Invisible pursuit:

Global policy guidance on care of vulnerable infants under six months and their mothers

A scoping review

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Target audience

We expect that the content of this scoping review will be of interest to public health policy-makers, expert health and nutrition advisers, and technical healthcare professionals responsible for or involved in the care of vulnerable infants under six months and their mothers, across policy, research and practice.

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Contributors statement

MMG and HD conceptualised the review. AS undertook the first policy guidance search and classification, led by SVW. SVW, supported by EB, undertook a further classification and documentation of our process, led by HD, in consultation with MMG. Responsive methodology development was led by HD and MMG. The discussion and conclusions were informed by co-author discussions led by MMG and HD.

Key words

Newborn, infant, vulnerable, small, nutritionally at risk, mother, malnourished, underweight, continuity of care, quality, policy guidance, guideline, implementation.

Summary

Many infants are born vulnerable, or become so in the first six months of their lives. These infants are more susceptible to malnutrition and disease, and therefore are at greater risk of poor growth and development, long-term ill-health and increased mortality. The wellbeing of an infant is intimately connected with that of their mother, and so is their care. Vulnerable infants under six months (u6m) may be described by different stakeholders and present to services in many ways. There is a need for comprehensive and respectful person-centred care for vulnerable infants u6m and their mothers. However, care is complex since it involves multiple disciplines and actors across health, nutrition and social services.

To maximise time-sensitive opportunities that currently exist for greater policy guidance in this area, we undertook a scoping review to investigate the nature and coherence of global policy guidance relevant to the care of vulnerable infants u6m and their mothers. We used the MAMI Care Pathway (an integrated care pathway approach) as a guiding framework to appraise how, for whom, and to what extent policy guidance supports person-centred continuity of care for vulnerable infants u6m and their mothers.

We used an iterative, responsive methodological approach. We characterised and cross-examined 83 global policy guidance documents (identified through public search, contacts and snowballing). Through several steps and phases, we eventually pinpointed 34 policy guidance documents (13 guidelines and 21 guidance) for our full appraisal.

In this process we identified 46 'vulnerability factors', which we then consolidated into 28 vulnerability factors that we used to assess policy guidance coverage. The most frequently addressed vulnerability factors (present in more than half of policy guidance) were associated with small and/or sick newborns (i.e., congenital illness, low birth weight (LBW), preterm), infants' breastfeeding difficulties and illness, and mothers' illness, breastfeeding conditions and multiple births. Overall, congenital illness was most often identified as a vulnerability marker, while infants' mental health and mothers' adolescent and anthropometry status was least often identified as such.

We then identified 11 'dimensions of care' for various 'conditions' and assessed and reflected on their essence and spread across guidance. This varied widely in scope and depth.

Content tended to centre on conditions rather than people. Integration ambition dealt more with integration within services than between services, with little guidance on the 'how'. Wider multisectoral engagement was poorly addressed in the policy documents. Most guidelines (20 out of 21) explicitly targeted the infant, while seven incorporated maternal aspects.

We suspected and found that identifying relevant policy guidance on care of vulnerable infants u6m and their mothers was a fuzzy, messy and unpredictable process. We uncovered much valuable content but we found that variable approaches and descriptors obscure what is there. Low coverage of poor growth as a marker of risk was a surprising shock that needs sorting, especially for infants with LBW. Big gaps in maternal policy guidance also need to be addressed and women's care embedded in infant-centric guidance.

We urgently need greater policy coherence to guide coherent practice. To help practitioners navigate the policy that exists it would be helpful to have a 'live' World Health Organisation (WHO) led policy platform to 'join up the dots', see what exists and what does not exist, and to maximise the rich potential of 'living guidelines'. This will require institutional commitment and resourcing for inter-departmental collaboration.

The reality is that global guidance will continue to develop along specialities. Those developing policy guidance at country level will need the wit and the will to amalgamate what exists into feasible practical guidance for services. A person-centred approach across sectors and specialities is needed and will help to convene services based on what people need rather than on what we can do.

A critical window currently exists to connect the global LBW, integrated management of childhood illness (IMCI), small and/or sick newborn (SSN), and wasting guidance development processes and the risk stratification initiative that is underway at WHO, and to apply a person-centred lens and approach to United Nations-led initiatives to support guidance update at the national level. We are hopeful about the potential the that could flow from such an approach. We welcome opportunities to share further details of what we found in our review (and how we did it) and we are committed to working with and within all due processes at global and country levels wherever this would be helpful. This is an urgent need. We cannot unsee what we have seen. We feel a sense of responsibility. We commit to report back on what happened next (or not).

Abbreviations

CCC	Clinical Care in Crises
ECD	Early childhood development
ENN	Emergency Nutrition Network
HC	Head circumference
IM(N)CI	Integrated Management of (Newborn) and Childhood Illness
LBW	Low birth weight
LSHTM	London School of Hygiene and Tropical Medicine
M&E	Monitoring and evaluation
MAMI	Management of small and nutritionally at risk infants and their mothers
MUAC	Mid-upper arm circumference
OECD	Organisation for Economic Co-operation and Development
PAHO	Pan American Health Organization
PRISMA-ScR	Preferred Reporting Items for Systematic Reviews and Meta-Analysis extension for Scoping Reviews
SGA	Small for gestational age
SSN	Small and/or sick newborn
u6m	Infant under 6 months of age
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency of International Development Agency
WAZ	Weight-for-age z score
WHO	World Health Organization
WH(L)Z	Weight-for-height (length) z score

Contents

Summary ii

Abbreviations iii

Contents 1

1 Why did we do it? 2

1.1 The burden 3
1.2 The complexities 3
1.3 A timely window of opportunity 3
1.4 Contribution to a collective effort 4
1.5 Navigating the review 4

2 How did we do it? 5

2.1 Guiding framework, key terms and working definitions 6
2.2 Inclusion criteria 7
2.3 Search strategy 8
2.4 Guidance screening and selection 8
2.5 Data extraction and synthesis 9
2.6 Boundaries 9

3 What did we find? 10

3.1 Selected policy guidance 11
3.2 Characteristics of policy guidance 12
3.3 Descriptors of vulnerability 13
3.4 Policy guidance content on continuity of care 16

4 Emerging considerations: to what extent does current policy guidance support continuity of care for vulnerable infants and their mothers, and to what extent could it do so? 20

4.1 Unpredictability of policy guidance content 21
4.2 Hidden from view 21
4.3 Missing health and nutrition of mothers 22
4.4 Newborn vulnerable babies – what happens next? 22
4.5 Continuity of care – present in principle, missing in practice 23
4.6 Poor growth reflects more than poor nutrition 23

5 Looking ahead: to what extent could policy guidance support continuity of care? 24

5.1 Some considerations 25
5.2 Global-level suggestions 25
5.3 Implications for uptake of guidance at national level by health managers and practitioners 27

6 Conclusions: joining the dots, filling the gaps 28

References 30

Annexes 32

1
Why did we do it?

This scoping review was undertaken to explore the extent to which global policy guidance currently supports continuity of care of vulnerable infants under six months and their mothers, and the extent to which it could do so.

1.1 The burden

Many infants are born vulnerable, or become so in the first six months of their lives. These infants are more susceptible to malnutrition and disease, and therefore are at greater risk of poor growth and development, long-term ill-health and increased mortality [2]. An estimated 8.9 million babies (14.6%) are born with low birth weight (LBW) each year [3], which carries short- and long-term risks, especially for premature babies at lower gestational age [2]. In low- and middle-income countries, an estimated 9.2 million (15.5%) infants under six months (u6m) are wasted, 10.3 million (17.4%) are underweight, and 11.8 million (19.9%) are stunted [4]. Experiencing an episode of wasting, particularly in the first three months of life, increases the risk of subsequent, and persistent, wasting, and concurrent wasting and stunting as children age [5, 6]. This poor start to life contributes to the global burden of 45 million children under five years of age who are wasted and 149 million who are stunted [7], affecting health outcomes in current and future generations and losing individual and community potential [5, 8].

1.2 The complexities

Vulnerable infants u6m may be described in many ways, including as newborns with LBW, especially those born preterm or small for gestational age (SGA); infants identified with wasting or acute malnutrition, stunting or underweight; nutritionally at risk; with acute or chronic illness; with disability or other growth and development concerns; and whose mothers have nutrition, physical or mental health or social challenges. We have used the term 'vulnerable' as it feels like the most accessible and holistic term, but other terms may work too; please interpret within the spirit of our intent, rather than limit your understanding to 'technical' definitions.

Comprehensive and respectful, quality person-centred care for vulnerable infants u6m and their mothers is needed [9]. Awareness, ambition and progress towards securing this has improved over the past 10 years but it remains challenging to deliver and limited in coverage [10]. Currently, care for infants u6m is scattered across care processes, with various communities of practice focusing on different vulnerable infant and mother subgroups, such as infants with LBW or prematurity, sick newborns, malnourished infants, and adolescent mothers. These communities produce condition-specific guidelines and implementation resources that are developed by specialists through diverse and often disconnected approaches. Lack of overlap in personnel, structures, implementation strategies or dissemination channels means nutrition practitioners may be unaware of relevant health guidance and health practitioners may be unaware of nutrition guidance. Even within specialities, worlds may not overlap [2]. Since vulnerable infants are described in different ways, commonalities and relevance across care disciplines may be masked. Care is complex since it involves multiple disciplines and actors across health, nutrition and social services.

1.3 A timely window of opportunity

Global guidelines make evidence-based recommendations on which global and national implementation guidance are based, and this guidance itself then informs practice. There have been several important global policy developments related to vulnerable infants u6m and their mothers in recent years, with more underway. For example, in 2013, the World Health Organization (WHO) addressed a critical guideline gap by recommending outpatient care for medically uncomplicated wasting in infants u6m [11, 12]. The recently published 2023 WHO guideline on wasting and nutritional oedema in children [13] has broadened the scope to include not only infants u6m with clinical signs of malnutrition but also those at risk of poor growth and development. It combines prevention and treatment and includes maternal health and nutrition to centre care on the mother–infant pair throughout the first six months of life. Moreover, the guideline recommendations focus on infants aged from one to six months, deferring care in the first month to WHO recommendations on maternal and newborn care [14], including preterm and LBW infant care [15].

> *"Care is complex since it involves multiple disciplines and actors across health, nutrition and social services."*

We are aware of several WHO and United Nations Children's Fund (UNICEF) initiatives within health and nutrition that are now underway to support the uptake of different guidelines in practice. These include the development of global programme guidance for nutritional management of infants at risk of poor growth and development (UNICEF), the development of implementation guidance for the 2023 wasting guidelines (WHO-UNICEF) and small and/or sick newborn (SSN) guidelines (WHO), and a WHO–UNICEF partnership to support uptake of the 2023 wasting guideline at country level (UNICEF, WHO and others). We understand that an update of the integrated management of childhood illness (IMCI) guidelines is also planned by WHO. Finally, WHO is nearing completion on pooled cohort data analysis it is leading to inform child mortality risk stratification, with the aim of informing global guidelines and their derivatives [16].

To maximise on the time-sensitive opportunities that currently exist to secure policy guidance coherence, we undertook a scoping review to investigate the nature and coherence of global policy guidance relevant to the continuity of care of vulnerable infants u6m and their mothers.

1.4 Contribution to a collective effort

The MAMI Global Network, an international community of health and nutrition practitioners, researchers and policy-makers, coordinated and co-chaired by ENN, actively supports the collective development of evidenced policy and practice to improve the care of vulnerable (small and nutritionally at risk) infants u6m and their mothers. We, and many of our network members, are involved in the development of guidelines and implementation guidance at global, regional and national levels. This scoping review reflects ENN's commitment to this collective effort.

In the review we explored the extent to which global policy guidance supports continuity of care of vulnerable infants u6m and their mothers, and the extent to which it could do. We did this by investigating four questions:

1. What are the characteristics of policy guidance related to vulnerable infants u6m and their mothers?
2. How is vulnerability in infants u6m and their mothers described?
3. How is continuity of care for vulnerable infants u6m and their mothers conceptualised?
4. What are emerging considerations for developing policy guidance that address vulnerable infants u6m and their mothers?

1.5 Navigating the review

The report is organised as follows. Section 2 describes the methods used in the scoping review. Section 3 first presents the process conducted to select the global policy guidance included in the review. It then addresses questions 2 and 3 about the characteristics of the selected policy guidance and the descriptors of vulnerability and continuity of care reflected in them. Section 4 addresses the fourth question on considerations for developing policy guidance related to vulnerable infants u6m and their mothers. Section 5 looks at the extent to which policy guidance could further support continuity of care in the future. This is followed by an overall conclusion.

The Annexes present working definitions in Annex 1, search terms used for finding policy guidance in Annex 2, bibliography of all selected key policy guidance on care for vulnerable infants u6m and their mothers in Annex 3, and variables used in the analyses in Annex 4. Supplementary Table 1 is included in Annex 5. Full databases are available on request. An online repository of collated priority guidance is available here.

> *"We, and many of our network members, are involved in the development of guidelines and implementation guidance at global, regional and national levels. This scoping review reflects ENN's commitment to this collective effort."*

2
How did we do it?

We explored different types of global policy guidance, from multiple sources, that relate to the care of vulnerable infants u6m and their mothers, to identify key concepts and research gaps to inform policies, practice and research in the future.

We chose the scoping review method due to its valuable qualities in developing maps of complex subjects [17]. The 'population, concept, and context' (PCC) mnemonic assisted in constructing clear inclusion criteria [18]. We used the Preferred Reporting Items for Systematic Reviews and Meta-Analysis extension for Scoping Reviews (PRISMA-ScR) as a guideline for reporting [18].

We embraced the complexity of this field by adopting an iterative, responsive approach in our exploration [19]. We used a 'learning by doing' approach, constantly refining our thinking processes to reflect and adapt to the reality of our findings. We began by using a published national scoping review protocol to help conceptualise and initially frame this global-level review [20]. We relied on our collective expertise and reviewers to pragmatically consider what is feasible and useful for practice-informed policy interpretation, implementation and development. Our pragmatic practitioner lens informed strategic decisions about how to categorise, prioritise, map and synthesise findings.

'We' involved a team (co-authors) who have experience in developing global and national policy guidelines and guidance relating to nutrition and health (HD, MMG) and in conducting scoping reviews (HD, MMG, SVW, EB, AS) and external reviewers with technical expertise and practical experience (LD, MM, PW, AW, ND). We shared our rationale, objectives and approach with WHO experts involved in developing guidance on wasting and poor growth, breastfeeding and SSN and we invited input and collaboration.

"We embraced the complexity of this field by adopting an iterative, responsive approach in our exploration."

2.1 Guiding framework, key terms and working definitions

Guiding framework. The MAMI Care Pathway is an integrated care pathway approach [21] presented as a package of resources for contextualisation, initially developed by global peers under the MAMI Global Network to support implementation of the *2013 WHO updated recommend*ations on the management of infants u6m in outpatient care. It is consistent with the latest recommendations of the 2023 WHO guideline on the management of infants u6m at risk of poor growth and development (see blog, September 2023) [22].

We used the MAMI Care Pathway as a guiding framework to appraise how, for whom, and to what extent policy guidance supports comprehensive and respectful quality person-centred care for vulnerable mother–infant pairs [23]. For example, we began by considering the dimensions of continuity of care that are reflected in the MAMI Care Pathway approach for "small and nutritionally at risk" infants u6m and we built upon these throughout the process, based on what we learned and what was feasible to undertake.

Key terms and working definitions. Key terms used in this review are described in Box 1 and working definitions are shared in Annex 1. Box 1 also gives the types of policy guidance classification used in the review.

