

# SCALING UP EARLY CHILDHOOD DEVELOPMENT (ECD) (0-4 YEARS) IN SOUTH AFRICA

## What Makes a Difference to Child Outcomes in the Period 0-4? Inputs for Quality ECD Interventions

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## Acronyms

BCG	Bacille Calmette-Guérin (vaccine against tuberculosis)
BMI	Brief Motivational Interviewing
CAPFSA	Child Accident foundation of South Africa
CCDP	American Comprehensive Child Development Program
CHBC	Community and Home Based Care
CLASS	Classroom Assessment Scoring System
DoE	Department of Education
DPT	Diphtheria, Pertussis and Tetanus
ECCE	Early Childhood Care and Education
ECERS	Early childhood Environment Rating Scale
ECD	Early Childhood Development
EPWP	Expanded Public Works Programme
FAS	Foetal Alcohol Syndrome
HAART	Highly Active Anti Retroviral Therapy
HIPPY	Home Instruction Program for Preschool Youngsters
HIV and AIDS	Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome
ICDP	International Child Development Programme
IEA	Improving Educational Attainment
IMCH	Integrated Maternal and Child Health
IMCI	Integrated Management of Childhood Illnesses
ISPCAN	International Society for the Prevention of Child Abuse and Neglect
NASCOP	National
NFCS	National Food Consumption Survey
NFP	Nurse Family Partnership
NGO	Non- governmental Organization
NICHD	National Institute of Child Health and Development
NIP	National Integrated Plan
OPV	Oral Polio Vaccine
PASASA	Paraffin Association of South Africa
RCT	Randomized Control Trial
REA	Rapid Evidence Assessment
TEEP	Turkish Early Enrichment Programme
TIK	Methamphetamine
Triple-P	Positive Parenting Programme
UNICEF	United Nations Children's Fund
UNESCO	United Nations Economic and Scientific Council
WHO	World Health Organisation

## Executive summary

This paper presents the evidence for programmes that are effective in improving child outcomes in the years 0-4. The focus is on populations, outcomes and interventions identified in the National Integrated Plan (NIP) for Early Childhood Development (ECD).

The focus is on research that has implications for the design of effective interventions to improve child development in vulnerable populations with the ultimate goal of ensuring that they have a sound physical and psychological foundation for health and development.

In research undertaken for this paper we reviewed literature to ascertain the specific factors that have been identified as being associated with programme effectiveness in ECD, and the key ingredients of successful interventions.

Our focus is on evidence from majority country settings and we take our cue from the recent Lancet series and related papers which provide the most concise and current summary of evidence for a range of child outcomes (Engel et al., 2007; Walker, Chang, Powell & Grantham-McGregor, 2005; Grantham-McGregor et al., 2007). As is evident from these accounts, beyond the child health domain, information on programme effectiveness and efficacy from majority country contexts is very limited. Therefore information from the developed countries, particularly as regards child development programmes, is included where appropriate.

The main objective is to answer the question: what are the ingredients and design parameters of:

1. *Home-based programmes* that are effective in changing parenting and other aspects of caregiver behaviour that are associated with improvements in children's nutrition, protection and development – in particular motor, language, cognition and socio-emotional domains – and that link families to services for the benefit of the child?
2. *Formal setting programmes* that are shown to be associated with improvements in children's psychological development, and that link families to services?

The answers are related to the question of what programme delivery process and quality elements are needed in order to make a difference, particularly in low resource, majority country settings.

The topics cover considerable ground. One cannot do justice to each (e.g. nutrition, care, quality, etc.) in an integrated paper covering all the issues relating to health and development in the period 0-4 years.

Therefore, based on a Rapid Evidence Assessment, the paper summarises the key findings on what works best to improve early outcomes in the following areas: nutrition, early psychological development, parenting, early stimulation and child care (in the home and group settings), and systems that promote access to services. It does not consider interventions to improve child health other than those that increase

parents' awareness of factors that promote health and provide them with links to health services.

We make constant reference to quality parameters. Quality refers not only to the standards of programme delivery, but also to its evidence base. When it comes to home- and facility-based programmes designed to improve child development, the elements of ECD programme quality are highly contested, particularly in majority country contexts (Pence & Moss, 2004; Pence et al., 2004; Myers, 2004; Myers, 2001; Pence, 2004).

