# TACKLING THE LIFE COURSE OF UNDERNUTRITION THROUGH A FAMILY APPROACH

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Strong women and mothers are undoubtedly essential to the success of the treatments but this should not exempt us to consider **the importance of the family as a whole** -the father, the grandfathers, the grandmothers. Indeed, most of program success will depend on our relationships with people in the family, community and, more broadly, society.

Three background messages will be useful in framing the contents of this session.

1. It is important to develop an **"ecosystem" understanding of nutrition adversity**: how do we maximize capacity and minimize loads?
2. **Undernutrition** does not only have short-term consequences (increased morbidity and mortality), but also **a long-term, life-cycle impact**.
3. **Anthropometry** must be regarded as **a sign of poor quality and/or quantity of food intake (undernutrition) and of other underlying causes (e.g caring capacity)**.

## GROWTH AND HEALTH: "ECOSYSTEM"

Every child arriving at a feeding center comes with a certain **background**. Assessing that background is not easy. For instance, using weight at birth as a proxy of in utero development might be misleading. Exposure to undernutrition in the first trimester of the pregnancy might result in a normal weight at birth, but the child will eventually bear long-term consequences. On the other hand, being underweight at birth might not result in further complications. At very early stages of life, the child will be dependent on the care provided by the mother. Later, they will progressively acquire their independence and at that point, the role of the family, then of society, becomes relevant.

To understand long-term, life cycle course consequences, it is interesting to consider Wells' **load-capacity model**. Individual capacity to cope with risks can be hindered by three different "hits": adversities in utero, being malnourished during childhood, and getting a suboptimal treatment. Over time, when the individual is exposed to further loads (or stresses), the point where loads exceed capacity to cope will eventually be reached and result in physical diseases and/or mental health issues.

## LIFE CYCLE CONSEQUENCES AND OPPORTUNITIES

**Adversity during infancy** might lead to direct risks for the child, and then the adolescent, the adult and **might very easily result in life-course implications**. In addition, **consequences are not only at the individual level** –families, communities and societies will be affected, too.

We know that we have an opportunity to intervene during the **first 1000 days of life** and we spend a lot of efforts in interventions during the first six months of life of the child. However, we should be putting a **stronger emphasis on supporting pregnant women and mothers**, but also **adolescent girls** before they become mothers.

## ANTHROPOMETRY AS A SYMPTOM, NOT A FINAL DIAGNOSIS

Finally, let's keep in mind that **weight is only a marker of progress towards an end**, not a final diagnosis. We need to **treat the individuals and the populations**, not the numbers –we need to know who we are treating.

This session will show that nutrition is not a stand-alone issue. To achieve impact, it needs to be linked to health services, mental health support and social services.

We will try to answer three questions:

1. How do we **maximize capacity and minimize the load** later in life?
2. How can we use early child nutrition to **optimize adult health** and minimize the risk of adult non-communicable diseases?
3. How can we **work in a multisectoral way to detect different underlying problems**?

**Pat Mac Mahon, Mothers First Foundation**

Mothers First Foundation was established in 2004 in India as a therapeutic feeding center. In 2013, it started its first CMAM program. In the context of this session, the focus will be on how Mothers First managed to design CMAM as a life-cycle intervention.

It is widely understood that "undernourished girls have a greater likelihood of becoming undernourished mothers who in turn have a greater chance of giving birth to low birth weight babies, perpetuating **an intergenerational cycle [of undernutrition]**" (UNICEF, 2017). It is worth noting that in Southeast Asia, where almost half of global child wasting occurs, **the first episodes of wasting happen within the first three months of life**. In this context, **maternal nutrition** needs special attention. However, despite the global acknowledgment of the importance of the first 1000 days, when we look at recommended maternal nutrition specific interventions (energy protein and iron-folic acid supplementation, presumptive malaria treatment), coverage rates were very low before the start of the CMAM program. This was due to the fact that before we did not have a platform, and did not scale up the intervention beyond pilot and research.

**To scale up the intervention, Mothers First relied on CMAM as the most appropriate platform**. To effectively run CMAM, it is important to understand the **life-cycle course of malnutrition** and the importance of carrying out a **significant amount of trainings** in communities. CMAM is indeed very difficult to implement –undernourished children are often difficult to locate and identified too late –typically, when they are 13 or 14 months. This means that a significant period of the first 1000 days has already expired.

CMAM can actually have a life cycle approach. In fact, it is very likely that a malnourished child is raised by a malnourished mother. In 2015, Mothers First scaled up CMAM to **"CMAM +1"**, the key objective of this program being **including pregnant malnourished mothers into CMAM**. The second objective was to **link pregnant women with antenatal government services**. The expected results are **increased birth weight**, **increased exclusive breastfeeding** during the first six months and **increased birth spacing**.

Given the high degree of training required to run CMAM, trained staff needs minimal extra support to upscale to CMAM+1 and can therefore be in charge of running it.

For mothers affected by chronic malnutrition, **Energy Protein Supplemention** can be done through **locally available food**, entailing a positive impact on both availability and demand of locally produced, highly nutritious food. Moreover, the **quality of the food distributed led to program enrollment in early pregnancy**. Such early initiation in the program means that

CMAM+1 is a good platform to deliver monthly iron and folic acid supplementation. Moreover, **the intervention continues for 4 months post-delivery**, allowing for monthly weights of the newborn and **early case detection** of wasting, resulting in **early enrollment of the child in the CMAM program**.

Most women come to the centers on their own initiative during the first six months of their pregnancy. **This CMAM platform is robust, attracts mothers and allows them to register independently**.