Reflexivity statement. Our intended users are those developing global policy guidance and those seeking to use it for, e.g., developing implementation guidance, or national guidance updates or uptake. We include ourselves as users. We recognise that our experiences, assumptions and perceptions have influenced the results of this work, and we have declared this wherever possible [24]; this brings both potential bias and added value. Throughout, we have considered the diverse needs and contexts of the intended users as the guiding principle of the review.

Box 1: Key terms and policy guidance classification used in this scoping review

Key terms

Policy guidance includes normative (WHO) guidelines, implementation or programme guidance and briefs, training guides, manuals, action plans, strategies and frameworks that relate to the care of vulnerable infants u6m and their mothers. This includes but is not limited to those generated by the United Nations, professional networks, non-governmental organisations and civil society.

Vulnerable mother–infant pairs includes (but is not limited to) infants from birth to six months of age (u6m), including newborns born with LBW, premature and/or SGA; identified with wasting/acute malnutrition, stunting, underweight; and/or affected by acute or chronic illness and disability or other growth and development concerns; and the infants of mothers who themselves are vulnerable due to their physical or mental health, nutritional or social condition/circumstance(s).

Care, for the purpose of this review, covers health and nutritional care for infants u6m, and physical and mental health, nutrition, and social care for their mothers, addressed in community or primary care settings.

Continuity of care is a term used to indicate one or more of the following attributes of care: (i) the provision of services that are coordinated across levels of care–primary care and referral facilities, across different settings and providers; (ii) the provision of care throughout the life cycle; (iii) care that continues uninterrupted until the resolution of an episode of disease or risk; (iv) the degree to which a series of discrete health care events is experienced by people as coherent and interconnected over time and is consistent with their health needs and preferences [1].

Person-centred care is an approach to care that consciously adopts individuals', families' and communities' perspectives as participants in and beneficiaries of trusted health systems. This perspective can be characterised by dimensions such as respect for patients' values, preferences and expressed needs regarding the coordination and integration of care, information, communication and education, physical comfort, emotional support and the alleviation of fear and anxiety, the involvement of family and friends, transition and continuity. https://www.scie.org.uk/providing-care/personalised-and-person-centred-care/

Guidelines, normative WHO guidelines: these describe the what (evidence, best practices); they include evidence-based recommendations.

Guidance or manuals: these describe the how, to support implementation; they include guidance, manuals guides, and materials for implementation.

Enabling documents include frameworks, action plans, strategy papers, and training materials that support, e.g., quality implementation, development of competencies, achieving set goals, improving quality, strengthening political commitment, and creating opportunities to accelerate spread and sustainable scale-up.

Note that in this document, 'mother' is synonymous with mother or principal caregiver.

2.2 Inclusion criteria

Population. The selected documents targeted vulnerable newborns, infants u6m, and mothers of infants u6m across the globe, focusing on those in low- and middle-income countries. We were interested in infants u6m who were born or became vulnerable, rather than the general population of all infants. However, we were open to other relevant criteria identified throughout this process.

Concept. Selected documents covered global policy guidance on infant health and nutrition, child development, maternal physical and mental health, maternal nutrition and feeding.

Documents of interest included those covering feeding support (support for breastfeeding/non-breastfeeding of infants u6m), clinical and public health interventions for vulnerable infants u6m and/or mothers, active growth monitoring, and food or supplementation interventions, as well as guidance covering cross-cutting aspects such as continuity of respectful quality care across services and across the life-cycle.

Context. All settings and contexts applicable to the care of vulnerable infants u6m and their mothers were considered. This included, but was not limited to, inpatient care (secondary and tertiary care settings), outpatient care (primary care settings) and community care, with outpatient and community care in low- and middle-income countries being of particular interest.

Documents that only focused on children older than six months of age and regional and national policy guidelines were excluded. However, the description of "policy guidance" (Box 1) that guided the decision on the documents' relevance for inclusion was further extended by applying a pragmatic practice lens. For example, we considered the nature and depth of practical content that was included in a document to determine whether to include it in our appraisal, rather than how the guidance was officially categorised. This explains why in some cases relevant documents, such as regional policy guidance, was included that would otherwise have fallen outside the stated inclusion criteria (see 2.1).

2.3 Search strategy

We first searched for all global health, nutrition, child development, food, and other relevant policy guidance in the English language incorporating any care dimensions specific to or applicable to vulnerable infants u6m and their mothers. No date restriction was applied as the latest developed policy guidance supersedes older versions.

Publicly available policy guidance was identified from the websites of relevant institutions and Google Scholar. Search terms related to each of the concepts of interest were applied, with additional search terms iteratively tested and included to capture policy guidance that did not specify the concepts of interest (Annex 2). Reference lists of included documents were hand-searched to identify further eligible documents.

Further sourcing of documents occurred through seeking expert advice, via email through key contacts and via a snowballing effect. Key contacts included members of the MAMI Global Network and other networks coordinated by the ENN, stakeholders from relevant institutions and the coordinators of relevant mailing lists, networks, or groups (e.g., newborn, reproductive, or quality of care initiatives). Key informants were also invited to provide information (via email or through a key informant interview) on related plans (e.g., for developing implementation guidance for recent/planned guideline updates) and/or any updates to policy guidance underway or planned.

2.4 Guidance screening and selection

We screened and selected global policy guidance on care of infants u6m and their mothers, published in English, with no set time limit, in five steps.

Step 1 Identification. Citations of all documents identified by the grey literature search and shared by key contacts were compiled in a spreadsheet (Excel) and duplicates were removed.

Step 2 Screening. Screening of titles and summaries was conducted by one researcher (AS) to identify and remove policy guidance that was outside the scope of the review. A second researcher (SVW) reviewed the initial inclusion/exclusion of documents. The reviewer team discussed inconsistencies and exceptions to reach a consensus.

Step 3 Eligibility. The full text was screened by two researchers (HD, SVW). Where discrepancies arose, these were discussed with one or more senior co-authors. Policy guidance that had been replaced by a more recent version was removed. The list of policy guidance was shared with experts to seek their opinion on the selection and to verify whether any important documents had been overlooked. Any missed policy guidance was added.

Step 4 Inclusion. Retained policy guidance was classified into three groups: a) guidelines (normative WHO guidelines) describing evidence and recommendations, b) guidance and manuals explaining the how-to for implementation, and c) enabling documents that supported care continuity; e.g., documents relating to competencies, quality, scale-up, and strategies (see Box 1).

Step 5 Prioritisation. Policy guidance that directly addressed some aspect of vulnerability in infants u6m or their mothers was organised as a first priority. Policy guidance that primarily addressed healthy newborns or babies or promotive infant or maternal health in general was organised as a non-priority.

A list of all policy guidance captured in this review is available in the bibliography provided in Annex 3. Enabling documents were not carried beyond this step as they were deemed beyond our scope (see 2.6).

2.5 Data extraction and synthesis

Three phases of data extraction and one synthesis phase were conducted to organise information according to key themes, which are summarised below and detailed in Annex 4. We followed an iterative process of adjusting frameworks based on refinement in our thinking as we learned throughout the process. The data were extracted and appraised by three reviewers (EB, HD, SVW).

Phase 1 Appraising key characteristics. We included publication year, URL, source, title, type, aim, topic, target audience, target population, infant description, mother description, sector, level of care, care service, age timeline, infant risks covered, maternal risks covered, interventions, and reviewer notes.

Phase 2 Describing vulnerability of infants u6m and their mothers. A pre-identified list (baseline) of 'vulnerability factors' associated with increased risk of mortality, morbidity, and poor growth and development, based on the MAMI Care Pathway, was expanded throughout the review. The dataset was categorised into poor birth outcome; low infant anthropometry (including nutritional oedema); poor growth based on sequential measures of ponderal growth; and risk factors for poor growth and development (infant and maternal factors).

Phase 3 Appraising guidance on continuity of care. The list of variables for describing continuity of care built upon the MAMI Care Pathway (see 2.1) and the WHO continuity of care definition (Box 1), and was expanded to include variables on supporting the organisation of care. This led to the following variables which were used to examine continuity of respectful quality care for the respective conditions: care across time, services and levels of care; integrated care pathway; comprehensive person-centred care; early childhood development (ECD); mother (principal caregiver), father and family support; community participation; embeddedness (mainstreaming in routine care); local health system support; monitoring and evaluation (M&E); wider multisectoral support; and organisational capacities, including resilience.

Phase 4 Interrogating and synthesising data for emerging considerations. The team examined the extracted data and appraisals of priority documents to identify key considerations for the development and implementation of policy guidance. Team meetings were held on 28–29 November and 13 December 2023. This phase continued until its conclusion in early January 2024.

2.6 Boundaries

This scoping review did not include evidence from published research trials (e.g., intervention studies), our focus was on the content of evidence-informed policy guidance rather than the appraisal of the evidence base itself. We did not assess the risk of bias or the quality of the documents, as this is not required in scoping reviews. Policy guidance that we refer to as "enabling documents" were not appraised in detail because, while relevant as broader policy context, they did not have the necessary depth and scope of content for our practice-centric appraisal of guidance on care. However, we catalogued all resources identified during this review for possible future appraisal (information available on request).

This scoping review did not require ethical approval, given that the data included was publicly available.

"We followed an iterative process of adjusting frameworks based on refinement in our thinking as we learned throughout the process."

3
What did we find?

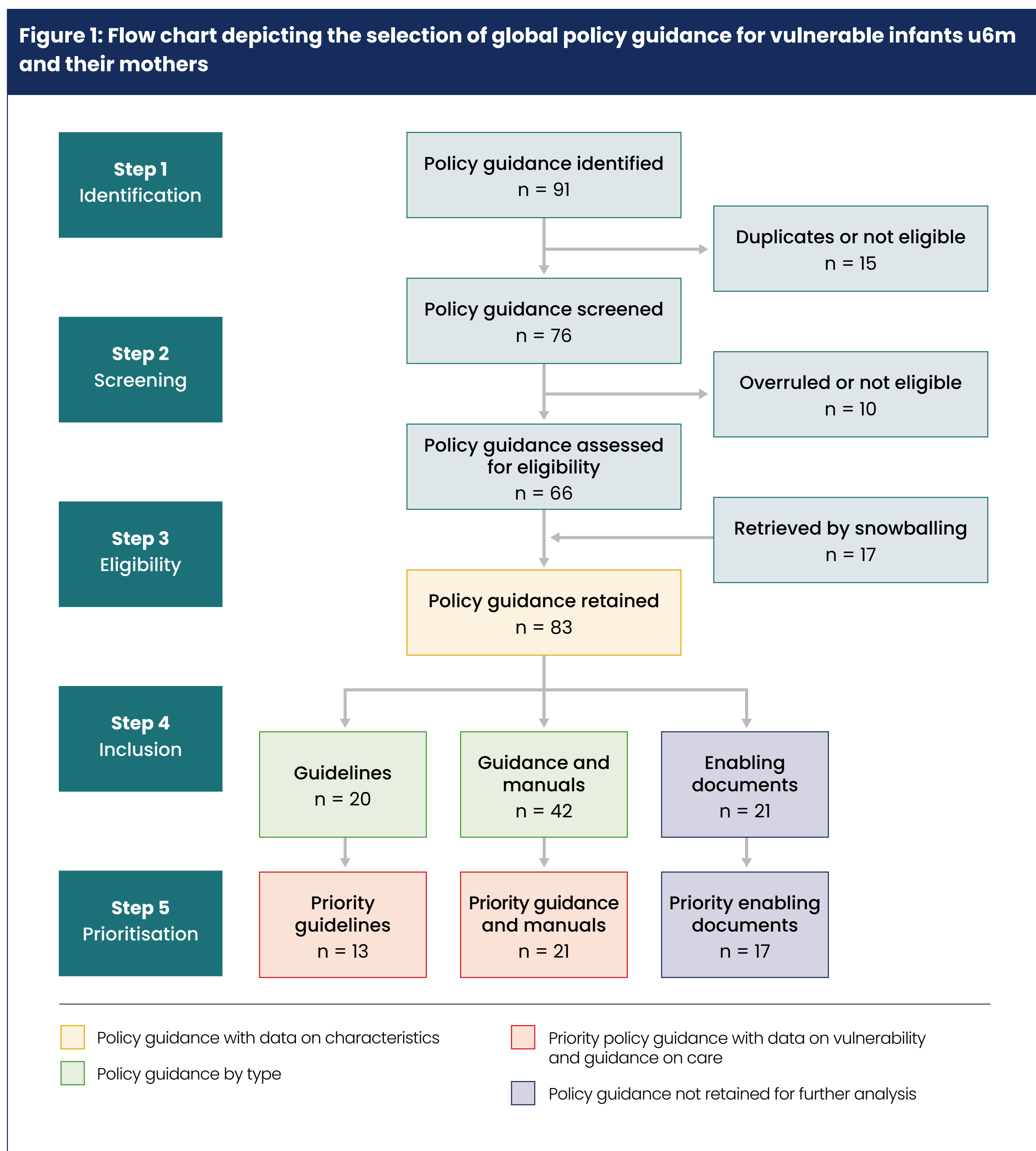
This section first describes how the policy guidance was selected and organised. Next, the three phases of appraisals, on characteristics, vulnerability descriptors, and guidance on continuity of care, are examined.

3.1 Selected policy guidance

A broad range of relevant policy guidance was identified and examined in regard to whether it was fit for purpose, through five steps (Figure 1). In total, we identified 83 global policy guidance documents to include in our review, of which 51 documents were identified as "priority"; i.e., directly addressing vulnerable infants u6m and their mothers. These comprised (a) 13 guidelines, (b) 21 guidance and manuals (six were manuals), and (c) 17 enabling documents.

All 34 priority guidelines and priority guidance and manuals are available to review or download here.

Figure 1: Flow chart depicting the selection of global policy guidance for vulnerable infants u6m and their mothers



We examined policy guidance in sequence, as follows.

In Phase 1, key characteristics of all retained global policy guidance documents (20 guidelines, 42 guidance documents and manuals, and 21 enabling documents) were appraised. Two researchers completed the appraisal, and the findings were assessed in reviewer meetings. From Phase 2 onwards, we explored the nature of vulnerability in 62 policy guidance documents (20 guidelines and 42 guidance and manuals) and examined their coverage in more depth. We excluded the 21 enabling documents from further appraisal (see 2.6). Three researchers completed the appraisal, and the findings were assessed in team meetings. In Phase 3, 34 policy guidance were prioritised and appraised on continuity of care (13 guidelines and 21 guidance documents and manuals). Three researchers completed the appraisal, and the findings were discussed in team meetings. In each phase, any differences of opinion were discussed and resolved as a team.

3.2 Characteristics of policy guidance

The characteristics of all 83 policy guidance documents were gathered together and the list of variables is shared in Annex 4. Here we report on key characteristics of 62 policy guidance documents (20 guidelines and 42 guidance documents and manuals).

Source and publication date. All guidelines were published by WHO, with one being a clinical practice guideline developed for the Latin America and the Caribbean region in partnership with the Pan American Health Organization (PAHO). Guidance and manuals were published by a wider range of organisations, including WHO and UNICEF (30 out of 42), as well as other implementing organisations, research partners and networks.

Publication date. These ranged from 2011 to 2023 for guidelines and from 2003 to 2022 for guidance and manuals, although only four documents were published prior to 2011. Some guidelines replaced earlier versions, either fully or to some degree (e.g., selected recommendations were updated while others were retained in their original form).

Topic. Some guidelines targeted a single condition (e.g., HIV, LBW, preterm birth, possible serious bacterial infection, tuberculosis, zika virus), or a set of conditions (e.g., common childhood conditions, critical illnesses), while others covered profiles of risk that reflect vulnerability (e.g., at risk neonates, infants at risk of poor growth and development) and aspects of care either in the facility (e.g., resuscitation) or at home (e.g., breastfeeding, support for ECD).