Less than 20% of South African children are currently likely to attend a formal facility programme. Project 11 (*Ratchet up implementation of ECD programmes*) of the *Apex Priorities* announced by the President in his 2008 State of the Nation Address seeks to “massively speed up implementation of ECD programme”, including doubling the number of delivery sites and child beneficiaries in the next two years.

It is unlikely that numbers of children in formal facilities will increase substantially (Biersteker & Dawes, 2008). In part this is due to a pattern common to countries with high maternal unemployment, where children are much more likely to be cared for at home rather than in other settings. It is therefore of critical importance that we ensure provision of alternative ECD interventions designed to reach the majority of poor children who will continue to be cared for at home or in community settings such as play groups.

There is no South African data on the impact of household level parent training for *early stimulation* and similar initiatives designed to improve child psychological outcomes relevant to preparation for schooling and later development. As these forms of intervention are key components of the NIP for ECD, there is an urgent need to draw on evidence from studies conducted elsewhere in the world to identify the factors that contribute to their effectiveness in changing caregiver behaviour, and improving child outcomes.

There is only one South African peer-reviewed pilot study of a home visiting intervention for poor women designed to improve maternal sensitivity and infant-mother attachment (Cooper et al., 2002e). A randomised controlled trial (RCT) study of this same intervention has been completed and shows that a 15 home-visit intervention improved maternal sensitivity and reduced intrusiveness at 12 months post-intervention. At 18 months, these children were more securely attached than controls (Cooper et al., 2008).

Interventions for ECD should be tailored to the most pressing threats to child development. On the basis of their prevalence in South Africa, there are probably *nine key threats to sound early childhood outcomes*:

1. Poor maternal nutrition and substance abuse during pregnancy which may impact on infant survival and may result in Low Birth Weight and Foetal Alcohol Syndrome;
2. The impact of HIV and AIDS on the young child (clinical treatment and vertical transmission of HIV are not addressed in this paper);

3. Inadequate access to health care – particularly during infancy and toddlerhood, including failure to immunise and seek care when needed;
4. Diseases associated with inadequate sanitary and water services, as well as poor hygiene practices, which result in diarrhoea (not addressed in this paper);
5. Stunting due to malnutrition;
6. Inadequate affectional care;
7. Forms of early childhood stimulation that are not well aligned with what is demanded from the school system;
8. Morbidity and mortality due to unintentional child injuries; and
9. Maltreatment.

In most cases the upstream cause is long-term poverty in households without the material or human resources needed to provide adequate shelter, care, nutrition and stimulation.

These risks can be addressed in the eight areas outlined in Table i below, which summarises the evidence as to ‘what works’ to improve child outcomes, which are particularly important for early well-being and development. With a few key exceptions, we do not include child health, as this was beyond the scope of the current review.

