td></td>
<td></td>
<td>Salt iodization</td>
</tr>
<tr>
<td>Fiscal policies</td>
<td>14</td>
<td>27</td>
<td></td>
<td></td>
<td>Wheat flour fortification</td>
</tr>
<tr>
<td>PW Iron and folic acid</td>
<td>72</td>
<td>75</td>
<td></td>
<td></td>
<td>Fortification of margarine/butter</td>
</tr>
<tr>
<td>PW Calcium</td>
<td>19</td>
<td>21</td>
<td></td>
<td></td>
<td>Oil fortification</td>
</tr>
<tr>
<td>PW Iodine</td>
<td>14</td>
<td>14</td>
<td></td>
<td></td>
<td>Sugar fortification</td>
</tr>
<tr>
<td>PW Multiple micronutrient supplementation</td>
<td>24</td>
<td>28</td>
<td></td>
<td></td>
<td>Rice fortification</td>
</tr>
<tr>
<td>WRA Folic acid (with or without iron)</td>
<td>27</td>
<td>32</td>
<td></td>
<td></td>
<td>Optimal timing of cord clamping</td>
</tr>
<tr>
<td>CH Iron</td>
<td>40</td>
<td>28</td>
<td>-12%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH Vitamin A</td>
<td>43</td>
<td>53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH Zinc</td>
<td>21</td>
<td>26</td>
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<tr>
<td>CH Micronutrient powders</td>
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<td>36</td>
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<tr>
<td>Salt iodization</td>
<td>71</td>
<td>81</td>
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<tr>
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<td>43</td>
<td>50</td>
<td></td>
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<tr>
<td>Fortification of margarine/butter</td>
<td>33</td>
<td>31</td>
<td></td>
<td></td>
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<tr>
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<td>17</td>
<td>31</td>
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<td>12</td>
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<tr>
<td>Rice fortification</td>
<td>3</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optimal timing of cord clamping</td>
<td>34</td>
<td>31</td>
<td></td>
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</table>

Note: Number of countries in analysis is as follows: MIYCN: 104 for GNPR1, 163 for GNPR2. School health and nutrition: 83 countries for GNPR1, 153 countries for GNPR2. Healthy diet and prevention of obesity and diet-related NCDs: 105

96 These numbers refer to the countries that responded to each section and may differ slightly for each question asked in the survey. The accurate denominator can be found in the respective chapters.

97 Micronutrient supplementation in schools from GNPR2 was compared to Vitamin A supplementation in schools from GNPR1.

5. Conclusions
There is a growing resolve globally to deal with the problems of malnutrition in all its forms continuing to face the world today. With one in three people directly affected by some form of malnutrition, the health and economic consequences are already enormous and will only get worse unless urgent measures are put in place. Cognizant of this serious situation, the UN General Assembly has proclaimed the UN Decade of Action on Nutrition 2016-2025, with the aim of helping member states to achieve the Global Nutrition and diet-related NCD Targets for 2025.

Great progress has been made in the adoption of national nutrition policies and plans of action, with 163 countries reporting that they have policies relevant to improving nutrition and promoting healthy diets. Among these countries, 145 (89%) have comprehensive or specific nutrition policies, with a majority developed in 2011 or later after the first Global Nutrition Policy Review in 2009-2010. Nutrition governance was also strengthened since the time of the first review, with a higher proportion of countries reporting to have established nutrition coordination mechanisms and increasingly so in high governmental offices, reflecting the growing importance of nutrition agenda. Current progress and trends in achieving the Global Nutrition and diet-related NCD Targets are not sufficient however, and those global targets are unlikely to be achieved unless accelerated actions are implemented across the globe.

