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# Nutrition as Part of the Health System

## Purpose of the guide

This guide aims to provide governments, implementers and donors with evidence-based guidance for ensuring adequate inclusion of nutrition as part of the health sector. It addresses these questions: (1) Why is nutrition integral to health? (2) What is the evidence base? (3) What does this mean for decision makers and implementers? and 4) What tools are available?

It is essential that decision makers consider nutrition as an integral part of health. Suboptimal diet is the largest driver of morbidity and mortality worldwide, above tobacco smoking. As well, malnutrition in all its forms—including that due to suboptimal diet—significantly increases the risk of infectious and noncommunicable diseases and maternal and neonatal mortality (WHO 2019b). The seminal United Nations Children’s Fund (UNICEF) [framework on the determinants of child undernutrition](#) illustrates the connections between nutrition, diet and disease and the underlying and structural drivers influencing these (UNICEF 1990). Nutrition and other areas of health are inextricably linked; interventions to improve the latter should look to incorporate actions to improve the former. Health is not achieved without nutrition.

Good nutrition also supports development. The economic losses incurred due to malnutrition and nutrition-related disease amount to trillions at the global scale, hampering economic development (WHO 2019b; Wellesley et al. 2020). Out-of-pocket payments for health services push some 100 million people into extreme poverty annually, limiting capacity and, thereby, economic growth (WHO 2019b).

Ongoing conversations, such as those led by the World Health Organization (WHO) around [achieving universal health coverage](#), are an opportunity to secure nutrition’s place within health (WHO 2019b). Decision makers should seize this moment to ensure that nutrition is part of health policy, systems and financing.

## Maximising the Quality of Scaling Up Nutrition Plus

Following on the success of Maximising the Quality of Scaling Up Nutrition, or MQSUN (2012–2016), MQSUN+, funded by the UK’s Foreign, Commonwealth and Development Office (FCDO) (2016–2020), provides technical assistance to FCDO, Scaling Up Nutrition (SUN) countries and the SUN Movement Secretariat to catalyse multisectoral country efforts to scale up nutrition impact, maximise the quality and effectiveness of nutrition-related programmes, increase innovation in nutrition, support evidence generation and knowledge uptake and develop technical capacity. MQSUN+ is a consortium of five expert organisations: PATH (lead), Aga Khan University, DAI Global Health, Development Initiatives and NutritionWorks.

## Key messages of this guide

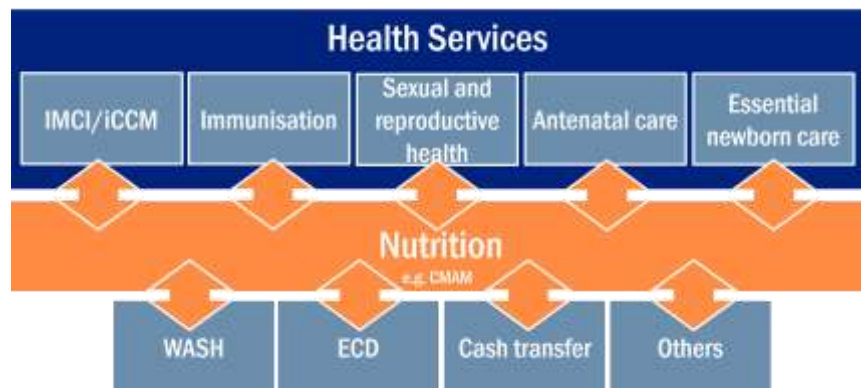
- [Achieving universal health coverage will require investing in essential nutrition actions \(ENAs\).](#)
- Nutrition is fundamental to—and has a reciprocal relationship with—other areas of health. Other illnesses drive malnutrition, and malnutrition drives other forms of ill health and, ultimately, mortality.
- Nutrition is a vital type of health service, and the health system is a logical option for delivering nutrition-specific interventions (those which specifically address dietary and health factors that drive poor nutrition).
- Ensuring nutrition’s full inclusion within health services can have benefits at the intermediate level (e.g. coverage) and outcome level (e.g. reduced malnutrition). It can also reduce costs and increase effectiveness and scale (e.g. through leveraging existing infrastructure).
- Nutrition should be considered each time an individual has contact with health services. Key platforms well-suited to the delivery of nutrition-specific interventions—or which are seen as nutrition platforms but which should also offer other health interventions—include Integrated Management of Childhood Illness (IMCI); Integrated Community Case Management (iCCM); community-based management of acute malnutrition; antenatal care; essential newborn care; immunisation; reproductive health; Child Health Days; water, sanitation and hygiene; early childhood development (ECD); and cash transfers and vouchers.
- Evidence suggests that addressing nutrition may work more effectively in some health system building blocks than in others (i.e. better in service delivery and health workforce, followed by governance, and not as well in information systems, financing and supplies/technologies).

## Why is nutrition integral to health?

### What does it mean for nutrition to be part of health?

Although there is no single framework, this guide defines 'nutrition as part of health' as the extent of adoption and eventual assimilation of nutrition-specific interventions into the health system's building blocks, platforms and services. **Figure 1** offers several platforms (described in **Annex 1**) through which the health system offers nutrition interventions. Other sectors also incorporate nutrition, with agriculture being a recent focus.

**Figure 1. Considering nutrition as a part of health and other platforms.**



Abbreviations: CMAM, community-based management of acute malnutrition; WASH, water, sanitation and hygiene.

### What is 'good' inclusion?

At heart, successful inclusion of nutrition means that it is a part of ongoing, regular healthcare and is addressed holistically, with an individual being offered all appropriate services at each contact with the health system. See **Figure 3**, which has—as its last column—the characteristics of full incorporation of nutrition according to each health system building block (i.e. service delivery, health workforce, governance, financing, supplies and technology and information systems) (WHO 2007).

## Why is it important?

Malnutrition causes 45 percent of young child deaths (Black et al. 2013) and much of the global burden of disease (Forouzanfar et al. 2015). Diet is the main risk factor of that global burden, and inadequate diet and ill health are the immediate causes of malnutrition. Poor dietary intake can lead to frequent or severe infections and vice versa (Figure 2). To improve nutrition outcomes, it is important to address both diet and disease, which are also influenced by other health areas and sectors, such as agriculture, water, education, social protection and economic development (Maternal and Child Nutrition Study Group 2013).

