

Resources for Scale-up



Integrating MMS in the Wider Context of Improved Health and Human Capital

A perspective from the Family Larsson-Rosenquist Foundation

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Key messages

- Multiple micronutrient supplementation (MMS) is critical in promoting successful and healthy pregnancies.
- However, its importance does not end with pregnancy; it should be extended throughout the breastfeeding period to ensure the availability of micronutrients to children and mothers, and to maintain the mother's good nutritional status and health for subsequent pregnancies.
- Several critical elements must be integrated to achieve improved mother and child health by the end of the 1,000-day period, and to help develop human capital.
- To successfully support families to promote better mother and child health, it is important to view MMS as integral to the 1,000-day approach – in terms of both policy and the perspective of the ultimate recipient: the mother and family.

Setting the scene for an integrated approach

MMS is an established intervention for promoting successful and healthy pregnancies in women in low-resource settings where nutrition may be absent or of low quantity and quality. Healthy, successful pregnancies strongly influence the optimal development, later life health and intellectual potential of children, as well as the health of mothers.

“Pregnancy is only one segment of a crucial developmental period – the first 1,000 days”

While pregnancy is a crucial developmental window, it is only one segment of a longer developmental period – the first 1,000 days, which greatly determine a child's and the mother's later wellbeing and quality of life, especially if she experiences multiple cycles of pregnancy and breastfeeding, as is common in low- and middle-income countries (LMICs).

The formation of the Developmental Origins of Health and Disease (DOHaD) Society and the 1,000 Days movement are testament to the importance of this developmental window in ultimately determining the human capital that developing societies can draw from:

“Research in the field of Developmental Origins of Health and Disease (DOHaD) shows that the environment in which the embryo, fetus and young child grow and develop influences not only life course health and wellbeing but also the risk of later noncommunicable diseases (NCDs). Important aspects of the environment include maternal, fetal and infant malnutrition (including excess or insufficient macro- and micronutrients), toxins (e.g., maternal smoking or environmental chemical exposure), pregnancy in teenagers or older women and psychological or physiological stress.”¹

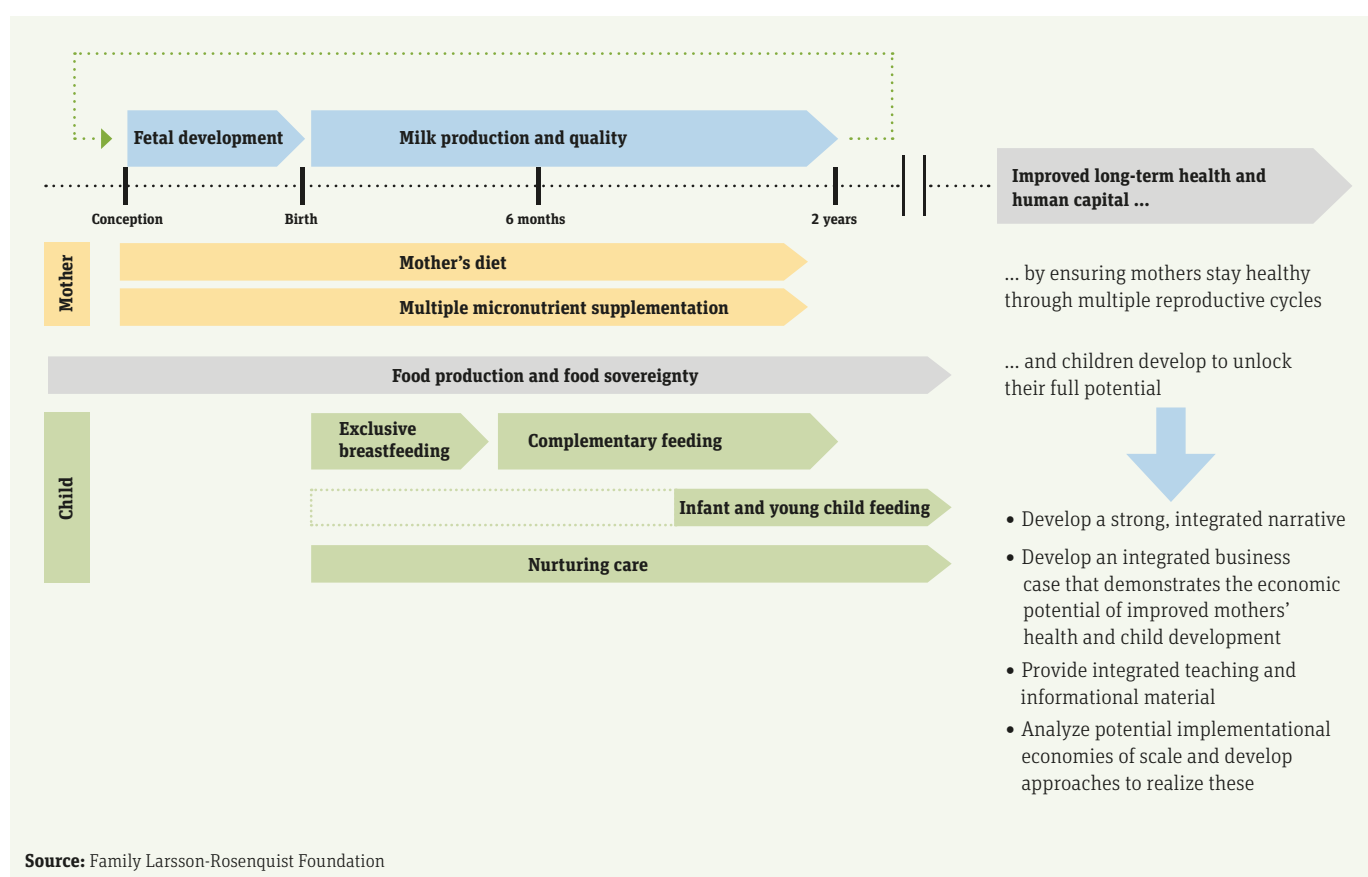
“Research in the fields of neuroscience, biology and early childhood development provide powerful insights into how nutrition, relationships, and environments in the 1,000 days between a woman's pregnancy and a child's 2nd birthday shape future outcomes.”²

