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Multi-sectoral Impacts of the COVID-19 Pandemic on Nutrition Outcomes

An Analytical Framework

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Introduction

The COVID-19 pandemic threatens to derail progress made towards achieving the maternal, infant and young child nutrition targets endorsed by the World Health Assembly (WHA),[i] particularly the targets for stunting, wasting, anaemia in women of reproductive age and exclusive breastfeeding (see Box 1). The prospects for achieving the WHA targets by 2025 were already low before the COVID-19 crisis, and the many disruptions to international, national and subnational structures and systems caused by the pandemic are threatening the progress made in recent years. For example, UNICEF reported that low- and middle-income countries experienced a 30 per cent reduction in the coverage of essential nutrition services in 2020.[ii] These services, including school feeding, micronutrient supplementation and nutrition promotion programmes, are a critical part of the integrated approaches needed to make progress towards the WHA targets.

The Agile Core Team for Nutrition Monitoring (ACT-NM) was set up in June 2020 to collaborate on key products and monitoring challenges to respond to the ongoing needs of the nutrition community. The founding members — the United Nations Children's Fund (UNICEF), the United States Agency for International Development (USAID), the World Health Organization (WHO) and USAID Advancing Nutrition — felt that an "agile working group" would provide a consolidated voice on nutrition monitoring during the ongoing COVID-19 pandemic. There was an early consensus to prioritize the development of a comprehensive nutrition and COVID-19 analytical framework. The members of ACT-NM agreed that the framework should focus on the public health pathways connecting the COVID-19 pandemic to nutrition outcomes in children and adults in low-, middle- and high-income countries, rather than the clinical or biomedical pathways through which the COVID-19 infectious disease may affect nutritional status. ACT-NM decided to focus the analytical framework on the six maternal, infant and young children nutrition targets endorsed by the WHA, since they guide national commitments towards the elimination of malnutrition in all its forms, one of the Sustainable Development Goal targets.[iii]

Box 1. WHA Targets

In 2012, World Health Assembly Resolution 65.6 endorsed a comprehensive plan on maternal, infant and young child nutrition, which specified a set of six global nutrition targets that, by 2025, aim to:

- Achieve a 40 per cent reduction in the number of children under 5 who are stunted
- Achieve a 50 per cent reduction in anaemia in women of reproductive age
- Achieve a 30 per cent reduction in low birthweight
- Ensure no increase in childhood overweight
- Increase the rate of exclusive breastfeeding in the first six months of life up to at least 50 per cent
- Reduce and maintain childhood wasting to less than 5 per cent.

Primary purposes of the framework include:

- Helping policymakers and implementers better identify and assess potential pathways for tracking the intersection between the COVID-19 pandemic and nutrition
- Providing a useful tool for planning policies, programmes and interventions
- Identifying data needs and gaps

A secondary purpose of the framework is to provide a structure for modelling efforts through the use of different pathways, including more in-depth examination of the model parameters and definitions.

The framework has the potential to support an integrated, systems approach to nutrition challenges caused, increased or intensified by the COVID-19 pandemic and future pandemics/crises.

Background

The analytical framework was developed in three phases: 1) conceptualization; 2) literature review; and 3) design.

1. Conceptualization: This phase used a set of guiding questions and a combination of existing frameworks that served as a foundation for building the analytical framework (see Box 2). The conceptualization phase was an iterative process that used evolving drafts of the framework to inform discussion.

2. Literature review: ACT-NM utilized a pragmatic strategy for the literature review between December 2020 and January 2021 to scan the current evidence on COVID-19 and nutrition linkages relevant to the selected outcomes. First, a search was carried out using the major medical databases, namely MEDLINE/PubMed, Scopus, EMBASE/Elsevier and Google Scholar, but also the grey literature (e.g., Google Search). The following key terms were used: "COVID-19" AND ("nutrition", "nutrition conceptual model"/framework", "malnutrition conceptual model"/framework"). The results of this literature review captured scientific journals, institutional reports, advocacy briefs and publicly available presentations, some of which led to other relevant materials. Additional literature was obtained directly from partner agency experts (e.g., UNICEF, USAID, WHO, USAID Advancing Nutrition) during several rounds of internal reviews and a global workshop organized by UNICEF in June 2021. The inclusion criteria were: literature from both the pre-COVID-19 and COVID-19 pandemic eras; original model or framework; primary or secondary research; available in print or downloadable form; and available in English. Literature on the direct biomedical pathways and clinical outcomes of COVID-19 infection or disease on nutritional status was excluded.

A specific goal of the literature review was to identify existing models that could inform the structure of the new framework. Ultimately, the review identified three models that influenced the development of the analytical framework: 1) the UNICEF Conceptual Framework on the Determinants of Maternal and Child Nutrition;[iv] 2) the UNICEF Systems Approach to Nutrition;[v] and 3) Risk Factors for Undernutrition in the Context of COVID-19.[vi] These three models were aligned with ACT-NM's objectives and had a level of clarity and simplicity that illustrated the proximal and distal factors associated with COVID-19 and nutrition.

