

Integration of management of at-risk mothers and infants less than 6 months in to maternal and child health services in Afghanistan



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Contents

SECTION ONE	1
Nutritional Risk in Infants under 6 months: literature review.....	1
Infant mortality in Afghanistan	1
Nutritional risk in Afghan infants under 6 months (u6m).....	1
Risk factors for Afghan infants u6m	2
Sub-optimal breastfeeding practices.....	2
High incidence of childhood illness	2
Maternal risk factors.....	3
Inadequate Sexual and Reproductive Healthcare received	4
Low socioeconomic status	4
Limited coverage and quality of healthcare services	4
Summary of risk factors	4
SECTION TWO	5
Service mapping for at-risk mothers with infants u6m in Afghanistan.....	5
Identification of infantile wasting	5
Current treatment of infantile wasting.....	5
Landscape analysis of services for mothers and infants u6m.....	7
Summary of existing services.....	13
Services by risk factor	14
SECTION THREE	15
Options for MAMI integration	15
Key roles for MAMI assessments	15
Considerations for integration of MAMI.....	15
Coordination with the private healthcare sector	15
Gender dynamics.....	15
Figure 2. Example of a MAMI Care Pathway.....	16
ACTION PLAN	17
Annex A: List of Interviewees.....	18
Annex B: MAMI Care Pathway Design Checklists.....	19

SECTION ONE

Nutritional Risk in Infants under 6 months: literature review

A review of existing literature and data on the risks of undernutrition in infants under 6 months (u6m) was conducted. Searches were made on: Pubmed, Google and en.net. Key stakeholders were asked for any recent analyses and data was analysed from the National Nutrition Online Database held by the Ministry of Public Health (MoPH).

Infant mortality in Afghanistan

Infant mortality rates are concerning in Afghanistan. The Afghanistan Health Survey (AHS) in 2018 found that infant mortality was 42 per 1,000 live births, with neonatal mortality (death in the first month of life) at 23 per 1,000 live births.ⁱ In the neonatal period, the main causes of death were preterm birth complications, sepsis/ meningitis and pneumonia. For older children between 1-59 months old, the main causes of death were diarrhoea, pneumonia and other infections. These deaths are avoidable.

Undernutrition contributed to approximately 45% of child deaths globally.ⁱⁱ Additionally, undernourished or non-breastfed infants are more likely to become ill with diarrhoea and pneumonia and more likely to die from the illness. Therefore, in order to reduce the risk of death and illness and support a child to thrive in their first months of life, reducing nutritional risk is a key area for intervention and is what we look at in this report.

Nutritional risk in Afghan infants under 6 months (u6m)

A recent analysis of 50 SMART surveys conducted between 2015 and 2019 across Afghanistanⁱⁱⁱ including 3657 infants under 6 months (u6m) showed a high nutritional burden. The Afghanistan Demographic and Health Survey (DHS) in 2015 found a significant burden of low birthweight. Findings show that infants u6m were significantly more likely to be wasted and/or underweight than children aged 6-59 months. Table 1 summarises the nutritional burden.

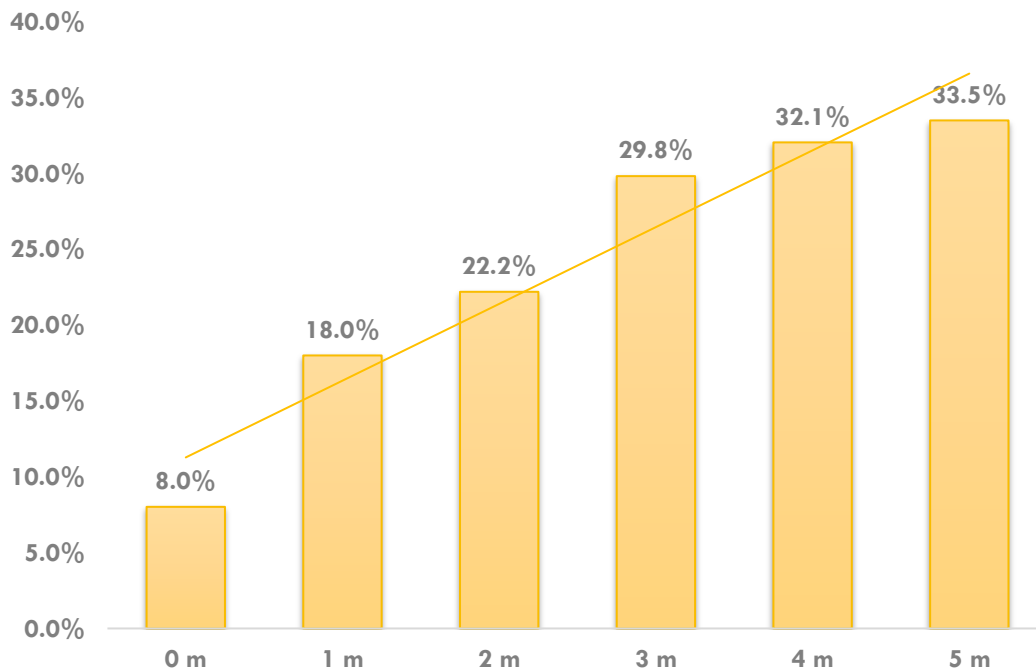
Table 1. Prevalence of undernutrition amongst infants <6 months old^{iv, v}

	Total	Male	Female
WLZ < -2.0	15.3%	16.2%	14.5%
WLZ < -3.0	6.2%	-	-
WAZ < -2.0	26.3%	30.2%	22.5%
Birthweight <2500g (LBW)	15.5%	12.2%	19.4%

WLZ: weight-for-length z-score; WAZ: weight-for-age z-score; LBW: low birthweight.