The role MMS plays in achieving improved pregnancy outcomes is further described in other articles in this *Sight and Life* Special Report.

Achieving optimal development in the first 1,000 days

Several critical elements must come together for children and mothers to achieve optimal development in the first 1,000 days (**Figure 1**):

- A mother's nutritional status throughout pregnancy and breastfeeding.

FIGURE 1: The first 1,000 days are critical for improving long-term health and the development of human capital

- Exclusive breastfeeding for 6 months and continued breastfeeding until 24 months.
- Adequate and safe complementary feeding introduction when the child turns 6 months.
- Nurturing care of the infant and child.

Of these four elements, three are directly linked to nutrition. Until recently, much of the world's focus has centered on children. However, the health of mothers is also important, as mothers breastfeed their children. In most instances, mothers are the primary caregivers, responsible for complementary feeding and much of the nurturing care of children. Hence, it is necessary to look at a mother's health as well as the child's health.

To date, pregnancy and birth still pose high risks of morbidity and mortality for women. Approximately 99 percent (302,000) of global maternal deaths in 2015 were in developing regions, and roughly 66 percent (201,000) were in sub-Saharan Africa alone. At the country level, over one-third of all maternal deaths worldwide were in Nigeria (19 percent) and India (15 percent) in 2015.³

Of the five major complications responsible for 75 percent of this death burden,⁴ three are directly linked to the nutritional/micronutrient status of the mother: severe bleeding after

childbirth,⁵ high blood pressure^{6,7} and complications during delivery such as those stemming from premature labor.⁸ Thus, MMS is vital to support better child development and also save mothers' lives.

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When considering breastfeeding, and particularly the mother and child dyad, it is necessary to remember that the period *after* pregnancy and breastfeeding is also the period *before* the next pregnancy. In general, exclusive breastfeeding until 6 months and after that for a further 18 months together with adequate and safe complementary feeding is recommended for the child. In cases where nutritional supplementation is required, it is better given to the mother than the infant to avoid breastfeeding disruptions.⁹ While not all micronutrients enrich the mother's breast milk, they still benefit the mother's health – and thus may indirectly affect the child's progress.^{10, 11}

Unfortunately, very little research has been done on the impact of MMS on breastfeeding, despite its importance. However, a large study under the aegis of the Bill & Melinda Gates Foundation is

currently further exploring this topic, and landmark results are expected in 2–3 years.¹² Thus, the nutritional status of both mothers and children in the first 1,000 days is an essential foundation for health, neurocognitive development and, ultimately, human capital development.