3. Design: In this phase, ACT-NM made several key decisions related to the scope of the analytical framework. First, a decision was made to take a more streamlined or focused approach that prioritized utility and practicality rather than comprehensiveness. This approach allows users to easily chart pathways to help identify and understand problems (real and potential), as well as opportunities to address or avert those problems. The approach also ensures that the framework is applicable in various contexts, with the flexibility to adjust for factors such as the nature of the epidemic, the type of response, demographics and resource availability.

Second, ACT-NM decided to limit the outcomes included in the framework to the six WHA targets for maternal, infant and young child nutrition. The group also made a parallel decision to focus on categories and factors with the strongest links to these six outcomes. However, the group acknowledged that other outcomes could be added to the framework by users looking at specific issues in their national and/or subnational contexts. For example, the target on overweight in the list of six WHA targets focuses on children, but the framework could also be used to look at adult overweight and obesity issues. Similarly, it could be adapted to look at the intersection of nutrition, non-communicable diseases (NCDs) and the COVID-19 pandemic.

Lastly, ACT-NM decided to group related factors in different categories and sub-categories to facilitate the use of the framework. For example, public health and social measures, such as stringent movement restrictions, are identified as a key factor in the overarching category of 'enabling determinants' and the sub-category of 'governance'. Public health and social measures besides stringent movement restrictions include physical distancing policies and public mobility related issues.[vii] The decision to group related factors simplifies the framework, extends its versatility, and demonstrates its adaptability.

During the design phase, draft frameworks were shared with relevant experts to seek their input. This included experts at UNICEF, WHO, the USAID Bureaus of Global Health, Humanitarian Assistance, and Resilience and Food Security, and the USAID Advancing Nutrition project.

Overview of the analytical framework

The analytical framework groups various factors into different categories and sub-categories relevant to the intersection between COVID-19 and nutrition. Figure 1 shows the simplified organizing structure of the framework with its five overarching categories, including a series of determinants (enabling, underlying and immediate) leading to outcomes and impact. In each category of determinants, there are sub-categories of relevant factors: contextual (enabling determinants), systemic (underlying determinants) and behavioural and nutritional status (immediate determinants). The design of the framework also acknowledges the overall environmental context and the wide-ranging effects of the COVID-19 pandemic on the different categories and sub-categories. In addition, the framework recognizes the importance of deepening inequality and its influence on all components of the analytical framework.