Though the health system is the main delivery mechanism for nutrition-specific interventions, it is counterproductive to scale up coverage within, rather than across, sectoral or sub-sectoral areas (Bhutta et al. 2013). The WHO states that ‘no country can achieve [universal health coverage] without investing in essential nutrition actions [ENAs]’, whilst recognising that including ENAs must be tailored to the context. Factors to consider include: (i) the causes of malnutrition in each context; (ii) the appropriate interventions for national and subnational contexts; (iii) the people that currently do and do not have access to health services; and (iv) the financial hardship incurred through out-of-pocket payments (WHO 2019b).

Given the commonalities (e.g. goals, providers and target groups), incorporating nutrition within health platforms and vice versa can reduce delivery and opportunity costs, increase effectiveness, and offer other benefits:

- Progress towards the achievement of targets (e.g. coverage, quality and outcomes).
- Increased coverage and scale, as multiple services are provided at each contact.
- Improved patient satisfaction (due to better care and lower direct and indirect costs to consumers).
- Reduced costs (e.g. as well-nourished children are less likely to become ill).

On the other hand, possible downsides to working to include nutrition within health systems include a lack of nutrition-specific skills, poor quality, reliance on a system that might already be weak or inaccessible, overloaded health professionals and poor outcomes (Bush and Keylock 2018). Strong platforms and effective inclusion are necessary to achieve the promised benefits. Adjustments are required in order to position nutrition as integral to health. These will depend on where a context is along the humanitarian/development spectrum.

## What is the evidence base for ‘nutrition as integral to health’?

### Quality of inclusion

A literature review assessed relevant experiences according to how close they came to ideal inclusion within each building block and then assessed health and nutrition outcomes (Salam, Das, and Bhutta 2019).<sup>1</sup> The programmes were often inclusive in terms of service delivery and workforce, with most delivering services through

Figure 2. Dietary intake and illness, a vicious cycle.



Adapted from: Katona and Katona-Apte 2008.

<sup>1</sup> The review, carried out under MQSUN+ through support from UK aid and the UK government, does not necessarily reflect the UK government’s official policies. The studies were from across Asia, Africa and Latin America and ranged from qualitative assessments to randomised controlled trials, including 12 studies (from six programmes) on incorporating nutrition as a part of IMCI/iCCM, 10 studies (six programmes) on incorporating severe/moderate acute malnutrition into health services, 6 studies (six programmes) on including nutrition with immunisation, and 2 studies (two programmes) on incorporating nutrition in Child Health Days. For potential lessons from similar programmes, the review also included 3 studies (two programmes) incorporating nutrition as a part of ECD and 1 study on a programme including nutrition as a part of cash transfers. As field realities include a wide range of inclusion activities, the review also looked at 11 studies (eight programmes) on incorporating nutrition in other platforms.



existing modes of service delivery and staff. Governance was also relatively inclusive, as most programmes<sup>2</sup> incorporated nutrition-specific interventions into existing strategies and policies. In contrast, information, financing and supplies and technologies were not so inclusive. **Table 1** orders the blocks from most to least inclusive and shares key findings.

**Table 1. Key findings by health system building block.**

Proximity to full inclusion	Enablers of inclusion	Barriers to inclusion
<b>Service delivery:</b> Most programmes included services in existing delivery mechanisms.	Co-location of services; coordinated messages and increased motivation amongst health personnel due to increased supportive supervision despite unchanged compensation.	Inadequate training; lack of support for and motivation from community health workers (CHWs); new interventions as added work; absence of effective referral mechanism.
<b>Workforce:</b> Almost all programmes used existing facility- and community-level staff to offer inclusive nutrition-specific services.	Hardship allowances for remote postings; supportive supervision visits, including observation of case management; and maximised health worker efficiency when given the opportunity to provide multiple services at once.	Lack of desire for remote postings; high attrition, turnover and workload; lack of a mechanism for CHW motivation, supervision and support; workloads that limit supportive supervision; poor referral mechanisms or quality of care once referred.
<b>Governance:</b> Most programmes consulted with stakeholders, and nutrition-specific interventions were included in existing systems and strategies.	Strong health systems and district-level evidence-based planning and costing; resource mobilisation driven by multisectoral development goals and integrated assessment tools.	Lack of stakeholder coordination.
<b>Financing:</b> Most nutrition-specific interventions had external funding which did not come through existing health system financing.	Planning, budgeting and mobilisation with donors and other stakeholders; funding distribution; social insurance, microfinance, community financing, removal of user fees and conditional cash transfers; private sector involvement and contracting; facility incentives.	Funding largely driven by development partners, even for aspects that government should cover (e.g. salaries and commodities); lack of coordination amongst funding sources; government funding cycles; high dependence on short-term funding.
<b>Supplies/technology:</b> Though some programmes enhanced existing channels, others set up separate nutrition-specific channels.	Effective logistics system for essential medicines; social marketing and global public goods; promotion of in-country drug manufacturers; appropriate equipment and maintenance.	Instability of nutrition commodities, stockouts and wait times; irregular medicine supply, including from health facility to community level; strained community trust in CHWs due to health system resource constraints.
<b>Information systems:</b> Most programmes devised separate mechanisms for nutrition-specific indicators.	Information flow across effective, decentralised continuity of care; goal compatibility and actor involvement; robust systems for intelligible and transparent collecting, tracking and reporting; data for making decisions and identifying underserved population.	Challenge of ensuring useful nutrition indicators are included in the health information system.

## Health—including nutrition—outcomes

Incorporating nutrition as a part of the health system can have positive impacts at intermediate (e.g. quality care) and outcome (e.g. wasting) levels. In IMCI programmes, there were improvements in care seeking for danger signs, appropriate pneumonia treatment, correct classification of very low weight, and preventing infant mortality

<sup>2</sup> The terms 'programmes' and 'services' are used somewhat interchangeably in this guide.