The Global Nutrition Target to reduce the number of children under 5 years old who are stunted by 40% will certainly require extra efforts, particularly in Southern Asia and Africa (WHO, UNICEF & World Bank, 2017). Just over a half of all stunted children under 5 years of age live in Asia and more than a third live in Africa, and while the numbers are decreasing in Asia, they are increasing in Africa. National policies increasingly incorporate goals to reduce stunting, from 51% of countries in 2009-2010 to 60% in the current review. Priority actions to prevent stunting include adequate nutrition for pregnant and lactating mothers, exclusive breastfeeding during the first 6 months of life, and provision of adequate complementary feeding in addition to continued breastfeeding up to 2 years and beyond (WHO, 2014f). Virtually all countries in both reviews reported to be implementing breastfeeding and complementary feeding counselling. The in-depth analysis of stunting trends and policy environment in 94 countries showed that countries with higher rates of exclusive breastfeeding more often had a relevant policy environment, and among them, those being on track to achieve the target had the most relevant policies. Even though at least 20% of stunting is related to low birthweight, maternal nutrition issues are often considered separately from infant and young

98 Measures to remove/reduce trans fatty acids (TFA) from processed foods in GNPR1 is compared to TFA ban and reformulation of foods and beverages to reduce TFA in GNPR2. Measures/initiatives to remove/reduce the salt content of processed foods in GNPR1 is compared to reformulation (of any type) for GNRP2, as this was the most common nutrient addressed among countries providing detailed information on the type of reformulation.
99 Deworming (of all groups) for GNPR2 is compared to deworming of children 0-2 years in GNPR1.
child nutrition. Indeed, stunting causality is linked with other global nutrition targets, especially anaemia in women of reproductive age, low birth weight, and exclusive breastfeeding to six months. If countries in Asia and Africa especially want to achieve stunting reduction targets, they must also progress on these other three targets. Indeed, the in-depth analysis of stunting trends and policy environment showed that only the countries on track to meet the stunting target seemed to address the pre-pregnancy period through promoting nutritional well-being of women in reproductive age including supplementation programmes targeted at women of reproductive age, where required.

Achieving the Global Nutrition Target of a 50% reduction of anaemia in women of reproductive age will require a lot more effort. Although the prevalence of anaemia in women of reproductive age fell by 12% between 1995 and 2011, indicating that progress is possible, the current trend is insufficient (WHO, 2014b). Iron and folic acid supplementation is an essential part of anaemia control programmes for women of reproductive age, and must be built into the primary health-care system in order to address challenges that have limited their effectiveness, such as poor attendance at antenatal clinics, insufficient doses for supplementation, or insufficient emphasis on behavioural aspects of using supplements on a regular basis. However, while 91% of 151 countries reported they have supplementation programmes for women during pregnancy, only 39% of 146 countries reported they had supplementation programmes for women of reproductive age. As a broader public health measure, 50% of 144 countries reported to fortify wheat flour, usually with iron and folic acid. Fortification of staple foods with iron and folic acid was common in most regions and the relative proportion of countries implementing this measure had increased since the first review in 2009 - 2010. However, only half of maternal anaemia is due to iron deficiency and control for malaria and gastro-intestinal parasites are also needed as additional measures, emphasising the need to integrate supplementation with infectious disease control measures, again as part of the primary health care. There is no country for which estimates have been generated where anaemia is at least mild public health problem (i.e. prevalence ≥5%), and 77% of countries have a moderate or severe anaemia problem (i.e. prevalence ≥20%). It is in the African, South-East Asia and Western Pacific regions where anaemia burden is greatest and the emphasis for increased effort is needed (WHO, 2015a). In the in-depth analysis of anaemia trends and policy environment in 132 countries, it is observed that countries making some progress towards achieving the global target had more favourable policy environments to address anaemia problems, including supplementation, fortification and health care protocols e.g. on optimal timing of cord clamping.

The Global Nutrition Target of achieving a 30% reduction in the number of babies born low birth weight is perhaps the most challenging problem. In 2013, an estimated 22 million babies were born low birth weight, around 15% of all births (WHO, 2014e). Regional estimates include 28% in South Asia, 13% in sub-Saharan Africa, and 9% in Latin America. Achieving the global target would translate into a 3% relative reduction per year between 2012 and 2025 and a reduction from approximately 20 million to about 14 million infants with low weight at birth. Whilst analysis of trends is difficult, with half of babies not being weighed at birth for example, there appears to have been little or no change in the rates of low birth weight over the period 1990 to 2000. Again, a large part (90%) of the problem appears to be in Asia and Africa, with India alone responsible for 40% of the world’s low birth weights (UNICEF & WHO, 2004). Affordable, accessible, and appropriate health care, including prevention and treatment of maternal anaemia, are critical for reducing low birth weight. But other interventions beyond the health sector are also important, including social protection for subpopulations at risk of food insecurity and culturally appropriate interventions to create
community support for improving antenatal health-care visits as well as for addressing child marriage and teenage pregnancies which are also important causes of low birth weight.