Recently, weight-for-age (WAZ) has been shown to be the best predictor of mortality in infants u6m.^{vi} Analysis of 50 SMART surveys shows that 26.3% of infants u6m are underweight i.e. at high risk of mortality. Looking at the trend, underweight increases with age (Figure 1); with 35.5% of infants underweight by 5 months. This highlights a deterioration of nutritional status with age, however it must be noted that most infant deaths occur in the first month of life which will somewhat skew the data in Figure 1. Lifesaving newborn care and early preventative measures in the first months of life are crucial.

Figure I. Underweight (weight-for-age <-2.0), by age group



Analysis by weight-for-length z-score (WLZ) shows the same trend, with increasing wasting with age from 0 to 5 months, with 20.2% of 5-month olds wasted. An analysis of SMART Surveys found that male infants u6m were more likely to be wasted than female infants, although not significantly, and Das Gupta et al found that female infants were significantly more likely to be born low birthweight. Although no clear trend for gender, wasting and underweight increase with age from 0-5 months.

Risk factors for Afghan infants u6m

To design an appropriate package of interventions to reduce nutritional risk in infants u6m, we first need to know what the risk factors are. In this section we look at the existing literature to identify causes of nutritional risk in Afghan infants.

Sub-optimal breastfeeding practices

Poor IYCF practices are a well-known cause of malnutrition in infants and young children. Thirty-one SMART surveys were analysed that included data on infant and young child feeding (IYCF) practices for 2585 infants u6m, and found that exclusive breastfeeding reduced with age, with only 45% of 4–5 month olds being exclusively breastfed and therefore receiving other foods/drinks, leading to risks to their health. The AHS 2018 shows a similar picture: although 98.6% of children are breastfed at some point, only 57.5% are exclusively breastfed and only 63.7% of infants put to the breast in the first hour of life; 31.4% of infants received a pre-lacteal feed. The main drinks/foods being given to infants u6m were: plain water, soft or mushy food, milks other than breastmilk, and infant formula. Sex, residence, mother's education and household wealth do not seem to impact on duration of breastfeeding.

High incidence of childhood illness

Malnutrition and infection have a cyclical relationship, with an undernourished child more susceptible to illness, and an ill child more likely to become undernourished. The Afghanistan Health Survey 2018 found that 18.1% of infants u6m had diarrhoea, 23.4% had a fever and 10.7% had symptoms of acute respiratory infection in the 2 weeks prior to the survey. In terms of health seeking practices, the survey found that

60.3% of children with diarrhoea were taken to the health facility, this was comparable for ARI and fever. At the time of the survey, 51.4% of children aged 12-23 months were fully vaccinated and 71% of 6-59 month old had received vitamin A in the 6 months prior. The AHS reported that receiving both immunisations and vitamin A was closely linked with household wealth.

Maternal risk factors

Maternal malnutrition

Pregnant and lactating women are nutritionally vulnerable, requiring an increase in calories and certain micronutrients to support growth of the foetus or production of breastmilk. The recent analysis of 50 SMART surveys found that 1 in 5 pregnant and lactating women are suffering from undernutrition, based on MUAC criteria of <23cm. Undernutrition during pregnancy is a risk factor for low birthweight and intrauterine growth retardation among other risks to the infant and mother herself. Food security is closely linked, a challenge for many households, with 33% of the total population severely food secure according to the 2019 Seasonal Food Security Assessment.^{vii} One in five households consume a poor diet at a national level, with some provinces up to 40% of households (Badakhshan, Sar-e-Pul, Badghis and Ghor). In mountainous areas, access to vegetables can be a challenge with diets high in starchy carbohydrates such as bread, pasta, rice and potatoes increasing the risk of overweight and of micronutrient deficiencies, both associated with increased risks for the mother and infant during pregnancy.

Maternal mortality is high in Afghanistan, with a number of causes associated with nutritional status; for example anaemia in pregnancy leads to increased risk of haemorrhage, and calcium supplementation is used to prevent pre-eclampsia. The AHS 2018 found only 46.8% of women received iron supplements during pregnancy, and only 17% received a vitamin A dose after delivery.

Low educational attainment of mothers

Das Gupta et al found that having no formal schooling was a risk factor for women to deliver a low birth weight baby.^{viii} Najafizada et al found that the mother's level of education was associated with the utilisation of health care utilisation, and with increased birth spacing. Educated women were more likely to receive ANC and to use a skilled birth attendant compared to less educated women. They were also more likely to use contraceptives and less likely to become pregnant as an adolescent. All these factors are linked to birth outcomes and help to explain why we see increased low birthweight in those who are less educated.^{ix}

Poor maternal mental health

An infant u6m is completely dependent on their caregiver; as such, an infant's wellbeing is intrinsically linked to that of their caregiver. In both the antenatal and post-partum period, women are at an increased risk of depression. Depression or other mental health disorders can impact a caregiver's caregiving capacity. The Mental health burden amongst the Afghan population is significant; SM Shin et al found that amongst 125 Pashtun women in Kandahar, approximately half were moderately or severely depressed, and more than half showed symptoms of post-traumatic stress disorder (PTSD). Income was significantly associated with the presence of a mental health challenge. Given that socioeconomic status is also associated with risk of infantile malnutrition, this is important to note.^x

The DHS shows that gender-based violence is common, a determinant of maternal wellbeing and child caring capacity. Of ever-married women, 56% reported experiencing emotional, physical or sexual violence from their response. The DHS also highlights poor decision power amongst women; of 89% of women reporting barriers to accessing health care, 51% mentioned getting permission to go for treatment as a barrier.