**Table i – What works to improve early childhood outcomes?**

Desired outcome	What works: implications for interventions
1. Prevention of Low Birth Weight	<ul style="list-style-type: none"> <li>▪ Improving the diets of pregnant women reduces risk of low birth weight and stunting;</li> <li>▪ Ensure that every pregnant woman has adequate antenatal care (at least four antenatal visits with an appropriate health care provider);</li> <li>▪ The mother also needs support in seeking care at the time of delivery and during the postpartum and lactation period.</li> </ul>
2. Prevention of Foetal Alcohol Syndrome (FAS)	<ul style="list-style-type: none"> <li>▪ Early identification of at-risk mothers during pregnancy is critical;</li> <li>▪ Primary health practitioners who can screen for, diagnose and manage alcohol-exposed pregnancies play a key prevention role;</li> <li>▪ Delaying pregnancy in women at highest risk and who already have a child with FAS;</li> <li>▪ Brief Motivational Interviewing (BMI)<sup>1</sup> techniques are efficacious with substance abusers and could be considered for at-risk mothers who present at antenatal clinics;</li> <li>▪ Education of communities as to risks and that address norms have a role to play in increasing awareness, but no trials have been conducted in South Africa to demonstrate impact.</li> </ul>
3. Promotion of hygiene practices, child safety and injury prevention practices and knowledge of when to seek health care	<ul style="list-style-type: none"> <li>▪ Educate carers in the UNICEF/WHO IMCI 16 Key Family Practices;</li> <li>▪ Supervise children’s activities;</li> <li>▪ Reduce or prevent where possible caregiver alcohol and/or drug use in high-risk individuals;</li> <li>▪ Alert caregivers to potentially hazardous substances and objects in and around the home;</li> <li>▪ Encourage caregivers to use of child-resistant containers for harmful substances (including paraffin);</li> <li>▪ Encourage use of paraffin stoves that adhere to the South African Bureau of Standards safety standards for paraffin stoves;</li> <li>▪ Electrification avoids the dangers of paraffin stoves and ingestion, but the risk of burn or thermal injuries remains in relation to boiling liquids;</li> <li>▪ Use fire resistant or retardant materials for informal housing;</li> <li>▪ Provide a storage space for dangerous substances and appliances;</li> <li>▪ Use stair gates and safety barriers on bunk beds and infant high chairs;</li> <li>▪ Preset geyser hot water temperature to 54°C or less;</li> <li>▪ Use appropriate swimming pool fencing.</li> </ul>
4. Prevention and remediation of malnutrition	<ul style="list-style-type: none"> <li>▪ Commence in pregnancy where appropriate;</li> <li>▪ Integrate nutrition programmes for infants and children under 3 years with psychosocial support for caregivers;</li> <li>▪ Provide iron and Vitamin A supplementation where appropriate;</li> <li>▪ Programmes should combine early stimulation through responsive parenting, together with improved nutrition;</li> <li>▪ Assess for caregiver depression and distress and address if necessary.</li> </ul>
5. Promotion of sensitive, responsive and affectional care in all developmental settings, including in contexts within which children are affected by HIV and AIDS	<ul style="list-style-type: none"> <li>▪ Programmes that focus on assisting caregivers with their daily life challenges, help them to learn more adaptive problem-solving skills and lend emotional support have the potential to reduce caregiver stress and promote more sensitive caring;</li> <li>▪ Promising interventions include those which provide parenting advice and support to vulnerable and very young mothers, starting with antenatal care and followed up with home visits and support groups thereafter. Contacts must be frequent, regular and of at least a year’s duration;</li> </ul>

<sup>1</sup> BMI is a directive, client-centred counselling style for eliciting behaviour change. <http://www.motivationalinterview.org/clinical/whatismi.html>.



Desired outcome	What works: implications for interventions
6. Promotion of early stimulation for child development	<ul style="list-style-type: none"> <li>▪ South African research shows that home visits and support groups with depressed women can assist but must be of high intensity and be sustained;</li> <li>▪ The only way to effectively protect, promote and enhance the health and wellbeing of young children is to improve the quality and stability of the care they receive from those closest to them, from their caregivers and families;</li> <li>▪ Provide HAART to eligible mothers of young children.</li> </ul>
7. Key quality parameters for formal ECD settings	<ul style="list-style-type: none"> <li>▪ Have systems for early detection of developmental delay and disability in the public health system linked to Road to Health Card assessments;</li> <li>▪ Stimulation programmes are particularly important for children with disabilities and chronic illness, as well as HIV and AIDS;</li> <li>▪ Integrate early stimulation programmes in the home with other interventions that are offered to parents (e.g. of nutritional support, food gardens, CHBC, etc.);</li> <li>▪ Home-based early stimulation programmes must be regular, intensive (not less than twice monthly for in excess of a year), culturally appropriate, and build on existing household activity;</li> <li>▪ Both parents and children must be actively involved in the intervention. Simply providing parenting information has little or no effect on child outcomes.</li> </ul> <p><b>Infant and toddler care:</b></p> <ul style="list-style-type: none"> <li>▪ In general, small group sizes with low child-adult ratios are preferable, and together with non-authoritarian child-rearing beliefs are associated with ‘positive’ (warm, accepting and sensitive) caregiving;</li> <li>▪ Safe, clean and stimulating physical environments are also associated with positive caregiving;</li> <li>▪ Children who spend extended periods of the early years in centre-based care are more at risk for aggressive behaviour;</li> <li>▪ Group care centres must contribute to child health and development by linking parents to services;</li> <li>▪ The setting must not simply provide for health and hygiene but also work toward the psychosocial development of the child.</li> </ul> <p><b>Preschools key findings:</b></p> <ul style="list-style-type: none"> <li>▪ ECD programmes are recommended because they prevent delays in cognitive development and improve disadvantaged children’s readiness to learn in school;</li> <li>▪ Attending pre-school from an early age enhances children’s development (particularly the disadvantaged child), and half-time attendance is good enough;</li> <li>▪ The home learning environment is an important factor, but it is what parents do (stimulation, reading, scaffolding of learning) that makes the difference in child outcomes.</li> </ul> <p><b>Pre-school quality parameters:</b></p> <p><i>Structural parameters:</i></p> <ul style="list-style-type: none"> <li>▪ Facilities and their surroundings/physical environment (cleanliness, safety, opportunities for a range of stimulation in a range of developmental domains);</li> <li>▪ A variety of learning materials is required;</li> <li>▪ Low ratio of children to adults (as for younger children, small group sizes with low child-adult ratios are preferable);</li> <li>▪ Finance/resources/management/planning/organisation/leadership/conditions of service and wages.</li> </ul> <p><i>Process quality parameters:</i></p> <ul style="list-style-type: none"> <li>▪ Trained practitioners: staff with greater knowledge and understanding of the curriculum and of how young children learn are associated with better quality and child outcomes. Their ability to help parents support children’s learning in the home is also associated with better child outcomes;</li> <li>▪ Ongoing supervision of staff;</li> <li>▪ Integration of education and care;</li> </ul>