Guidance and manuals similarly targeted single conditions (e.g., cerebral palsy, severe illness, LBW, perinatal mental health, preterm birth, tuberculosis, wasting) or sets of conditions (e.g., common childhood conditions, structural birth impairments) and profiles of vulnerability or risk (e.g., small and nutritionally at risk infants and their mothers; small, sick and preterm infants; infants at high risk of mortality), as well as quality of care and factors or behaviours that influence vulnerability (e.g., feeding difficulties).

Target audience. Across guidelines, the intended target audiences included policy-makers (i.e., those involved in the development of policies and procedures at national and subnational levels), programme managers and healthcare providers. Guidance and manuals were more positioned towards healthcare providers, but some did include policy-makers and programme managers as part of their specified audience (15 out of 42).

Target population. Among the guidelines, all but one explicitly targeted the infant (20 out of 21), with fewer than half of these (7 out of 20) incorporating aspects related to the mother. One guideline targeted the mother alone (1 out of 21). Of the 42 guidance documents and manuals, half targeted the infant only, and one targeted the mother only (perinatal mental health), with 11 targeting both the infant and their mother. The remaining nine were related to other aspects of service provision (e.g., integration of services, M&E, resources and equipment, and quality of care) rather than on care for specified conditions in infants and/or their mothers. All guidance included aspects of care relevant to infants u6m and/or their mothers, with most guidelines (20 out of 21) and guidance and manuals (30 out of 42) including aspects of care during the early postnatal period, either in isolation or as part of a broader infant age group.

Infant descriptors of vulnerability. Many descriptors were used for the infant's level of vulnerability; e.g., healthy newborn, healthy infant, vulnerable newborn, born preterm, LBW, small, small sick, (non) breastfed, developed wasting or acute malnutrition, underweight, stunting, growth faltering, at risk of poor growth and development, feeding problem, excessive crying, physical disability or developmental delay, with acute or chronic illness.

Maternal descriptors of vulnerability. We planned to appraise maternal coverage by examining characteristics such as healthy, sick, mental health issue, malnourished, adolescent, prenatal, perinatal, postnatal issues, (not)lactating, absent, multipara, primipara, absent, dead. In practice, we found that most policy guidance addressing maternal vulnerability directly related to the perinatal period (pre-existing or newly developed physical and mental health and nutrition conditions and socioeconomic challenges).

Sector (speciality, discipline). The documents were explored for content on, e.g., child health, child nutrition, child development, maternal physical health, maternal mental health, maternal nutrition, reproductive health, and neonatal health. We found that most policy guidance was generated by the neonatal health sector.

Level of care. Content was explored on, e.g., tertiary, secondary, primary or community care. About one-third of the guidelines covered all levels of care (7 out of 21) and only one covered community care alone. More than half (24 out of 42) of guidance documents and manuals covered care at primary and secondary levels, with or without tertiary-level care included, eight covered community alone, and six covered only health systems aspects.

Care service. We found that content mostly considered care at antenatal, maternity, child health, and child nutrition were covered. Two guidance documents dealt with programme management in general.

Infant vulnerability. We used 'descriptors' outlined above to explore content on, e.g., preterm, LBW, SGA, poor ponderal growth (recent weight loss, poor growth, low weight-for-age z score (WAZ), low mid-upper arm circumference (MUAC)), feeding problem, metabolic problem, excessive crying, disability, acute or chronic illness. We share detailed findings below (see 3.3).

Maternal vulnerability. We built on 'descriptors' outlined above to explore content on, e.g., nutritional risk, impaired breastfeeding conditions, physical health, maternal mental health, multipara, primipara, adolescent, absent, dead. We share detailed findings below (see 3.4).

Interventions. We explored content on, e.g., active case finding or screening, health assessment or IMCI, breastfeeding assessment, non-breastfeeding assessment, breastfeeding support, non-breastfeeding support, clinical care, nurturing care, ECD, crying and sleep counselling, mental health counselling, social support, follow-up visits, home visits, family involvement, and continuity of care. Detailed findings are shared below (see 3.4).

3.3 Descriptors of vulnerability

Categories of vulnerability. Examining the characteristics of the 62 policy guidance documents, we identified and categorised 46 factors that described the vulnerability of infants u6m and their mothers. We organised these into:

- small (8) or sick (6) newborns;
- low anthropometry (6) and poor ponderal growth (6) of the infant;
- vulnerability factors of the infant (8); and
- vulnerability factors of the mother (12).

With regard to anthropometry and growth, there was variation in both the vulnerability factor and how it was determined; e.g., while five policy guidance documents included WAZ, three used a cut-off of below (<) -2 z score and two used <-3 z score.

Four vulnerability factors (i.e., the use of the 110 mm MUAC cut-off in infants aged zero to five weeks and 115 mm in infants aged six weeks to five months, insufficient weight gain identified by <-2 standard deviation (SD) of the WHO growth velocity standards, and female-headed households) were not covered in any of the documents.

Next, we collapsed the vulnerability factors from 46 to 28 by merging those we considered very similar in nature (i.e., merging the following factors into one combined factor each: four LBW factors, three preterm factors, seven low anthropometry factors, seven poor ponderal growth factors and three infant illness factors). Then we tracked the number and percentage of vulnerability factors mentioned in the 34 priority policy guidance documents to appraise the coverage of the 28 vulnerability factors.

Findings are detailed by individual guidance in Annex 5 (supplementary Table 1: vulnerability factors across 34 priority policy guidance documents on care of vulnerable infants u6m and their mothers), and are summarised by guidance type in Table 1.

> *"We identified and categorised 46 factors that described the vulnerability of infants u6m and their mothers."*

Table 1: Vulnerability factors mapped across priority policy guidance documents by type (*ordered by frequency in priority guidelines)

	Priority guidelines*		Priority guidance and manuals		Priority policy guidance	
Vulnerability factors (n=28):	(N=13)	%	(N=21)	%	(N=34)	%
Small and/or sick newborn						
Congenital illness	7	54	15	71	22	65
Low birth weight	7	54	14	67	21	62
Preterm	7	54	13	62	20	59
Disability or congenital abnormality	5	38	12	57	17	50
Birth trauma or complications	5	38	7	33	12	35
Preterm morbidity	4	31	11	52	15	44
Small for gestational age	3	23	5	24	8	24
Nutritional status infant						
Poor ponderal growth (weight loss, stagnant or insufficient weight gain)	3	23	12	57	15	44
Low anthropometry (low WAZ, low WLZ or low MUAC)	3	23	6	29	9	26
Nutritional oedema	3	23	6	29	9	26
Risk factors related to the infant						
Breastfeeding difficulties	7	54	14	67	21	62
Illness	7	54	11	52	18	53
Not breastfed	4	31	13	62	17	50
Neurodevelopment concerns	4	31	11	52	15	44
Hospitalisation history	1	8	5	24	6	18
Mental health	0	0	3	14	3	9
Risk factors related to the mother						
Physical health	6	46	15	71	21	62
Breastfeeding conditions	5	38	12	57	18	53
Mental health	5	38	11	52	17	50
Social or contextual factors affecting care and feeding practices	3	23	11	52	15	44
Birth complication	3	23	6	29	6	18
Adolescent	2	15	7	33	3	9
Absent or died	2	15	5	24	21	62
Multipara	1	8	6	29	18	53
Primipara	1	8	2	10	17	50
Anaemia	0	0	3	14	15	44
Birth spacing	0	0	2	10	6	18
Low MUAC	0	0	2	10	3	9

*ordered by frequency

After we identified the leading vulnerability factors in the priority documents, we split them at the median (equal or above (≥) the 50% threshold), as an arbitrary navigational marker to get a sense of which vulnerability factors were included the most and where (Box 2). We observed as follows:

- Factors that were more frequently mentioned in priority guidelines (more than (>) 50%) were those associated with the small and/or sick newborn (congenital illness, LBW, preterm), and breastfeeding difficulties and illness of the infant.
- Factors that were less frequently mentioned (40–50%) were related to the physical health of the mother.
- Factors that were more frequently mentioned in priority guidance and manuals (>50%) were those associated with the small and/or sick newborn (congenital illness, LBW, preterm, disability and congenital abnormalities and preterm morbidity); poor ponderal growth, breastfeeding difficulties, no breastfeeding, and illness of the infant; and physical health, breastfeeding conditions, mental health and social or contextual factors of the mother.

Box 2: Vulnerability factors present in at least half (more than 50%) of the 34 priority policy guidance documents on care of vulnerable infants u6m and their mothers

	Priority guidelines	Priority guidance and manuals
Small and/or sick newborn	• Congenital illness • Low birth weight • Preterm	• Congenital illness • Low birth weight • Preterm • Disability and/or congenital abnormality • Preterm morbidity
Nutritional status infant	• None	• Poor ponderal growth
Risk factors related to the infant	• Breastfeeding difficulties • Illness	• Breastfeeding difficulties • Not breastfed • Illness • Neurodevelopment concerns
Risk factors related to the mother	• None	• Physical health • Breastfeeding conditions • Mental health • Social or contextual factors

Overall, we noted there was a low frequency of priority guidance with content specific to SGA, low anthropometry and nutritional oedema. Only three priority guidelines (3 out of 13) and half of the priority guidance and manuals (12 out of 21) included one or more anthropometry indicators as a vulnerability factor. The mother's MUAC was mentioned in no priority guidelines and only in three priority guidance documents and manuals (3 out of 21), while no other maternal nutrition marker was ever mentioned.

Breastfeeding difficulties (related to the infant) or breastfeeding conditions (related to the mother) were most commonly included for the identification of infant vulnerability. Not being breastfed was more frequently included in priority guidance than in priority guidelines and manuals.

Maternal vulnerability (i.e., breastfeeding conditions, mental and physical health and social or contextual factors affecting care and feeding practices) was more frequently mentioned in guidance and manuals than in guidelines. Other maternal factors (i.e., birth complications, adolescent mother, birth spacing, low anthropometry) were rarely mentioned.

3.4 Policy guidance content on continuity of care

As a start, the team discussed and decided on *11 care dimensions* by considering the care dimension of quality person-centred continuity of care (as reflected in the MAMI Care Pathway guiding framework), our collective experience, and the nature of the content we were identifying. Care dimensions that were retained were the following: care across time, services and levels of care; integrated care pathway; comprehensive person-centred care; early childhood development; mother, father, family support; community participation; embeddedness (mainstream); local health system support; M&E; wider multisectoral support; organisational capacities. We considered a life cycle lens as an additional dimension to explore but there was too much complexity in degree, variation and interconnectedness to do so without misrepresenting or oversimplifying. When guidance fully or partially addressed a dimension, we classified it as "applied".

Next, we tried to understand and simply describe the "*condition*" (i.e., health problem, disease, disorder, injury, disability, circumstance) the policy guidance covered. The following conditions were covered by priority guidelines: four covered newborn care, six covered illness, one covered poor growth, one covered breastfeeding and one covered ECD. The following conditions were covered by priority guidance and manuals: five covered newborn care, seven covered illness, two covered preterm and LBW, two covered poor growth and wasting, one covered breastfeeding, two covered feeding difficulties, one covered perinatal mental health, and one covered reproductive health.

Finally, we explored *which dimensions of care were covered by the policy guidance*. Table 2 shows for each of the 34 priority policy guidance documents for vulnerable infants u6m and their mothers (13 guidelines and 21 guidance documents and manuals) the nature of the condition and tallies of the dimensions of care covered.

Table 2: Dimensions of care across 34 priority policy guidance on care of vulnerable infants u6m and their mothers

Title of document	Condition	Care across time, services and levels of care	Integrated care pathway	Comprehensive person-centred care	Early childhood development	Mother, father, family support	Community participation	Embeddedness (mainstream)	Local health system support	M&E	Wider multisectoral support	Organisational capacities
Guidelines												
2023 WHO Guideline on the prevention and management of wasting and nutritional oedema in infants and children under 5 years	Poor growth and development	●	●	●	●	●	–	●	–	–	●	–
2022 WHO Consolidated guidelines on tuberculosis in children and adolescents	Tuberculosis	●	●	●	–	●	●	●	●	●	–	–
2022 WHO Recommendations for care of the preterm or low-birth-weight infant	Preterm, Low birth weight	–	●	–	–	●	●	●	●	●	●	●
2021 WHO-PAHO Evidence-based clinical practice guidelines for the follow-up of at risk neonates	Newborn care	●	●	●	●	●	–	–	–	●	–	–
2021 WHO Guideline: Infant feeding in areas of Zika virus transmission	Zika virus	–	–	–	–	●	–	●	–	–	–	–
2021 WHO Consolidated guidelines on HIV prevention, testing, treatment, service delivery and monitoring	HIV	●	●	●	–	●	●	●	●	●	●	●

Table 2: Dimensions of care across 34 priority policy guidance on care of vulnerable infants u6m and their mothers (continued)

Title of document	Condition	Care across time, services and levels of care	Integrated care pathway	Comprehensive person-centred care	Early childhood development	Mother, father, family support	Community participation	Embeddedness (mainstream)	Local health system support	M&E	Wider multisectoral support	Organisational capacities
Guidelines												
2020 WHO Improving early childhood development	Early childhood development	●	n/a	n/a	●	●	–	–	●	●	–	–
2018 WHO Guideline: Counselling of women to improve breastfeeding practices	Breastfeeding	●	●	●	–	●	–	●	●	●	–	●
2016 WHO Paediatric emergency triage, assessment and treatment (ETAT)	Critically ill child	–	–	–	–	–	–	–	●	●	–	–
2015 WHO Recommendations on interventions to improve preterm birth outcomes	Preterm	–	–	–	–	●	–	●	●	●	–	–
2015 WHO Guideline: Managing possible serious bacterial infection in young infants when referral is not feasible	Ill child	●	–	–	–	–	–	●	●	●	–	–
2012 WHO Recommendations for management of common childhood conditions	Ill child	–	–	–	–	–	–	●	●	–	–	–
2012 WHO Guidelines on basic newborn resuscitation	Newborn resuscitation	–	–	–	–	–	–	●	–	●	–	–
Guidance documents												
2022 WHO Guide for integration of perinatal mental health in maternal and child health services	Perinatal mental health	●	●	●	●	●	●	●	●	●	●	●
2022 UNICEF, University of Pretoria Feeding preterm and low-birthweight newborns	Preterm, Low birth weight	●	●	●	●	●	●	●	–	–	–	–
2022 WHO-Europe Pocketbook of primary health care for children and adolescents	Ill child	–	●	●	●	●	●	●	●	–	●	●
2022 SPOON Identifying feeding difficulties in infants – guidelines for healthcare professionals	Feeding difficulties	●	–	–	–	–	–	●	–	–	–	–
2022 SPOON Screening children for feeding difficulties – guidelines for healthcare professionals	Feeding difficulties	●	–	●	●	●	●	●	●	–	–	–
2022 UNICEF Integrating early detection and treatment of child wasting into routine primary health care services	Wasting	●	n/a	n/a	–	–	●	●	●	●	●	●
2022 WHO Operational handbook on tuberculosis. Module 5: Management of tuberculosis in children and adolescents	Tuberculosis	n/a	●	●	–	●	●	●	●	●	●	–

Table 2: Dimensions of care across 34 priority policy guidance on care of vulnerable infants u6m and their mothers (continued)

Title of document	Condition	Care across time, services and levels of care	Integrated care pathway	Comprehensive person-centred care	Early childhood development	Mother, father, family support	Community participation	Embeddedness (mainstream)	Local health system support	M&E	Wider multisectoral support	Organisational capacities
Guidance documents												
Manuals												
2021 ENN, LSHTM, MAMI Care Pathway Package, Version 3 (guiding framework)	Small and nutritionally at risk infant and mother	●	●	●	●	●	●	●	●	●	●	●
2020 WHO, UNICEF The Baby Friendly Hospital Initiative for small, sick and preterm newborns	Breastfeeding	–	●	●	●	●	●	●	●	●	●	–
2020 Partners in Health, UNICEF Early Childhood Development Support for High-Risk Infants	Preterm, Low birth weight	●	●	●	●	●	–	●	–	–	●	–
2019 WHO Integrated Management of Childhood Illness of the sick young infant age up to 2 months. Chart booklet	Ill child	●	●	●	–	●	–	●	–	●	–	–
2018 IASC Field Manual on Reproductive Health in Humanitarian Settings	Reproductive health	●	●	●	–	●	●	●	●	●	●	●
2016 WHO Oxygen therapy for children	Ill child	n/a	●	–	–	●	–	●	●	●	–	–
2015 WHO, UNICEF, USAID Caring for newborns and children in the community: planning handbook for programme managers and planners	Newborn care	n/a	●	●	●	●	●	●	●	●	–	–
2014 WHO-Europe Hospital care for mothers and newborn babies: quality assessment and improvement tool	Newborn care	●	●	●	–	●	●	●	●	●	–	●
2014 WHO Integrated management of childhood illness – Chart booklet	Ill child	n/a	●	●	–	●	–	●	–	–	–	–
2014 Christian Blind Mission (CBM) Recognising impairments at birth	Newborn care	n/a	●	●	●	–	–	●	●	–	–	–
2013 WHO Pocketbook of hospital care for children	Ill child	n/a	●	●	●	●	●	●	–	●	–	–
2012 CBM Cerebral Palsy	Cerebral palsy	n/a	●	●	●	●	●	●	●	–	–	–
2003 WHO Kangaroo mother care: a practical guide	Newborn care	n/a	●	●	●	●	●	●	●	●	●	–
2003 WHO Managing newborn problems	Newborn care	n/a	●		–	●	●	●	–	●	–	–

● = vulnerability factor covered; – = vulnerability factor not covered; n/a = not applicable.

