Delivering health and nutrition interventions for women and children in different conflict contexts: a framework for decision-making on what to deliver, when, and how

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Key Messages

- Guidance and recommendations on promoting women's and children's health and nutrition in humanitarian crises exist, but they are not sufficiently contextualized for optimal use in conflict settings.

- A framework for prioritizing interventions that takes account of local burden and risks, the range of potential interventions to address them, and the feasibility of delivering those interventions in different conflict contexts would both empower decision-makers and make them more accountable for what ultimately gets delivered.

- Packages of priority interventions derived from an illustrative application of such a framework reflect what might be viable to deliver in different conflict settings characterized by different levels of violence and population mobility and high burden of a range of conditions and needs:

    - In conflict epicentres, where violence is acute and ongoing, the personal safety of both care seekers and care providers outweighs the imperative to provide comprehensive services; still, a small set of medically urgent life-saving interventions should be prioritized in such settings.

    - In insecure areas, where the threat of violence may be imminent but the population is not presently exposed to active conflict, a wider range of community-, facility- and hospital-based interventions should be prioritized; given insecurity and risks, however, the sequencing of higher and lower priority interventions for immediate and subsequent implementation is recommended.

    - Where displaced populations are settled in stable camps or integrated amongst host communities, there are generally fewer constraints on service delivery and

a full, comprehensive package of relevant interventions should be prioritized, targeting those in greatest need.

- Further iteration and utilisation of a decision-making framework to take account of additional contextual factors could help fill the urgent need for contextually adapted guidance on promoting the health and nutrition of women and children in conflict settings.

Summary

Existing global guidance for addressing women's and children's health and nutrition in humanitarian crises is not sufficiently contextualized for conflict settings specifically, reflecting the still-limited evidence that is available from such settings. As a preliminary step toward filling this guidance gap, we propose a conflict-specific framework that aims to guide decision-makers focused on the health and nutrition of conflict-affected women and children to prioritize interventions that would address the major causes of mortality and morbidity among women and children in their particular settings and that could also be feasibly delivered in those settings. Assessing local needs, identifying relevant interventions from among those already recommended for humanitarian settings or universally, and determining the contextual feasibility of delivery for each candidate intervention are key steps in the framework. We illustratively apply the proposed decision-making framework to show what a framework-guided selection of priority interventions might look like in three hypothetical conflict contexts that differ in terms of levels of insecurity and patterns of population displacement. In doing so, we aim to catalyze further iteration and eventual field-testing of such a decision-making framework by local, national and international organizations and agencies involved in humanitarian health response for conflict-affected women and children.

Introduction

Marking twenty years since its formation as a joint initiative of several agencies aiming to improve humanitarian response, the Sphere Project released the fourth edition of its widely used *Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response*[1] in 2018. That year also saw the launch of the newly revised *Inter-Agency Field Manual on Reproductive Health in Humanitarian Crises*[2] from the Inter-Agency Working Group on Reproductive Health in Crises (IAWG) and the newly developed *Newborn Health in Humanitarian Settings: Field Guide*[3] produced by WHO, UNICEF and Save the Children. The IFE Core Group introduced an update of the *Operational Guidance on Infant and Young Child Feeding in Emergencies*[4] in 2017, the same year that the Global Nutrition Cluster updated its *Moderate Acute Malnutrition: a Decision Tool for Emergencies*,[5] and the first edition of the *Oxford Handbook of Humanitarian Medicine*[6] was published in 2019. New releases such as these help to address the widely acknowledged need for more technical and operational guidance to inform decision-making for humanitarian health and nutrition response,[7] and they are proof of sustained commitment to continually improve humanitarian health and nutrition practice.

These new resources complement and expand pre-existing guidance on humanitarian health and nutrition action, including the 'Top 10 Priorities' outlined by Médecins Sans Frontières (MSF) in its influential 1997 publication *Refugee Health: An Approach to Emergency Situations.*[8] Aimed at preventing and reducing excess mortality among displaced populations, these ten public health priorities (Panel) continue to be recognized as essential components of an initial emergency response. They are elaborated further in more recent guidance, along with other emerging priorities in crisis contexts such as non-communicable disease treatment and mental health and psychosocial support, among others. Such guidance is and should be iterative, evolving as evidence and insights mount. For example, lessons learned from the unique challenges of humanitarian response to major infectious disease outbreaks, such as Ebola in West Africa, have been invaluable for developing operational responses in other settings.[9,10] This is further

underscored by the global response to COVID-19 and the plethora of guidance now available, including for maintaining essential health and nutrition services in the midst of the pandemic.[11]

Panel. MSF's 'Top 10 Priorities' for addressing the health of displaced populations in the emergency phase of a crisis

1. Initial assessment	Rapid collection and analysis of data and information on the background to the crisis, the population, risk factors for main diseases, and the human and material resources required
2. Measles immunization	Mass vaccination of children 6m - 15y and vitamin A distribution
3. Water, sanitation and hygiene	Organization of a clean water supply, latrines and waste disposal, and stringent measures to ensure WASH provision in health facilities
4. Food and nutrition	Nutritional assessment and food basket monitoring, general food distribution, and feeding programs for malnourished groups
5. Shelter and site planning	Organization of adequate shelter and the necessary infrastructure for providing services
6. Health care in the emergency phase	Organization of a network of health care facilities with essential drugs and materials and standardized clinical guidelines, and rapid assessment of medical needs
7. Control of communicable diseases and epidemics	Public health measures to prevent and control outbreaks of communicable diseases, including detection and rapid treatment, mass vaccination, and the installation of oral rehydration centres
8. Public health surveillance	Daily collection and analysis of data on selected diseases and health problem, and mortality
9. Human resources and training	Determination of staff requirements; staff recruitment, training and management, including home visitors recruited from the displaced population
10. Coordination	Organization of a system to coordinate various operational partners, with one overall lead partner ensuring good communication between partners and standardized policies