Inadequate Sexual and Reproductive Healthcare received

Approximately half of births occur at home in Afghanistan, sometimes accompanied by a traditional birth attendant but often not.^{xi} This is reflected in only 13.8% of babies included in the DHS 2015 having reported or documented birthweights. Infants who are born low birthweight or prematurely are at higher risk of mortality and require support; if birthweight is not being documented this does not allow for regular and routine detection of this important risk factor. Das Gupta et al found that a birth interval of ≥ 48 months decreased the risk of low birthweight; the Afghanistan DHS 2015 shows that the median birth interval is 28.4 months, with a third of children born less than 24 months after a previous birth.

Afghan women tend to start childbearing early, the DHS 2015 shows the median age at marriage for women is 18.5 years, with 12% of women aged 15-19 years having already begun childbearing. The median age at first birth is 20.1 years. These high-risk reproductive practices are preventable through effective education and counselling on sexual and reproductive health. However, utilisation of SRH services is poor, especially of post-natal care (PNC); 59% of women received ANC from a skilled provider for their most recent birth, with only 18% receiving at least four ANC visits during their last pregnancy.. The recommendation by WHO being a minimum of eight visits.

Low socioeconomic status

Das Gupta et al found that belonging to the richest wealth quintile decreased the risk of low birthweight. Akseer et al found that coverage of ANC with a skilled attendant and attending 4 or more ANC visits was 3 – 5.6 higher for the richest compared to the poor, which in part explains the association of wealth with low birthweight.^{xii} Najafizada et al also identified correlations between husband's employment, household incomes, women's economic activity and a women's health status. The DHS 2015, identified that 67% of women who experienced problems accessing healthcare had problems getting money for treatment.

Limited coverage and quality of healthcare services

The AHS 2018 assessed community perceptions of health facilities; they that for MoPH clinics, only 49.2% were satisfied with the convenience of travel, although 56.5% were 30 minutes or less from their nearest facility, 34.0% were 30 minutes to 2 hours away and of the facilities accessed, only 32.3% were MoPH facilities. In terms of the treatment received at MoPH Clinics, 56.5% were satisfied with the explanation provided on the illness and 55.05% on the explanation of the treatment; 50.3% were satisfied with the availability of drugs. Overall, satisfaction was low at 57.0%. This indicates that the quality of health services, when accessed, are sub-optimal. With high incidence of child illness and high rates of malnutrition, this is of concern and aggravates an already high risk situation.

Summary of risk factors

The situation is complex, with many causes feeding in to the level of nutritional risk for an infant ≤ 6 m. Wasting, underweight and low birthweight are exasperated by low levels of maternal education, poverty, poor maternal and infant nutrition, poor family planning and a lack of availability and utilization of health care services; additionally, food insecurity is rife across the country with inadequate maternal diets. An infant's nutritional risk increases with age up to 6-months of age indicating that these factors become more predominant or have more impact as the infant ages. Mothers who have a low level of education and/ or a low socioeconomic status are more likely to suffer from depression and/or PTSD, which impacts on caregiving capacity. This emphasises the need for a holistic approach in the prevention and treatment of nutritional risk in infants ≤ 6 m focusing on both mother and infant.

SECTION TWO

Service mapping for at-risk mothers with infants u6m in Afghanistan

Existing contact points and services were mapped to identify potential entry points for screening of infants u6m for nutritional vulnerability and to identify what support services were available for mothers and their infants u6m. Services were identified in strategies and through interviews with key stakeholders. A full list of those interviewed can be found in **Annex A**. Questions were asked on utilisation, coverage and practices amongst communities.

Identification of infantile wasting

The analysis of SMART surveys identified the highest proportion of wasting to be in infants u6m, yet we see them as the smallest number of admissions to IMAM programmes; this identifies a gap in terms of identification and screening of this age group.

According to the BPHS, weight and length should be measured when the mother and infant present to the Health Facility. Community-based workers are screening in some areas; mostly using MUAC, and in some conducting growth monitoring with weight-for-age. For areas conducting only MUAC screening, infants u6m are missed as there are currently no internationally validated MUAC thresholds for acute

LBW is identified through measurement of weight at birth, with low birthweight defined as <2500g. In Afghanistan, approximately half of births are at home where it is unlikely the baby will be weighed unless a CHW has been trained and provided with the equipment. For facility deliveries, weighing the infant is standard practice but in reality does not always happen; a reported barrier to weighing the infant are a lack of electricity for heat, and therefore keeping the baby warm is prioritised, additionally high workloads with few qualified midwives in rural areas. This is a missed opportunity to identify very early on a significant risk factor for poor outcomes.

Current treatment of infantile wasting

First to look at treatment of wasting; currently, if an infant is identified as wasted the 2018 IMAM Guidelines outline treatment as follows: if the infant is wasted without complications, they should be admitted to OPD-SAM and if wasted with complications, they should be admitted to the IPD-SAM. Both focus mainly on re-establishing/ support breastfeeding as well as addressing other identified potential causes, where possible. Inclusion of wasted infants u6m in OPD-SAM is new in Afghanistan and still being rolled out across the country, treatment focuses on re-establishing exclusive breastfeeding. In areas where this has not been rolled out, all infants u6m with acute malnutrition are treated in IPD-SAM as per the previous protocol. IPD-SAM is located most often at regional, provincial and district hospitals, meaning poor coverage/ hard to access especially for remote, rural areas.

In reality, approximately 10% of all SAM cases in children under-5 have complications requiring inpatient care. We see this reflected in admission data from 2019 for children 6-59 months (Table 2)^{xiii}. However, because up until recently the protocol was to admit all infants u6m to inpatient care, we can see that 97% of u6m were admitted for inpatient treatment, with only 3% of outpatient management for u6m highlighting that the transition is still in early stages. We would expect to see this percentage greatly increasing as the new guidelines are rolled out.