The case for better integration

To unlock this potential, and given the magnitude of the challenge, we must consider effective, integrated ‘delivery’ of each element that is critical for success in the first 1,000 days – while also minimizing costs. To date, a nutritionally adequate diet, MMS, breastfeeding, complementary feeding and nurturing care are largely treated as separate at both the policy and intervention levels. FLRF would suggest this is likely not just to drive up costs, but also to generate suboptimal results:

- Policies focused only on single interventions run the risk of missing targeted outcomes, especially when factoring in the impact of the UN Sustainable Development Goals (SDGs), such as enrichment of human capital (Goals 4, 8).
- With respect to implementation, activities connected to each intervention affect women and families during the same period of time – thus, failure to integrate them will likely result in the duplication of effort and loss of potential ‘distribution’ synergies, which will drive up costs.
- Isolated delivery will most likely result in conflicting or missing information.

An integrated approach that includes education about the importance of this 1,000-day period, and consistent, straightforward guidance that is socioculturally adapted could substantially increase the effectiveness of each individual intervention.

FLRF’s contribution to integration

FLRF, the only globally active foundation focused exclusively on breastfeeding and breast milk, has embraced those findings and is actively looking at touchpoints with other areas of the 1,000 days. In 2017, FLRF joined forces with others at the Global Nutrition Summit in Milan, pledging CHF75–100 million in donations over a 5-year period.

This commitment underpins Target 5 of the World Health Assembly (WHA) Global Targets 2025: “Increase the rate of exclusive breastfeeding in the first 6 months up to at least 50%.”¹³

Breastfeeding has been designated as one of the interventions with the highest return on investment (World Bank 2017, Investment Framework for Nutrition¹⁴). As breastfeeding can also have a positive impact on nutrition and behavior, the FLRF commitment underpins additional WHA targets, through reductions in:

- Stunting in children under 5 (Target 1).
- Rates of childhood overweight (Target 4).
- Childhood wasting (Target 6).

In addition to endowing six research centers that are home to nine endowed professorships, FLRF is creating a global knowledge platform focused on breastfeeding and breast milk, with particular emphasis on the information requirements of LMICs (as defined by the World Bank¹⁵). Finally, FLRF is in the process of creating regional resources in LMICs, and is thus positioned to actively help stakeholders translate policy into execution plans.

It is at this level that the elements critical to success in the first 1,000 days should be integrated. Thus, FLRF sees a clear need to integrate its own work with the work of those in the fields of MMS, mother and infant nutrition, complementary feeding and nurturing care. Both MMS and breastfeeding have a substantial impact on early child development – hence, we advocate the importance for practitioners in those fields to start the conversation and work together more closely. Both MMS and breastfeeding are relevant for women around the time of conception, during pregnancy and in the months following birth. There are considerable synergies in developing a unified message to educate and guide mothers about their dietary needs, nutrition and supplementation, and those of their children, for the overall importance of the mother’s health for child development. In time, this message could be broadened to integrate complementary feeding, community farming and nurturing care topics.

Furthermore, there are logistical synergies to be gained from delivering an integrated message about MMS and breastfeeding, as both topics could be covered during antenatal care and breastfeeding counseling sessions. Education material for mothers and train the trainer courses for practitioners could also be integrated to create tools that can be used in both fields.

“There are logistical synergies to be gained from delivering an integrated message about MMS and breastfeeding”

Continuing the dialogue

Despite the huge impact that nutrition and related topics have on the quality of human life and the enrichment of human capital, the global focus on nutrition is diminishing, which is likely to have a negative impact on achieving the 2025 WHA Targets and the UN SDGs. Thus, FLRF believes this realization should provide the impetus to explore how MMS and breastfeeding can be better

integrated to increase their benefits and to create critical weight in the international discussion.

Several activities could support such integration:

- Exchanging insights to understand each field's aspirations, challenges and advantages, and then identifying critical touch-points where synergies could be realized.
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- Building convincing business cases at the country level to assess funding requirements, and demonstrating how closer collaboration among fields could improve the overall returns-to-cost ratio.
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- Exploring how messages to mothers and families can be integrated and streamlined. It is imperative that informational and educational materials integrating messages about nutritionally adequate diets, MMS, breastfeeding, complementary feeding and nurturing care should be evidence-based, provide consistent messaging and be easy to digest.

In conclusion, we believe MMS and breastfeeding are complementary interventions, as both are critical to achieving improved mother and child health outcomes in the first 1,000 days. Let's work together to integrate them where possible and sensible, from policy and action planning all the way to delivery. Their integration could optimize their efficacy during the developmental window that is crucial to the lifelong health of the mother and her children, and the enrichment of human capital.

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