Most of these resources are generic, intended for use with a range of populations in a range of humanitarian emergencies. Existing guidance on addressing the health and nutrition needs of women, newborns, children and adolescents (hereafter 'women and children') specifically in conflict settings is very limited in comparison. A recent review of existing guidance documents

relevant to women and children in conflict settings found that where evidence-based recommendations do exist, they generally do not differentiate between conflict situations and other crises such as natural disasters and epidemics; where they do, the contextualization of the recommendations and their translation into practical actions is insufficient.[7] Given the particular needs of conflict-affected women and children and the particular access and resource constraints that armed conflict can impose on efforts to address those needs, relevant guidance must take context into account, including the various dimensions of conflict that drive morbidity and mortality and can drastically affect the feasibility of intervention delivery.

The lack of contextualized guidance for delivering health and nutrition interventions to women and children in conflict settings reflects the limited evidence available in the relevant literature. Both the quantity and quality of health and nutrition intervention research in humanitarian contexts is insufficient,[12] and recent systematic reviews from the BRANCH Consortium[13] have highlighted significant gaps in the literature on the delivery and impact of health and nutrition interventions for conflict-affected women and children specifically.[14-21] Gaps exist in terms of the subpopulations and morbidities or conditions targeted by the interventions reported in the literature, and in the lack of information on how interventions are delivered and what coverage and effectiveness is achieved.[22]

Most of the relevant literature reports on intervention delivery to refugee women and children living in camps rather than to those integrated among host communities, or to internally displaced or entrapped women and children. Even within the larger literature on camp-based refugee populations, there is limited reporting of interventions targeting newborns or adolescents, of interventions argeting some major infectious causes of morbidity and mortality such as pneumonia, and of interventions targeting non-communicable disease. Most of the literature reports on interventions delivered at facilities by skilled health personnel rather than through community-based platforms.[22] Very little of the literature captures coverage of reported interventions, and even less information is available about the extent to which such interventions improve outcomes among conflict-affected women and children.[22]

Some of the gaps in the literature indeed reflect actual intervention gaps in the field. A set of recent case studies by the BRANCH Consortium on the provision of women's and children's health and nutrition services in ten conflict-affected countries underscores the relative neglect of reproductive health interventions, for example, as well as adolescent health services.[23] But some of the literature gaps surely also reflect the challenges of collecting data and information in conflict settings and the many constraints on humanitarian health responders' capacities and time. Such constraints hinder the rigorous evaluation of intervention and implementation effectiveness and also discourage the systematic documentation of programmatic parameters (e.g., delivery personnel and platforms) and lessons learned; information that can be captured relatively easily and, when publicly archived, could constructively inform future programming.

Filling the guidance gap: a preliminary step

With such a limited evidence base from which to derive conflict-specific guidance on health and nutrition interventions for women and children, we propose a conflict-specific decision-making framework as a preliminary step toward filling that guidance gap.

The proposed framework is based on a conceptual model developed by the BRANCH Consortium to guide its thinking about intervention delivery in different conflict contexts (Figure 1), and is also informed by the existing framework for decision-making on vaccination in humanitarian emergencies[24] developed nearly a decade ago by WHO's Strategic Advisory Group of Experts on Immunization (SAGE), including some founding members of the BRANCH Consortium (ZAB, RJW). The proposed framework complements the existing body of guidance on addressing the health and nutrition of women and children in humanitarian settings more broadly, and is intended to help decision-makers in conflict settings better navigate and adapt that broader guidance in specific contexts. The framework outlines a process by which decision-makers can systematically select the most appropriate subset of recommended interventions for conflict-affected women and children that can be feasibly delivered in a given setting.

In this paper, we describe the development and components of the proposed framework and we then apply the framework to a set of hypothetical conflict contexts to illustrate the framework-guided selection of interventions for conflict-affected women and children in those contexts. We outline some additional considerations that real-world applications of this framework might also include, and we call for local and international colleagues to help improve this framework further.

Developing a decision-making framework for prioritizing health and nutrition interventions for women and children in different conflict contexts

Not all required interventions are made available to communities in humanitarian crises, including conflict-affected communities.[12,22,23,25-27] Different humanitarian contexts pose different challenges, and those organizations and agencies delivering health, nutrition and other interventions in each context must make critical decisions about what they can and cannot provide under prevailing conditions and to whom, essentially practicing public health triage.[28]

Given this need to triage in varying contexts, we present a systematic approach to identifying packages of recommended interventions for women and children that should be prioritized for implementation in different conflict contexts. The operational and sociopolitical aspects of humanitarian response in any given conflict situation are complex, and priority-setting in each situation must take account of local context and complexities. This undoubtedly already occurs, however ad hoc, within organizations and broader response coordination mechanisms. Nonetheless, explicit articulation and use of a framework for intervention prioritization could further empower decision-makers within government as well as local and international humanitarian agencies, especially in the face of donor-led prioritization which is presently the case in many conflict settings.[23] This could also improve documentation of, and ultimately accountability for, decisions that are made and executed in a given setting.

Conceptualizing different conflict contexts

The BRANCH Consortium developed an initial conceptual model of different conflict contexts that was subsequently critiqued and adapted through a series of consultative meetings with

representatives of international NGOs and UN agencies, funding agencies, and academic researchers between 2017 and 2019. The final conceptual model depicts conflict-affected populations in different displacement scenarios, including in-camp and out-of-camp refugees and internally displaced people, and those entrapped or otherwise remaining in conflict 'epicentres'. In this model, areas and populations are classified by exposure to active, violent conflict, and by extension, levels of access to health services (Figure 1).