Table 3 uses the information from Table 2 to show how the 11 care dimensions were represented across the 34 priority policy guidance on care of vulnerable infants u6m and their mothers. Through a deeper exploration, we then interpreted the spread of the respective care dimension (see observation on coverage of care).

Table 3: Dimensions of care across 34 priority policy guidance on care of vulnerable infants and their mothers by policy guidance type

Dimensions of care	Priority guidelines (n=13)	Priority guidance and manuals (n=21)	Scoping team observations
Care across time, services and levels of care	7	10	Gaps in continuity across time, primarily for follow-up after discharge from a particular service or when infants 'age out' of the service without adequate referral mechanisms. Also, gaps in continuity between services and levels of care; e.g., linking facility-based and community-based care.
Integrated care pathway	6	18	Strong focus on addressing one or more conditions, without integration into a broader care pathway that assesses and responds to maternal and infant risks and monitors progress/ links to follow-up care, particularly at other levels of the health system (primary care/outpatient/community levels).
Comprehensive person-centred care	5	17	Guidelines centred on the condition rather than the person (mother, infant), and there was a lack of comprehensive assessment and care for both mother and infant together.
Early childhood development	3	12	Limited contextualisation within a framework that supports ECD, with a focus on identification and management of one or more conditions, rather than on a holistic approach to ensuring optimal growth and development.
Mother, father, family support	9	18	Primary focus on supporting the mother in feeding and care practices for the infant, including targeted counselling for mothers and other caregivers/family members in some cases. Lack of inclusion of broader aspects of support, particularly for the mother's own health and social circumstances.
Community participation	3	15	Limited aspects of community participation in care/ organisation of care, particularly for guidelines.
Integration, embeddedness (mainstream)	10	21	Focus on mainstreaming of guidance into routine care but lacking detail on how to embed services across levels of the health system (particularly primary care/outpatient/community).
Local health system support	9	14	Emphasis on integration into existing health systems and services, particularly for guidelines. More limited reference to the how, including steps such as situational analysis, needs assessment and planning/ budgeting for the necessary infrastructure, resources and capacity development.
M&E	10	13	A need for M&E frameworks often mentioned but lacking detail.
Wider multisectoral support	3	9	Minimally mentioned, with only one guideline emphasising the need for linkages to other services and systems (social assistance/protection, food, water and sanitation) and two making brief mentions of policies/services outside of the health system. Greater presence in guidance and manuals but still low overall and a lack of detail when included.
Organisational capacities	3	6	Largely missing, except for a few examples which included best practice statements for, or needs to align with, emergency preparedness plans or humanitarian response strategies.

4
Emerging considerations: to what extent does current policy guidance support continuity of care for vulnerable infants and their mothers, and to what extent could it do so?

To answer the question to what extent current policy guidance supports continuity of respectful quality care of vulnerable infants and their mothers, and to what extent it could do so, we appraised the content (what content was covered, or not covered), how it was presented (how accessible it was), and how comprehensive it was (the extent of connection or fragmentation).

4.1 Unpredictability of policy guidance content

To help interpret what we found, it is important to first understand the complex nature of the policy guidance we discovered (nature and process), which we then further unpacked by applying a continuity of care lens.

Overall, policy guidance on the care of vulnerable infants u6m and their mothers was characteristically patchy, inconsistent, and varied in nature, depth and scope of content, making it very difficult to compare, contrast and identify the degree of alignment between them. This proved a constant challenge, which we accommodated to the best that we could through the scoping review process by mindfully 'muddling through' the policy guidance 'swamp'.

We distinguished between guidelines, and guidance and manuals at the outset. WHO is the normative entity of the United Nations that is responsible for developing and disseminating evidence-based guidance on health issues [25]. In practice, it appears that WHO distinguishes between guidelines and guidance, where guidelines constitute evidenced recommendations to achieve the best possible health outcomes (evidencing what to do), and guidance constitutes a form of 'information product' to support implementation (describing how to do something) [26]. Manuals commonly provide detailed explanations on implementing interventions or using technologies, describing what to do and how at individual or service level, and on how something works, such as explaining the physiopathology.

In practice, we found that the terms guidelines, and guidance and manuals, are used, understood, and interpreted in different ways by those writing and using them, and that the lines between them are often blurred. For example, WHO guidelines are in fact WHO evidence-based recommendations that seek to address an identified unmet need or uncertainty, and do not necessarily intend to cover care comprehensively for a condition or a population. What is often presented as guidance or a manual most commonly provides implementation guidance. National guidelines are often normative treatment protocols, adding detailed implementation descriptions to contextualise and standardise care and facilitate adherence at service level.

We also found considerable variability within these policy guidance types. For example, sometimes we did not find guidance content when we were expecting it within guidance, or we stumbled across guidance content when we were not expecting it in a guideline.

We also found considerable variation in characteristics across guidelines; e.g. in the nature and depth of the guideline contents. For example, the nature of the content of the *2023 WHO wasting guideline is considerably different compared to the 2013 WHO wasting guideline update*: the 2023 guideline has more implementation detail elaborated under "good practice statements" and "notes" for implementation and includes links to complementary guidelines. The guideline development process follows the *2014 WHO handbook for guideline development* [26], which has greatly helped to harmonise the guideline development process, but, even then, experts involved may influence how the evidenced contents are covered.

We also found considerable variation in timelines for updates, and whether new policy guidance replaced earlier versions in full or in part. For example, 'updated' guidelines may only partly update specific recommendations of a previous version. Moreover, we found that review dates or schedules for updates were often not stated [26]. The 'living guidelines' approach being adopted by WHO will keep abreast of latest evidence but adds another degree of complexity that will need to be considered and managed to maximise on its potential (see 5.2).

4.2 Hidden from view

As anticipated, vulnerable infants u6m and their mothers were described in many ways in the documents reviewed, which may contribute to them being less visible to different users, who might not recognise the vulnerable baby or mother they are looking for. Guidance for diversely described infant groups and (sometimes) their mothers was scattered across multiple documents, making holistic care even harder to visualise (and consequently realise). Thus, health and nutrition actors must engage in what seems an 'invisible pursuit' across multiple policy guidance to find, interrogate and apply recommendations for care of vulnerable infants u6m and their mothers.

4.3 Missing health and nutrition of mothers

Buried guidance masks what is in there, but also hides what is not. In general, mothers' vulnerability was sparsely covered across policy guidance on care of infant conditions. Maternal mental health was covered in more than half the guidelines (what to do) but was not well covered in guidance and manuals (how to do). This may reflect uncertainty in how to manage a complex, sensitive aspect of care that many primary care practitioners are not trained to identify and address, or do not feel confident doing so. For example, through the MAMI Global Network, practitioners have identified gaps in guidance on how to manage maternal mental health in the context of vulnerable infants; in our experience, this lack of certainty on guidance hampers good practice. Maternal nutritional status was very poorly covered in the documents reviewed: only one priority guidance document included an anthropometric indicator and only a few included anaemia, adolescent mothers and absent mothers as prompts for support. In essence, it feels like mothers are treated like breastfeeding 'equipment', with targeted support centred on manging breastfeeding difficulties and problems.

A far more holistic and person-centred approach (i.e. what are *her* needs?) is needed to address wider vulnerabilities. Identification of an at risk infant is a marker of vulnerability of a mother–infant pair: it offers an opportunity to target support to a woman for her personal benefit, as well as that of her baby. Such an approach can provide an entry point for targeted support to more vulnerable women who are mothers, help sustain continuity of care in the postnatal period [27] and help to redress prevalent neglect of women's wellbeing in services [28, 29].

> *“We mindfully muddled through the policy guidance swamp.”*

4.4 Newborn vulnerable babies – what happens next?

We found that priority policy guidance was weighted towards the early postnatal period or very young infants, addressing the small newborn, breastfeeding difficulties, and the small sick young infant. Some that intended to target infants more broadly (by virtue of stated scope) still homed in on this early period by way of content. Given the heightened risk and particularities of care in the early postnatal period, this focus is understandable. However, it seems that this is at the cost of explicit guidance on what should happen next for these young vulnerable infants, which we found was missing or lacked depth (e.g., no details on follow-up support in the household and the community for infants with LBW). However, this is not an absolute gap: some guidance we identified supported health and feeding of vulnerable infants u6m that could be applied to the mother-infant circumstances. However, for practitioners to 'join these dots', a 'handshake' between policy guidance is needed, in the form of a clearer description of how to apply continuity of care, connecting care providers across services and time.

An infant who is SGA was not well-represented in policy guidance, and the management of infants born preterm had low coverage. This is worrying given the increased immediate and continuous vulnerability of both preterm and SGA babies [2]. Moreover, LBW is essentially being underweight at birth and it falls under newborns rather than our "low anthropometry or poor ponderal growth" category. However, infants with LBW or who are underweight at birth continue to be underweight after birth until catch-up growth, which usually is slow. Furthermore, even when catch-up growth (catching up to normal birth weight peers) has been achieved, these infants remain at higher risk of death, making active growth surveillance embedded within healthcare even more critical for these babies [30]. If practitioners are to heed the recent call to action in the *2023 Lancet Small Vulnerable Series* to attend to small vulnerable newborns worldwide, while acting to prevent babies being born too soon or too small, they must also be equipped to assess and care for them when they are identified, and to continue care within and across services as long as is needed [31]. Our review suggests that policy guidance is not (yet) fit for that purpose.

4.5 Continuity of care – present in principle, missing in practice

We struggled to conclude, based on our review, if and to what extent policy guidance supports continuity of care between mother and infant, and infant from newborn to six months of age, and beyond. Continuity of care was either absent in the documents reviewed, mentioned to varying degrees as a guiding principle, or stated as an intention. Overall, there was vagueness on the 'what' and 'how' in regard to achieving continuity of care, or on where to locate appropriate guidance for this. Policy guidance largely focused on a vulnerability and how to handle it. If we presume this is framed within an intent towards continuity of care, there is content to leverage if clearer guidance is provided on how to realise this.

4.6 Poor growth reflects more than poor nutrition

We found low coverage of infant nutritional status and related care practices in priority policy guidance. This finding may reflect that while the nutrition world is dominated by anthropometry, the nutritional status of infants (i.e., anthropometry, nutritional oedema and ponderal growth) are not sufficiently considered as general vulnerability factors within health circles. Only three priority policy guidance documents featured low anthropometry or poor growth as vulnerability factors, of which one was the *2023 WHO wasting guideline*.

Policy guidance and manuals that focused on clinical health conditions including feeding difficulties had low coverage of growth assessment and management. For example, "low anthropometry" or "poor ponderal growth" were not included as vulnerability factors or care considerations in perinatal guidance, except for LBW, which is essentially underweight at birth, and hence categorised as a birth vulnerability factor (see 4.4). However, in these instances, LBW was included as a single timepoint measure (at birth) for identifying risk but the documents neither recommended subsequent sequential monitoring of growth post birth, nor discussed how to factor in growth retardation for catch-up growth. Given the heightened vulnerability of these infants, which continues well beyond birth, active growth monitoring and assessment offers a critical opportunity for health and nutrition surveillance and timely support, which is being missed. Also, even where some indicators were consistently included across guidance, different cut-offs were used which hamper continuity of care.

The lack of guidance on growth may also reflect that policy guidance mostly focus on the specific condition (e.g., medical condition, breastfeeding problem), rather than on comprehensive dimensions of wellbeing or person-centred care. Guidelines address specifically defined priority questions that may not address growth; derivative guidance may retain guideline boundaries and not be located within the wider context of care. Also, guidance may be confined to a narrow time-bound period (e.g., where the growth monitoring potential may be limited) and not consider what happens next. Our finding may also indicate that health practitioners perceive anthropometry and growth as a nutritional issue, rather than a wider marker of poor growth and development, illness and death.

Given the growing evidence that weight-for-age is a critical indicator of vulnerability in infants u6m [32], there is a strong rationale for embedding consistent anthropometric assessment and responsive growth monitoring within all relevant policy guidance, and a strong need to do so.

"Given the heightened vulnerability of LBW infants, which continues well beyond birth, active growth monitoring and assessment offers a critical opportunity for health and nutrition surveillance and timely support, which is being missed."

5
Looking ahead: to what extent could policy guidance support continuity of care?

In conducting this scoping review, we found that identifying policy guidance that supports continuity of care of vulnerable infants u6m and their mothers was fuzzy, messy and unpredictable, creating a complex web we had to muddle through. We have embraced this complexity [19] to make sense of it and to identify what might help to improve understanding of it in future. In doing so, we recognise our limitations in terms of scope, depth of appraisal, what we know and what we do not know. We hope others can draw upon, build upon, and shed further light on our efforts, and can take some constructive next steps. If you spot any errors, gaps or misunderstandings, please let us know.

5.1 Some considerations

Urgency

Developing coherent policy guidance at global level, involving different disciplines and expertise, should be an ambition for us all, but this is a long-term aim. The practical reality is that in the immediate term, policy guidance will continue to be developed along specialities, in different processes, with different expert groups. We need to secure connections and collaborations between, and transparency of, content and efforts, without paralysing or further complicating the already heavy processes involved in policy guidance development. With immediacy, we need coherent implementation guidance on comprehensive quality care of the mother–infant pair, to mitigate against disconnected implementation, maximise synergies, and work together to address critical gaps. The time-sensitive opportunities provided by current United Nations-led initiatives identified in our introduction highlight the urgency of this need, and offer an immediate opportunity towards achieving this ambition.

Person-centred guidance in practice

In our review, we observed a tendency for global policy guidance to consider and frame care around the infant and/or mother but then to take on a disease focus and centre management on the condition (illness or risk factors). This is understandable from a guideline perspective on 'what' to do, but the closer it gets to implementation, the more the focus needs to shift to person-centred care – with the focus needing to be on how services should convene and converge around the effective and perceived needs of the mother and the baby.

