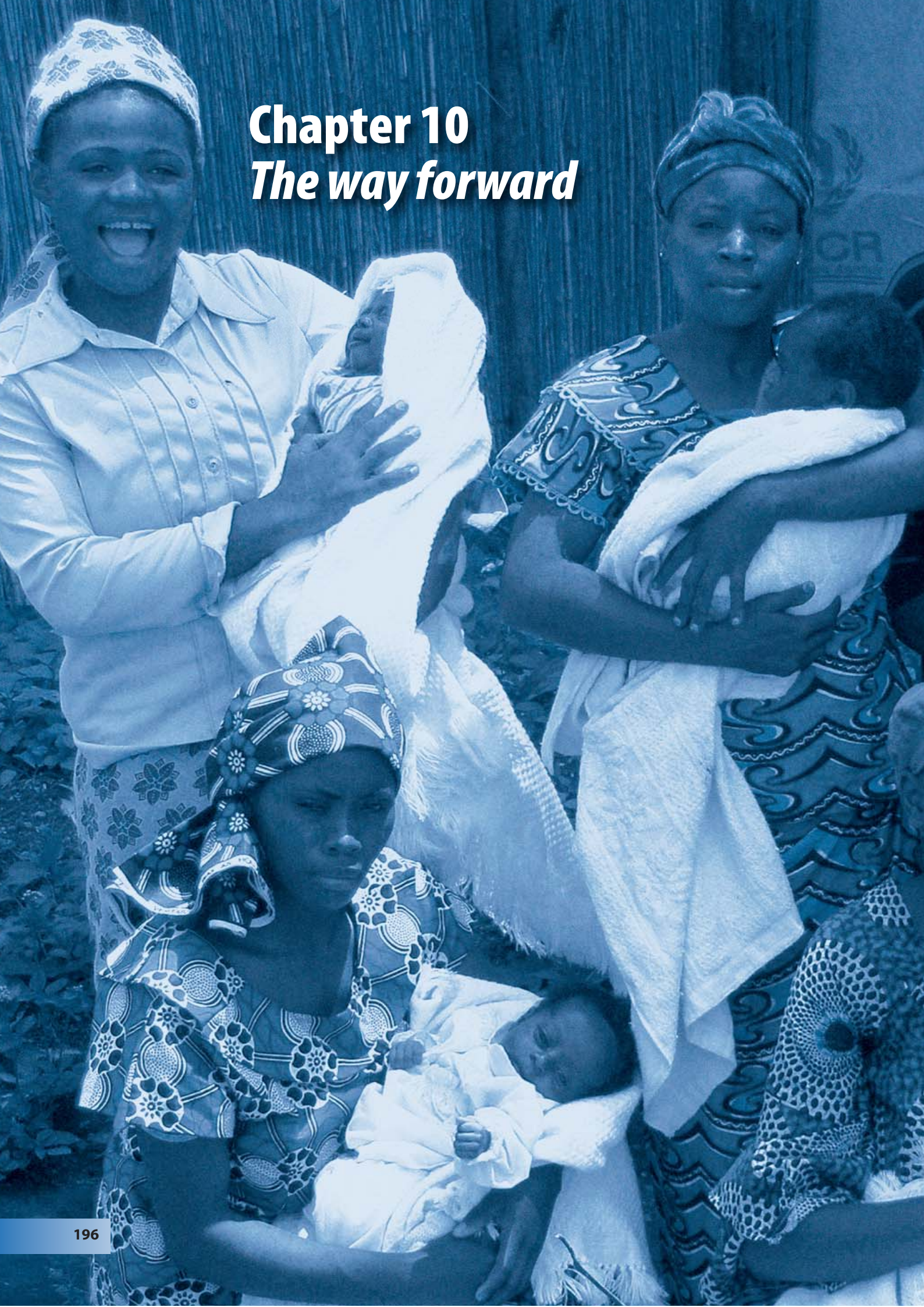


# Chapter 10

## *The way forward*



## Chapter 10: The way forward

The MAMI Project has shown that the burden of care for infants <6m is significant, the implications of the rollout of the 2006 WHO Growth Standards for infants <6m are important and need to be explored urgently, the current evidence base for treating malnourished infants <6m is relatively weak and that programmes currently struggle using current guidelines to manage this age-group.