The Global Nutrition Target of ensuring no increase in childhood overweight is also likely to be difficult to achieve. Globally estimates show that 41 million (6.0%) children under 5 years of age were overweight in 2016, with the highest rates in Southern Africa (11.8%), Central Asia (10.7) and Northern Africa (10%) (WHO, UNICEF & World Bank, 2017). Three quarters of overweight children were in Asia (49%) and Africa (24%) where the numbers increased by 40% and 48% respectively between 2000 and 2016. If these increasing trends continue, it is estimated that the prevalence of overweight in children under 5 years of age will rise to 11% worldwide by 2025. Tackling the problem of child overweight requires implementing a set of evidence-informed policy actions to create enabling food environment, including the implementation of nationally approved, science-based authoritative food-based dietary guidelines, which can underpin actions to improve nutrition in the population (WHO, 2014d). These actions can be provided through a mixture of interventions, including regulation of marketing of food and non-alcoholic beverages to children, standard setting for school food provisions including restriction of promotion and sales of food and beverages high in fats, sugars and sodium in and around schools, and mandatory nutrition labelling. Simultaneously mothers, families, and communities need to be empowered with relevant information and supported through the health system on appropriate infant and young child feeding. Since the first review in 2009-2010, there was an increase in implementation of actions to promote healthy diets and prevent overweight and obesity. Dietary guidelines were reported to exist in three quarters of the 151 countries that provided information on actions being implemented to promote healthy diets and prevent overweight and obesity. Yet implementation gaps exist. The regulation of marketing of food and non-alcoholic beverages to children, for example, was reported to occur in just 27% of the 139 responding countries. Whereas the proportion of countries implementing school health and nutrition programmes declined since the first review in 2009-2010, two thirds of 94 countries providing detailed information concerning such programmes in this review reported having nutrition programmes in preschools. In the in-depth analysis of child overweight trends and relevant policy environment in 82 countries, countries on track to achieve the target tended to have more relevant policies, although this was not always translated into implementation.

The Global Nutrition Target to increase the rate of exclusive breastfeeding in the first six months up to at least 50% should in principle be the easiest to achieve as it concerns as it measures a practice rather than a health outcome. Globally, these rates increased from 14% to 38% between 1985 and 1995 (WHO, 2014c) and although progress has slowed, the latest estimates show that 45% of infants aged 0-5 months are exclusively breastfed (UNICEF, 2017). In both Global Nutrition Policy Reviews in 2009 – 2010 and 2016 - 2017, breastfeeding counselling was the most commonly reported nutrition intervention implemented, by 98% of 104 countries in 2009-2010 and 99% of 161 countries in 2016-2017. The majority (90%) of the 107 countries providing details on their growth monitoring and promotion programmes reported using the opportunity to counsel the caretakers on infant and young child feeding. Although 70% of countries reported implementing the Baby-friendly Hospital Initiative (BFHI), the initiative has not been adequately scaled up, reaching only about 10% of births. Furthermore, only 39 countries have comprehensive legislation which reflect most or all of provisions of the International Code of Marketing of Breast-milk Substitutes. In the in-depth analysis of exclusive breastfeeding trends and relevant policy environments in 87 countries, those on track to achieve the global target more often had relevant policies - in particular for infant feeding in difficult
situations and regulation of marketing of breast-milk substitutes – as well as protocols on infant feeding in difficult situations. In order to achieve the global target of at least 50% of infants being exclusively breastfed for the first six months of life, the countries that are “off track” need to increase their efforts to protect, promote and support optimal breastfeeding practices.