Table 2 also demonstrates a proportionally smaller number of total infants u6m compared to other ages groups, indicating that infants u6m with wasting are not being identified on the same scale as in the older

age groups. From the analysis of SMART Surveys, we saw that 15.3% of infants u6m are wasted. Given an estimated 1.8% of the total population being u6m¹, there are an estimated 677, 397 infants u6m. With 15.3% GAM, we would expect 103, 641 infants u6m to be wasted. In Table 2, we see only 5,650 infants admitted to IMAM programme in 2019, highlighting that we are missing a significant number of wasted infants u6m.

Table 2. Admission data from IPD-SAM and OPD-SAM from Jan to June 2019, by age group²

Age category	IPD-SAM	OPD-SAM	Total SAM	% inpatient
< 6 months	5,453	197	5,650	97%
6 – 23 months	8,577	129,050	137,627	6%
24 – 59 months	1,667	24,051	25,718	6%

Note - data from 2020 is not included due to likely distortion of health seeking due to the COVID pandemic

Whereas ideally, all children admitted in IPD-SAM will continue treatment in OPD-SAM after stabilization, only 0.1% of infants u6m were admitted in OPD-SAM for follow-up treatment. This indicates almost all infants u6m receive only treatment in IPD-SAM. There is a gap and need to scale-up the outpatient treatment for acute malnutrition of infants u6m.

¹ Afghanistan Updated Population. Central Statistics Organization (CSO) 2018-19.

² Data from Afghanistan National Nutrition Online Database, PND/ MoPH

Landscape analysis of services for mothers and infants u6m

Our focus is on more than those infants u6m who are defined as wasted, but also on those who are nutritionally at-risk. Wasting treatment exists with defined entry points, but what is not yet established is a pathway for holistic screening and preventative treatment for nutrition risk. To identify potential entry points, existing contact points with mothers and infants u6m were mapped, with details on services, coverage and usage trends, and reported limitations. The last column details actions for the MAMI Care Pathway to be effective at each contact point.

Entry Point	Facility or community based	Details & Coverage	Limitations	Options for MAMI Care Pathway
ANTENATAL: CONCEPTION TO DELIVERY				
Ante Natal Care (ANC)	Facility	65.2% of women have at least one ANC visit. 20.9% have four or more. 52.8% had their first visit in their first trimester.	Poor attendance to more than 1 visit. ANC less likely in second and third trimester, where poor outcomes may manifest i.e. risk of LBW or premature delivery	ANC is key contact point for preventative measures and early detection of risk <ul style="list-style-type: none"> ✓ Integrate ANC and TSFP service delivery points to ‘incentivize’ attendance to ANC ✓ Train CHWs on early detection of expected poor nutritional outcome of babies, closer follow up and referral to HF.
MATERNAL AND NEWBORN HEALTH: 0-28 DAYS				
Facility-based deliveries	Facility	56.3% of women have institutional deliveries. Most facility-based deliveries take place at MOPH facilities. Private Clinic delivery more common in urban areas and amongst women with higher wealth and education attainment.	Even in institutional deliveries, birthweight is not always recorded, especially in facilities with no electricity where priority is to keep baby warm.	Maternity wards a key place to identify and record LBW <ul style="list-style-type: none"> ✓ Build capacity of weighing and recording birthweight as standard practice.

Home deliveries	Community	<p>Approximately 50% of mothers deliver at home. Home delivery is particularly common for rural areas, mothers with low education and households with low wealth status.</p> <p>Births attended by CHWs, relative or neighbour.</p> <p>Community dialogue and mobilization on maternal and newborn in some areas i.e. danger signs and referral, benefits of services at health facility.</p>	Home deliveries are not likely to be evaluated and weighed at birth, unless CHWs have been trained and equipped to do so.	<ul style="list-style-type: none"> ✓ Establish pathway for at-risk mothers and infants i.e. MAMI assessment through PNC providers ✓ Train CHWs to evaluate newborns and encourage attendance to HF for PNC & newborn care. ✓ Engage elders, religious leaders, key influential figures on importance of attending health facility after birth.
Newborn Care	Facility	Health facilities deliver routine newborn care, with specialised newborn care at District or Provincial Hospitals.	<p>High delivery caseload due to few staff.</p> <p>Essential newborn actions often missed from consultations. Only 9% of last-born infants in the 2 years preceding the survey received a postnatal checkup in the first 2 days after birth, but 40% of women received a postnatal check.</p>	<p>Key to ensure continuum of care after newborn care for infants remaining at high risk i.e. LBW.</p> <ul style="list-style-type: none"> ✓ Train newborn care staff and specialized units on MAMI Care Pathway and ongoing care for at-risk mothers and infants after discharge ✓ Advocate for more funding for newborn health ✓ Advocate for live saving equipment to
	Community	To tackle a shortage of midwives, the Community Midwifery Education (CME) programme was added to the BPHS. Women nominated from the community to study 2 year programme. After graduation, they return to their community to work on maternal and newborn care.	<p>Life-saving equipment for newborns is not part of essential medicine.</p> <p>Lack of electricity i.e. for incubators, heating, fans.</p>	