Some recommendations are made throughout the MAMI report in response to identified gaps, in particular by highlighting key resources, good practices, and complementary initiatives to consolidate and build on. To highlight here:

- Existing guidelines with strong MAMI components are MSF guidelines 2006, ACF Assessment and Treatment of Malnutrition, 2002 and Module 2 on IFE and are good reference tools (see Annex A).
- Strategies with potential to improve inpatient outcomes of 'complicated' infant <6m SAM include review of current first and second line antibiotic choices, implementation of routine Kangaroo care, 'breastfeeding corners'/ separate mother and baby areas where both skilled and peer-to-peer breastfeeding support is available, and psychosocial support of the malnourished infant, the mother-infant dyad and support to families.
- Strategies with potential for effective outpatient-based care of infant <6m MAM & 'uncomplicated' SAM include community-based breastfeeding support, psychosocial support programmes & women's groups programme and routine community-mobilization and identification of context-specific factors underlying infant <6m malnutrition.
- Closer links are needed with existing programmes that may impact on infant <6m malnutrition, particularly reproductive health services (e.g. recording birth weight and follow-up weight at first immunisation), existing interventions promoting exclusive breastfeeding (e.g. Baby-Friendly Initiative), those improving quality care to sick children (e.g. Integrated Management of Childhood Illness), and growth monitoring programmes.
- The MAMI Project findings should inform the update of Sphere Standards, currently underway (due out 2010).

The MAMI findings have also highlighted key research areas to consider, including:

- Systematic review of studies of different anthropometric indicators suitable for use in the community in infants <6m, including a review of the suitability of MUAC for this age group.
- Review of the effectiveness of community-based breastfeeding support to assess its viability as a treatment option for uncomplicated cases of SAM in infants <6m.
- Review the effectiveness of breastfeeding assessment tools for use in the community to identify 'uncomplicated' and 'complicated' cases of SAM in infants <6m.
- Develop a triage tool based on a set of clinical signs for 'complicated' cases in need of urgent inpatient treatment.
- Investigate the nature and effectiveness of skilled breastfeeding counselling and support in inpatient treatment of severely malnourished infants <6m.
- Research into the choice of therapeutic milk for infants <6m.
- Studies on the therapeutic treatment and follow-up of malnourished non-breastfed infants.
- Intervention studies into antibiotics to use in infants <6m and older children.
- Studies to explore which psychosocial support activities are most effective, and their timing, duration, impact and adaptation to community models for malnutrition treatment.

There are undoubtedly resource implications to strengthened inpatient and expanded outpatient treatment of malnourished infants <6m. This is reflected in reported field experiences but not supported by formal cost data. Trials of programme interventions need to include and report on cost to inform programme planning. This is especially important in considering the cost-benefits and viability of scale-up of interventions.

Assessing programme performance treating infant <6m malnutrition needs to be strengthened. Critically, performance should not be judged solely on core outcomes (e.g. death rate, nutritional cure rate) but needs to:

- Capture the clinical, psychosocial and contextual complexity of infants treated
- Ensure robustness of data, audit and management systems to identify problems that may occur, and
- Establish programme population coverage of SAM. MAM in infants <6m.

Key initiatives that may provide lessons in taking initiatives forward include the SFP minimum reporting standards project (MRP), the Vermont-Oxford Network to improve neonatal care,<sup>331</sup> and experiences from the rollout of the 1999 WHO guidelines.

- The MRP is an ENN-led interagency initiative that involves developing and implementing a standardised Minimum Reporting Package on SFPs, including data collection tools, training and multi-agency data collection.<sup>332</sup>
- The mission of the Vermont-Oxford Network<sup>333</sup> is “to improve the quality and safety of medical care for newborn infants and their families through a coordinated programme of research, education and quality improvement projects”. (see Box 17)
- Long-term follow up of hospitals involved in the 1999 WHO guideline piloting showed marked discrepancies in outcomes.<sup>334</sup> Systems, staff and leadership were key influences on the effective implementation of the guidelines. This need to address systems factors came out strongly in MAMI key informant interviews. Tools supporting management quality would benefit not only malnourished infants <6m, but all patient groups.

#### Box 17: Vermont-Oxford Network

The Vermont Oxford Network was set up to address a poor evidence-base with which to formulate effective guidelines and any common practices between different treatment centres, yet also important differences of unknown effectiveness.

The network has a membership of over 700 neonatal units worldwide. It has a unique and confidential database on care and outcomes of high-risk newborn infants, used for quality management, process improvement, internal audit and peer review.

Member institutions participate in clinical trials, long-term follow-up studies and epidemiologic and outcomes research. Results are widely disseminated through network publications, scientific articles in peer reviewed medical journals, web site postings and an annual meeting.

Use of core approaches and standardised paperwork across multiple sites enables pooling data, analysis by strata (or similar) and exploration of inter-site variations.

The lack of an evidence base to formulate MAMI guidelines remains a big gap. Key research questions include medium and long-term survival of the treated infants, effectiveness of different feeding regimens and impact of psychosocial and community interventions. A combination of systematic reviews (e.g. of current guidelines), high quality RCT-type studies (e.g. on antibiotic choice; what type of breastfeeding support programme has maximal impact) and operational research is needed to strengthen guidelines. More resources should be devoted to future guideline development and tools such as GRADE and AGREE used to better enhance their quality.