Desired outcome	What works: implications for interventions
	<ul style="list-style-type: none"> <li>▪ Partners/parental and community participation, including communication with parents about children's progress;</li> <li>▪ Active parental involvement in the centre;</li> <li>▪ Teaching strategies need to be culturally appropriate (using local materials and practices on which to build activities);</li> <li>▪ Teaching strategies include frequent, warm and responsive interactions; good communication and listening; children have better outcomes when the emotional climate in the classroom is positive (sensitive, warm and positive teachers);</li> <li>▪ Activities that occur alone and in groups and which cover multiple dimensions enhance development and encourage problem solving.</li> <li>▪ Active individualised support by staff for children's learning scaffolds the child's development of skills relevant to school;</li> <li>▪ If children have more free choice activities than regulated activities controlled by the teacher they do better;</li> <li>▪ Children who spend less time in large group activities do better;</li> <li>▪ Consistency in discipline and responsiveness;</li> <li>▪ Good time management;</li> <li>▪ Equal treatment regardless of factors such as gender and ethnicity.</li> </ul>
8. Prevention of maltreatment	<ul style="list-style-type: none"> <li>▪ Target in particular teen parents and first-time parents, single parents with limited support, and parents with substance abuse problems such as alcohol and TIK;</li> <li>▪ Low-birth-weight and preterm infants, and children with chronic illness and disabilities are particularly vulnerable to maltreatment and their carers need support;</li> <li>▪ Efforts to strengthen parenting knowledge and capacities in the antenatal period should be linked to other antenatal clinic visits;</li> <li>▪ Carers should be assisted to have a basic understanding of how children grow and develop so that their expectations are realistic – particularly in the case of infants and young children;</li> <li>▪ Clinic, crèche, ECD facility staff need training in observation and respond to early warning signs of abuse and neglect;</li> <li>▪ Centres play an important role in child protection as the child is in a safe, monitored environment.</li> </ul>
9. Improved access to social security and health services at local level	<ul style="list-style-type: none"> <li>▪ Strong local government support for integrated ECD through local multi-service hubs within walking distance of households.</li> <li>▪ Use of locally recruited outreach workers from clinics and other facilities (e.g. ECD sites) to facilitate family connection to required services.</li> </ul>

Overall, programmes that have the greatest impact on *child growth and development*:

1. Commence prenatally and extend into infancy and early childhood as a continuous chain of support;
2. *Combine interventions* that utilise several simultaneous 'delivery channels' (e.g. home visits, group counselling, childcare centres and mass media). Combined interventions include a *package* of (for example) child nutrition, parental education on diet and feeding practices, supplementary foods or micronutrient supplements, and parenting and child development education; they are more efficient and cost effective, they avoid duplication and families access an integrated package of services which reduces their service access costs. Evaluations indicate that these

programmes have positive effects on child health, nutrition and cognitive outcomes. Comprehensive programming is supported by the evidence.