		UNICEF training CHWs on essential newborn care (trained 4,000 CHWs).	Funding is for maternal health, not for newborn specifically so low budget allocation. CME is a new initiative, therefore coverage still building.	be available in all health structure where deliveries happen ✓ Train community midwives on MAMI assessment and care pathway. ✓ Work with Newborn teams to address the lack of newborn PNC check-ups, and support in advocacy for improved funding and equipment for newborn care.
Post Natal Care (PNC)	Facility	35.1% receive PNC in the 2 days following birth, and the majority of these is within the first 4 hours. Percentage that have received PNC increases with level of education and wealth, as well as urban residence.	Attendance very poor. Day 1 visit best attended, thereafter attendance is minimal. PNC only available at facility level.	Need to improve attendance to PNC for this to be a viable contact point worth investing in. ✓ Train Midwives on MAMI risk factors
TREATMENT OF CHILD ILLNESS: 0-6 MONTHS				
IMNCI	Facility	BPHS includes treatment of childhood illness. Guidelines in place for IMCI for sick young infant age 1 week up to 2 months (2012 IMNCI Guidelines under review currently) and IMCI for sick child 2 – 59 months. Through IMCI the child is assessed for: weight-for-age, breastfeeding assessment, immunisation status.	Health seeking behaviour is reportedly low for infants u6m, due to the cost associated (i.e. transport to health facility) and the fear of the baby getting sick during travel or at the clinic. Surveys show for children under 5, approximately 60% seek healthcare for childhood illnesses.	✓ Train HWs in OPD on MAMI care pathway to OPD-SAM but also to 'MAMI' for those at –risk but not meeting the criteria for IPD/OPD-SAM.

		If finances allow, many prefer to use private clinics for child illness.	IMNCI guidelines not well implemented as per protocol, often general observation of child rather than step-by-step assessment.	
VACCINATIONS: 0 DAYS, 6 WEEKS, 10 WEEKS, 14 WEEKS				
EPI through BPHS	Facility	<p>Infants u6m require a number of routine immunisations, which is part of the BPHS.</p> <p>Coverage for vaccinations at 6 weeks (Penta 1 and OPV1) hovers around 75%; there is a decline in coverage with increasing age of the infant.</p>	<p>In areas where cultural practice is for mother to stay indoors for 40 days post-partum, the infant is taken to facility for first vaccination (day 1) by another family member.</p> <p>Vaccinators often don't refer newborn and mother to PNC for evaluation and support.</p>	<p>Vaccination points are one of the most important contact points for u6m due to high coverage.</p> <ul style="list-style-type: none"> ✓ Ensure vaccinators refer all mothers and infants u6m to GMP/ MIYCN/ OPD/ PNC for evaluation after vaccination
NUTRITION: CONCEPTION TO 6 MONTHS				
MIYCN/ IYCF	Facility	<p>IYCF and maternal nutrition counselling included in ANC and PNC.</p> <p>Each Health Facility has a Nutrition Counsellor responsible for IYCF counselling. Serious breastfeeding issues i.e. re-lactation, mastitis are referred to the midwife.</p> <p>A number of NGOs provide IYCF Counselling through dedicated counsellors or integrated in to health & nutrition teams i.e. IMAM, Health Clinic, Mobile clinics.</p>	<p>PNC poorly attended i.e. not a routine place to receive IYCF support for a 0-6 month old.</p> <p>Challenging to find female candidates to recruit as nutrition counsellors.</p>	<p>IYCF counselling is a key support required for at-risk mothers and infants</p> <ul style="list-style-type: none"> ✓ Establish referral mechanism for at-risk mothers and infants to IYCF counselling services ✓ Where IYCF counselling services are not established, they must be before the MAMI Care Pathway can be implemented.
	Community	CHWs delivering IYCF messaging i.e. initiation of breastfeeding & exclusive breastfeeding.		

		According to surveys, breastfeeding interventions are equitably distributed across wealth quintiles.		
Growth Monitoring Programme	Facility	Growth Monitoring for all children under 2 years by Nutrition Counsellor at Health Facilities. MIYCN counselling provided related to growth monitoring.	Although children supposed to attend monthly, this does not often happen. Capacity building required for Nutrition Counsellors	Nutrition Counsellors a key contact point and well placed to provide counselling to at-risk mothers and infants ✓ Train nutrition Counsellors on MAMI support
Maternal Supplementary Feeding Programmes	Facility & Mobile	BSFP is accessed through Health Facility. PLWs are included as target group in BSFP. TSFP operational in 28 of 34 Provinces. Community-based screening.	Emergency response programme. In areas not covered by WFP, there is no alternative and therefore nutritional status of breastfeeding mothers is not measured. However, currently this is the majority of Provinces in Afghanistan. In general health system, it is not in protocols to measure women's nutritional status unless she is pregnant.	Important contact point with potential duration through the first 6 months of life: ✓ Train BSFP/TSFP staff on MAMI risk criteria. ✓ Establish referral mechanism where BSFP/ TSFP exist for MAMI mothers. ✓ Explore alternative support for where WFP are not active.
MENTAL HEALTH: 0-6 MONTHS				
Mental health care	Facility	The BPHS includes mental health treatment and diagnosis, with community-based mental health interventions. At all levels of the BPHS, mental health education, awareness, case detection, identification and treatment are included.	Prominent stigma around mental health illness means they are often kept hidden and professional help is not sought. Person thought to be responsible for the condition. PSS Counsellors don't exist in all areas, due to funding or recruitment constraints.	✓ Decide assessment & referral criteria with MHPSS department. ✓ Establish referral mechanisms to counsellors at Health Facilities for mothers with mental health challenges.