The Global Nutrition Target to reduce and maintain childhood wasting to less than 5% could potentially be one of the easier targets to achieve if identification and treatment of children with severe acute malnutrition as well as effective prevention strategies addressing the underlying causes of wasting in the communities are implemented where needed. The current estimate is that 7.7% of children under 5 years of age are wasted globally and 96% of the 51.7 million wasted children under 5 years of age live in Asia (69%) and Africa (27%) (WHO, UNICEF & World Bank, 2017). This global total is an 11% decrease from the estimated 58 million wasted children in 1990. But in order to achieve the target of less than 5% by 2025 worldwide, the current wasting rate of 7.7% will require a near 40% reduction in the total (WHO, 2014g). More than half of 149 countries reported to be implementing food distribution or management of MAM or SAM programmes, which was an increase from the review of 2009-2010. Among countries with wasting rates of 5% or higher, those making some progress towards achieving the target more often focused on preventive programmes such as maternal, infant and young child nutrition, whereas those making no progress or worsening more often focused on management of acute malnutrition. Further investment and action are thus needed to reach the target, with an equal emphasis on prevention as well as the detection and treatment of MAM and SAM. Preventive actions should be tailored to the local context and encompass a range of different services to promote nutrition as well as hygiene, sanitation and targeted social protection.

One of the diet-related NCD target, i.e. to reduce salt/sodium intake by 30%, is potentially achievable. For all countries for which recent data are available, dietary sodium intakes are much higher than the physiological need (Elliott & Brown, 2007). In industrialized countries, about 75% of sodium in the diet comes from manufactured foods and foods eaten away from home, and some children’s foods are particularly high in sodium. For the most part, mean sodium intakes have not changed much over the past 20 or more years, although some downward trends have been noted in countries where there have been public health campaigns. In most countries, daily sodium/salt intakes are above the recommended level of <2 g/day sodium (5 g/day salt) in adults (WHO, 2012c). Reducing salt intake to recommended levels could prevent an estimated 2.5 million deaths every year (WHO, 2016g). Policy-makers and programme managers need to assess current sodium intake relative to a benchmark and develop measures to decrease sodium intake, where necessary, through policy actions and public health interventions to reduce salt/sodium content in food products and educate and inform consumers to promote behavioural changes (WHO, 2012c). In 48 countries reporting, 67% had reformulated bread for example to reduce the salt content, and these reformulations were mostly voluntary. 76% of 151 countries reported to have dietary guidelines, particularly food-based dietary guidelines. Culturally and contextually specific food-based dietary guidelines which are developed taking into account locally available food and dietary customs would help facilitate promoting healthy diets. Of 150 countries reporting, 81% had nutrition labelling measures, especially nutrient declaration and ingredient lists, although this was not always mandatory. In 65 countries providing details on nutrient declaration, 71% of them indicated that they included sodium in the labels.
The target of a 25% relative reduction in the prevalence of raised blood pressure is a complex challenge. In 2014, almost a quarter of adults aged 18 years and over had hypertension globally (WHO, 2016f). During the past four decades, the highest worldwide blood pressure levels have shifted from high-income countries to low-income countries in South Asia and sub-Saharan Africa, while blood pressure has been persistently high in Central and Eastern Europe (NCD Risk Factor Collaboration, 2016). The number of people with raised blood pressure in the world has increased by 90% during these four decades, with the majority of the increase occurring in low-income and middle-income countries, and largely driven by the growth and ageing of the population. The harmful use of alcohol, overweight and obesity, physical inactivity, and high salt intake all contribute to the incidence of hypertension globally. Prevention and control of hypertension demands multi-stakeholder collaboration, including governments, civil society, academia, and the food and beverage industry, but there are known intervention strategies that work (WHO, 2013c). In addition to the measures to promote and protect healthy diets, perhaps the most important is integrating NCD programmes through a primary health care approach that allows both early detection and treatment of hypertension, as well as counselling on topics such as maintaining a healthy weight, promoting physical activity, and reducing salt intake. Out of 151 countries, 83% reported to implement nutrition and dietary counselling, largely through primary health care and focusing on health effects of high intake of fats, sugars and salt/sodium, as well as to consume healthier diets.