How would person-centred policy guidance look in practice? One example to draw upon is the WHO-led development of the Clinical Care in Crises (CCC) digital mobile reference application, which is currently being piloted [33]. This app aims to provide clinical decision support to frontline health workers in emergencies, increasing the accessibility of WHO recommendations and facilitating their application. Development of the CCC app involved studying and collating the details of various relevant WHO policy guidance to create comprehensive care pathways. Expert consultation assisted in handling evidence gaps and making emergency-specific adaptations.

The person-centred focus taken to the app development was a critical means to help navigate existing guidance and develop clinical decision support for frontline health workers. There may be many more examples to draw upon.

Living guidelines: helping to make this work

WHO is committed to eventually managing all guidelines as 'living guidelines', to update recommendations in a timely fashion, as evidence emerges (i.e., update specific recommendations rather than update the whole guideline) [34]. While having many benefits, this updating system potentially adds even more complexity for practitioners in regard to staying informed and navigating new recommendations, and risks becoming a 'living nightmare' if the practicalities, in different implementation realities, are not addressed [25]. Guidelines are now available on the MagicApp platform [35], greatly improving their accessibility. However, it is not clear how a practitioner will be made aware of and apply what may be sporadic changes, or how a recommendation change may affect other recommendations within the same guideline or across guidelines.

With all this in mind, we pondered how to improve the translation of a rich, intriguing web of policy guidance into coherent, practical implementation protocols, guidance, tools and support. Below, we share a few of our suggestions for consideration at global and implementation (including national) level.

5.2 Global-level suggestions

A conceptual living map of global policy guidance

We suggest the development of an all-enveloping, visual, interactive conceptual map of policy guidance for vulnerable infants u6m and mothers (in all their shapes and forms), which could massively help individuals to access existing policy guidance and navigate their contents. This online platform could encompass:

- **Materials:** the existence and location of all relevant policy guidance, including translations of that guidance;
- **Process:** schedules, timelines, who is doing what, when (e.g., across WHO updates, processes, collaborations, partnerships); and
- **Updates:** alerts in real time about what changed and why.

Such a platform could help to create partnerships, promote collaboration and coordination, as well as support development or update of policies, and ultimately facilitate good practices.

Why is this needed? There is currently limited visibility on processes and timelines for the development of global guidance, which hampers collaboration. While we highlight opportunities for synergies between guidance development processes, much is based on 'grapevine' intelligence gathering – there is much that we know we don't know. In practice, we have experienced both openness and resistance when we have 'sniffed out' opportunities to collaborate and 'knocked on doors'. This may well reflect the busyness and pressure on people (from donors, peers) to deliver outputs fast: involving others brings complexity, takes time and has costs, both for those within the lead institutions and for those external to them.

Also, if – and the extent to which – guidance documents refer to each other is not consistent. This limits the ability to 'connect the dots' between them. It limits collaboration to those within 'circles of friends' or 'in the know', which that greatly limits potential and isn't fair. Given that WHO is actively moving towards living guidelines, references can soon become outdated, and new guidance may not reflect these new changes. A practical conceptual map, as a standing reference embedded in all guidance, could help address this.

WHO, as the global publisher of normative guidelines and derivative guidance, would be well placed to lead and manage such a platform. Indeed, WHO could lead by example by both facilitating collaboration through this platform and ensuring collaboration happens within its own processes. Within WHO, one possibility may be to have this development overseen by WHO's Strategic and Technical Advisory Group for Maternal, Newborn, Child and Adolescent Health and Nutrition (STAGE) [36].

Distinguishing between guidelines and guidance by content

Guidelines are the products of people. The outcome is determined by the experience and expertise of those who convened to appraise the evidence, which is inherent in the collective appraisal and decision-making process [37]. In our experiences of guideline development processes (HD, MM), the level of detail provided in a guideline is not standardised, and hence open to individual and collective interpretation by both facilitators and experts. In the interests of producing usable, workable guidelines, there is a chance of straying into implementation guidance territory. There may be a tendency towards this where there are gaps in evidence or when conditional recommendations or good practice statements cover contextual nuances. The problem with this is that normative guidelines, by their nature, are configured to address narrowly defined questions on care, rather than the totality of care. The development of implementation guidance itself may require a different or expanded practitioner-centric collective. Strong objective facilitation in the guideline process will help to ensure that guideline content focuses on what is needed to guide policy decision-makers to inform implementation modalities to achieve the best outcomes in their reality.

Collaboration as an institutional requirement

There is a wealth of inter-related but disconnected policy guidance on care of vulnerable infants and their mothers, generated by various departments within WHO. This is an observation and not a criticism, and it reflects the complexity and practical difficulties of working together on developing collaborative policy guidance, even with the best of intentions. Whether collaboration happens, and the degree to which it does, is too dependent on individuals, and is not institutionalised within agencies or sectors. There are numerous positive examples of collaboration initiated and driven by individuals, but dependence on personal commitment is not sufficient. Collaboration across sectors and specialities needs to be an institutional requirement, not an optional extra. An inter-departmental approach is urgently needed to highlight the importance of achieving holistic care for these children, and to coordinate action to achieve this. This requires teams and sectors to be adequately resourced to facilitate this, and reasonable timelines to accommodate it.

Person-centred continuity of care in service delivery requires policy coherence, which will be greatly aided by aligned global policy guidance on care for vulnerable infants and their mothers. Developing sector- or discipline-specific implementation guidance and related resources is understandable and necessary. However, typical processes risk missing opportunities to collaborate and align resources and to avoid duplication and inconsistencies. The active WHO-led/co-led guidance initiatives on infant health and nutrition (such as on wasting/poor growth and development, IMCI, and SSN) present a wonderful (and critical) opportunity to develop complementary, cohesive and efficient inter-departmental guidance at global level and to facilitate coherent policy action and practice at national level.

The active rollout of the *2023 WHO wasting guideline* by UNICEF and WHO at regional and country level provides a wonderful opportunity to connect and collaborate at country level to generate person-centred practical guidance that is simplified and contextualised to the setting. The expanded scope to the "management of infants u6m at risk of poor growth and development" is particularly conducive to cross-departmental collaboration at WHO and cross-service alignment in countries. We are aware of – or at least suspect the existence of – similar initiatives involving SSNs, LBW infants, quality of care, and maternal health. It is critical that those supporting national guidance development initiatives invest time in scoping and navigating relevant local policies, priorities and plans, and together broker how to translate into workable streamlined person-centred guidance.

5.3 Implications for uptake of guidance at national level by health managers and practitioners

We hope the learning from this scoping review will be helpful to those who are navigating the complexities of translating guidelines into context-adapted guidance and good practices at country level. We have compiled priority guidance online for easy access. Our more detailed databases appraising content are available on request.

We assume that the complex landscape of policy guidance at global level may add to existing complexities at national level when it comes to implementation. Different stakeholders operate within – and involve – various departments, specialities, divisions and budgets. Initiatives relating to policy and service development regarding quality of care, small and sick newborns, LBW, and wasting– which are all relevant, but which often involve different stakeholders at country and global level (including funding agencies) – affect what is actually done. What guidance looks like and why varies greatly. There is a trend whereby many national guidelines (or protocols) are written as comprehensive manuals, rather than guidance, detailing the how but also explaining the why. This was established as it was often preferred by national stakeholders, since it fills a gap in cases where the contents are not covered in professional education and training curricula.

"It is critical that those supporting national guidance development initiatives invest time in scoping and navigating relevant local policies, priorities and plans, and together broker how to translate into workable streamlined person-centred guidance."

6
Conclusions: joining the dots, filling the gaps

This scoping review proved a challenging but worthwhile policy expedition, identifying a gap in regard to coherent policy guidance for vulnerable infants u6m and their mothers.

We found a rich melting pot of valuable policy guidance relevant to the care of vulnerable infants u6m across sectors and specialities that needs to be connected. The significant gaps in regard to content that addresses mothers as part of a mother–infant pair needs to be addressed. We have compiled and made available the policy guidance and have shared details of our classification, to help others navigate the muddy waters. Approach our work with an open mind, and don't be restrained by the confines of descriptors and sources.

There is huge potential to connect existing policy guidance and processes to facilitate continuity and coherence across the various disciplines. We hope this scoping review will contribute to improving the accessibility of relevant guidance for the care of vulnerable infants u6m and their mothers, and to creating cohesion and collaboration across disciplines. We see a critical window for applying a continuity of care approach that connects the processes of developing guidance on LBW, small and sick newborns, IMCI and wasting that are underway at WHO., and to have a person-centred lens and approach to the development of implementation guidance to support uptake at national level. We are committed to working with – and within – all due processes at global and country levels wherever this would be helpful.

This is an urgent need. We cannot unsee what we have seen. We feel a sense of responsibility. We commit to report back on what happens next (or not).

References

1 World Health Organization, *Health systems strengthening glossary*. 2011.

2 Lawn, J.E., et al., *Small babies, big risks: global estimates of prevalence and mortality for vulnerable newborns to accelerate change and improve counting*. Lancet, 2023. **401**(10389): p. 1707-1719.

3 Blencowe, H., et al., *National, regional, and worldwide estimates of low birthweight in 2015, with trends from 2000: a systematic analysis*. Lancet Glob Health, 2019. **7**(7): p. e849-e860.

4 Kerac et al., *Prevalence and assessment of malnutrition in infants aged <6 months in low- and middle-income countries: secondary data analysis. Under review*. 2024.

5 Mertens, A., et al., *Risk factors and impacts of child growth faltering in low- and middle-income countries*. medRxiv, 2021: p. 2020.06.09.20127100.

6 Mertens, A., et al., *Child wasting and concurrent stunting in low- and middle-income countries*. medRxiv, 2020: p. 2020.06.09.20126979.

7 Global Nutrition Report Stakeholder Group, 2021 *Global Nutrition Report: The state of global nutrition*. 2022: Bristol, UK.

8 Martorell, R. and A. Zongrone, *Intergenerational influences on child growth and undernutrition*. Paediatr Perinat Epidemiol, 2012. **26 Suppl 1**: p. 302-14.

9 ENN, *MAMI Global Network Strategy 2021–2025*. 2021: Oxford, UK.

10 Muriuki, A., et al., *On the road to universal coverage of postnatal care: considerations for a targeted postnatal care approach for at risk mother–baby dyads in low-income and middle-income countries informed by a consultation with global experts*. BMJ Open, 2022. **12**(6): p. e058408.

11 World Health Organization, *Guideline: updates on the management of severe acute malnutrition in infants and children*. 2013, World Health Organization: Geneva.

12 ENN, UCL, and ACF, *MAMI Project. Technical Review: Current evidence, policies, practices & programme outcomes. Jan 2010*. 2010.

13 World Health Organization. *Global Action Plan for Child Wasting: normative guidance 2021. 2021* 2022/10/28]; Available from: https://www.childwasting.org/normative-guidance.

14 World health Organization, *WHO recommendations on maternal and newborn care for a positive postnatal experience*. 2022: Geneva.

15 World Health Organization, *WHO recommendations for care of the preterm or low birth weight infant*. 2022: Geneva.

16 Catherine, S., et al., *Cohort profile: The WHO Child Mortality Risk Stratification Multi-Country Pooled Cohort (WHO-CMRS) to identify predictors of mortality through early childhood*. medRxiv, 2024: p. 2024.03.06.24303859.

17 Greenhalgh, T., S. Thorne, and K. Malterud, *Time to challenge the spurious hierarchy of systematic over narrative reviews?* European Journal of Clinical Investigation, 2018. **48**(6): p. e12931.

18 Saluja, K., et al., *Improving WHO's understanding of WHO guideline uptake and use in Member States: a scoping review*. Health Res Policy Syst, 2022. **20**(1): p. 98.

19 Greenhalgh, T. and C. Papoutsi, *Studying complexity in health services research: desperately seeking an overdue paradigm shift*. BMC Medicine, 2018. **16**(1): p. 95.

20 McGrath, M., et al., *Mapping the range of policies relevant to care of small and nutritionally at risk infants under 6 months and their mothers in Ethiopia: a scoping review protocol*. BMJ Open, 2023. **13**(9): p. e069359.

21 Grey, K., et al., *The MAMI Care Pathway Package: A resource to support the management of small and nutritionally at risk infants under six months of age and their mothers (MAMI)*. South Sudan Medical Journal, 2021(14(3)): p. 94-9.

22 McGrath, M., *MAMI and the new 2023 WHO recommendations on 'at risk' infants under 6 months: we're talking the same talk!* 2023, ENN: Oxford, UK.

23 MAMI Global Network, ENN, and LSHTM, *MAMI Care Pathway Package. v3*. 2021.

24 Olmos-Vega, F.M., et al., *A practical guide to reflexivity in qualitative research: AMEE Guide No. 149*. Medical Teacher, 2023. **45**(3): p. 241-251.

25 Vogel, J.P., et al., *Developing and applying a 'living guidelines' approach to WHO recommendations on maternal and perinatal health*. BMJ Glob Health, 2019. **4**(4): p. e001683.

26 World Health Organization, *WHO handbook for guideline development, 2nd Edition*. 2014.

27 Kitila, S.B., et al., *Maternal Healthcare in Low- and Middle-Income Countries: A Scoping Review.* Health Serv Insights, 2022. **15**: p. 11786329221100310.

28 Natasha Lelijveld, E.B., Stephanie V Wrottesley, Brenda Akwanyi, Philip T James *Nutrition of women and adolescent girls in humanitarian contexts: Current state of play*. 2022. 0 DOI: Enn_7453.

29 Philip T. James, S.V.W., Natasha Lelijveld, Eilise Brennan, Bridget Fenn, Rachael Menezes and E. Mates. *Women's nutrition: A summary of evidence, policy and practice including adolescent and maternal life stages*. 2022. 0 DOI: Enn_7286.

30 Mwangome, M., et al., *Growth monitoring and mortality risk in low birthweight infants: a birth cohort study in Burkina Faso [version 1; peer review: 1 approved with reservations]*. Gates Open Research, 2021. **5**(82).

31 Ashorn, P., et al., *Small vulnerable newborns—big potential for impact*. The Lancet, 2023. **401**(10389): p. 1692-1706.

32 Hoehn, C., et al., *Anthropometric Criteria for Identifying Infants Under 6 Months of Age at Risk of Morbidity and Mortality: A Systematic Review*. Clin Med Insights Pediatr, 2021. **15**: p. 11795565211049904.

33 World Health Organization. *Clinical Care in Crises. L4 Mobile Reference App*. 2024 2024/01/23]; Available from: https://www.who.int/tools/CCC/l4-mobile-reference-app.

34 Akl, E.A., et al., *Living systematic reviews: 4. Living guideline recommendations*. J Clin Epidemiol, 2017. **91**: p. 47-53.

35 World Health Organization, *WHO guideline on the prevention and management of wasting and nutritional oedema (acute malnutrition) in infants and children under 5 years*. 2023.

36 World Health Organization. *Strategic and Technical Advisory Group for Maternal, Newborn, Child and Adolescent Health and Nutrition (STAGE)*. 2024 2024/01/23]; Available from: https://www.who.int/groups/strategic-and-technical-advisory-group-of-experts-for-maternal-newborn-child-and-adolescent-health-and-nutrition-STAGE/about.

37 Montgomery, P., et al., *Considerations of complexity in rating certainty of evidence in systematic reviews: a primer on using the GRADE approach in global health*. 2019. **4**: p. e000848.

Annexes

Annex 1: Working definitions

Antenatal care: Antenatal care targets pregnant woman from eight to 12 weeks of gestation to birth, with eight visits being recommended. (WHO. WHO recommendations on antenatal care for a positive pregnancy experience. Geneva: WHO; 2016)

Assumption: An assumption is something that you accept as true without question or proof. (Cambridge Dictionary. Available from: http://dictionary.cambridge.org/dictionary/english/).