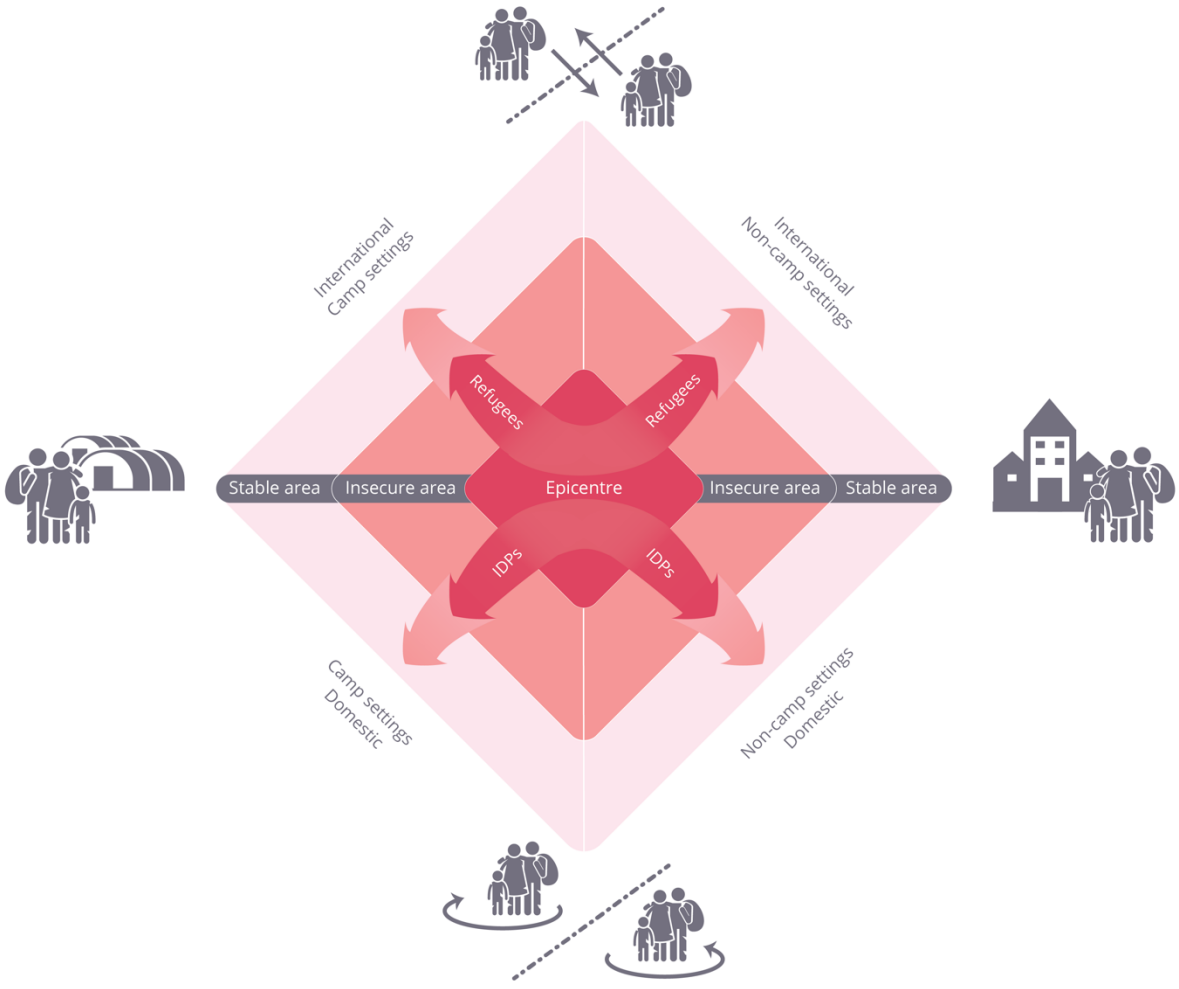

Figure 1. Conceptual framework of population proximity to and displacement from epicentres of active conflict

The dynamics of modern armed conflict are substantially more complicated than those depicted in the model, given increasing urban warfare and population displacement,[29] greater prevalence of protracted and recidivist conflict,[30] and the erosion of norms and conventions meant to guarantee protection to healthcare workers and facilities.[31,32] Nonetheless, even against this backdrop of the changing nature of war, this model arguably reflects important characteristics that differentiate each context in terms of the effects of violence and insecurity on populations' access to health services and on health workers' access to populations. Both are key determinants of effective intervention delivery that must be considered when setting intervention priorities. This model also aligns with recent empirical work by Wagner et al.[33,34] that quantifies the ripple effects of war for women and children across time and space, showing increased mortality risks associated with exposure to armed conflict, even when occurring years before or miles away.

This model conceptualizes three broad conflict contexts. Populations located in a conflict ***epicentre*** are presently exposed to active conflict in that they are currently subjected to or targeted by bombing, shelling, shooting or other methods of warfare in these hotspots. Mobility, and therefore access to and by health workers, is severely constrained by the ongoing violence, if even possible.

Insecure areas are those where the threat of attack may be imminent, but the population is not presently exposed to active conflict. Insecure areas may have been conflict epicentres weeks, days or even hours before, and may become epicentres again just as quickly. Population mobility and access to health workers and services may be unrestricted in some insecure areas; in others, mobility and access may be temporarily possible through the negotiation of humanitarian space.

Stable areas, are those in which displaced populations have settled in relative safety, either in camps or dispersed within a host community, and generally have ongoing access to health services. In reality, population access to health services may differ substantially between camp and non-camp settings, between non-camp settings in rural and urban areas, and between ethnic

and other population subgroups both in and outside of camps; in this simplified model, however, we consider population access to health services to be similar in all of these stable settings, relative to access in insecure areas or conflict epicentres.