The target to halt the rise in diabetes and obesity is certainly a challenging one. The global prevalence of diabetes in 2014 was estimated to be 8.5%, and the number of adults living with diabetes had almost quadrupled since 1980 to 422 million adults (WHO, 2016d). In 2014, 11% of men and 15% of women aged 18 years and older were obese. Furthermore, almost 40% of the global population aged 18 and over is considered overweight, and the global prevalence of overweight and obesity has more than doubled since 1980 (WHO, 2016e). The dramatic rise in diabetes is largely due to the rise in type 2 diabetes and the factors driving it (e.g. overweight and obesity). Diabetes prevalence has risen faster in low- and middle-income countries than in high-income countries. Some effective measures to prevent overweight and obesity and type 2 diabetes include consuming healthy diets, exercising regularly, and monitoring body weight, blood pressure, and blood lipids. The marketing of foods high in sugars, fats, and salt/sodium to children needs regulation, together with nutrition labelling of food products and the reformulation of food and beverages to reduce the content of free sugars, fats and salt/sodium. In addition, fiscal policies can be introduced to reduce the consumption of sugar-sweetened beverages and increase availability, affordability, and consumption of healthy foods including high fibre foods such as whole grain, legumes and fruits and vegetables. Actions most commonly reported to promote healthy diets and prevent overweight and obesity included nutrition and diet counselling by 83% of 151 countries, media campaigns by 72% of 148 countries, nutrition labelling by 81% of 150 countries, food reformulation by 43% of 140 countries, and fiscal policies by 27% of 139 countries.

The UN Decade of Action on Nutrition (2016-2025) calls on Member States to act across six pillars for nutrition action based on the commitments of the ICN2 and the recommendations included in the ICN2 Framework for Action. The six pillars are based on the common vision enshrined in the ten commitments of the ICN2 Rome Declaration, to ensure that everyone has access to affordable, diversified, safe and healthy diets, where children grow up healthy and achieve their full potential. Specifically, it seeks to support and catalyse nutrition actions and investments by helping countries attain specific measurable, achievable, relevant and time bound (SMART) commitments by 2025, to
end all forms of malnutrition in all population groups from stunting, wasting and micronutrient deficiencies to overweight, obesity and diet-related NCDs, within the Sustainable Development Agenda and framed by the ICN2 Rome Declaration on Nutrition.

The first pillar of the Decade of Action on Nutrition concerns sustainable resilient food systems for healthy diets. Developing a global food system to deliver healthy diets for a growing population, while reducing the environmental impact and reining in climate change, is increasingly recognized as one of the greatest global challenges of our time (UNSCN, 2017). Food production, consumption, and waste trends and patterns are among the most important drivers of climate change and related environmental pressures. Although this policy review was more focussed on food consumption than food production per se, the agriculture sector was still reported to be involved in implementing national nutrition policies and plans by 61% of 106 countries and nutrition programmes by 26% of 127 countries providing detailed information. There is an urgent need for food systems to function more sustainably, within the context of a finite and sometimes shrinking resource base, and in a way which uses natural resources more responsibly, preserving the ecosystems on which they rely. Food systems must also be reformed to improve production of and access to foods which comprise healthy diets, and to empower consumers to increase consumption of those foods. These two goals – improving the environmental health and the human health - can be approached simultaneously and are indeed best viewed as synergistic. Strengthening local food supply chains to provide fruit and vegetables and increasing production diversification in an environmentally sustainable manner are critical to meeting both goals.

The second pillar of the Decade of Action on Nutrition concerns aligned health systems providing universal coverage of essential nutrition actions. The health sector was reported to be involved in implementing national nutrition policies and plans in 95% of 106 countries, and nutrition programmes by 98% of 127 countries providing detailed information. The health sector was also by far the most common location of nutrition coordination in countries: 81% of 105 countries reported that such mechanisms were located within the health sector. A major challenge of providing universal coverage of essential nutrition actions is the availability of sufficient numbers of trained frontline workers to deliver these services and actions. Just a quarter of the 160 countries providing detailed information. Furthermore, a regional review of capacity found there were many “nutritionists” in the Asian countries visited, but the majority had been trained in clinical or individual based nutrition which was often outdated and more focused on research than on managing public health nutrition programmes (Shrimpton et al., 2013). This lack of training in public health nutrition was also highlighted in the review conducted in 2009 and 2010.