In the case of home-based programmes designed to improve parenting and early stimulation, the following guidelines apply:

1. It is essential that five elements of programming need to be considered:
  - The goals and pathways through which the programme is expected to have its influence on the child (the theory of change) must be explicit;
  - The main targets of the intervention must be clear;
  - The intervention must be clearly described;
  - The method of delivery, dosage and duration criteria must be clearly specified (inputs) and monitored; and
  - Outcomes must be clearly specified, realistic and measurable.
2. Parental participation needs to be active, engaged and regular, normally over extended periods.
3. Home visiting needs to be *frequent* – weekly visits have the best chance of success (there is a linear relationship between frequency of home visits and improvements in child development). In terms of duration, contact (home visits and group meetings) over at least a year is desirable.
4. For good outcomes to occur, the relationship between participant and programme staff needs to be stable, warm, supportive and uncritical. Also, the practitioner skill in work with parents is a key determinant of success.
5. *Joint interventions* to improve child development (e.g. language and cognition) that involve direct activities with the child *and* training with the parent, plus joint activity with both, work best to improve cognitive and language development.
6. A combination of formal setting-based and home-based interventions is best.

The best and most numerous impacts are obtained from programmes that offer a mix of home-visiting and centre-based services and that are fully implemented as they are designed (Love et al., 2005). One may add that the target population makes a huge difference, particularly when dealing with parents who face many personal difficulties.

The key messages from evaluated majority country programmes are that effective programmes require (Engel et al., 2007, p. 234):

- “Integration of health, nutrition, education, social and economic development, and collaboration between governmental agencies and civil society;
- A focus on disadvantaged children;
- Sufficient intensity and duration and include direct contact with children beginning early in life;
- Parents and families as partners with teachers or caregivers in supporting children’s development;

- Provide opportunities for children to initiate and instigate their own learning and exploration of their surroundings with age-appropriate activities;
- Blend traditional child-rearing practices and cultural beliefs with evidence-based approaches (there is little detail on how this is achieved); and
- Provide early child development staff with systematic in-service training, supportive and continuous supervision, observational methods to monitor children's development, practice, and good theoretical and learning material support.”

With regard to children affected by HIV and AIDS, the message is clear:

*“These children are... resident in communities that are already severely deprived and within which HIV is one of a range of causes of deprivation and distress;*

*it is rarely if ever good practice to target young children affected by AIDS for interventions that do not include other vulnerable children and households;*

*these children need similar attention and support to other vulnerable children”*  
(Richter, Foster & Sherr, 2006).

Children with disabilities need particular support for development in the early years (Schneider & Saloojee, 2007). This is why it is essential to detect their problems early on, and ensure that they receive the necessary services and stimulation that will mitigate their disability and assist them to develop to their fullest potential.

Finally, and regarding service integration, in South Africa as elsewhere, a key question is which is the best node from which to assist vulnerable young children and families, and link them to the services that they need? This is not the topic for this paper, and would depend on a mapping of resources at local level. However, as will be evident in what follows, there are a number of examples from developing countries around the world that suggest that the primary health system is key to child health and development, at least in the first three years of life, and as these systems are often best developed and have widest coverage, this is the place from which to start. In South Africa, ECD centres and other community-based initiatives (e.g. programmes directed at families and children affected by HIV and AIDS) are also important nodes.

Demonstration projects to scale up ECD 0-4 and improve child outcomes in South Africa should ensure the best research design possible so as to provide a robust test of the intervention. Rutter (2007, p. 140) makes six points in this regard:

1. “Programmes that lack an explicit curriculum and that are varied across areas in a non-systematic fashion are impossible to evaluate in a manner that gives answers on what are the key elements that bring benefits. If the evaluation is to be informative on how to improve services in the future, it is essential to identify the mechanisms mediating efficacy.
2. Randomised controlled trials provide a much better test than non-experimental methods (however rigorous the statistics applied to the latter).
3. It is always desirable to determine the efficacy of an intervention under optimal research conditions before launching on a large-scale, multiple, communities-wide

effectiveness study of whether the results of the former can be implemented in the much more variable and less controllable circumstances of the latter.

4. For programmes intended to make a real difference in the long term, the research evaluation must also be long term (provided that the initial findings suggest that there is a reasonable chance that there might be long-term benefits).
5. It must be recognised that there may be subgroups that require something different and the design used must be able to detect such groups.
6. Research must check the extent to which findings apply across a range of difference contexts.”