Care: For the purpose of this review, care covers health and nutritional care for infants u6m, and physical and mental health, nutrition, and social care for their mothers, addressed in community or primary care settings. (MAMI Global Network, ENN, LSHTM. MAMI Care Pathway Package, Version 3; 2021. www.ennonline.net/mamicarepathway).

Caregiver: A caregiver is a person who is very closely attached to a child and responsible for the child's care and support. Primary caregivers include parents, families and other people who are directly responsible for the child at home. They also include carers outside the home, such as those working in organised childcare. (UNICEF, WHO. Nurturing care practice guide: strengthening nurturing care through health and nutrition services. Geneva: UNICEF and WHO; 2022)

Childhood disabilities: Childhood disabilities are any difficulty experienced in any three areas of functioning – impairment, activity limitation and restricted participation – as a result of a health condition and the interaction of this with the environment. It includes chronic health conditions such as asthma, diabetes, epilepsy and obesity. (UNICEF, WHO. Nurturing care practice guide: strengthening nurturing care through health and nutrition services. Geneva: UNICEF and WHO; 2022)

Clinical pathway: A clinical pathway is defined by five criteria: (1) the intervention is a structured multidisciplinary plan of care; (2) the intervention is used to translate guidelines or evidence into local structures; (3) the intervention details the steps in a course of treatment or care in a plan, pathway, algorithm, guideline, protocol or other "inventory of actions"; (4) the intervention has timeframes or criteria-based progression; and (5) the intervention aims to standardise care for a specific clinical problem, procedure or episode of healthcare in a specific population. Other terminology used: "protocols", "care model", "care map", "multidisciplinary care", "evidence-based care" and "guideline". (Kinsman, L., et al. What is a clinical pathway? Development of a definition to inform the debate. BMC medicine. 2010 Dec;8(1):1-3)

Collaborative care: Collaborative care brings together professionals and/or organisations to work in partnership with people to achieve a common purpose. (WHO. People-centred and integrated health services: an overview of evidence. An interim report. Geneva: WHO; 2015)

Community-based care: For the purpose of this review, community-based care refers to local, decentralised community services, including preventative, promotive, supportive and curative healthcare. (Woeltje, MM., et al., Community-based management of acute malnutrition for infants u6m of age is safe and effective: analysis of operational data. Public Health Nutrition. 2023;26(1):246-255)

Competency: A competency is the capability to use a set of related knowledge, skills and behaviours to successfully perform identified jobs, roles or responsibilities. (WHO. Roles and responsibilities of government chief nursing and midwifery officers: a capacity-building manual. Geneva: WHO; 2015)

Complex system: A complex system is a collection of individual elements (agents) with the freedom to act in ways that are not always predictable and whose actions are interconnected so that one agent's actions change the context for other agents. Characteristics of complex systems are self-organisation, constant change, feedback loops, non-linearity, time lags between inputs and outcomes, history (path) dependence, and unintended consequences, shaping and being shaped by the context. A complex adaptive system adapts, learns and evolves with time, showing new emergent behaviours. (Plsek, P., Greenhalgh, T. Complexity science: The challenge of complexity in health care. British Medical Journal. 2001;323(7313):625-8)

Condition: A condition can be a disease, disorder, injury, disability, or any other health problem that affects a person's physical, mental, or social wellbeing. It can be classified according to different criteria, such as the cause, the symptoms, the duration, the severity, the impact, or the treatment. For example, a condition can be infectious or non-infectious, acute or chronic, mild or severe, preventable or incurable, communicable or non-communicable (https://www.who.int/publications-detail-redirect/WHO-2019-nCoV-Post_COVID-19_condition-Clinical_case_definition-2021.1 and https://www.who.int/health-topics/coronavirus). It is any deviation(s) from a normal state of health or wellbeing. A condition can be a disease, disorder, injury, disability, or any other health problem that affects a person's physical, mental, or social wellbeing. (WHO. A clinical case definition of post COVID-19 condition by a Delphi consensus. Geneva: WHO; 2021).

Continuity of care: Continuity of care is a term used to indicate one or more of the following attributes of care: (i) the provision of services that are coordinated across levels of care (primary care and referral facilities), and across settings and providers; (ii) the provision of care throughout the life cycle; (iii) care that continues uninterrupted until the resolution of an episode of disease or risk; (iv) the degree to which a series of discrete health care events are experienced by people as coherent and interconnected over time, and are consistent with their health needs and preferences. (WHO. Health Systems Strengthening Glossary. WHO; 2011. Available at: https://cdn.who.int/media/docs/default-source/documents/health-systems-strengthening-glossary.pdf).

Continuum of care: The continuum of care is the system that provides a comprehensive range of health services, so that care can evolve with the patient over time. With the understanding that a patient's health may be most vulnerable during gaps in care, the continuum of care exists to ensure those gaps are filled. It means maintaining continuity of the medical care delivered to the patient, especially when switching between caregivers or care. (MJHS. Continuum of Care: the importance of seamless, uninterrupted care. Available at: https://www.mjhs.org/resource/continuum-of-care-the-importance-of-seamless-uninterrupted-care/#:~:text=Essentially%20a%20continuum%20of%20care,ensure%20those%20gaps%20are%20filled).

Coverage: Coverage is the extent of interaction between the service and the people for whom it is intended. Coverage is not to be limited to a particular aspect of service provision, but ranges from resource allocation to the achievement of the desired objective. Health coverage for people with health needs can be differentiated as follows:

- *Availability (or geographic) coverage*: having the service available.
- *Accessibility coverage*: able to use the service, with the determining factors of distance, financial reasons, socio-cultural values and norms.
- *Acceptability coverage*: willing to use the service.
- *Contact coverage*: using the service.
- *Effectiveness coverage*: receiving effective care.

(Tanahashi, T. Health service coverage and its evaluation. Bulletin of the World Health Organization. 1978;56(2):295; and WHO. Health Systems Strengthening Glossary. WHO; 2011. Available at: https://cdn.who.int/media/docs/default-source/documents/health-systems-strengthening-glossary.pdf).

Embedding: Embedding is the process through which a practice or practices become (or does/do not become) routinely incorporated in everyday work of individuals and groups. (May, C.R., et al. Development of a theory of implementation and integration: Normalization Process Theory. Implementation Science. 2009;4(1):29). Embedding is making something an integral part of something else, and describes how something is placed within something else. (Greenhalgh, T. et al., Beyond adoption: A new framework for theorizing and evaluating nonadoption, abandonment, and challenges to the scale-up, spread, and sustainability of health and care technologies. J Med Internet Res. 2017;19(11):e367)

Essential newborn care: Essential newborn care covers immediate newborn care (thorough drying, skin-to-skin contact of the newborn with the mother, delayed cord clamping, hygienic cord care); neonatal resuscitation (for those who need it); early initiation and support for exclusive breastfeeding; routine care (Vitamin K, eye care and vaccinations, weighing and clinical examinations); prevention of mother-to-child transmission of HIV; assessment, management and referral of bacterial infections, jaundice and diarrhoea, feeding problems, birth defects and other problems; pre-discharge advice on mother and baby care and follow-up. (WHO. Essential newborn care. WHO; 2024. Available at: https://www.who.int/teams/maternal-newborn-child-adolescent-health-and-ageing/newborn-health/essential-newborn-care).

Extremely low birth weight: Extremely low birth weight is a weight at birth of less than (<) 1.0 kg. (https://www.cedars-sinai.org/health-library/diseases-and-conditions---pediatrics/l/low-birth-weight.html).

Extremely preterm: Extremely preterm is being born at <28 weeks gestation (https://www.who.int/news-room/fact-sheets/detail/preterm-birth).

Family-centred approach: A family-centred approach includes policies, procedures and practices tailored to focus on children's and families' needs, beliefs, and cultural values. This approach means working in partnership with families, and recognising and building on their strengths. (WHO, UNICEF, World Bank Group. Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential. Geneva: WHO; 2018).

Family-centred care: Family-centred care is an approach to care delivery that promotes a mutually beneficial partnership among parents, families and healthcare providers to support healthcare planning, delivery and evaluation. The principles of family-centred care include: dignity and respect; information sharing; participation; and collaboration. It can be practised in health facilities at all levels. (WHO. Survive and thrive: transforming care for every small and sick newborn. Geneva: WHO; 2019).

Hypothesis: A hypothesis is an idea or explanation for something that is based on known facts but which has not yet been proved. (Cambridge Dictionary. Available at: https://dictionary.cambridge.org/dictionary/english/hypothesis).

Implementation: Implementation is the social organisation of bringing a practice or practices into action. (May, C.R. et al. Development of a theory of implementation and integration: Normalization Process Theory. Implementation Science. 2009;4(1):29).

Infant: For the purposes of this review, an infant is a young child below one year of age, from zero to one year of age. (Cambridge Dictionary. Available at: https://dictionary.cambridge.org/dictionary/english/infant).

Innovation: Innovation refers to health interventions or practices that are being tested in a pilot project or research, or a package of interventions that is new in the local setting. (WHO, ExpandNet. Beginning with the end in mind: planning pilot projects and other programmatic research for successful scaling up. WHO; 2011)

Integrated care pathway: An integrated care pathway is a structured multidisciplinary care plan that details essential steps in the care of a patient with a specific clinical problem and that describes the expected progress of the patient. Campbell, H. et al. Integrated care pathways. Bmj. 1998;316(7125):133-7)

Integrated service (integrated care): This is the management and delivery of health services (care) such that people receive a continuum of health promotion, disease prevention, diagnosis, treatment, disease management, rehabilitation and palliative care services through the different levels and sites of care within the health system and according to their needs throughout the life course. (WHO. Integrated health service. What and why? Technical brief 1. Geneva: WHO; 2008)

Integrating: Integrating is to make into a whole by bringing different parts together (or merging them); integration is the action or process of integrating. Integration can evolve from assimilation (take in and understand fully) through adoption (choose to take up or follow) to normalisation (make ideas or actions appear culturally "normal") (www.thefreedictionary.com).

Integration: Integration is the process by which a practice or practices are reproduced and sustained among the social matrices of an organisation or institution. (May, C.R. et al. Development of a theory of implementation and integration: Normalization Process Theory. Implementation Science. 2009;4(1):29)

Intensive newborn care: Intensive newborn care includes advanced feeding support (e.g., parenteral nutrition); mechanical/assisted ventilation, including intubation; screening and treatment for retinopathy of prematurity; surfactant treatment; investigation and management of birth defects; paediatric surgery; genetic services. (https://en.wikipedia.org/wiki/Neonatal_intensive_care_unit).

Low birth weight: Low birth weight is a weight at birth of <2.5 kg. (https://www.who.int/data/nutrition/nlis/info/low-birth-weight).

Maternity care: Maternity care is the care provided by health professionals to pregnant women during pregnancy, childbirth, and the postnatal period. (https://www.nhs.uk/pregnancy/your-pregnancy-care/your-antenatal-care/).

Neurodevelopment: Neurodevelopment refers to the brain's development of neurological pathways that influence performance or functioning (e.g., intellectual functioning, reading ability, social skills, memory, attention or focus skills). When you learn to do just about anything, you are improving neurodevelopment. (BCPN. Neurodevelopment). (https://www.bcpn.org/what-is-neurodevelopment-.html).

Newborn care: Newborn care is care for the newborn from birth up to 28 days. (WHO. Essential newborn care. WHO; 2024. Available at: https://www.who.int/teams/maternal-newborn-child-adolescent-health-and-ageing/newborn-health/essential-newborn-care).

Newborn, neonate: A newborn or neonate is an infant less than four weeks old; i.e. less than 28 days old, or from zero to 28 days old. (WHO. Essential newborn care. WHO; 2024. Available at: https://www.who.int/teams/maternal-newborn-child-adolescent-health-and-ageing/newborn-health/essential-newborn-care).

Nurturing care: Nurturing care provides an environment created by caregivers ensuring children's good health and nutrition, protects them from threats, and gives them opportunities for early learning, through interactions that are emotionally supportive and responsive. (WHO, UNICEF, World Bank Group. Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential. Geneva: WHO; 2018).

People-centred care: People-centred care is focused and organised around the health needs and expectations of people and communities, rather than diseases. It encompasses clinical encounters as well as attention to the health of people in their communities and their crucial role in shaping health policy and health services. (WHO. People centred care in low- and middle-income countries. Meeting report. Geneva: WHO; 2010).

Perinatal period: The perinatal period is the period starting from pregnancy at 22 weeks of gestation up to seven days (six weeks) postnatal. (https://www.sabp.nhs.uk/our-services/mental-health/perinatal/what-does-perinatal-mean).

Person-centred care: Person-centred care is an approach to care that consciously adopts individuals', families' and communities' perspectives as participants in and beneficiaries of trusted health systems. This perspective can be characterised by dimensions such as respect for patients' values, preferences and expressed needs in regard to coordination and integration of care, information, communication and education, physical comfort, emotional support and alleviation of fear and anxiety, involvement of family and friends, transition and continuity. (Social Care Institute for Excellence. Person-centred care: Social Care Institute for Excellence; 2023. Available from: https://www.scie.org.uk/prevention/choice/person-centred-care).

Postnatal care: Postnatal care is maternal care provided from birth up to eight weeks; three additional visits are recommended. (https://www.nice.org.uk/guidance/ng194/resources/postnatal-care-pdf-66142082148037).

Preterm: Preterm is an infant born <37 weeks of gestation. (https://www.who.int/news-room/fact-sheets/detail/preterm-birth).

Primary care: Primary care refers to essential, first-contact care provided in a community setting. (WHO. Health promotion glossary of terms 2021. Geneva: WHO; 2021)

Primary healthcare: Primary healthcare is the first point of contact for patients seeking medical attention. (https://www.england.nhs.uk/).

Quality control: Quality control is a mechanism for monitoring and regulating the provision of quality care, such as accreditation and/or licensing of healthcare facilities and/or healthcare professionals. (Network for Improving Quality of Care for Maternal, Newborn and Child Health. Implementation guidance: Improving quality of care for maternal, newborn and child health. 2017).

Quality improvement: Quality improvement is a systematic, formal approach to the analysis of practice performance and efforts to improve performance. A variety of approaches – also known as quality improvement interventions – exist to help collect and analyse data and test change. (Network for Improving Quality of Care for Maternal, Newborn and Child Health. Implementation guidance: Improving quality of care for maternal, newborn and child health; 2017).

Quality of care: Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge. (Institute of Medicine. Medicare: A strategy for quality assurance, volume I. Lohr KN, editor. Washington, DC: The National Academies Press; 1990.) Overarching attributes of quality of care are effectiveness, efficiency, accessibility, person/people-centred care, equity and safety (WHO. Quality of care: WHO; 2023.) Quality of patient care focuses mostly on technical quality, appropriate referral, continuity of care and patient-centredness (Kruk, M.E., Freedman, L.P. Assessing health system performance in developing countries: a review of the literature. Health Policy. 2008;85(3):263-76).

Quality planning: Quality planning is a systematic process that translates quality policy into measurable objectives and requirements and lays down a sequence of steps for realising them within a specified time frame. (Network for Improving Quality of Care for Maternal, Newborn and Child Health. Implementation guidance: Improving quality of care for maternal, newborn and child health. 2017).

Scale-up: Scale-up is the deliberate effort to increase the impact of a health service innovation (successfully tested in a pilot or experimental project) to benefit more people and foster lasting policy and programme development. (WHO. Practical guidance for scaling up health service innovations. Geneva: WHO; 2009).

Scoping review: A scoping review is a type of research synthesis that aims to "map the literature on a particular topic or research area and provide an opportunity to identify key concepts; gaps in the research; and types and sources of evidence to inform practice, policy-making, and research". (Saluja, K. et al. Improving WHO's understanding of WHO guideline uptake and use in Member States: a scoping review. Health Res Policy Syst, 2022. 20(1): p. 98).