Formulating a framework for decision-making in different conflict contexts

In seeking to develop a systematic approach to identifying priority health and nutrition interventions for women and children in a given conflict setting, we recognized the WHO SAGE decision-making framework for vaccination in emergencies to be an informative example. Essentially, the vaccination framework promotes assessment of local epidemiological risk, identification of appropriate vaccines, and consideration of the context in which those vaccines would be delivered as the key steps for optimal vaccine decision-making in emergencies. There is very limited documentation on the field application of the vaccination framework in the literature,[35] and others have critiqued the complexity of its algorithm,[36] but we considered its primary provisions to be directly relevant and adaptable to our objectives. We therefore formulated a similar framework, adapting the focus to decision-making on intervention priorities for women and children in conflict settings, and incorporating explicit consideration of the effects of conflict on intervention delivery (Figure 2).

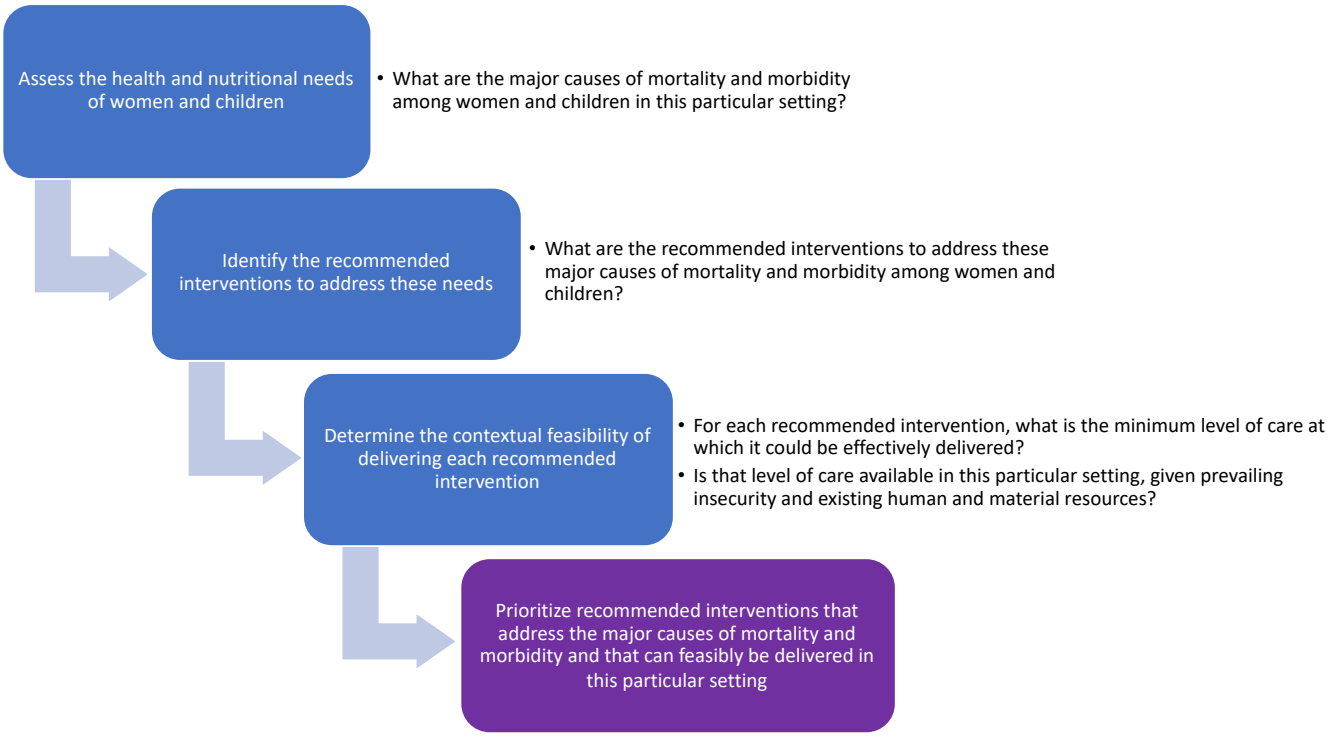

Figure 2. Decision-making framework for prioritizing health and nutrition interventions for conflict-affected women and children

The first step in the proposed framework is to assess the prevailing burden and causes of mortality and morbidity among women and children in a given setting, to determine the health and nutritional conditions that should be targeted.

Second, the effective interventions that would address the prevailing burden should be identified as potential priorities for delivery. Here we strongly endorse consideration of the interventions that are already recommended in existing global guidance for women and children in humanitarian settings more broadly, as well as those interventions recommended for women and children universally.

Third, an assessment and determination should be made of whether and how those interventions identified as potential priorities could be feasibly implemented under prevailing conditions in the given setting, particularly with respect to the safety and security of both care seekers and care

providers. Additional contextual considerations deemed to be important in a specific setting could be incorporated here, or at any step of this prioritization process.

Illustrative application of the decision-making framework in different conflict contexts

To illustrate what the framework-guided selection of interventions for women and children might look like in different conflict contexts, we apply the decision-making framework to the three hypothetical contexts derived from our conceptual model: conflict epicentres, insecure areas, and secure areas.

Step 1. Assessing the health and nutritional needs of women and children in a given conflict setting

In the initial phase of the humanitarian health response in a given conflict situation, responders must rapidly assess the levels and risks of major causes of morbidity and mortality among affected populations. Intervention priorities should reflect and address local needs, identified from current and reliable public health data, health system information, and other sources of information on prevailing risks and existing health system capacities, including the local community. The relative importance of using existing sources of information or undertaking real-time data collection to inform this assessment will necessarily vary by setting.