The designs of demonstration projects to test the effectiveness of elements of the NIP for ECD would do well to take his points into account. Poor design not only produces confusing results, but may also lead to expensive consequences when untested and possibly ineffective interventions are rolled out.

## 1. Introduction

This paper is one in a series devoted to the study of improved delivery of ECD services in accordance with the NIP for ECD and the Expanded Public Works Programme (EPWP) ECD component of the Social Sector Plan. The focus is on the evidence for programme inputs that have implications for the design of effective interventions to improve child development in vulnerable populations, with the ultimate goal of ensuring that they have a sound physical and psychological foundation prior to entry to Grade R.

The topics cover a considerable ground. One cannot do justice to each (e.g. nutrition, care, quality etc) in an integrated paper covering all the issues relating to health and development in the period 0 to 4 years.

The paper therefore *summarises* the key findings on what works best to improve early outcomes in the following areas: nutrition, early psychological development, parenting, early stimulation and child care (in the home and group settings), and systems that promote access to services. The paper does not consider interventions to improve child health other than those that increase parents' awareness of factors that promote health and provide them with links to health services.

While the paper makes reference to centre-based quality parameters, because the NIP seeks to strengthen community-based and household level interventions (e.g. parenting programmes; early stimulation interventions), we focus more on the latter.

Less than 20% of South African children are currently likely to attend a formal facility programme. Project 11 (*Ratchet up implementation of ECD programmes*) of the *Apex Priorities* announced by the President in his 2008 State of the Nation seeks to "Massively speed up implementation of ECD programme", including doubling the number of delivery sites and child beneficiaries in the next two years. However, it is unlikely that numbers of children in formal facilities will increase substantially (Biersteker et al., 2008). Hence the critical importance of ensuring the quality of alternative ECD interventions designed to reach the majority of poor children who will continue to be cared for at home or in community settings such as play groups.

There is no South African evidence regarding the impact of household level ECD programming or community-based initiatives. As these forms of intervention are key components of the NIP for ECD, there is an urgent need to draw on evidence from studies conducted elsewhere in the world to identify the factors that contribute to their effectiveness in changing caregiver behaviour, and improving child outcomes.

The evidence for 'what works' to improve the outcomes of vulnerable young children that is brought together as a result of this enquiry will, together with other study components, inform designs to test the effectiveness of interventions for children 0-4.

## 1.1 Sourcing literature

In research undertaken for this paper we sought to ascertain the specific factors that have been identified as being associated with programme effectiveness and efficacy in ECD, and the key ingredients of successful implementation (e.g. training levels; community participation in the programme etc).

Ideally this exercise would require a systematic review or meta analysis of studies conducted to investigate the effectiveness of interventions for each problem (e.g. nutrition; cognitive development etc). Given the range of topics, this would require an extensive period of research and was not possible for this paper. Given time constraints a Rapid Evidence Assessment (REA) was conducted in which relevant electronic peer reviewed literature was searched as comprehensively as possible within the constraints of the project timetable. The search conducted was therefore not as exhaustive as a systematic review.

The literature was searched for both effectiveness and efficacy studies in the peer reviewed and grey literature (particularly that conducted by reputable research agencies and reviewed by institutions such as the World Health Organization). Child health interventions such as the Integrated Management of Childhood Illness (IMCI), programmes designed to reduce vertical transmission of HIV or improve immunisation uptake, etc., are excluded. However, initiatives that work well to integrate children and families with health and social services were also considered (i.e. integration of services).

Beyond the child nutrition, sources of literature on the effectiveness and efficacy of programmes to improve child development outcomes in majority country contexts are limited. However, recent authoritative research reviews were of considerable assistance {including the 2007 Lancet series and related papers (Grantham-McGregor et al., 2007; Grantham-McGregor, 2005; Walker et al., 2007; Walker et al., 2005; Engel et al., 2007). They were supplemented with research conducted in developing countries and reported by agencies such as the World Bank, the Van Leer Foundation and UNESCO (the Education for All Reports) among others.

Data on the impact of preschool programmes for vulnerable populations is mostly North American in origin, but there is also literature emerging from Sure Start.