(Arifeen et al. 2009; Mazumder et al. 2014; Schellenberg et al. 2004; Bryce et al. 2005; Bhandari et al. 2012). Nutrition-inclusive immunisation programmes saw improvements in early initiation and exclusive breastfeeding, vitamin A coverage and/or preventing night blindness (Baqui et al. 2008; Hodges et al. 2015; Klemm et al. 1996). Integrated cash transfer delivery saw improvements in body mass index and recovery from acute malnutrition as well as lower levels of underweight, wasting and relapse into acute malnutrition (Grellety et al. 2017). A programme beyond this review saw child wasting and/or stunting reduced in families receiving cash transfers or food vouchers (Fenn et al. 2017).

Other programmes saw improvements in antenatal/postnatal visit coverage, health facility delivery, vitamin A coverage, paediatric iron supplementation, use of supplementary foods, early initiation of breastfeeding and/or exclusive breastfeeding (Fagerli et al. 2017; Nguyen et al. 2017; Singh et al. 2017). Programmes reviewed also had non-significant but potentially positive trends on similar nutrition-sensitive and nutrition-specific outcomes. Unfortunately, none of the included programmes offered data for proper gender-equity analysis.

### Cost-effectiveness

The review found only a handful of studies with quality evidence on value for money. These studies suggest that, for example, the incremental cost to incorporate vitamin A into existing programmes is relatively small—though this is influenced by context (Ching et al. 2000)—and that ECD interventions, including responsive stimulation and enhanced nutrition, are more cost-effective than a nutrition intervention alone (Gowani et al. 2014).

In summary, the available evidence suggests that investments which are nutrition-inclusive are relatively lower in cost and more cost-effective compared to those which are not, possibly due to leveraging existing resources. Cost-effectiveness studies should take into account factors like cost savings to families (e.g. from having fewer hospital visits) or to the education system (from starting school on time and being ready to learn, resulting in lower dropout rates). However, there can be an increased cost in establishing inclusivity. Future comparative studies should also explore the relative cost-effectiveness of different models, coverage levels and service delivery mechanisms—and over longer periods of time—to assess whether changes in cost-effectiveness occur.

## What does this mean for decision makers and implementers?

### Key actions to support the health system to be inclusive

**Table 2** highlights actions that decision makers and implementers can take. **Annex 2** offers resources to help these actors support fully nutrition-inclusive health systems and improve outcomes.<sup>3</sup> **Figure 3** provides a framework, based on work for the European Commission (Bush and Keylock 2018), to guide whether action may be needed, and in what areas, to support the full inclusion of nutrition in health.

**Table 2. How to support the health system towards including nutrition.**

Key actions to support the health system to be inclusive
<p><b>Service delivery:</b></p> <ul style="list-style-type: none"> <li>• Support health workers to understand which nutrition services to deliver at each contact (e.g. iron-folate at antenatal care clinics, breastfeeding support as part of delivery care and severe acute malnutrition and moderate acute malnutrition care within IMCI/iCCM).</li> <li>• Strengthen case finding and referral mechanisms.</li> <li>• Support identification and resolution of bottlenecks (e.g. ensure facilities are well-equipped).</li> <li>• Improve involvement, accountability and ownership of community.</li> </ul>

<sup>3</sup> Table 2 and Figure 3 are inspired by: Bush A, Keylock J, NutritionWorks. *Strengthening Integration of Nutrition Interventions within Health Sector Programmes: An Evidence-Based Planning Resource*. Brussels: European Commission; 2017.

## Key actions to support the health system to be inclusive

<p><b>Health workforce:</b></p> <ul style="list-style-type: none"> <li>• Support inclusion of nutrition in pre-service curriculum.</li> <li>• Support effective mechanisms for adequate staffing, including in hard-to-reach areas, and address turnover with systematic and comprehensive nutrition in-service training.</li> <li>• Support supportive supervision and mentoring of staff and volunteers.</li> </ul>
<p><b>Governance:</b></p> <ul style="list-style-type: none"> <li>• Strengthen governance capacities and involve all stakeholders in planning and budgeting.</li> <li>• Advocate with and within government, using evidence-based messaging.</li> <li>• Support policy updates and invest in filling evidence gaps to inform them.</li> </ul>
<p><b>Financing:</b></p> <ul style="list-style-type: none"> <li>• Advocate for increased domestic financing of nutrition.</li> <li>• Support the inclusion of costed nutrition actions into health plans.</li> <li>• Strengthen Ministry of Health planning and budgeting to include nutrition.</li> </ul>
<p><b>Supplies/technology:</b></p> <ul style="list-style-type: none"> <li>• Advocate for inclusion of nutrition commodities in essential drugs list.</li> <li>• Strengthen capacities for supply chain management.</li> </ul>
<p><b>Information systems:</b></p> <ul style="list-style-type: none"> <li>• Require specification of nutrition outcomes at the beginning.</li> <li>• Support the inclusion of nutrition indicators in information systems.</li> <li>• Strengthen monitoring and data capacity at all levels (e.g. support the use of technology for data collection, performance monitoring and supply chain management and the use of data for action).</li> <li>• Support mechanisms for accountability and transparency at all levels.</li> </ul>

Abbreviations: *iCCM*, integrated community case management; *IMCI*, integrated management of childhood illness.

The following are ideas for how implementers and development partners can support rather than hinder nutrition-inclusive health systems:

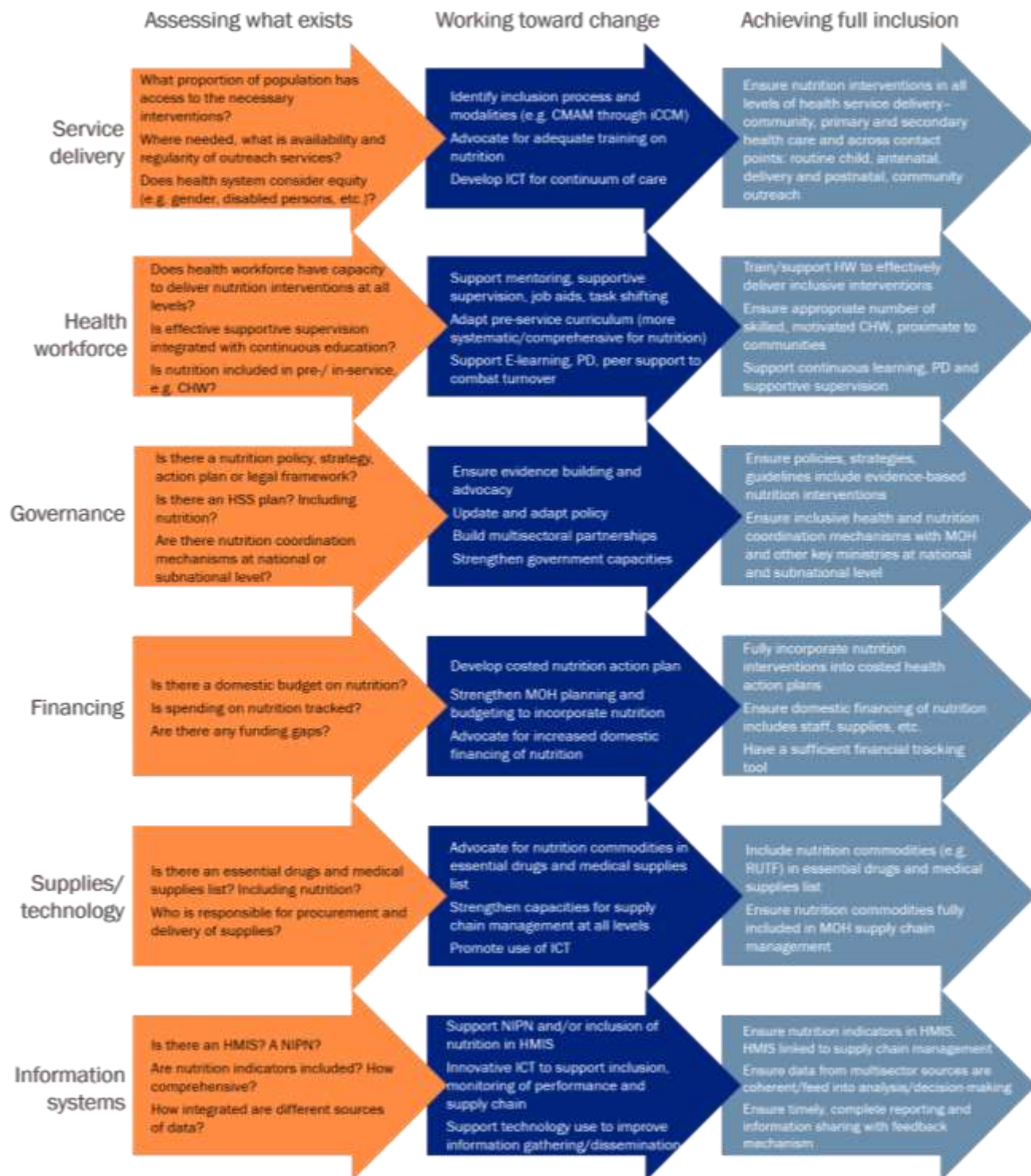
- Ensure coherence and a common approach across nutrition and health investments; consider joint planning, joint coordination meetings, common logframe indicators and synchronised programme cycles.
- Contribute to coherent approaches across all health and nutrition stakeholders, including and especially the government; consider joint systems-strengthening approaches and joint funding mechanisms.
- Encourage joint stewardship by nutrition/health leadership to prioritise integrated activities; plan for and manage costs; advocate for resources and to incentivise providers to reach targets.
- Find the right skills (i.e. staff with the right technical and systems skills). Staff with good technical skills may need support from others with the right 'soft' skills to effectively support nutrition as a part of health.
- Work on timing (i.e. ensure planning for inclusion occurs at the beginning of planning and budgeting cycles with continual focus throughout).

### Implications and challenges

As actors move towards fully including nutrition as a part of health, there will be implications for the nutrition interventions and the health system, and there will be challenges requiring mitigation. A few notable instances:

- **Different contexts call for different approaches.** Context influences the operationalisation of nutrition-inclusive health systems. Weak systems (e.g. fragile states, under-resourcing) and hard-to-reach areas (e.g. due to conflict or geography) may require external support and/or different approaches (e.g. mobile clinics).
- **Some contexts lack decision-making data.** Information systems and the evidence base require investment.
- **Particular skills are required.** It is important to find and train staff with the right combination of soft and technical skills.
- **Inclusion from the national to the community level is challenging.** Systemic change is a large job, and so stakeholders should work together on a joint approach with roles and responsibilities clearly defined.

Figure 3. Assess, Progress, Achieve: Steps to full inclusion.



Abbreviations: C/HW, (community) health worker; CMAM, community-based management of acute malnutrition; HMIS, health management information system; HSS, health system strengthening; ICT, information and communication technology; iCCM, integrated community case management; MOH, Ministry of Health; NIPN, national information platform for nutrition; PD, professional development; RUTF, ready-to-use therapeutic food.