While 145 countries had nutrition plans, only 39% reported to have costed operational nutrition plans. Without funding, it is unlikely that many of these nutrition polices will have much impact, as experience shows that essential activities such as on-going in-service training and supervision simply don’t happen without funding (Freedman, Kuester & Jernigan, 2013; Harris et al., 2017). If the nutrition goals are to be met, the two thirds of countries that have not yet committed funding for their national nutrition policies need to do so and ensure that aligned health systems begin providing universal coverage of essential nutrition actions. Community-based primary health care systems help provide adequate coverage of the essential nutrition actions (WHO, 2013a). A majority of countries reported to utilize health systems for delivering infant and young child nutrition interventions (98%), promotion of healthy diets (64%), delivery of vitamin and mineral
supplementation (73%). Community based interventions were largely related to infant and young child nutrition interventions (80% of countries).

The third pillar of the Decade of Action on Nutrition concerns social protection and nutrition education. The social welfare sector was reported to be involved in implementing national nutrition policies and plans by 36% of 106 countries, and in implementing nutrition programmes by 21% of 127 countries providing such detailed information. Social welfare was often most involved in food distribution programmes, either through school health and nutrition programmes and/or acute malnutrition programmes. The education sector was reported to be involved in implementing national nutrition policies and plans by 61% of 106 countries and implementing nutrition programmes in 65% of 127 countries. The education sector was the second most involved sector in all regions, notably as an implementer of school health and nutrition programmes. Indeed, 90% of 153 countries reported that they had school health programmes, and nutrition education was included in the school curriculum by 61% of these. The health sector was almost equally involved in school health and nutrition programmes as the education sector in 75% and 76% of the 85 countries providing such detailed information respectively. This contributes to safeguarding the soundness of the content of nutrition education activities in schools. However, many countries are still unclear about the importance of nutrition capacity, as just 57% of 153 countries reported to conduct training of school staff in nutrition to deliver such activities.

The fourth pillar of the Decade of Action on Nutrition concerns trade and investment for improved nutrition. The trade, industry, and labour sectors were involved in the implementation of nutrition policies of 36% of 106 countries and of nutrition programmes in 20% of 127 countries providing detailed information. Their principal engagement was in food fortification programmes in about a third of countries, particularly those related to oil, wheat, and salt. Links between trade policies and actions designed to address all forms of malnutrition are complex and generate considerable controversy (UNSCN, 2015). Trade liberalization has influenced the food systems in many countries towards increased availability and accessibility of processed food and greater consumption of foods high in fats, sugars, and salt/sodium, thus contributing to the emerging obesity epidemic. Policy coherence between trade policy and nutrition action require strong institutional capacities and governance mechanisms that will allow analysis of the coherence between trade policy and nutrition action and the implementation of complimentary policies. More investments for improved nutrition are greatly needed from all parties (e.g. government, civil society, private sector). Government financing of nutrition sensitive activities in the agricultural sector supporting small scale agricultural producers to produce fruit and vegetable for the free meals in local schools, where girls are encouraged to finish higher school education is an example of the type of investments needed. In addition, fiscal policies can be introduced to reduce the consumption of sugar-sweetened beverages among other unhealthy food products, for example, with the proceeds going to fund the expansion of essential nutrition actions.