While a real-world application of the decision-making framework would begin with the assessment of the local needs of conflict-affected women and children, in this illustrative application of the framework in hypothetical conflict contexts, we instead use a simplifying assumption: rather than assigning hypothetical levels of needs in each of our three hypothetical contexts, we instead assume that the levels of a range of life-threatening and potentially life-changing health and nutritional conditions are high enough in each context to warrant intervention for each of those conditions.

The second paper in this Series narratively synthesises the empiric evidence of the effects of armed conflict on the health and nutrition of women and children,[37] including effects on

mortality, malnutrition, injuries and disability, infectious and non-communicable diseases, mental health, and sexual and reproductive health. The set of systematic reviews recently conducted by the BRANCH Consortium synthesizes the information available in the literature on which health and nutritional conditions among conflict-affected women and children have been targeted for intervention in the field.[14-21] In reality, not all conditions have sufficiently high burden in every conflict setting to warrant intervention, but in this illustrative application of the framework, we assume that they do. We apply this simplifying assumption so that, in Step 2, we can then consider all of the interventions for women and children that are currently recommended in existing humanitarian-focused guidance (Table 1) as candidates for prioritization in each hypothetical context, based on need.

In terms of cross-cutting conditions that may affect women and children across the life course, we assume that the burden of traumatic injury and exposure to toxins or chemical weapons, as well as the burden of mental disorders and psychological distress are all sufficiently high in our hypothetical contexts for us to consider prioritizing interventions for these conditions.

For women of reproductive age, we assume there is a high burden of sexual violence in each of our hypothetical contexts, as well as of HIV and sexually transmitted infections (STIs), contraception and family planning needs, cervical cancer, and menstrual hygiene needs. For pregnant women, we assume need for termination of unwanted pregnancies, as well as high burden of malnutrition, chronic conditions such as hypertension and diabetes, infectious diseases such as malaria and HIV/STIs, labour and delivery needs, and postpartum complications. For newborns, we assume that the burden of prematurity or low birth weight, intrapartum birth complications, challenges to exclusive breastfeeding, and serious infections all warrant consideration for intervention.

The burden of major infectious diseases in childhood such as diarrhea, acute respiratory infection, measles, and malaria is assumed to be high in our hypothetical contexts, as well as neglected tropical diseases, malnutrition and the disruption of feeding practices, and

developmental delay and behavioural problems. For adolescents, we assume a high burden of adolescent-specific sexual and reproductive health needs and of menstrual hygiene needs, as well as risks to mental health and psychosocial well-being.

In the real-world application of this framework, accurate situational assessment would be critical for identifying and then deciding between, or sequencing, appropriate intervention options. This is perhaps especially true for those interventions where implementation is normally triggered by the reaching or crossing of an incidence or prevalence threshold in the population, as in the case of acute malnutrition interventions, for example. Moreover, not only the assessment of needs, but the process of applying this decision-making framework generally, would need to be undertaken periodically, not just at one point time; priorities are not static.

Step 2. Identifying recommended interventions to consider for prioritization

Under the simplifying assumption of a high burden of a range of conditions among conflict-affected women and children, we compiled a set of 77 evidence-based interventions to consider for prioritization in each of our hypothetical contexts. We began by compiling the relevant interventions that are already recommended in key sources of humanitarian guidance for women and children: the Minimal Initial Services Package chapter of the 2018 Inter-Agency Field Manual on Reproductive Health in Crises;[2] the 2018 Newborn Health in Humanitarian Settings Field Guide;[3] the 2008 WHO Manual on the Health Care of Children in Emergencies[38], and the 2017 IFE Core Group's Infant and Young Child Feeding in Emergencies Operational Guidance[4]. We then added relevant interventions from the 2007 Inter-Agency Standing Committee Guidelines (IASC) on Mental Health and Psychosocial Support in Emergency Settings.[39] We supplemented this compilation with any additional interventions identified as "highest priority" within the Essential Universal Health Coverage model benefits package developed by the Disease Control Priorities 3 (DCP3) group in 2018.[40] Finally, we added a small number of other effective interventions that were deemed by expert co-authors to be essential for addressing the health or nutritional needs of conflict-affected women and children. Although we did not explicitly base our shortlist of

candidate interventions on the BRANCH Consortium's set of recent systematic reviews on health and nutrition intervention delivery,[14-21] they also informed this process.

There are other sources of humanitarian-focused guidance and other interventions for women and children that we could have additionally considered for prioritization. In future applications of this framework, decision-makers will need to identify the universe of effective interventions that could meet local needs and from which they would ultimately select priorities for their specific conflict contexts. We strongly recommend that in the absence of conflict-specific guidance, candidate interventions be drawn from existing guidance for humanitarian settings more broadly, given some common features between conflict and other crisis settings and taking advantage of whatever adaptation from non-crisis settings such broad humanitarian guidance has already undergone.

Levels of care

To further inform the prioritization process, we classified each candidate intervention by the lowest level of the health system at which it could be appropriately delivered. Adapted from previous work on the continuum of care[41] our classification included intervention delivery in the ***community***, typically by community health workers or trained volunteers visiting or receiving women and children in their respective households; intervention delivery at a ***primary health care facility*** by skilled health workers; and intervention delivery in ***hospitals*** with inpatient and surgical capacity. We deliberately excluded from our list of candidate interventions any intervention that would require delivery at a tertiary-level facility, though capacity for referral to such facilities is assumed to be needed in all contexts.

Step 3. Determining the contextual feasibility of delivery for each candidate intervention

Having compiled a universe of candidate interventions that target the assumed high burden of a range of conditions among conflict-affected women and children, we then identified priorities for each of three hypothetical conflict contexts by assessing of the feasibility of delivering each candidate intervention at an appropriate level of care in each context.