Our review suggests that formal frameworks might usefully guide which policies and research projects should strongly (and more urgently) be recommended, and which might be less critical. With this in mind, two frameworks – GRADE (introduced in Chapter 4) and Child Health and Nutrition Research Initiative (CHNRI)<sup>335</sup> – may be of particular use (see Box 18).

**Box 18: GRADE & CHNRI frameworks**

Using the GRADE framework, factors influencing the strength of recommendation for action are:

- **Balance between desirable and undesirable effects:** The larger the difference between the desirable and undesirable effects, the more likely a strong recommendation is warranted. The narrower the gradient, the more likely a weak recommendation is warranted
- **Quality of evidence:** The higher the quality of evidence, the more likely a strong recommendation is warranted
- **Values and preferences:** The more variability in values and preferences, or more uncertainty in values and preferences, the more likely a weak recommendation is warranted
- **Costs (resource allocation):** The higher the costs of an intervention (that is, the more resources consumed) the less likely a strong recommendation is warranted

Using Child Health and Nutrition Research Initiative (CHNRI), all possible research options are listed and assigned scores in the following categories:

- Is the question answerable in an ethical way?
- Is the intervention likely to be effective?
- Is the intervention likely to be deliverable, affordable & sustainable?
- What is the likely disease burden reduction?
- Is the intervention equitable?

To enable continued inter-agency dialogue, data sharing and partnership is needed. In particular:

- Focused prospective audits are needed – interpreting retrospective data is challenging and yields relatively limited information.
- Age-disaggregated data collection on infant <6m, currently implemented in the minority of cases, should be rolled out and continue.
- Harmonised databases and coding systems would enable easier audit. In this regard, an update in the MRP to include infants <6m in SFP reporting is recommended.
- A mechanism for data sharing and 'lesson' learning forums should be established to inform future field guidance.

MAMI strategies should be located within a framework of safe and appropriate IYCF; programme synergies between IYCF support of infants <6m and child 6 to 24m must be better reflected in the guidelines. Locating interventions to treat infant and child malnutrition within global policy frameworks, e.g. the WHO/UNICEF Global Strategy on IYCF, creates opportunities to coordinate with governments and national level plans and to synergise interventions that treat malnutrition with those that seek to prevent it. Such strategic approaches may be possible in many emergency contexts.

Of most immediate concern is the lack of explicit consideration to infants <6m in current guidelines or their explicit recognition in recent statements on malnutrition treatment<sup>336</sup> and 2006 WHO GS rollout.<sup>337, 338</sup> This risks the presumption that care for older children can safely be extended to infants <6m and/or perpetuates the assumption that infants <6m are all well nourished. *A valuable contribution to help address this would be a statement on MAMI that highlighted the concerns, gaps and immediate considerations for this age-group to guide practice in the immediate term.* Such a statement would be well placed as an output of the Global Nutrition Cluster through engagement of Nutrition Cluster members, the MAMI Project research team, RAG and IASG members.

In the future, a more radical shift in the model for MAMI is likely needed. A move towards community-based management of acute malnutrition in infants <6m is an option that should be actively considered. Further applied and operational research is required to provide the evidence base for such a transition. For older children, the evolution to community based management of acute malnutrition was driven by a strong vision, a clear research agenda and well documented field experiences. The challenge now is how to improve nutritional, clinical and public health outcomes in infants <6m.

## Endnotes

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<sup>331</sup> <http://www.vtoxford.org/home.aspx>

<sup>332</sup> See [www.enonline.net/research](http://www.enonline.net/research)

<sup>333</sup> <http://www.vtoxford.org/home.aspx>

<sup>334</sup> Puoane et al, 2008. Why do some hospitals achieve better care of severely malnourished children than others? Five-year follow-up of rural hospitals in Eastern Cape, South Africa. *HPP* 2008;23(6):428-37.

<sup>335</sup> <http://www.chnri.org>

<sup>336</sup> Community-based management of severe acute malnutrition A Joint Statement by WHO, WFP, the UNSCN and UNICEF.

[http://www.who.int/nutrition/topics/statement\\_commbased\\_malnutrition/en/index.html](http://www.who.int/nutrition/topics/statement_commbased_malnutrition/en/index.html)

<sup>337</sup> WHO Child Growth Standards and the identification of severe acute malnutrition in infants and children. A Joint Statement by WHO and UNICEF. [http://www.who.int/entity/nutrition/publications/severemalnutrition/9789241598163\\_eng.pdf](http://www.who.int/entity/nutrition/publications/severemalnutrition/9789241598163_eng.pdf)

<sup>338</sup> IASC Global Nutrition Cluster, and Standing Committee on Nutrition (SCN) Task Force on Assessment, Monitoring, and Evaluation. Fact sheet on the implementation of 2006 WHO Child Growth Standards for emergency nutrition programmes for children aged 6-59 months. March 2009.

<http://oneresponse.info/GlobalClusters/Nutrition/publicdocuments/WHO%20GS%20Factsheet%20English.pdf>