		NGO programmes exist for MHPSS screening and support i.e. women-friendly spaces, baby-friendly spaces.	No routine assessment for post-natal depression/ mental health of post-partum mother, focus on post-delivery screening and care i.e. clinical. No HMIS indicator for PND. NGO programmes are time-bound and only in certain locations.	✓ Where no PSS services, provide PFA as a minimum by training all staff on this basic, non-specialised support
COMMUNITY-BASED STRUCTURES: 0-6 MONTHS				
Family Health Action Groups	Community	Family Health Action Groups (similar to mother care groups) exist in places where the Community-based Nutrition Programme (CBNP) has been piloted. Capacity building of CHWs, volunteers; Mobilise PLWs in to small groups 8-15 to deliver messages i.e. MIYCN promotion in line with national MIYCN guidelines.	Limited coverage, with only a few actors working through the FHAGs.	✓ Use FHAGs as community screening platform. ✓ Referral link for at-risk mothers and infants to join FHAGs.
Family Health House	Community	The FHH model is a new innovation in Afghanistan. A FHH will be staffed by one certified community midwife from the village where the FHH is located, supported by two CHWs and a community committee. The FHH approach is aimed to expand BPHS coverage to remote villages and increase healthcare access of marginalized populations in rural communities in a cost effective manner.	New innovation – needs time to scale up.	✓ Train FFH Community midwives on MAMI assessment and care ✓ Establish referral link where possible with IYCF counselling activities

Community Based Nutrition Programme (CBNP)	Community	<p>CBNP started in 2017: CHWs and 2 volunteers from community to work on nutrition services. Provide growth monitoring (weight-for-age) and counselling on IYCF practices, and conduct food demonstrations.</p> <p>28 provinces covered. 6 being negotiated, looking for funding.</p>		<p>✓ Train CBNP volunteers on MAMI assessments and referral to Health Facility when required.</p>
Community-based health care: CHWs at Health Posts	Community	<p>CHWs provide screening for malnutrition, common disease – counselling, provide essential drugs Zn, ORS, IFA (ANC).Refer complicated cases to health facilities.</p> <p>Survey shows that only 10% are aware of CHWs and that only 3% have used them in the last 3 months.</p>	<p>Community-based healthcare focuses on treatment over soft skills such as counselling. Counselling not routinely part of JD for CHWs.</p> <p>Community-based services are poor generally speaking: no incentives, overloaded, lack of supplies, lack of motivation, weak referral system to facilities. Varies on area depending on motivation and knowledge.</p>	<p>✓ Train CHWs on MAMI risk factors to facilitate referral to OPD for assessment.</p> <p>✓ Build capacity of community-based services to detect and refer at-risk mothers and infants for facility-based assessment</p>

Summary of existing services

The critical contact opportunities for accessing mothers with infants appear to be:

- Post-natal Care and Newborn Care
- OPD, where there is already screening and admission to OPD-SAM/ IPD-SAM
- Vaccination points - referrals to PNC/ MAMI assessment are key.
- Nutrition Counsellors a key contact point and well placed to provide counselling to at-risk mothers and infants
- Supplementary Feeding Programmes for PLWs
- Community platforms such as FFH, FHAG, CBNP

Services by risk factor

To identify existing services and highlight gaps, services were mapped by identified risk factor for infants and mothers.

Risk Factor	Available services	Targeting
Sub-optimal IYCF practices	<ul style="list-style-type: none"> MIYCN counselling services are available at Health Facilities through Nutrition Counsellors and Midwives, and through NGO projects. Mobile Health Teams mostly include IYCF support. 	<ul style="list-style-type: none"> PLWs Training to MIYCN service providers to improve quality of services
Child illness	<ul style="list-style-type: none"> Primary healthcare available from Health Post (community) up to Provincial Hospital. Mobile Health Teams cover some hard-to-reach/ rural areas. 	<ul style="list-style-type: none"> HH decision makers to improve health seeking behaviours i.e. fathers, grandparents.
Maternal malnutrition	<ul style="list-style-type: none"> In areas with emergency response there are BSFP or TSFP for PLWs. 	<ul style="list-style-type: none"> Malnourished PLWs (MUAC <23.0cm)
Poor maternal mental health	<ul style="list-style-type: none"> PSS Counsellors at Health facilities and through NGO projects. Some Mobile Health Teams include PSS Counsellors. 	<ul style="list-style-type: none"> Routine mental health assessment for pre and post-partum mothers.
Low maternal education	<ul style="list-style-type: none"> All SBCC, educational and awareness raising activities on child feeding and care practices. 	<ul style="list-style-type: none"> Areas with women with low education attainment
Poor sexual & reproductive health practices	<ul style="list-style-type: none"> SRH service are available, but facility-based mainly. Some Mobile Health Teams include SRH services. Low attendance rates, especially for PNC. 	<ul style="list-style-type: none"> Rural areas. Areas with low SES.
Socio-economic status	<ul style="list-style-type: none"> Partner-led FSL initiatives 	<ul style="list-style-type: none"> Areas with significant proportion of HHs in lower wealth quintiles, poor women's empowerment.
Poor quality and coverage of health care services	<ul style="list-style-type: none"> Mobile Health Teams are operational in some hard-to-reach and rural areas. Family Health House approach aims to bring services to underserved communities. 	

There are significant gaps and limitations in a number of existing services which will need to be addressed for MAMI to be effective in addressing the identified risk factors, including:

- Poor coverage and quality of almost all BPHS services, for various and complex reasons
- SFP limited to WFP operational areas, not a component of the BPHS
- Newborn health is underfunded, underequipped and understaffed
- ANC and PNC are very poorly attended
- Birthweight measurement, growth monitoring and screening need to be more systematic

SECTION THREE

Options for MAMI integration

Annex B contains checklists to aid programme design. Checklist 1 aims to identify existing contact points for screening and assessment, Checklist 2 aims to identify the existing services and highlight any critical gaps.

Key roles for MAMI assessments

Key roles identified during the mapping that would be well placed to conduct an assessment of mothers and infants u6m include:

- Midwives/ Community Midwives for early detection in first month of life of nutritional risk
- OPD/IPD health workers who do child nutritional assessments to link with SAM treatment for those not malnourished but 'at-risk' of being malnourished
- Nutrition Counsellors and Nutrition Counsellor Extenders to detect and address nutritional risk during preventative activities at Health facilities i.e. GMP and MIYCN.
- CHWs would be key to screen and refer for full assessment.