Delivery feasibility

For this illustrative application of the decision-making framework, a working group of ten of the paper co-authors convened in person to systematically discuss whether and how each of the 77 candidate interventions could be delivered in each of the three hypothetical conflict contexts. Drawing on their disciplinary expertise (including medicine, public health, and nutrition) and field experience (including service delivery and research in multiple conflict settings), the working group appraised, for each candidate intervention, whether the lowest level of care at which that intervention could be effectively delivered was likely to be available in each context given the varying levels of violence and insecurity that characterize each context. The group eventually reached a consensus decision for each intervention-context pair, and these group judgements ultimately identified the set of prioritized interventions for each conflict context.

Intervention sequencing

Once context-specific priorities had been identified, continued in-person discussion among the working group gave rise to the additional consideration of intervention sequencing. In the context of insecure areas particularly, where intervention delivery is feasible but the threat of violence may be imminent, it was deemed important to also capture *relative* priorities within the set of interventions already prioritized for that context. The identified priority interventions for insecure areas were then further classified by the working group as first-level priorities for immediate implementation and second-level priorities for subsequent implementation, based on their life-saving potential and/or the time-sensitivity or the time-intensiveness of their delivery.

Priority health and nutrition interventions for women and children in different conflict contexts: illustrative packages

Conflict epicentres or hotspots

The intervention priorities identified by applying the proposed decision-making framework to each conflict context are shown in the Table. Given the extreme insecurity in conflict epicentres

and the potential risks of death, injury, abduction or other hazards for both care seekers and care providers, only a small proportion of the 77 candidate interventions are prioritized for delivery in this context. In all contexts sometimes, but in this context often, the personal safety of care seekers and care providers will necessarily outweigh the imperative to provide services. We reasoned that some already-established community-based activities may be able to continue, where CHWs or trained volunteers reside or are otherwise already present and remain in the affected area, and where the necessary supplies are already on hand. This may well be the case in many situations, given that the provision of care by an unskilled health workforce is common in humanitarian contexts,[42] as skilled personnel may be either unable or unwilling to remain in post in violent or insecure areas. Those community-based activities that may be able to continue in conflict epicentres may still need to be adapted in order to minimize the mobility and thus the risk exposure of staff and volunteers. Restocking of supplies as well as additional training for CHWs, including potential future task-shifting, should be a focus when the violence abates. If and where facilities and hospitals can continue to operate during ongoing fighting, time-sensitive interventions with high-mortality impact should be prioritized.

We therefore prioritized a core of 17 interventions for this context, selecting mostly life-saving interventions that can be delivered outside of facilities, in the home, by CHWs or trained volunteers already present in the immediate area. These include first aid, psychological first aid, skilled birth attendance, and some newborn care interventions. Integrated community case management of childhood illness (iCCM) and community-based treatment of severe acute malnutrition (SAM) are also prioritized in this setting, but without active case-finding or CHW supervision and using only those supplies already on hand. Only one hospital-based intervention and four primary health care (PHC) facility-based interventions are prioritized in this context, and the delivery of any of these will be dependent on the largely opportunistic and likely intermittent availability of those health workers who are able to access or remain in still-operational hospitals or health centres. Prioritized PHC facility-based interventions include the most time-sensitive and quickly administered components of the clinical management of sexual violence, including emergency contraception and post-exposure prophylaxis for HIV, as well as wound care and

tetanus immunization. Facility-based antibiotic treatment for possible severe bacterial infections in newborns is also prioritized. Hospital-based provision of emergency obstetric and newborn care is also prioritized here, specifically to meet needs for emergency surgery. Again, this will be possible only when and where hospitals are continuing to function and appropriately skilled staff have not evacuated.

Insecure areas

Applying our framework, 74 of the 77 candidate interventions under consideration were ultimately prioritized for delivery in insecure areas, reflecting the vastly greater opportunities for intervention delivery outside of conflict epicentres. Windows of opportunity may still be very narrow in insecure areas however, and can close very quickly. The deliberate sequencing of intervention priorities in these areas is thus recommended, with the second-level priority interventions being implemented once the first-level priority interventions have been established.

Most interventions that we identified as priorities in this context are considered first-level priorities, i.e., for immediate implementation. For all populations, these include most interventions for trauma and injuries, except for post-operative and rehabilitative care, which is prioritized only in stable contexts. It is however, important that specific approaches and innovations related to surgical care of injuries are based on solid evidence and field experience. To illustrate, negative pressure wound therapy, being touted and used by many front line field hospitals has recently been shown to be comparable to standard therapy.[43] All mental health and psychosocial interventions that can be delivered by non-specialists outside of facilities can also be prioritized for immediate implementation in insecure areas, with the facility-based delivery of clinical mental health care prioritized for subsequent implementation.

The full protocol for the clinical management of sexual violence is a first-level priority in this setting, along with all other sexual and reproductive health interventions for women of reproductive age. Immediate intervention priorities for pregnant women include safe abortion

and post-abortion care, antenatal screening for chronic conditions, continued HIV treatment, maternal tetanus vaccination, and all labour and delivery care interventions including basic (BEmONC) and comprehensive (CEmONC) emergency obstetric and newborn. Most newborn care interventions are prioritized for immediate implementation, except postnatal care checks and phototherapy for jaundice, which are prioritized for subsequent implementation.

Most disease management and nutrition interventions for infants and children <10y are first-level priorities, except for the provision of breastfeeding alternatives, which is a second-level priority. In some exceptional circumstances, where breastfeeding is not possible, assured access to appropriate breastmilk substitutes with an essential package of support might be needed. For adolescents, sexual and reproductive health interventions are the immediate priorities in this context.