This is a vast literature, and in spite of concerns about its validity outside countries such as the UK and the USA, it nonetheless has important lessons for us in the South.

## 1.2 Objectives

The main objective is to answer the question: what are the ingredients and design parameters of:

1. *Home-based programmes* that are effective in changing parenting and other aspects of caregiver behaviour that are associated with improvements in children's nutrition, protection and development – in particular: motor, language, cognition and socio-emotional domains, and that link families to services for the benefit of the child;

2. *Formal setting programmes* that are shown to be associated with improvements in children's psychological development, and that link families to services.

The answers are related to the question of what programme delivery process and quality elements are needed in order to make a difference, particularly in low resource majority country settings.

Quality is a core issue that flows through the paper. No matter how sophisticated the design, poor delivery quality undermines the intervention and the desired outcomes. We address this question as far as the evidence permits.

As the NIP seeks to strengthen community-based (e.g. childminding and parent-run playgroups) and household level interventions (e.g. parenting programmes; early stimulation interventions), we sought to access information on effectiveness of these types of intervention. There is minority country data on this matter, but for other regions of the world, while there are many programme descriptions, there are very few indeed that have been subjected to evaluation. At best most can state that they are promising. This is not to undermine the huge efforts of the many programmes in operation. But for the present purpose we are limiting our discussion to interventions that have been subjected to research.

A challenge for the paper has been that in most instances the literature reports on effectiveness of interventions in which home-based initiatives are delivered separately from other more formal programmes. Where possible we have sourced examples that specifically focused on separate home-based interventions that have included effectiveness studies. Indeed, the emerging consensus is that separation is a mistake.

We commence with a brief review of sources of risk and questions of effectiveness.



## **2. Risks to development: implications for effective interventions**

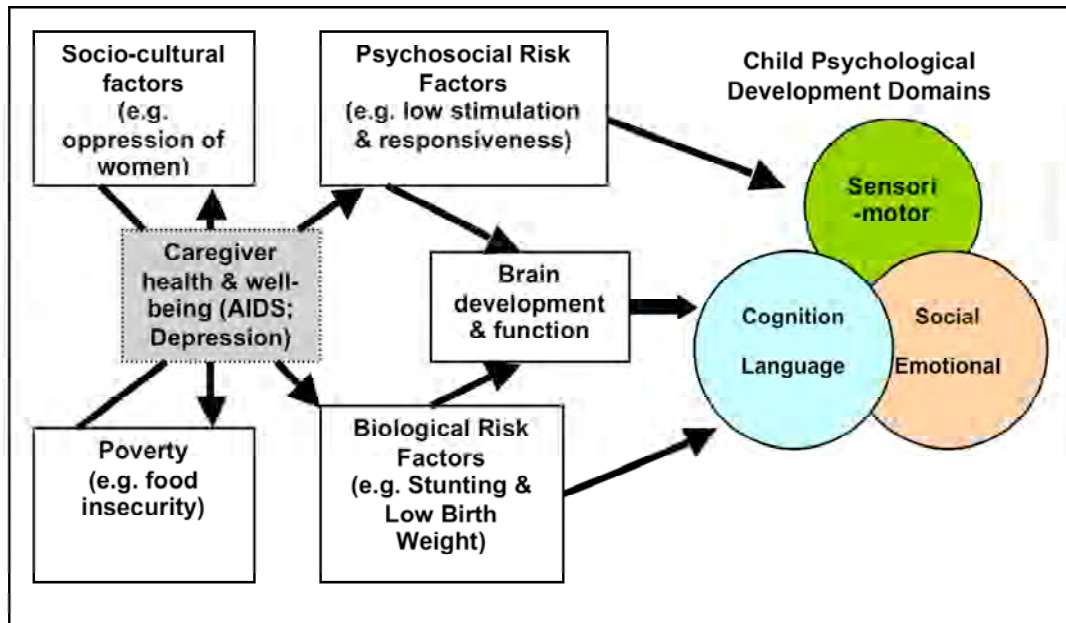
In order to realise the objectives of the NIP, the risks to child development need to be understood. As discussed in companion paper a range of factors are associated with risks to good outcomes for young children (Dawes, 2008).

The major risks to poor child outcomes in developing countries include stunting, iodine and iron deficiencies, as well as low levels of cognitive and socio-emotional stimulation (Walker et al., 2007). All except iodine deficiency are relevant for South Africa.