Considerations for integration of MAMI

Coordination with the private healthcare sector

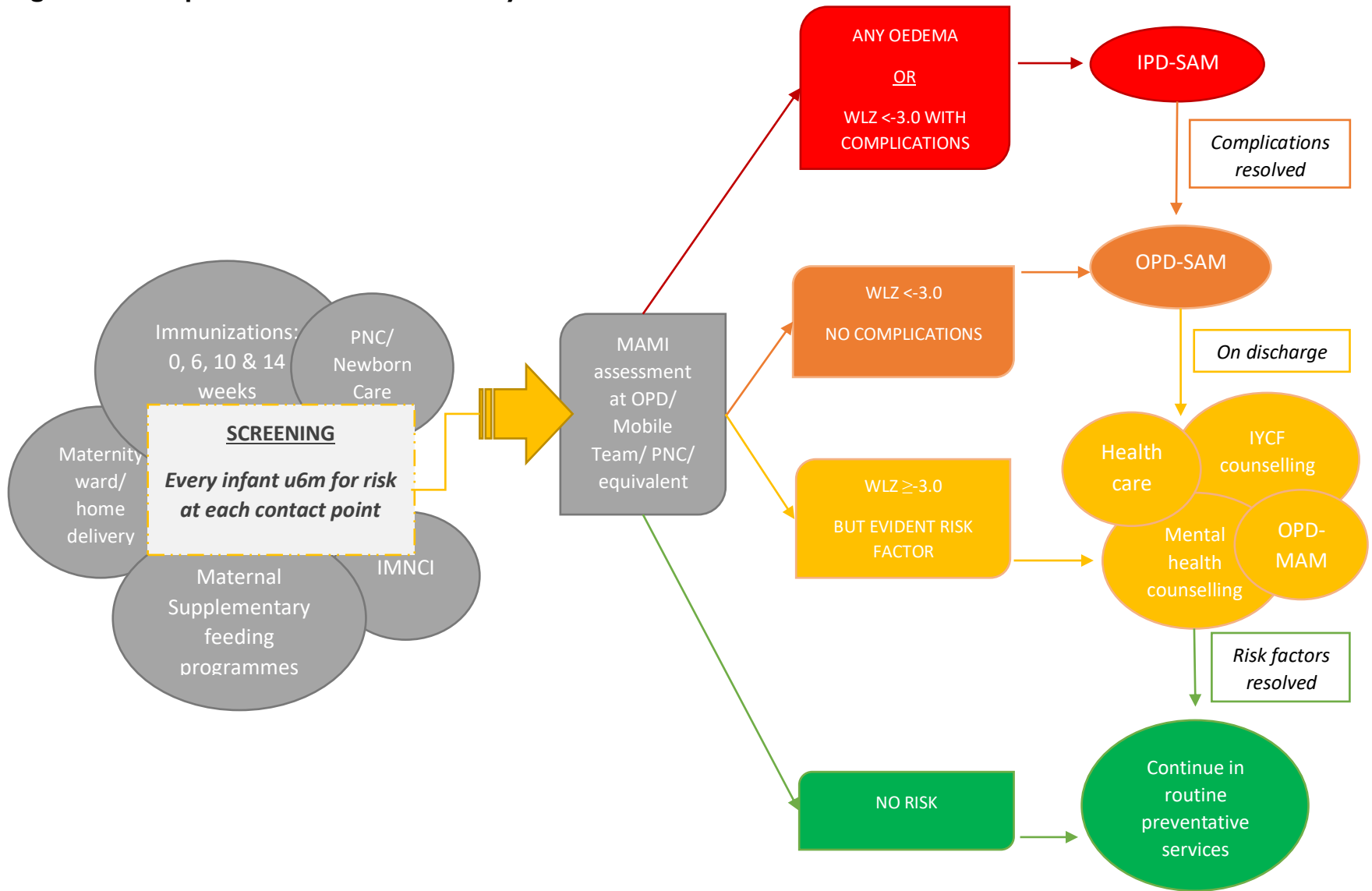
A proportion of the population choose to seek private healthcare. Although the private sector report to the MoPH, there is no involvement of the PND with Private health care providers. Private Clinics don't necessarily report on activities, as the BPHS Clinics must do. Private clinics are generally in central areas, and BPHS in rural areas. Access dependent on economic status of the household.

To access this proportion of the population, during reproductive healthcare and childhood illness, there would need to be involvement of the private sector in MAMI initiatives, training and roll-out.

Gender dynamics

The MAMI Care pathway targets a mother and her baby. Women must be accompanied by a family member to health facilities, and must be attended to by a female health worker, both of these factors can act as barriers to utilisation of health care. In a review of social determinants of maternal health in Afghanistan, 93% of women reported needing authorisation from their husband or a male relative to seek health care.^{xiv} These gender dynamics must be considered to ensure accessibility and utilisation of support services.

Figure 2. Example of a MAMI Care Pathway



ACTION PLAN

NEXT STEPS

Identify Partners interested to pilot the integration of the MAMI Care Pathway into their existing programming for mothers and infants

Partners to identify funding for pilot of MAMI

Partners to identify operational area and use the checklists in Annex B, or otherwise, to map the existing contact points and services in the target programme area

Partners to adapt the diagram for the MAMI Care Pathway based on their operational area, using the checklist, including screening points, assessment point, and management pathways (see example in Figure 2)

Once points identified, Partners to refer to relevant rows on the contact points mapping in Section 2 and take note of the recommendations for implementation for success

For programme implementation tools refer to the COMPASS Module on Community Management of Acute Malnutrition in Infants under 6 month, found here under 'Nutrition':

<https://compass.savethechildren.org.uk/>

For technical queries, please contact: mami@savechildren.org

Annex A: List of Interviewees

Interviews were conducted with the following Stakeholders:

Name	Organisation	Role
Dr Nasrullah Orya	Aga Khan Development Network (AKDN)	Health Programme Lead
Dr Sayed Hamed Zia Dashti	MoPH - Public Nutrition Directorate	Nutrition in Emergencies Senior Officer
Dr Juma Khan Naser Khairzada	Organization for People's Health in Action (OPHA)	Programme Director
Dr Malalai Naziri	UNICEF	Maternal and Newborn Health Officer
Dr Ahmad Nawid Qarizada	UNICEF	Nutrition Specialist
Dr Khaksar Yousufi	UNICEF	Health Officer
Martin Ahimbisibwe	WFP	Head of Nutrition
Dr. Nadia Jabarkhail	Action Against Hunger	MHPSS Working Group Coordinator
Hasina Alokozai	UNICEF	Nutrition Assistant/ previous MIYCN TWG Coordinator

Annex B: MAMI Care Pathway Design Checklists

MAMI Design Checklist 1: Existing Contact Points				
Which of the following contact points exist for infants u6m and their mothers in the programme area?	Yes	No	Selected for screening	Selected for assessment
Maternity ward for facility-based deliveries (HWs)				
Home deliveries				
Newborn Care (Hospital - HWs)				
Newborn Care (Community)				
Post Natal Care (Midwife)				
Community Midwives				
EPI (Vaccinator)				
Growth Monitoring Programme (Nutrition Counsellor)				
IMNCI/ treatment of child illness (HWs)				
MIYCN/ IYCF Counselling				
Mental Health and Psycho Social services				
Family Health Action Groups				
Community Based Nutrition Programme (CHWs/ Volunteers)				
Other:				

MAMI Design Checklist 2: Existing Support Services

Existing support services for mothers and infants u6m in the programme area?	Yes	No (Gap)	Limitations/ Notes
MIYCN/ IYCF counselling			
IMNCI/ IMCI/ Primary health care for childhood illness			
Community Based Nutrition Programme			
Family Health Action Groups			
Family Health House			
Mental Health Care			
Psycho Social Support			
Supplementary food support e.g. BSFP, TSFP, LNS			
Newborn Care			
Antenatal Care/ Postnatal Care			
Livelihoods support/ social safety nets for vulnerable households			
Cash programming			
Other:			

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- ⁱ KIT Royal Tropical Institute and National Statistics and Information Authority (NSIA); Afghanistan Health Survey April 2019.
- ⁱⁱ Maternal and child undernutrition and overweight in low-income and middle-income countries Robert E Black, Cesar G Victora, Susan P Walker, Zulfi qar A Bhutta*, Parul Christian*, Mercedes de Onis*, Majid Ezzati*, Sally Grantham-McGregor*, Joanne Katz*, Reynaldo Martorell*, Ricardo Uauy*, and the Maternal and Child Nutrition Study Group, 2013
- ⁱⁱⁱ Nutrition Cluster analysis from 50 SMART nutrition surveys conducted in Afghanistan between 2015 to 2019, ACF
- ^{iv} Afghanistan Nutrition Cluster, UNICEF and Action Against Hunger, Wasting among Infants Under 6-Months: A silten Public Health Problem in Afghanistan. 2020.
- ^v Central Statistics Organization (CSO), Ministry of Public Health (MoPH), and ICF. 2017. Afghanistan Demographic and Health Survey 2015. Kabul, Afghanistan: Central Statistics Organization.
- ^{vi} Martha Mwangome , Moses Ngari, Paluku Bwahere, Patrick Kabore, Marie McGrath, Marko Kerac and James A. Berkley (2019). Anthropometry at birth and at age of routine vaccination to predict mortality in the first year of life: A birth cohort study in Burkina Faso. www.enonline.net/resources/birthcohortstudyburkinafaso
- ^{vii} Afahanistan Food Security and Aariculture Cluster. Seasonal Food Security Assessment (SFSA) 2019 Report. 2019.
- ^{viii} Das Gubta R. Swasev K. Burrowes V. Hashan MR. Al Kibria GM. Factors associated with low birth weight in Afghhanistan: a cross-sectional analysis of the demographic and health survey 2015. *BMJ Open*. 2019;9(5):e025715. Published 2019 May 14. doi:10.1136/bmjopen-2018-025715
- ^{ix} Najafizada, S., Bourgeault, I. L., & Labonté, R. (2017). Social Determinants of Maternal Health in Afghanistan: A Review. *Central Asian journal of global health*, 6(1), 240. <https://doi.org/10.5195/cajgh.2017.240>
- ^x Sung-Man Shin, Hyun Jeong Kim, Lina Liw, Sungjae Kim, Depression and PTSD in Pashtun Women in Kandahar, Afghanistan, *Asian Nursing Research*, Volume 3, Issue 2, 2009. Pages 90-98.
- ^{xi} Naziri M, Higgins-Steele A, Anwari Z, et al. Scaling up newborn care in Afghanistan: opportunities and challenges for the health sector. *Health Policy Plan*. 2018; 33(2):271-282. doi:10.1093/heapol/czx136
- ^{xii} Akseer N, Bhatti Z, Rizvi A, Salehi AS, Mashal T, Bhutta ZA. Coverage and inequalities in maternal and child health interventions in Afghhanistan. *BMC Public Health*. 2016; 16 Suppl 2(Suppl 2):797. Published 2016 Sep 12. doi:10.1186/s12889-016-3406-1
- ^{xiii} Nutrition Cluster analysis of admission data from National Nutrition Online Database, PND/MoPH, 2019
- ^{xiv} Najafizada, S., Bourgeault, I. L., & Labonté, R. (2017). Social Determinants of Maternal Health in Afghanistan: A Review. *Central Asian journal of global health*, 6(1), 240. <https://doi.org/10.5195/cajgh.2017.240>