Stable areas

All 77 candidate interventions are considered priorities for delivery in stable areas, for displaced populations settled in both camps and integrated among host communities. Given the relatively consistent access that displaced populations in stable areas have to health services, and that health workers have to displaced populations, there are far fewer constraints on intervention delivery in these areas than in insecure areas or conflict epicentres, affording even greater opportunity to provide a relatively wide range of interventions.

Adaptation and real-world application of the framework

We emphasize that these three packages of prioritized interventions are illustrative rather than prescriptive, derived by applying a systematic decision-making approach to hypothetical conflict contexts. The same approach taken by a different set of participants with different experiences and viewpoints could yield different priorities, given the contextual realities of specific conflict scenarios. Nonetheless, the illustrative packages presented here offer a view of what might be viable in different conflict settings characterized by different levels of violence and population mobility and high burden of a range of conditions and needs.

We also emphasize that the proposed framework focuses on identifying intervention priorities to address the needs of conflict-affected women and children in a given conflict situation, and not on priority-setting for the humanitarian health response overall. This framework is intended to guide decisions *within* the realm of women's and children's health, not to guide decisions on whether to prioritize interventions for women and children over other interventions. Our focus here on women and children does not preclude the need to also identify, prioritize and implement essential interventions for other vulnerable subpopulations in a given conflict situation.

We would firmly support the further iteration of this decision-making framework, recognizing that other factors could and should be considered in both its adaptation and its real-world application. Other issues that might influence how intervention priorities for women and children should be determined and what those priorities might be include differences in pre-existing health system capacity between low-income and middle-income countries and between urban and rural areas, the volatility of population displacement, complex group dynamics that affect access to health services, the extent to which populations have recourse to informal and private providers and, of course, cost-effectiveness. Explicitly incorporating the systematic consideration of such contextual issues into one or more steps of the decision-making framework is a potential area for future methodological development.

To further improve and formalize this framework, the formation of an international technical advisory group (including local and national non-governmental and civil society organizations providing services to women and children in conflict-affected areas) with a mandate to critique, iterate and field-test this framework might be a fruitful next step. The work of such a group could also focus on how more real-time documentation of practice in the field might be further encouraged and supported. We expand upon the formation of such a group in the final paper of this Series, which focuses on potential ways forward.

The development and illustrative application of this proposed framework for decision-making is an attempt to catalyze further discussion on what can be done to improve the health and nutrition of women and children living in conflict settings. The world must make more concerted effort to reduce the risk of conflict; until that happens, improving health and nutrition service delivery for women and children in conflict contexts remains an ethical and moral responsibility. This includes the imperative for further research and evaluation of interventions and delivery strategies to reach the most vulnerable women and children in such contexts with the best care possible.

Contributors

ZAB and MFG planned the paper, with input from the BRANCH Consortium Steering Committee (ZAB, REB, KB, TB, MFG, AL, PBS, RJW, PHW), SA, and PA. RA, EC, LH, TK, and DMG contributed to the development and illustrative application of the decision-making framework. MFG wrote the first draft of the manuscript. All authors critically reviewed subsequent drafts and approved the final submission.

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Table. Prioritization of sexual, reproductive, maternal, newborn, child and adolescent health and nutrition interventions in different conflict contexts

Interventions	Lowest possible level of care for appropriate delivery	Epicentre	Insecure area	Stable area
General population/cross-cutting interventions				
Trauma and injuries				
Pre-hospital, first aid, pain management, mass casualty preparedness	Community	P	P	P
Management of exposure to toxins or chemical weapons	Hospital	-	P	P
Wound and burn care, fracture fixation, surgery, mass casualty management	Hospital	-	P	P
Post-operative and rehabilitative care	Community	-	-	P
Mental health and psychosocial well-being				
Psychological first aid	Community	P	P	P
Psychosocial support through mobilization of community self-help resources	Community	-	P	P
Psychological interventions provided by non-specialized but trained and supervised healthcare workers	Community	-	P	P
Clinical mental healthcare	PHC	-	P2	P
Women of reproductive age				
Sexual violence				
Presumptive STI treatment with antibiotics	PHC	-	P	P
HepB and HPV vaccination	PHC	-	P	P
Post-exposure prophylaxis of HIV	PHC	P	P	P
Care of wounds and tetanus immunization	PHC	P	P	P
Emergency contraception counselling and provision	PHC	P	P	P
Safe abortion care	PHC	-	P	P
Family planning				
Contraception counselling and provision of long-acting reversible and short-acting contraceptive methods	Community	-	P	P
Disease prevention and management				
Syndromic diagnosis and treatment of STIs	PHC	-	P	P
Guarantee the availability of condoms	Community	-	P	P
Continued HIV treatment with ARVs and provision of cotrimoxazole	PHC	-	P	P
Early detection and treatment of early-stage cervical cancer	Hospital	-	-	P
Mental health				
Counselling for exposure to violence	Community	-	P	P