## References

- Action Against Hunger. 2017. "Health System Strengthening: From Diagnosis to Planning Guide." [https://www.actionagainsthunger.org/sites/default/files/publications/Action\\_Against\\_Hunger\\_HSS\\_GUI\\_DE\\_2017.pdf](https://www.actionagainsthunger.org/sites/default/files/publications/Action_Against_Hunger_HSS_GUI_DE_2017.pdf).
- Arifeen, Shams E, DM Emdadul Hoque, Tasnima Akter, Muntasirur Rahman, Mohammad Enamul Hoque, Khadija Begum, Enayet K Chowdhury, et al. 2009. "Effect of the Integrated Management of Childhood Illness Strategy on Childhood Mortality and Nutrition in a Rural Area in Bangladesh: A Cluster Randomised Trial." *The Lancet* 374 (9687): 393–403. [https://doi.org/10.1016/S0140-6736\(09\)60828-X](https://doi.org/10.1016/S0140-6736(09)60828-X).
- Baqui, Abdullahh, Emma K Williams, Amanda M Rosecrans, Praween K Agrawal, Saifuddin Ahmed, Gary L Darmstadt, Vishwajeet Kumar, et al. 2008. "Impact of an Integrated Nutrition and Health Programme on Neonatal Mortality in Rural Northern India." *Bulletin of the World Health Organization* 86 (10): 796–804, A. <https://doi.org/10.2471/BLT.07.042226>.
- Bhandari, Nita, Sarmila Mazumder, Sunita Taneja, Halvor Sommerfelt, Tor A Strand, and IMNCI Evaluation Study Group. 2012. "Effect of Implementation of Integrated Management of Neonatal and Childhood Illness (IMNCI) Programme on Neonatal and Infant Mortality: Cluster Randomised Controlled Trial." *BMJ (Clinical Research Ed.)* 344 (March): e1634. <https://doi.org/10.1136/BMJ.E1634>.
- Bhutta, Zulfi a, Jai K Das, Arjumand Rizvi, Michelle F Gaff, Neff Walker, Susan Horton, Patrick Webb, Anna Lartey, and Robert E Black. 2013. "Maternal and Child Nutrition 2: Evidence-Based Interventions for Improvement of Maternal and Child Nutrition : What Can Be Done and at What Cost ?" *The Lancet* 6736 (13): 1–26. [https://doi.org/10.1016/S0140-6736\(13\)60996-4](https://doi.org/10.1016/S0140-6736(13)60996-4).
- Black, Robert E, Cesar G Victora, Susan P Walker, Zulfiqar A Bhutta, Parul Christian, Mercedes de Onis, Majid Ezzati, et al. 2013. "Maternal and Child Undernutrition and Overweight in Low-Income and Middle-Income Countries." *The Lancet* 382 (9890): 427–51. [https://doi.org/10.1016/S0140-6736\(13\)60937-X](https://doi.org/10.1016/S0140-6736(13)60937-X).
- Bryce, Jennifer, Eleanor Gouws, Taghreed Adam, Robert E Black, Joanna Armstrong Schellenberg, Fatuma Manzi, Cesar G Victora, and Jean-Pierre Habicht. 2005. "Improving Quality and Efficiency of Facility-Based Child Health Care through Integrated Management of Childhood Illness in Tanzania." *Health Policy and Planning* 20 (suppl\_1): i69–76. <https://doi.org/10.1093/heapol/czi053>.
- Bush, Anne, and Jane Keylock. 2018. "Strengthening Integration of Nutrition Interventions within Health Sector Programmes: An Evidence-Based Planning Resource." European Commission.
- Ching, Pamela, Maureen Birmingham, Tracey Goodman, Roland Sutter, and Benjamin Loevinsohn. 2000. "Childhood Mortality Impact and Costs of Integrating Vitamin A Supplementation Into Immunization Campaigns." *American Journal of Public Health* *Am J Public Health* 9090 (10): 1526–29. <http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.90.10.1526>.
- Fagerli, Kirsten, Katherine O'Connor, Sunkyung Kim, Maureen Kelley, Aloyce Odhiambo, Sitnah Faith, Ronald Otieno, Benjamin Nygren, Mary Kamb, and Robert Quick. 2017. "Impact of the Integration of Water Treatment, Hygiene, Nutrition, and Clean Delivery Interventions on Maternal Health Service Use." *The American Journal of Tropical Medicine and Hygiene* 96 (5): 16–0709. <https://doi.org/10.4269/ajtmh.16-0709>.
- Fenn, Bridget, Tim Colbourn, Carmel Dolan, Silke Pietzsch, Murtaza Sangrasi, and Jeremy Shoham. 2017. "Impact Evaluation of Different Cash-Based Intervention Modalities on Child and Maternal Nutritional Status in Sindh Province, Pakistan, at 6 Mo and at 1 y: A Cluster Randomised Controlled Trial." Edited by Margaret E. Kruk. *PLOS Medicine* 14 (5): e1002305. <https://doi.org/10.1371/journal.pmed.1002305>.
- Forouzanfar, Mohammad H, Lily Alexander, H Ross Anderson, Victoria F Bachman, Stan Biryukov, Michael Brauer, Richard Burnett, et al. 2015. "Global, Regional, and National Comparative Risk Assessment of 79 Behavioural, Environmental and Occupational, and Metabolic Risks or Clusters of Risks in 188 Countries, 1990–2013: A Systematic Analysis for the Global Burden of Disease Study 2013." *The Lancet* 386 (10010): 2287–2323. [https://doi.org/10.1016/S0140-6736\(15\)00128-2](https://doi.org/10.1016/S0140-6736(15)00128-2).
- Gowani, Saima, Aisha K. Yousafzai, Robert Armstrong, and Zulfiqar A. Bhutta. 2014. "Cost Effectiveness of