The fifth pillar of the Decade of Action on Nutrition concerns enabling food and breastfeeding environments. Breastfeeding promotion/counselling was one of the main action areas included in national nutrition policies, which was included by 74% of 163 countries that provided information. Breastfeeding counselling was implemented by 99% of 158 reporting countries. Fewer countries, 70% of the 103 that reported, said they were implementing the BFHI, however at insufficient scale as noted above. Furthermore, only 38% countries reported having comprehensive legislation or other
legal measures from the International Code of Marketing of Breast-milk Substitutes. Standards existed for the foods and beverages available in schools in 73% of 64 countries reporting. Actions to promote healthy diets and prevent overweight and obesity were more related to providing information and education of the public than restricting availability and marketing of unhealthy foods and beverages. Just 30% of 138 countries reported regulation of the marketing of food and non-alcoholic beverages to children, just 28% of 139 countries reported the use of fiscal measures, and just 19% of 136 countries had a trans-fat ban. Another environmental concern is water and sanitation, the absence of which can have very negative effects on nutrition status.

The sixth pillar of the Decade of Action on Nutrition concerns reviewing, strengthening and promoting nutrition governance and accountability. The majority of countries (80%) reported that they had coordination mechanisms for their national nutrition policies and plans, which was a slight increase from the proportion reported in the review of 2009-2010 (76%). However, the proportion of countries which house their nutrition coordination mechanism in the prime minister or president office increased from 17% of 90 countries in 2009-2010 to 30% of 105 countries providing detailed information in 2016-2017. This undoubtedly reflects the growing awareness and recognition by governmental authorities that modern malnutrition problems require multi-sectoral responses. The challenge remains to get the remaining countries developing these aspects of their national nutrition policies and plans and reporting on them in the future. Accountability requires measuring the results of the actions implemented. Monitoring of intervention coverage was reported by 82% of 129 countries. Most countries (89% of 106 countries providing details) relied on routine reporting, with just a half reporting using survey data. The intervention area with the highest monitoring of intervention coverage was vitamin and mineral nutrition (60%) and the lowest was healthy diets (15%). Among 115 countries with nutrition-related regulations, 89% monitored the implementation of this and 83% had a formal monitoring mechanism in place. However, while a majority of these mechanisms engaged in monitoring compliance, just over half applied sanctions and public dissemination of either violations or sanctions was low.

6. The way forward

Twenty-four years after the first intergovernmental conference on nutrition was organized by FAO and WHO in 1992, which highlighted the emerging problems of the double burden of malnutrition, the UN General Assembly proclaimed a Decade of Action on Nutrition (2016-2025). Furthermore, the 2030 Agenda for Sustainable Development explicitly calls for ending all forms of malnutrition with clear quantified targets and timelines, thus demonstrating recognition of the pressing global problems related to unhealthy diets and nutrition at the highest political level. Under the Decade of Action on Nutrition, Member States, regional political and economic communities, and the global community are called upon to translate the commitments of the Rome Declaration on Nutrition into SMART\(^{100}\) commitments for action in the context of national policies and in dialogue with a wide

\(^{100}\) Specific – The commitment refers to a specific action and indicates who is responsible for achieving it. Measurable – The commitment can be monitored through (a set of) an indicator(s) to enable its progress and achievement to be tracked. Achievable – The commitment refers to a realistic context, based on availability of human and financial resources as well as level of progress achieved in the past. Relevant – The commitment reflects a country’s situation, national priorities and the challenges it faces.
range of stakeholders, particularly those most affected by nutrition challenges. While many countries have already developed and are implementing food and nutrition policies, they should continue to review and, if necessary, raise the level of ambition, improve the design, further refine priority for action, and allocate additional resources to accelerate and scale up their efforts in achieving the Global Nutrition Targets and diet-related NCD targets.

The outcomes of the second Global Nutrition Policy Review serve as a baseline for the Decade of Action on Nutrition, taking stock of policies, governance, capacities, and actions to end all forms of malnutrition. The analyses presented in this report show that although many improvements have been made since the first review in 2009-2010, policy gaps and challenges remain, thus indicating the need for further actions to be taken at the country level. These actions include:

- Strengthening nutrition policies in accordance with the needs of countries, and making further efforts in costing and financing these policies so that they can be translated into operational actions with clear accountabilities
- Incorporating nutrition objectives into sector specific policies to ensure coherence and common goals that promote and facilitate healthy diets and good nutrition
- Ensuring effective coordination mechanisms by placing them at high political levels to facilitate multisectoral collaboration and policy coherence across sectors
- Strengthening capacity development for nutrition, including increasing the number of trained nutrition professionals with public health nutrition competencies as well as integrating training on essential nutrition actions among all frontline health workers
- Further institutionalising breastfeeding and complementary feeding counselling through baby-friendly maternity services as well as protocols for infant feeding in difficult circumstances
- Expanding services to reach women before and during pregnancy with essential nutrition actions, including adolescent girls
- Strengthening school health and nutrition programmes to ensure nutrition-friendly schools where policies, curriculum, environments, and services are designed to promote healthy diets and support good nutrition
- Continuing further development, implementation, monitoring, and enforcement of legislative and regulatory measures to improve food environments in order to promote healthy diets
- Establishing context-specific comprehensive strategies to address vitamin and mineral deficiencies through both general and targeted approaches and addressing underlying causes such as poor sanitation and hygiene.
- Where needed, implementing programmes to prevent and treat acute malnutrition, ensuring that programmes do not risk augmenting overweight and obesity in communities
- Where needed, integrating nutrition into communicable disease programmes to stop the vicious cycle of malnutrition and infectious disease

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Time-bound – The commitment’s key milestone is to be met within a realistic timeframe for achievement.
Importantly, this review shows that having the right nutrition policies and implementing relevant intervention programmes can make an impact. For example, supportive policy environments were associated with accelerating progress towards achieving the Global Nutrition Targets. Therefore, ensuring that countries have effective and coherent national policies which guide the implementation of relevant intervention programmes is a critical element in advancing the improvement of nutrition and promotion of healthy diets.

The current WHO nutrition strategy - Ambition and Action in Nutrition 2016-2025 – affirms that WHO will catalyse the prioritization of nutrition on the political agenda and leverage the implementation of effective nutrition policies and programmes in all settings. This is also in line with the draft 13th General Programme of Work for 2019-2023, which states that WHO will support all countries in conducting policy dialogue to drive impact, including the reduction of all forms of malnutrition.

Therefore, WHO will continue to support countries in developing, implementing, and monitoring evidence-informed policies to achieve the Global Nutrition Targets and diet-related NCD targets. Specifically, WHO will monitor nutrition trends and the progress of implementing nutrition policies and actions through tools such as the WHO Global Nutrition Databases, the Nutrition Landscape Information System, and the Global Nutrition Policy Review. WHO will also continue to develop evidence-informed guidelines through the Nutrition Guidance Advisory Group (NUGAG) and disseminate WHO-recommended interventions and related information through the e-Library of Evidence for Nutrition Actions (eLENA). NUGAG is currently establishing a subgroup to support WHO’s effort in developing guidelines on policy actions to promote healthy diets, which will initially focus on fiscal policies (taxes and subsidies), nutrition labelling policies, and trade and investment policies. Furthermore, WHO will continue to update the nutrition module contained within the OneHealth Tool for costing and estimating impact of nutrition actions, and to compile best practices in implementing nutrition actions, as included in the Global database on the Implementation of Nutrition Action (GINA). WHO will also develop a new simulation tool that brings all the tools supporting the evidence-informed policy process together in a dynamic way. Finally, WHO will continue its support for Member States in strengthening monitoring and surveillance, as well as monitoring and evaluating the implementation of policies and programme activities through operational guidance related to the Global Nutrition Monitoring Framework and other activities.

WHO, jointly with FAO, will also support countries to formulate SMART commitments in the context of the Decade of Action on Nutrition through making existing national commitments more ambitious or through adopting new national commitments. A resource guide was prepared to help translate the 60 recommended policy options of the ICN2 Framework of Action into SMART commitments for action at country level. This process should be done according to the national context and needs and be built on existing national policies, strategies, programmes, plans, and investments in order to achieve the 10 commitments of the Rome Declaration on Nutrition. These SMART commitments will then be registered and monitored in GINA and their progress reported through the World Health Assembly, the FAO Conference, and the UN General Assembly. This will help strengthen the accountability not only of Member States but of WHO, other partner agencies and stakeholders, and the global community responsible for the health and nutritional well-being of the world population.
7. References


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