Menstrual hygiene				
Provision of menstrual hygiene infrastructure, education and supplies	Community	-	P2	P
Pregnant women				
Termination of pregnancy				
Safe abortion	PHC	-	P	P
Post-abortion care	PHC	-	P	P
Essential antenatal care and screening for maternal illnesses				
Iron/Folic acid supplementation or multiple micronutrient supplementation	Community	-	P2	P
Provision of food or caloric supplementation to pregnant women in food-insecure households	Community	-	P2	P
Screening & treatment for hypertension, diabetes and other chronic conditions	PHC	-	P	P
Promotion of ITN use in malaria endemic areas	Community	-	P2	P
Intermittent preventive treatment of malaria (IPTp) in malaria endemic areas	Community	-	P2	P
Continued HIV treatment and provision of cotrimoxazole, and PMTCT	PHC	-	P	P
Screening and treatment of syphilis	PHC	-	P2	P
Screening and treatment of UTIs	PHC	-	P	P
Maternal tetanus vaccination	Community	-	P	P
Antibiotics for preterm premature rupture of membranes (PROM)	PHC	-	P	P
Antenatal steroids for preterm labour	Hospital	-	P2	P
Labour and delivery				
Antenatal counselling on birth and emergency preparedness	Community	-	P	P
Distribution of clean delivery kits	Community	-	P	P
Skilled attendant at birth with capacity for basic neonatal resuscitation and referral for complications	Community	P	P	P
Basic emergency obstetric and newborn care (BEmONC)	PHC	-	P	P
Comprehensive emergency obstetric and newborn care (CEmONC)	Hospital	P*	P	P
Mental health				
Counselling for stress in pregnancy	PHC	-	P2	P
Newborns				
Essential newborn care				
Initiation of breathing through stimulation	Community	P	P	P
Thermal care: drying, warming, skin-to-skin contact, delayed bathing	Community	P	P	P
Support for immediate and exclusive breastfeeding, and facilitation of expressed breastmilk feeding as needed	Community	-	P	P
Infection prevention/hygiene: handwashing, clean cord care, eye care; chlorhexidine cord care in high neonatal mortality settings	Community	P	P	P

Monitoring for danger signs of serious infections and other conditions requiring extra care or referral	Community	P	P	P
Postnatal care checks for mothers and newborns as soon as possible after delivery in the first week of life	Community	-	P2	P
Delayed cord clamping	Community	P	P	P
Care for small or sick newborns				
Kangaroo Mother Care for preterm and low birthweight babies	Community	P	P	P
'Helping Babies Breath'/bag & mask ventilation as needed	Community	P	P	P
Presumptive antibiotic therapy for possible severe bacterial infections	PHC	P	P	P
Phototherapy for jaundice	Hospital	-	P2	P
Facility-based supportive care for small and sick babies with thermal care, intravenous or enteral fluids/feeds and basic respiratory care (oxygen)	Hospital	-	P	P
Continued PMTCT treatment; cotrimoxazole for HIV+ newborns	Community	-	P	P
Infants, children <5y, school-aged children <10y				
Disease prevention and management				
Promote exclusive breastfeeding <6m and continued breastfeeding to 2y or older	Community	-	P	P
Where breastfeeding is not possible, promote wet nursing and use of donor human milk; otherwise, assure supply of appropriate breastmilk substitute with an essential package of support	Community	-	P2	P
Promote appropriate complementary feeding for children >6m	Community	-	P	P
Education on handwashing and safe disposal of children's stools	Community	-	P	P
Vitamin A supplementation for children 6-59m	Community	-	P	P
Age-appropriate vaccinations per national protocol (EPI), plus other vaccines where indicated by local conditions, including diseases of epidemic potential	Community	-	P	P
Detection and treatment of childhood infections (diarrhea, pneumonia, measles, meningitis, sepsis, malaria) including referral if danger signs are present (e.g., iCCM)	Community	P†	P	P
Detection and treatment of childhood infections with danger signs (e.g., IMCI)	PHC	-	P	P
Inpatient paediatric care	Hospital	-	P	P
Distribution of ITNs, IRS, and seasonal chemoprophylaxis where indicated by local conditions	Community	-	P	P
Continued PMTCT treatment; cotrimoxazole for HIV+ and HIV-exposed infants and children	Community	-	P	P
Mass drug administration for lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiases and trachoma, and foodborne trematode infections	Community	-	-	P
Malnutrition prevention and management				
Distribution of nutrient-rich or fortified complementary foods at household level (or cash/vouchers for these)	Community	-	P#	P#
Provision of fortified foods to children and/or PLW at risk of acute malnutrition through blanket supplementary feeding	Community	-	P#	P#
Treatment of moderate acute malnutrition (MAM) in children through targeted supplementary feeding	Community	-	P#	P#
Detection and management of severe acute malnutrition (SAM) without complications - RUTF, antibiotics, Vitamin A	Community	P†	P#	P#

Management of SAM associated with serious infection – inpatient therapeutic feeding, antibiotics, Vitamin A	Hospital	-	P	P
Early child development				
Promote nurturing care and parental/caregiver education	Community	-	P2	P
Integrate stimulation, play, and early learning opportunities into health and nutrition programming and spaces	Community	-	P2	P
Adolescents (10-19y)				
Sexual and reproductive health				
Sexual behavior education	Community	-	P	P
Contraception counselling and provision	Community	-	P	P
HPV vaccination for girls	Community	-	P	P
Life skills				
Life skills education	Community	-	P2	P
Menstrual hygiene				
Provision of menstrual hygiene infrastructure, education and supplies	Community	-	P2	P

P=first-level priority. P2=second-level priority, for implementation subsequent to first-level priorities. STI=sexually transmitted infection. HepB=hepatitis B. HPV=human papilloma virus. HIV=human immunodeficiency virus. ARV=antiretroviral. ITN=insecticide-treated bednet. PMTCT=prevention of mother-to-child transmission of HIV. UTI=urinary tract infection. EPI=Expanded Program on Immunization. iCCM=integrated community case management. IMCI=integrated management of childhood illness. IRS=indoor residual spraying. PLW=pregnant or lactating women. RUTF=ready-to-use therapeutic food.

*Hospital-based provision of emergency obstetric and newborn care is prioritized in conflict epicentres in order to meet needs for emergency surgery when and where hospitals are continuing to function and appropriately skilled staff have not evacuated.

†These community-based interventions are prioritized in conflict epicentres only where such programs already exist, with trained staff or volunteers and supplies already in place in the immediate areas, and with modified implementation to limit staff/volunteer exposure to ongoing violence or insecurity, e.g., by suspending active case-finding or supervisory visits.

#Selection between or sequencing of these nutritional interventions will very much depend on the local needs assessment.