- Responsive Stimulation and Nutrition Interventions on Early Child Development Outcomes in Pakistan.” *Annals of the New York Academy of Sciences* 1308 (1): 149–61. <https://doi.org/10.1111/nyas.12367>.
- Grellety, Emmanuel, Pélagie Babakazo, Amina Bangana, Gustave Mwamba, Ines Lezama, Noël Marie Zagre, and Eric-Alain Ategbo. 2017. “Effects of Unconditional Cash Transfers on the Outcome of Treatment for Severe Acute Malnutrition (SAM): A Cluster-Randomised Trial in the Democratic Republic of the Congo.” *BMC Medicine* 15 (1): 87. <https://doi.org/10.1186/s12916-017-0848-y>.
- Health Finance & Governance Project. 2017. “Health Systems Assessment Approach A How-To Manual. Version 3.0.” <https://hsaamannual.org/download-the-pdf/>.
- Hodges, Mary H, Fatmata F Sesay, Habib I Kamara, Emmanuel D Nyorkor, Mariama Bah, Aminata S Koroma, Joseph N Kandeh, et al. 2015. “Integrating Vitamin A Supplementation at 6 Months into the Expanded Program of Immunization in Sierra Leone.” *Maternal and Child Health Journal* 19 (9): 1985–92. <https://doi.org/10.1007/s10995-015-1706-1>.
- Jhpiego, PATH, ICF International, Pathfinder International, and the U.S. Agency for International Development. 2017. “Maternal Infant and Young Child Nutrition and Family Planning (MIYCN-FP) Integration Toolkit.” 2017. <https://toolkits.knowledgesuccess.org/toolkits/miycn-fp/about>.
- Klemm, Rolf D W, Ellen E Villate, Chato Tuazon-Lopez, and Adelisa C Ramos. 1996. “Coverage and Impact of Adding Vitamin A Capsule (VAC) Distribution to Annual National Immunization Day in the Philippines.” [http://pdf.usaid.gov/pdf\\_docs/pnacn875.pdf](http://pdf.usaid.gov/pdf_docs/pnacn875.pdf).
- Maternal and Child Nutrition Study Group. 2013. “Executive Summary of the Lancet Maternal and Child Nutrition Series.” *The Lancet*, 1–12. <http://www.thelancet.com/pb/assets/raw/Lancet/stories/series/nutrition-eng.pdf>.
- Mazumder, Sarmila, Sunita Taneja, Rajiv Bahl, Pavitra Mohan, Tor A Strand, Halvor Sommerfelt, Betty R Kirkwood, et al. 2014. “Effect of Implementation of Integrated Management of Neonatal and Childhood Illness Programme on Treatment Seeking Practices for Morbidities in Infants: Cluster Randomised Trial.” *BMJ (Clinical Research Ed.)* 349 (August): g4988. <https://doi.org/10.1136/BMJ.G4988>.
- Nguyen, Phuong Hong, Sunny S Kim, Tina Sanghvi, Zeba Mahmud, Lan Mai Tran, Sadia Shabnam, Bachera Aktar, et al. 2017. “Integrating Nutrition Interventions into an Existing Maternal, Neonatal, and Child Health Program Increased Maternal Dietary Diversity, Micronutrient Intake, and Exclusive Breastfeeding Practices in Bangladesh: Results of a Cluster-Randomized Program Evaluation.” *The Journal of Nutrition* 147 (12): 2326–37. <https://doi.org/10.3945/jn.117.257303>.
- NIPN. 2019. “National Information Platforms for Nutrition Guidance Notes.” 2019. <http://www.nipn-nutrition-platforms.org/NIPN-Guidance-Notes>.
- Salam, Rehana A., Jai K. Das, and Zulfiqar A. Bhutta. 2019. “Integrating Nutrition into Health Systems: What the Evidence Advocates.” *Maternal & Child Nutrition* 15 (January): e12738. <https://doi.org/10.1111/mcn.12738>.
- Schellenberg, Joanna RM Armstrong, Taghreed Adam, Hassan Mshinda, Honorati Masanja, Gregory Kabadi, Oscar Mukasa, Theopista John, et al. 2004. “Effectiveness and Cost of Facility-Based Integrated Management of Childhood Illness (IMCI) in Tanzania.” *The Lancet* 364 (9445): 1583–94. [https://doi.org/10.1016/S0140-6736\(04\)17311-X](https://doi.org/10.1016/S0140-6736(04)17311-X).
- Shekar, Meera, Julie Ruel-Bergeron, and Anna Herforth. 2013. “Improving Nutrition Through Multisectoral Approaches: Chapter A.” <http://documents.worldbank.org/curated/en/625661468329649726/pdf/75102-REVISED-PUBLIC-MultisectoralApproachestoNutrition.pdf>.
- Shrimpton, Roger, Roger Hughes, Elisabetta Recine, John B Mason, David Sanders, Geoffrey C Marks, and Barrie Margetts. 2013. “Nutrition Capacity Development: A Practice Framework.” *Public Health Nutrition*, 1–7. <https://doi.org/10.1017/S1368980013001213>.
- Singh, Veena, Saifuddin Ahmed, Michele L. Dreyfuss, Usha Kiran, Deepika N. Chaudhery, Vinod K. Srivastava, Ramesh C. Ahuja, et al. 2017. “Non-Governmental Organization Facilitation of a Community-Based Nutrition and Health Program: Effect on Program Exposure and Associated Infant Feeding Practices in