Secondary healthcare: Secondary healthcare is provided by medical specialists who do not have direct contact with a patient. (https://www.england.nhs.uk/).

Secondary prevention: Secondary prevention aims to reduce the impact of a disease or injury that has already occurred. Primary prevention activities stop the illness (condition) happening, while secondary prevention activities stop the illness (condition) getting worse. (https://cks.nice.org.uk/topics/mi-secondary-prevention/).

Sick infant, sick child: A sick infant or sick child is a sick infant under two months of age or a sick child from two months to 59 months of age (WHO. Integrated Management of Childhood Illness: management of the sick young infant aged up to 2 months. IMCI chart booklet. Geneva: WHO; 2019).

Small for gestational age: Small for gestational age is an infant with a birth weight <10th percentile for gestational age. (https://www.rcog.org.uk/guidance/browse-all-guidance/green-top-guidelines/small-for-gestational-age-fetus-investigation-and-management-green-top-guideline-no-31/).

Special newborn care: Special newborn care includes thermal care; comfort and pain management; kangaroo mother care; assisted feeding for optimal nutrition (cup feeding and nasogastric feeding); safe administration of oxygen; prevention of apnoea; detection and management of neonatal infection; detection and management of hypoglycaemia, jaundice, anaemia and neonatal encephalopathy; seizure management; safe administration of intravenous fluids; detection and referral management of birth defects. (https://www.nhs.uk/pregnancy/labour-and-birth/after-the-birth/special-care-ill-or-premature-babies/).

Systems thinking: Systems thinking is an approach to problem solving that views problems as part of a wider dynamic system, demanding a deep understanding of linkages, relationships, interactions and behaviours among the elements of the entire system; its application accelerates a more realistic understanding of what works, for whom, and under what circumstances; it goes beyond the input-black box-output paradigm by opening the black box and considering feedback, processes, flows, control and contexts. (de Savigny, D., Adam, T. Systems thinking for health systems strengthening. Geneva: WHO; 2009).

Term gestation: Term gestation is an infant born between 37 and 42 weeks of gestation since the mother's last menstrual period. (https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2013/11/definition-of-term-pregnancy).

Annex 2: Search terms

1 newborn* or new-born or neonat* or prematur* or infant* or infancy or baby or babies or p?ediatric*.

2 low-birth-weight or LBW or prematur* or small-for-gestational-age or SGA or small-for-age or SFA.

3 malnourished or malnutrition or severe malnutrition or severely malnourished or severe acute malnutrition or SAM or moderate* malnutrition or moderately malnourished or moderate acute malnutrition or MAM or acute malnutrition or acutely malnourished or AM or severe wasting or severely wasted or moderate wasting or moderately wasted or wasting or wasted or thin* or stunting or stunted or growth-failure or growth-falter* or poor growth or under-weight or failure-to-thrive or FTT or failure-to-grow or growth delay or delayed growth or nutrition*deficien* or micronutrient* deficien* or nutritionally-at risk or nutrition disorder* or protein-energy-malnutrition or PEM or development* delay or delayed development or mid-upper-arm-circumference or MUAC or weight-for-length or WFL.

4 (1 AND 2) OR (1 AND 3) [*all vulnerable infants*].

5 (mother* or matern*) ADJ2 (health or nutrition or mental-health or reproductive-health or food or social-assistance or social-welfare or nutrition or malnutrition).

6 4 OR 5 [*all vulnerable infants OR mothers*].

7 policy or policies or guid* or strateg* or manual or framework or plan.

8 6 AND 7 [*all vulnerable infants OR mothers AND guidance*].

7 Screen for identified documents relevant to infants under six months of age at global level.

Annex 3: Bibliography

Priority policy guidance

1 Guidelines

PAHO. (2021). *Evidence-based Clinical Practice Guidelines for the Follow-Up of At risk Neonates. Abridged version*. Pan American Health Organization. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2023). *WHO guideline on the prevention and management of wasting and nutritional oedema (acute malnutrition) in infants and children under 5 years*. WHO.

WHO (2021). *Consolidated guidelines on HIV prevention, testing, treatment, service delivery and monitoring: recommendations for a public health approach*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2022). *WHO consolidated guidelines on tuberculosis. Module 5: management of tuberculosis in children and adolescents*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2022). *WHO recommendations for care of the preterm or low birth weight infant*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2021). Guideline: *infant feeding in areas of Zika virus transmission, second edition*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2020). *Improving early childhood development: WHO guideline*. Licence: CC BY-NC-SA 3.0 IGO.

WHO. (2018). *Guideline: counselling of women to improve breastfeeding practices*. Licence: CC BY-NC-SA 3.0 IGO#

WHO. (2016). *Updated guideline: paediatric emergency triage, assessment and treatment.*

WHO. (2015). *Guideline: Managing possible serious bacterial infection in young infants when referral is not feasible.*

WHO. (2015). *WHO recommendations on interventions to improve preterm birth outcomes.*

WHO. (2012). *Guidelines on basic newborn resuscitation.*

WHO. (2012). *Recommendations for management of common childhood conditions: evidence for technical update of pocketbook recommendations: newborn conditions, dysentery, pneumonia, oxygen use and delivery, common causes of fever, severe acute malnutrition and supportive care.*

2 Guidance and manuals

CBM. (2014). *Recognising impairments at birth, fact sheet and manual*

CBM (2012). *Cerebral palsy, factsheet and manual – Part of the CBM Prevention Toolkit on Cerebral Palsy.*

IASC. (2018). *Inter-Agency Field Manual on Reproductive Health in Humanitarian Settings.*

MAMI Global Network, ENN, LSHTM. (2021). *MAMI Care Pathway Package, Version 3*. ENN.

Partners in Health, The Primate's World Relief and Development Fund, Rwanda Paediatric Association, UNICEF, Grand Challenges Canada. (2020). *The Paediatric Development Clinic: Early Childhood Development Support for High-Risk Infants within Non-Communicable Disease Services. Protocol.*

SPOON. (2022). *Identifying feeding difficulties in infants- guidelines for healthcare professionals.*

SPOON. (2022). *Screening children for feeding difficulties-guidelines for healthcare professionals.*

UNICEF and University of Pretoria. (2022). *Feeding preterm and low-birthweight newborns: a one-stop resource document for developing country-specific implementation guidelines, protocols, standard operating procedures and job aids*. UNICEF.

UNICEF. (2021). *Integrating Eary Detection and Treatment of Child Wasting into Routine Primary Health Care Services: A Resource Guide to Support National Planning.*

WHO. (2022) *Guide for integration of perinatal mental health in maternal and child health services*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2022). *Pocketbook of primary health care for children and adolescents: guidelines for health promotion, disease prevention and management from the newborn period to adolescence*. WHO Regional Office for Europe.

WHO. (2022). *WHO operational handbook on tuberculosis. Module 5: management of tuberculosis in children and adolescents*. Licence: CC BY-NC-SA 3.0 IGO

WHO, UNICEF. (2020). *Protecting, promoting and supporting breastfeeding: the Baby-friendly Hospital Initiative for small, sick and preterm newborns.* Licence: CC BY-NC-SA 3.0 IGO

WHO. (2019). *Integrated Management of Childhood Illness: management of the sick young infant aged up to 2 months. IMCI chart booklet*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2016). *Oxygen therapy for children: a manual for health workers*.

WHO, UNICEF, USAID, Save the Children. (2015). *Caring for newborns and children in the community: planning handbook for programme managers and planners*.

WHO. (2014). *Hospital care for mothers and newborn babies: quality assessment and improvement tool: a systematic standard based participatory approach*. WHO Regional Office for Europe.

WHO. (2014). *Integrated management of childhood illness – Chart booklet*.

WHO. (2013). *Pocketbook of hospital care for children*.

WHO. (2002). *Kangaroo mother care: a practical guide*.

3 Enabling documents

FANTA III. (2018). *Training Guide for Community-Based Management of Acute Malnutrition (CMAM), 2018 Version: training guide, handouts and slides*.

PATH. (2019). *A Resource Toolkit for Establishing and Integrating Human Milk Bank Programs*.

Smile Train, SPOON. (2018). *Supporting comprehensive cleft care through nutrition and feeding: Training manual and handouts*. Smile Train. *https://www.smiletrain.org/sites/default/files/2021-01/nutrition-feeding-trainer-manual.pdf*

Smile Train, SPOON. (2018). *Supporting comprehensive cleft care through nutrition and feeding*. Smile Train.

UNICEF, NEST360. (2021). *Implementation Toolkit for Small and Sick Newborn Care*.

UNICEF, WHO. (2020). *Ending preventable newborn deaths and stillbirths by 2030 – Moving faster towards high-quality universal health coverage in 2020–2025*. UNICEF.

WHO, UNICEF. (2020). *Baby-friendly Hospital Initiative training course for maternity staff: participant's manual*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2020). *Human resource strategies to improve newborn care in health facilities in low and middle-income countries*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2020). *Standards for improving the quality of care for small and sick newborns in health facilities*. Licence: CC BY-NC-SA 3.0 IGO

WHO, UNICEF. (2019). *Survive and thrive: Transforming care for every small and sick newborn*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2019) *Integrated Management of Childhood Illness: Management of the Sick Young Infant Age up to 2 Months: Facilitator Guide*. Licence: CC BY-NC-SA 3.0 IGO

WHO, UNICEF, World Bank Group. (2018). *Nurturing care for early childhood development – A framework for helping children survive and thrive to transform health and human potential*. WHO; 2018

WHO. (2016). *Early essential newborn care – First embrace: Coaching for the first embrace, facilitator's guide Module 2*. WHO-WPR.

WHO. (2016). *Standards for improving the quality of maternal and newborn care in health facilities*.

WHO, UNICEF. (2015). *Caring for newborns and children in the community: Caring for the child's healthy growth and development. A training course for community health workers WHO.*

WHO, UNICEF. (2014). *Every newborn: an action plan to end preventable deaths.*

WHO, UNICEF. (2011). *Caring for newborns and children in the community: Caring for the sick child in the community. A training course for community health workers. WHO.*

Non-priority policy guidance

1 Guidelines

WHO. (2022). *WHO recommendations on maternal and newborn care for a positive postnatal experience*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2018). *WHO recommendations on home-based records for maternal, newborn and child health.* Licence: CC BY-NC-SA 3.0 IGO

WHO. (2017). *Guideline: assessing and managing children at primary health-care facilities to prevent overweight and obesity in the context of the double burden of malnutrition. Updates for the Integrated Management of Childhood Illness (IMCI)*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2017). *Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2017). *WHO recommendations on maternal health: guidelines approved by the WHO Guidelines Review Committee. WHO/MCA/17.10*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2017). *WHO recommendations on newborn health: guidelines approved by the WHO Guidelines Review Committee*.

WHO. (2011). *Guidelines on optimal feeding of low birth-weight infants in low- and middle-income countries*.

2 Guidance and manuals

ACF. (2014) *Baby friendly spaces holistic approach for pregnant, lactating women and their very young children in emergency*.

CBM. (2012). *Primary Health: Preventing impairment and disability, fact sheet and manual – Part of the CBM Prevention Toolkit on "How to Improve the Health and Development of your Child"*. CBM; 2012.

HOLT International. (2022). *The Child Nutrition Program: Community Resource Manual*. Holt International.

HOLT International. (2019). *Feeding and positioning manual: Guidelines for working with babies and children including "Child Nutrition Program: Community Flipbook*.

Infant Feeding in Emergencies Core Group. (2017). *Operational Guidance on Infant Feeding in Emergencies (OG-IFE) version 3.0*. ENN.

SPOON. (2021). *Count me in – Brief*.

UNICEF, WHO, UNESCO, United Nations Population Fund (UNFPA), UNDP, UNAIDS, WFP and the World Bank. (2010). *Facts for life*. UNICEF.

WHO. (2022). *Early essential newborn care: clinical practice pocket guide, 2nd edition*.

WHO, UNICEF. (2020). *Competency verification toolkit: ensuring competency of direct care providers to implement the Baby-friendly Hospital Initiative*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2019). *Essential nutrition actions: mainstreaming nutrition through the life-course*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2019). *Network for improving quality of care for maternal, newborn and child health – quality of care for maternal and newborn – a monitoring framework for network countries*.

WHO, *Organization for Economic Co-operation and Development (OECD), World Bank Group. (2018). Delivering quality health services: a global imperative for universal health coverage. WHO, OECD, and the World Bank*. Licence: CC BY-NC-SA 3.0 IGO

WHO, UNICEF, World Bank Group. (2018). *Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential*. WHO. Licence: CC BY-NC-SA 3.0 IGO

WHO, UNICEF. (2018). *Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services: implementing the revised Baby-friendly Hospital Initiative 2018*. WHO and UNICEF. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2018). *2018 Global Reference List of 100 Core Health Indicators (plus health-related Sustainable Development Goals)*. Licence: CC BY-NC-SA 3.0 IGO

WHO, UNICEF, UNFPA. (2017). *Managing complications in pregnancy and childbirth: a guide for midwives and doctors – 2nd ed*. Licence: CC BY-NC-SA 3.0 IGO

WHO. (2017). *Network for Improving Quality of Care for Maternal, Newborn and Child Health. Improving quality of care for maternal, newborn and child health: Implementation guidance*.

WHO. (2016). *Interagency list of priority medical devices for essential interventions for reproductive, maternal, newborn and child health*.

WHO. (2015). *Pregnancy, childbirth, postpartum and newborn care: a guide for essential practice – 3rd ed*.

WHO. (2009) *Acceptable medical reasons for use of breast-milk substitutes (BMS)*.

3 Enabling documents

USAID. (2022). *A Shared Vision for Improving Perinatal Mental Health in Low- and Middle-Income Countries: A Theory of Change and Prioritized Implementation Research*. MOMENTUM.

USAID. (2022). *Responsive Care and Early Learning Addendum Training Package: DRAFT Facilitator's Guide*.

WHO. (2021). *Infant and young child feeding counselling: an integrated course. Trainer's guide, second edition*. Licence: CC BY-NC-SA 3.0 IGO

WHO, UNICEF. (2015). Caring for newborns and children in the community: Caring for the newborn at home. A training course for community health workers.

Annex 4: Variables used in the analyses

Variables used in the analyses are listed here, and data sets are found in the Scoping Review Database (Excel) that is available upon request.

Phase 1: Appraising key characteristics

(*See Database, worksheets "Phase1-Guideline (a)", "Phase1-Guidance&Manuals (b)" and "Phase1-Enabling docs (c)"*).

The data set included the following variables:

- Publication year;
- URL;
- Source;
- Title;
- Type (e.g., action plan, framework, implementation guidance, guideline, manual, report, training guide);
- Aim;
- Topic (condition, disease, disorder, injury, disability, or profile of risk factors);
- Target audience;
- Target population (e.g., infant, mother (principal caregiver), both);
- Infant's description (e.g., healthy newborn, healthy infant, vulnerable newborn, preterm infant, LBW, small, sick, (non)breastfed, wasted/acutely malnourished, underweight, stunted, growth faltering, at risk of poor growth and development, feeding problem, excessive crying, disability, acute or chronic illness);
- Mother's description (e.g., healthy, sick, mental health issue, malnourished, adolescent, prenatal, perinatal, postnatal issues, (not)lactating, absent, multipara, primipara, absent, dead);
- Sector (e.g., child health, child nutrition, child development, maternal physical health, maternal mental health, maternal nutrition, reproductive health, newborn/neonatal health);
- Level of care (e.g., tertiary, secondary, primary or community care)
- Care service (e.g., maternity, child health, child nutrition units); level of care (e.g., inpatient, outpatient, community care);
- Age timeline covered;
- Infant risks covered (e.g., LWB, preterm, SGA, growth faltering (recent weight loss, poor growth, low WAZ, low MUAC), feeding/metabolic problem, excessive crying, disability, acute or chronic illness);
- Maternal risks covered (e.g., nutritional risk, impaired breastfeeding, physical health, maternal mental health, multipara, primipara, <18 year, absent, dead);
- Interventions (e.g., active case finding or screening, health assessment or IMNCI, breastfeeding assessment, non-breastfed feeding assessment, breastfeeding support, non-breastfed feeding support, clinical care, nurturing care, ECD, crying and sleep counselling, mental health counselling, social support, follow-up visits, home visits, family involvement, continuity of care).