Figure 1. Organizing structure of the analytical framework

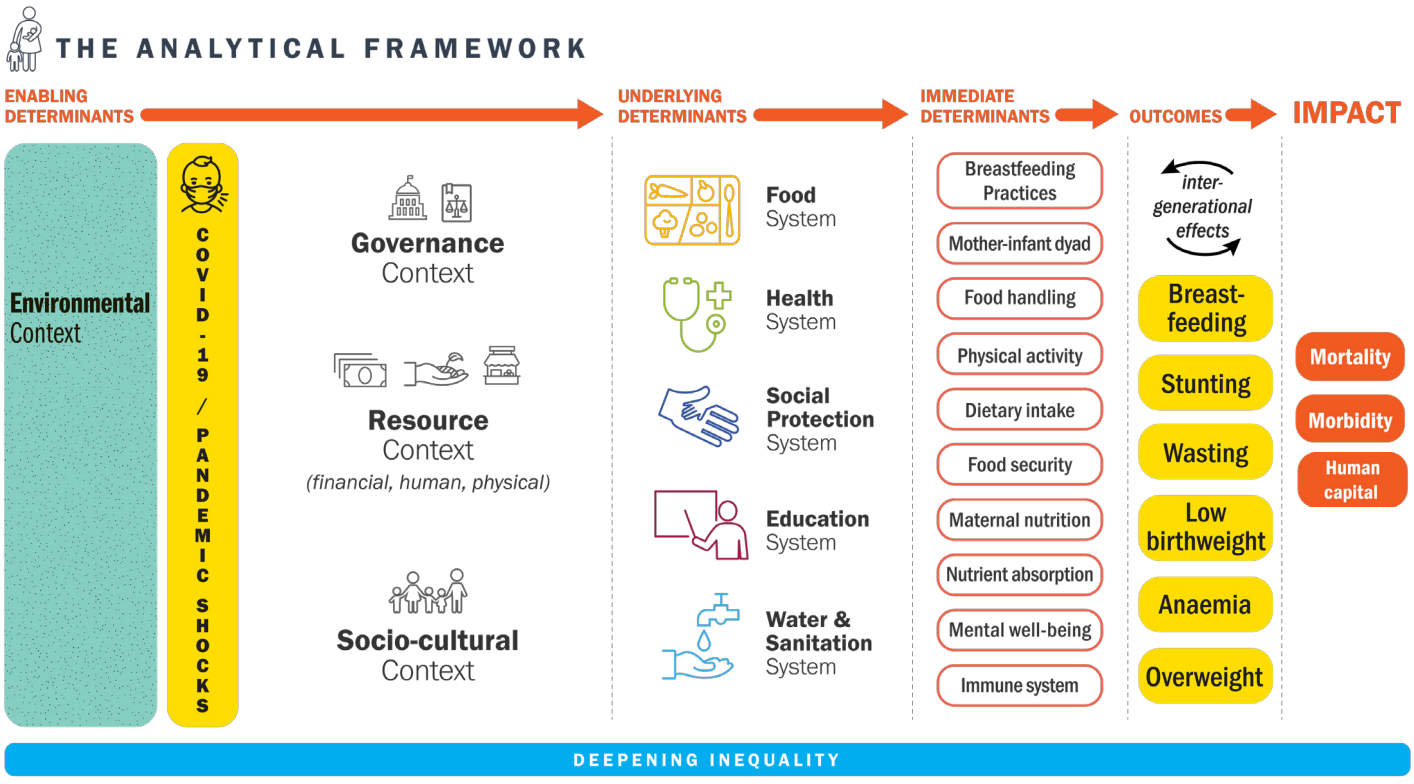
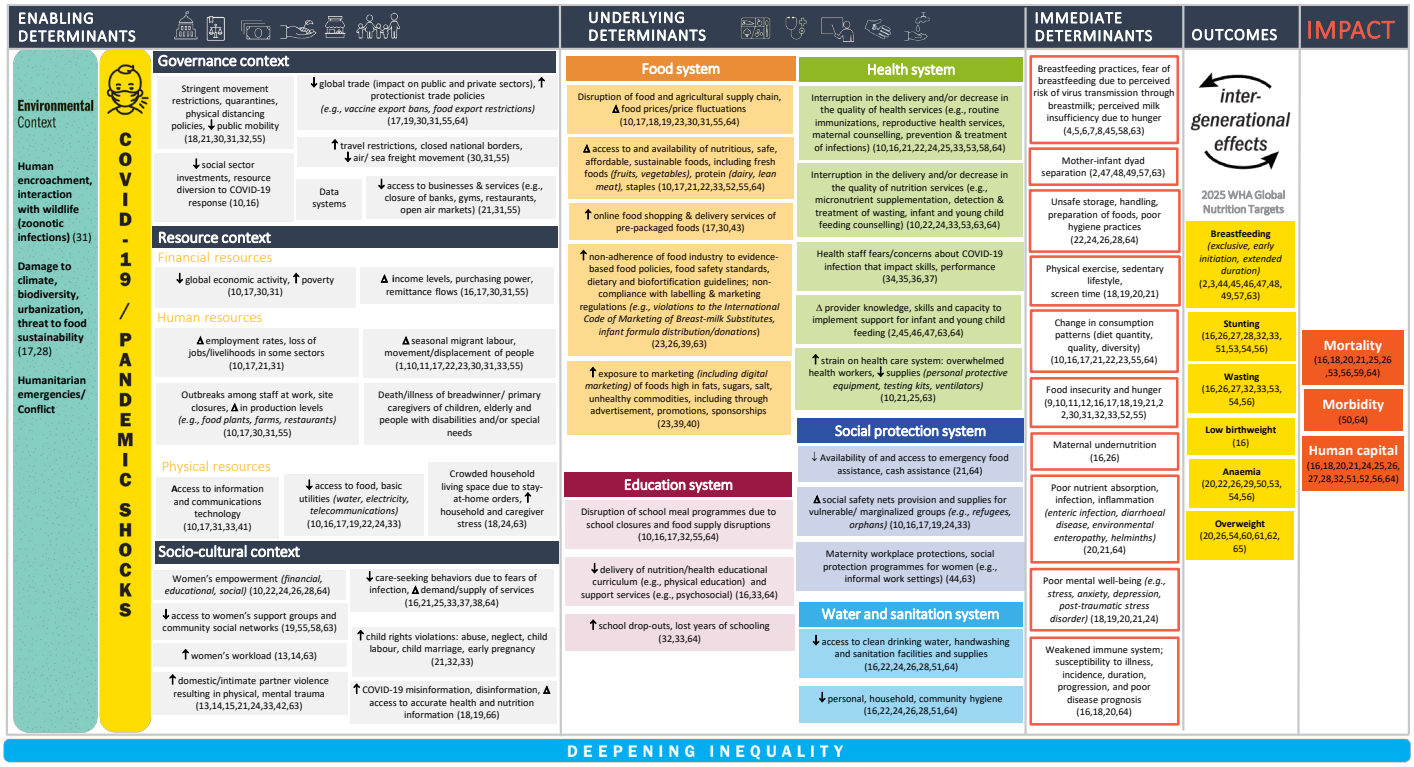


Figure 2 illustrates the full scope of the framework, including the specific contextual, systemic, behavioural and nutritional factors that can be used to plot potential impact pathways that identify intervention opportunities, including policies, programmes and activities. The pathways can also be used by modellers to conceptualize and facilitate the quantification of the nutritional impacts of the pandemic and offer early projections of resource needs for targeted decision-making, interventions and advocacy.

Figure 2. Comprehensive analytical framework



* Δ = variable change; ↑ = increase; ↓ = decrease

WHA =World Health Assembly