- Rural India.” Edited by Jacobus P. van Wouwe. *PLOS ONE* 12 (9): e0183316. <https://doi.org/10.1371/journal.pone.0183316>.
- SUN Donor Network. 2013. “Methodology and Guidance Note to Track Global Investments in Nutrition.” [http://docs.scalingupnutrition.org/wp-content/uploads/2013/12/RESOURCE\\_TRACKING\\_METHODODOLOGY\\_SUN\\_DONOR\\_NETWORK.pdf](http://docs.scalingupnutrition.org/wp-content/uploads/2013/12/RESOURCE_TRACKING_METHODODOLOGY_SUN_DONOR_NETWORK.pdf).
- SUN UN Network. 2016a. “Nutrition Capacity Assessment Guidance Package-Part II Tools and Resources.” <https://www.reachpartnership.org/documents/312104/0/CA+Guidance+Package++Tools+and+Resources-EN.pdf?version=1.0>.
- . 2016b. “Nutrition Capacity Assessment Guidance Package - Part I Guidance Note.” <https://www.reachpartnership.org/documents/312104/dc7e2066-93ab-4a8f-82c7-fba3e4d24163>.
- UNICEF. 1990. “Strategy for Improved Nutrition of Children and Women in Developing Countries.” New York, NY. <http://repository.forcedmigration.org/pdf/?pid=fmo:3066>.
- . 1998. “The State of the World’s Children 1998.” Edited by United Nations Children’s Fund. New York, NY, USA: Oxford University Press. <https://www.unicef.org/sowc/archive/ENGLISH/The State of the World%27s Children 1998.pdf>.
- UNICEF & MSH. 2012. “Strengthening District Management Capacity for Planning, Implementation and Monitoring for Results with Equity: Diagnose, Intervene, Verify, Adjust (DIVA).” [https://www.childhealthtaskforce.org/sites/default/files/2019-06/DIVA\\_Guidebook\\_Strengthening\\_District\\_Management\\_for\\_Results\\_with\\_Equity\\_%28UNICEF%2C\\_MSH%2C\\_2012%29.pdf](https://www.childhealthtaskforce.org/sites/default/files/2019-06/DIVA_Guidebook_Strengthening_District_Management_for_Results_with_Equity_%28UNICEF%2C_MSH%2C_2012%29.pdf).
- USAID, FANTA, FHI 360, CoreGroup, and Save the Children. 2015. “Nutrition Program Design Assistant: A Tool for Program Planners (NPDA).” Washington D.C. <https://coregroup.org/wp-content/uploads/media-backup/documents/Resources/Tools/NPDA/NPDA-Workbook-April2015.pdf>.
- Wellesley, Laura, Jason Eis, Cor Marijs, Caroline Vexler, Florence Waites, and Tim G Benton. 2020. “The Business Case for Investment in Nutrition (Chatham House Report).” [www.chathamhouse.org](http://www.chathamhouse.org).
- WHO. 2007. “Everybody’s Business: Strengthening Health Systems to Improve Health Outcomes, WHO’s Framework for Action.” [http://www.who.int/healthsystems/strategy/everybodys\\_business.pdf](http://www.who.int/healthsystems/strategy/everybodys_business.pdf).
- . 2010. “Essential Newborn Care Course Trainer’s Guide.” [https://apps.who.int/iris/bitstream/handle/10665/70540/WHO\\_MPS\\_10.1\\_Trainers\\_guide\\_eng.pdf?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/70540/WHO_MPS_10.1_Trainers_guide_eng.pdf?sequence=1).
- . 2014a. “IMCI Chart Booklet.” [https://apps.who.int/iris/bitstream/handle/10665/104772/9789241506823\\_Chartbook\\_eng.pdf?sequence=16](https://apps.who.int/iris/bitstream/handle/10665/104772/9789241506823_Chartbook_eng.pdf?sequence=16).
- . 2014b. “Indicators for the Global Monitoring Framework on Maternal, Infant and Young Child Nutrition.” [https://www.who.int/nutrition/topics/indicators\\_monitoringframework\\_miygn\\_background.pdf?ua=1](https://www.who.int/nutrition/topics/indicators_monitoringframework_miygn_background.pdf?ua=1).
- . 2014c. “Planning and Costing Nutrition Actions: The OneHealth Tool.” WHO. WHO. [http://www.who.int/nutrition/publications/onehealth\\_tool/en/](http://www.who.int/nutrition/publications/onehealth_tool/en/).
- . 2016. “WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience.” WHO. World Health Organization.
- . 2019a. “Essential Nutrition Actions: Mainstreaming Nutrition Through the Life-Course.” <https://apps.who.int/iris/bitstream/handle/10665/326261/9789241515856-eng.pdf?ua=1>.
- . 2019b. “Nutrition in Universal Health Coverage.” <https://www.who.int/publications/i/item/WHO-NMH-NHD-19.24>.
- . 2020a. “E-Library of Evidence for Nutrition Actions (ELENA).” 2020. <https://www.who.int/elena/titles/en/>.
- . 2020b. “Global Database on the Implementation of Nutrition Action (GINA).” 2020. <https://extranet.who.int/nutrition/gina/>.
- . 2020c. “Nutrition Landscape Information System (NLIS).” 2020. <https://www.who.int/nutrition/nlis/en/>.

## Annex 1: Key terms

Term	Meaning
Antenatal care	Care to ensure health of mother and baby during pregnancy. Nutrition services that should or could be included: daily iron-folic acid supplementation, nutritional counselling on healthy diet and perhaps energy and protein supplements and/or calcium supplements to reduce the risk of pre-eclampsia (WHO 2016).
<a href="#">Cash transfer or voucher</a>	Direct transfers that are sometimes conditional—given upon participation in nutrition interventions. Families can also be steered towards using this ‘income’ to benefit nutrition.
<a href="#">Child Health Days/Weeks</a>	Events that may offer immunisations, deworming, malaria prevention measures, vitamin A and/or growth monitoring and promotion.
Community health workers (CHWs)	Community health aides that are selected, trained and working in their communities.
<a href="#">Early childhood development</a>	Programmes that emphasise early childhood, a critical stage of development that is the foundation for future well-being and learning, as well as the key to a full and productive life and the growth of a nation. Definitions differ, but it can span from birth to 3 years old or longer. These programmes can address underlying drivers of malnutrition and be a platform for near-term improvements (e.g. responsive feeding is a key young child feeding practice; self-feeding is a key developmental milestone).
Essential newborn care	A strategy to improve health in the first week of life. Nutrition services that are or should be included: creating a breastfeeding-enabling environment, supporting early initiation of breastfeeding, establishing breastfeeding in such a way as to support maintaining it, optimal timing of umbilical cord clamping, and enabling immediate skin-to-skin contact and kangaroo mother care for small infants (WHO 2010).
Exclusive breastfeeding	Practice where the infant receives only breast milk (i.e. no other liquids or solids). This is meant to be maintained for the first 6 months of life.
Health system strengthening	Identification and implementation of changes in policy and practice in a health system so that a country can respond better to its health challenges. This array of strategies improves one or more functions of the health system and leads to better health through improvements in access, coverage, quality or efficiency.
<a href="#">Immunisation</a>	Campaigns and routine immunisation contacts that can provide interventions (e.g. vitamin A).
<a href="#">Integrated community case management</a>	Strategy to train, support and enable CHWs to diagnosis and treat multiple childhood illnesses (specifically, pneumonia, diarrhoea and malaria) for those with difficult access to facilities. Within, it should assess and treat malnutrition, as a childhood illness.
<a href="#">Integrated Management of Childhood Illness</a>	This integrated approach involves preventive and curative actions (including assessing and treating malnutrition) taken by families, communities and facilities, in order to reduce death, illness and disability and to promote improved growth and development in the child under 5 years old (WHO 2014a).
Malaria	A life-threatening disease caused by parasites transmitted to people through the bites of infected female <i>Anopheles</i> mosquitoes. It can cause inflammation leading to anaemia.
Malnutrition	Deficiencies, excesses or imbalances in a person’s intake of energy and/or micronutrients and the nutritional results of these.
<a href="#">Moderate acute malnutrition</a> (a level of wasting)	Moderate wasting (i.e. weight-for-height Z-scores between –3 and –2 of the WHO child growth standards median) and/or mid-upper arm circumference greater or equal to 115 mm and less than 125 mm. Treatment is provided in the community. It can indicate a recent and dramatic process of weight loss, often from illness, or it can be the result of a chronic unfavourable condition.
Nutrition-sensitive	Interventions conducted for other purposes but having nutrition-related objectives and activities and addressing (or at least trying to minimise harm from/to) the underlying (i.e. food, health, care) or structural (i.e. sociocultural, economic and other factors) drivers of malnutrition. Some definitions also require that these must be aimed at individuals (women, adolescent girls or children) (Maternal and Child Nutrition Study Group 2013; Shekar, Ruel-Bergeron, and Herforth 2013; UNICEF 1998; SUN Donor Network 2013).
Nutrition-specific	Interventions to address the immediate causes of undernutrition (i.e. inadequate dietary intake and illness), often caused by inadequacies in food, health and care.
Sexual and Reproductive Health	Area of care whose contacts can be a platform for nutrition services. Birth spacing <a href="#">can protect nutrition</a> , and exclusive breastfeeding is the crux of the lactational amenorrhea method of family planning.
<a href="#">Severe acute malnutrition</a> (a level of wasting)	Very low weight-for-height Z-scores (below –3 of the WHO child growth standards median), visible severe wasting or the presence of nutritional oedema. Though complicated cases are treated as inpatient, there is a movement to treat less-complex cases in the community, with links to a facility as needed.
Stunting	Inadequate length- or height-for-age Z scores (-2 from the WHO child growth standards median). Stunting is often due to insufficient preventive healthcare and unhygienic environments, poor maternal nutrition and inappropriate care and feeding, with other underlying and basic causes.
Water, sanitation and hygiene (WASH)	Hygiene and sanitation practices amongst household members that play a critical role in nutrition. <a href="#">WASH</a> programmes can be a platform for nutrition interventions, as well.