Phase 2: Describing vulnerability of infants u6m and their mothers

(*See Database, worksheet "Phase2-Describing vuln (a+b)"*)

The data set included the following variables of vulnerability:

Poor birth outcome

Small newborn:

- LBW <2.5 kg; LBW <2.0 kg; very LBW <1.5 kg; extremely LBW <1.0 kg
- Preterm <37 weeks gestation; very preterm <33 weeks; extremely preterm <28 weeks
- SGA (birth weight <10th percentile for gestational age)

Sick newborn:

- Birth trauma or birth complications
- Congenital illness (e.g., congenital heart disease, HIV, tuberculosis)
- Disability and/or congenital abnormality (e.g., tongue-tie, cleft palate)
- Macrocephaly head circumference (HC) (HC-for-age z score >+3 or rapid crossing z lines (+1 or more z score change in 2 months))
- Microcephaly (HC-for-age z score ≤-3)
- Morbidity related to prematurity

Low infant anthropometry (including nutritional oedema)

- Nutritional oedema
- WAZ <-2; WAZ <-3
- WLZ <-2; WLZ <-3
- MUAC <115 mm for infant 6 weeks-<6months

Poor growth based on sequential measures of ponderal growth

- Recent weight loss (decreasing weight; downward crossing growth lines)
- No weight gain on two consecutive measurements (stationary weight)
- Insufficient weight gain (flat WAZ or WLZ growth; less than 500g/kg/month)
- Insufficient weight gain for preterm (less than 18g/kg/day and 0.9 cm/week in head circumference)

Risk factors for poor growth and development

Infant's health and feeding risk factors:

- Infant breastfeeding difficulties (e.g., attachment, suckling reflex, refusal, intolerance)
- Infant history of hospitalisation
- Infant IMCI danger sign or sign of acute medical problem
- Infant medical problem needing mid-/long-term care
- Infant mental health (e.g., excessive crying)
- Infant neurodevelopment concerns
- Non-breastfed infants (e.g., unsafe preparation and use of breastmilk substitute, access to breast milk substitute)
- Severe ill infant and no referral possible

Mother's health, feeding, nutrition, and social risk factors:

- Lack of birth spacing
- Mother adolescent
- Mother dead or absent
- Mother's breastfeeding concerns (e.g., attachment, positioning, perceived breastmilk insufficiency, mixed feeding, other ineffective feeding/time, frequency)
- Mother's birth complication
- Mother's MUAC
- Mother's physical health (e.g., tuberculosis, HIV, disability)
- Mother's social or contextual factors affecting with care and feeding (other)
- Mother's anaemia
- Mother's mental health
- Multipara
- Primipara

Phase 3: Appraising guidance on continuity of care

(*See Database, worksheet "Phase3-Priority&Care (a+b)"*)

The data set included the following variables:

- **Condition:** How is the condition or risk profile described (e.g., health problem, disease, disorder, injury, disability)?
- **Care across time, services and levels of care:** Is care being provided across services, levels of care and time (e.g., assisting referral, providing follow-up post-exit/discharge, connecting to follow-on services across health, nutrition, and social services)?
- **Integrated care pathway:** Does care cover assessing, classifying and/or acting on the condition, including monitoring individual progress and outcomes?
- **Comprehensive person-centred care:** Is care organised around the health needs and expectations of the person rather than disease (including a comprehensive assessment of a person's needs and building individual resilience; involving a multidisciplinary team)?
- **ECD:** Is ECD incorporated into care?
- Mother (principal caregiver), father and family support: Are the mother, father, and family engaged in care?
- **Community participation:** Is the community sensitised (aware) and involved in the provision and organisation of care?
- **Embeddedness (mainstreaming in routine care):** Are practices incorporated into everyday work, building upon existing services (including practical re-organisation of care and staff with new roles and responsibilities; avoiding duplicative actions or vertical, disconnected service delivery)?
- **Local health system support:** Does the policy guidance include strengthening the capacities of the local health system (e.g., on governance, finances, information system, health workforce, supplies and technology, and service delivery, community participation)?
- **M&E:** Is M&E for quality improvement comprehensively covered?
- **Wider multisectoral support:** Is consideration given to socioeconomic support and assistance (e.g., cash, food, income generation, maternity leave, childcare for working mothers)?
- **Organisational capacities, including resilience:** Is consideration given to developing or strengthening organisational capacities so they can better respond to (un)expected changes and absorb shocks?

Annex 5: Vulnerability factors across 34 priority policy guidance documents on care of vulnerable infants u6m and their mothers

Vulnerability factors		Small and/or sick newborn							Nutritional status of infant			Risk factors related to the infant							Risk factors related to the mother											
Title of document	**Condition**	**Congenital illness (including HIV, TB)**	**Low birth weight**	**Preterm**	**Disability or congenital abnormality**	**Preterm morbidity**	**Birth trauma or complications**	**Small for gestational age**	**Poor ponderal growth**	**Low anthropometry**	**Nutritional oedema**	**Breastfeeding difficulties**	**Illness**	**Not breastfed**	**Neurodevelopment concerns**	**Hospitalisation history**	**Mental health**	**Physical health**	**Breastfeeding conditions**	**Mental health**	**Social or contextual factors**	**Birth complication**	**Adolescent**	**Multipara**	**Absent or died**	**Anaemia**	**Primipara**	**Birth spacing**	**Low Mid-upper arm circumference**
Guidelines																													
2023 WHO Guideline on the prevention and management of wasting and nutritional oedema in infants and children under 5 years	Poor growth and development	●	●	●	●	–	–	●	●	●	●	●	●	●	●	●	–	●	–	●	●	●	●	–	●	–	–	–	–
2022 WHO Consolidated guidelines on tuberculosis in children and adolescents	Tuberculosis	●	–	–	–	–	–	–	●	●	●	–	●	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–	–
2022 WHO Recommendations for care of the preterm or low-birth-weight infant	Preterm, Low birth weight		●	●	–	–	●		–	–	–	●	●	●	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–
2021 WHO-PAHO Evidence-based clinical practice guidelines for the follow-up of at risk neonates	Newborn care	●	●	●	●	●	–	–	●			●			●				●	●	●	–	–	–	–	–	–	–	–
2021 WHO Guideline: Infant feeding in areas of Zika virus transmission	Zika virus	●	–	–	–	–	–	–	–	–	–	●	–	–	–	–	–	●	●	–	–	–	–	–	–	–	–	–	–
2021 WHO Consolidated guidelines on HIV prevention, testing, treatment, service delivery and monitoring	HIV	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–	–
2020 WHO Improving early childhood development	Early childhood development	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–	–	–

Vulnerability factors		Small and/or sick newborn							Nutritional status of infant			Risk factors related to the infant							Risk factors related to the mother										
Title of document	**Condition**	**Congenital illness (including HIV, TB)**	**Low birth weight**	**Preterm**	**Disability or congenital abnormality**	**Preterm morbidity**	**Birth trauma or complications**	**Small for gestational age**	**Poor ponderal growth**	**Low anthropometry**	**Nutritional oedema**	**Breastfeeding difficulties**	**Illness**	**Not breastfed**	**Neurodevelopment concerns**	**Hospitalisation history**	**Mental health**	**Physical health**	**Breastfeeding conditions**	**Mental health**	**Social or contextual factors**	**Birth complication**	**Adolescent**	**Multipara**	**Absent or died**	**Anaemia**	**Primipara**	**Birth spacing**	**Low Mid-upper arm circumference**
Guidelines																													
2018 WHO Guideline: Counselling of women to improve breastfeeding practices	Breastfeeding	–	–	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–	●	●	●	●	●	●	–	–	●	–	–
2016 WHO Paediatric emergency triage, assessment and treatment (ETAT)	Critically ill child	●		●	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2015 WHO Recommendations on interventions to improve preterm birth outcomes	Preterm	●	●	●	●	●	●	●	–	–	–	–	●	–	–	–	–	●	–	–	–	●	–	–	●	–	–	–	–
2015 WHO Guideline: Managing possible serious bacterial infection in young infants when referral is not feasible	Ill child	–	–	–	–	–	●	–	–	–	–	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2012 WHO Recommendations for management of common childhood conditions	Ill child	–	–	●	●	●	●	●		●	●	●	●	●	●	–	–	●	●	–	–	–	–	–	–	–	–	–	–
2012 WHO Guidelines on basic newborn resuscitation	Newborn resuscitation	–	–	●	–	–	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Guidance documents																													
2022 WHO Guide for integration of perinatal mental health in maternal and child health services	Perinatal mental health	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	●	●	●	●	●	●	–	–	–	–	–	–
2022 UNICEF, University of Pretoria Feeding preterm and low-birthweight newborns	Preterm, Low birth weight	●	●	●	●	●	–	–	–	–	–	●	–	–	–	–	–	●	●	●	●	–	–	●	–	–	–	–	–

Vulnerability factors		Small and/or sick newborn							Nutritional status of infant			Risk factors related to the infant							Risk factors related to the mother										
Title of document	**Condition**	**Congenital illness (including HIV, TB)**	**Low birth weight**	**Preterm**	**Disability or congenital abnormality**	**Preterm morbidity**	**Birth trauma or complications**	**Small for gestational age**	**Poor ponderal growth**	**Low anthropometry**	**Nutritional oedema**	**Breastfeeding difficulties**	**Illness**	**Not breastfed**	**Neurodevelopment concerns**	**Hospitalisation history**	**Mental health**	**Physical health**	**Breastfeeding conditions**	**Mental health**	**Social or contextual factors**	**Birth complication**	**Adolescent**	**Multipara**	**Absent or died**	**Anaemia**	**Primipara**	**Birth spacing**	**Low Mid-upper arm circumference**
Guidance documents																													
2022 WHO-Europe Pocketbook of primary health care for children and adolescents	Ill child	●	●	●	●	●	●	–	–	●	●	●	●	●	●	●	●	●	●	●	●	●	–	–	●	●	–	–	–
2022 SPOON Identifying feeding difficulties in infants – guidelines for healthcare professionals	Feeding difficulties	●	–	–	●	–	–	–	●	–	–	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2022 SPOON Screening children for feeding difficulties	Feeding difficulties	●	–	–	●	–	–	–	●	–	–	●		●	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2022 UNICEF Integrating early detection and treatment of child wasting into routine primary health care services	Wasting	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2022 WHO Operational handbook on tuberculosis. Module 5: Management of tuberculosis in children and adolescents	Tuberculosis	●	–	–	–	–	–	–	●	●	●	–	–	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–	–
2021 ENN, LSHTM MAMI Care Pathway Package, Version 3 (guiding framework)	Small and nutritionally at risk infants and their mothers	●	●	●	●	–	–	●	●	●	●	●	●	●	●	–	●	●	●	●	●	–	●	●	●	–	●	–	●
2020 WHO, UNICEF The Baby Friendly Hospital Initiative for small, sick and preterm newborns	Breastfeeding	–	●	●	●	●	–	●	●	–	–	●	●	●	●	–	–	–	●	–	–	–	–	–	–	–	–	–	–

Vulnerability factors		Small and/or sick newborn							Nutritional status of infant			Risk factors related to the infant							Risk factors related to the mother										
Title of document	**Condition**	**Congenital illness (including HIV, TB)**	**Low birth weight**	**Preterm**	**Disability or congenital abnormality**	**Preterm morbidity**	**Birth trauma or complications**	**Small for gestational age**	**Poor ponderal growth**	**Low anthropometry**	**Nutritional oedema**	**Breastfeeding difficulties**	**Illness**	**Not breastfed**	**Neurodevelopment concerns**	**Hospitalisation history**	**Mental health**	**Physical health**	**Breastfeeding conditions**	**Mental health**	**Social or contextual factors**	**Birth complication**	**Adolescent**	**Multipara**	**Absent or died**	**Anaemia**	**Primipara**	**Birth spacing**	**Low Mid-upper arm circumference**
Guidance documents																													
Manuals																													
2020 Partners in Health, UNICEF Early Childhood Development Support for High-Risk Infants	Preterm, Low birth weight	●	●	●	●	●	●	–	●	●	–	●	●	●	●	●	●	●	–	●	●	–	–	●	●	–	–	–	●
2019 WHO Integrated Management of Childhood Illness of the sick young infant age up to 2 months. Chart booklet	Ill child	●	●	–	–	–	–	–	–	●	●	●	●	●	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–
2018 IASC Field Manual on Reproductive Health in Humanitarian Settings	Reproductive health	●	●	●	–	●	●	–	–	–	–	●	–	●	●	–	–	●	●	●	●	●	●	–	●	–	–	–	–
2016 WHO Oxygen therapy for children	Ill child	●	●	●	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2015 WHO, UNICEF, USAID Caring for newborns and children in the community: planning handbook for programme managers and planners	Newborn care	●	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–	–
2014 WHO-Europe Hospital care for mothers and newborn babies: quality assessment and improvement tool	Newborn care	●	●	●	–	●	●	●	●	–	–	●	●	●	–	●	–	●	●	●	●	●	●	–	–	–	–	–	–
2014 WHO Integrated management of childhood illness – Chart booklet	Ill child	●	●	●	●	●	●	–	●	–	●	●	●	●	●	–	–	●	●	●	●	–	–	–	–	●	–	●	–

Vulnerability factors		Small and/or sick newborn							Nutritional status of infant			Risk factors related to the infant							Risk factors related to the mother											
Title of document	**Condition**	**Congenital illness (including HIV, TB)**	**Low birth weight**	**Preterm**	**Disability or congenital abnormality**	**Preterm morbidity**	**Birth trauma or complications**	**Small for gestational age**	**Poor ponderal growth**	**Low anthropometry**	**Nutritional oedema**	**Breastfeeding difficulties**	**Illness**	**Not breastfed**	**Neurodevelopment concerns**	**Hospitalisation history**	**Mental health**	**Physical health**	**Breastfeeding conditions**	**Mental health**	**Social or contextual factors**	**Birth complication**	**Adolescent**	**Multipara**	**Absent or died**	**Anaemia**	**Primipara**	**Birth spacing**	**Low Mid-upper arm circumference**
Guidance documents																													
Manuals																													
2014 Christian Blind Mission (CBM) Recognising impairments at birth	Newborn care	–	–	–	●	–	–	–	–	–	–	–	–	–	●	–	–	●	–	–	–	–	–	–	–	●	–	–	–
2013 WHO Pocketbook of hospital care for children	Ill child	●	●	●	●	●	–	–	●	●	●	●	●	●	●	●		●	●	●	●	–	–	●	–	–	–	–	–
2012 CBM Cerebral Palsy	Cerebral palsy	–	–	–	●	●	●	–	–	–	–	–	–	–	●	–	–	●	–	●	–	–	–	–	–	–	–	●	–
2003 WHO Kangaroo mother care: a practical guide	Newborn care	–	●	●	–	●	–	●	●	–	–	●	●	●	–	–	–	●	●		●	●	●	●	●	–	–	–	–
2003 WHO Managing newborn problems	Newborn care	●	●	●	●	●	●	–	●	–	–	●	●	●	●	●	–	●	●	●	●	●	●	–	–	–	●	–	–

● = vulnerability factor covered; – = vulnerability factor not covered; n/a = not applicable.

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