## Annex 2: Tools to support nutrition-inclusive health systems

Tools
<b><a href="#">Nutrition capacity development: a practice framework</a></b> : Workable conceptual framework that supports systematically assessing needs and creating capacity-development plans, recognising the range of factors determining capacity at system, organisational, workforce and community levels (Shrimpton et al. 2013).
<b><a href="#">Strengthening District Management Capacity for Planning, Implementation and Monitoring for Results with Equity: Diagnose, Intervene, Verify, Adjust (DIVA)</a></b> : Approach to help identify (within the regular planning cycle) where to strengthen decentralised health systems and enhance district management capacity for planning, implementation and monitoring for results. It supports identifying and responding to bottlenecks in supply and demand, such as in health; WASH; and nutrition (UNICEF & MSH 2012).
<b><a href="#">Essential Nutrition Actions: Mainstreaming Nutrition Through the Life-Course</a></b> : Comprehensive compilation of ENAs, for use in intensifying action to address all forms of malnutrition. Its checklist can help identify appropriate interventions and details the recommendation, key evidence, key implementation actions, considerations and contributions to global targets (WHO 2019a).
<b><a href="#">e-Library of Evidence for Nutrition Actions (eLENA)</a></b> : Library organising WHO guidance and evidence on nutrition (WHO 2020a).
<b><a href="#">Global Database on the Implementation of Nutrition Action (GINA)</a></b> : Database that provides information on nutrition policies and interventions in a country over time (WHO 2020b).
<b><a href="#">Health System Assessment Approach</a></b> : Manual diagnosing the relative strengths and weaknesses in a health system, prioritising key areas to strengthen, identifying potential solutions, informing stakeholders about the basic elements and functions of health systems and assisting ministries of health and partners to conceptualise key issues (Health Finance & Governance Project 2017).
<b><a href="#">Health System Strengthening From Diagnosis To Planning Guide</a></b> : Guide providing an overview of health system strengthening and describing planning steps. It aims at creating a common vision and identifying the weaknesses and strengths of the system, to then define solutions and activities to strengthen the health system and enhance its resilience (Action Against Hunger 2017).
<b><a href="#">Integrated Management of Childhood Illness (IMCI) Chart Booklet</a></b> : Booklet for health professionals' use in providing care to children, applying the IMCI case management process; it provides the sequence of all case management steps (WHO 2014a).
<b><a href="#">Indicators for the Global Monitoring Framework on Maternal, Infant and Young Child Nutrition</a></b> : Framework laying out indicators from biological outcomes to coverage, to underlying and structural drivers—such as access to health services, and the political environment (WHO 2014b).
<b><a href="#">Maternal Infant and Young Child Nutrition and Family Planning (MIYCN-FP) Integration Toolkit</a></b> : Toolkit to help effectively integrate these services, containing global and country-specific materials to inform advocacy and assist with the design of evidence-based programmes; job aids, curricula and other tools to increase effectiveness and quality; and publications detailing key implementation processes and lessons learnt (Jhpiego, PATH, ICF International, Pathfinder International 2017).
<b><a href="#">Nutrition Program Design Assistant, Version 2</a></b> : This reference guide and workbook helps the user understand the situation (anthropometry, infant and young child and maternal nutrition, micronutrient status and disease burden), select programme approaches and record decisions and rationale, to design the nutrition component of programmes (USAID et al. 2015).
<b><a href="#">Nutrition Capacity Assessment Guidance Note &amp; Tool</a></b> : Resources that can help support countries to comprehensively assess capacity needs for effective scale-up of nutrition actions, explain the assessment process and provide tools relevant for planning, diagnostics, analysis and capacity-development design (SUN UN Network 2016a, 2016b).
<b><a href="#">National Information Platforms for Nutrition (NIPN)</a></b> : Initiative providing countries with support to strengthen their nutrition information systems and to improve the analysis of data to better inform strategic decisions to prevent malnutrition (NIPN 2019).
<b><a href="#">Nutrition Landscape Information System (NLIS)</a></b> : Web-based tool that brings data from UN agencies, Demographic and Health Surveys and other sources into automated country profiles and user-defined downloadable data, with indicators ranging from stunting to government health expenditure to gender parity in education (WHO 2020c).
<b><a href="#">Planning and costing nutrition actions: the OneHealth Tool</a></b> : Software tool to help develop national health plans, link targets to required human and financial investments), cost and budget, and analyse scenarios and health impacts of the investments. Its nutrition module includes default values for the ENAs and other nutrition-related health and WASH interventions (WHO 2014c).

### About MQSUN+

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