The manner in which risks operate is illustrated in Figure 1 below which is adapted from Walker and colleagues (2007). We have added caregiver health and well-being, a mediating variable which is of critical importance in all development, but particularly in South Africa as a consequence of high prevalence of HIV and AIDS and infectious diseases such as Tuberculosis (Brandt, 2007; Brandt, Dawes & Bray, 2006; Bray & Brandt, 2007; Richter, Manegold & Pather, 2004).

Recent studies of impoverished women with depressive symptoms are demonstrating how maternal mental state impacts on infant development. One example of research conducted in rural Bangladesh found that depressed mothers were less sensitive to their infants than controls in the same community, and that low sensitivity and maternal depressive symptoms were negatively associated with infant development. These women had reduced sensitivity to their infants (Black et al., 2007). Similar findings are emerging from South African research where one recent study indicates that maternal depression may be a significant problem among young mothers living in poverty in this country (Cooper et al., 1999; Tomlinson, Cooper, Stein, Swartz & Molteno, 2006). While more research is needed in South Africa, there is no doubt that when caregiver well-being is compromised, the capacity to care for young children suffers, and child outcomes including health, nutritional status and psychological development are compromised (Richter, 2004b; Richter & Grieve, 1991; Richter, 1994; Martorell, 1996).

Figure 1 – A conceptual model of how risk factors affect early childhood psychological development



Source: Adapted from Walker and colleagues, 2007

Interventions designed to reduce risks and promote development need to appreciate each element of this complex chain of relationships.

## 2.1 Guidelines for planning early childhood interventions

The following general guidelines are helpful for planning early childhood interventions and for assessing the usefulness of accounts of these programmes.

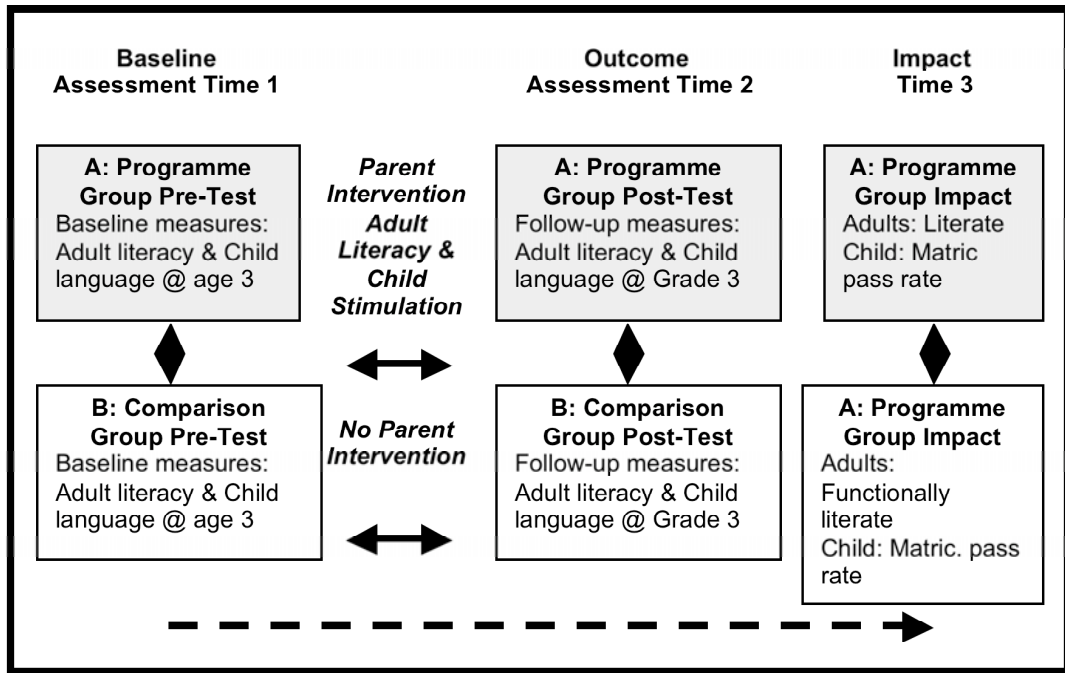
1. It is essential to provide a clear description of the intervention, including target participants, activities, goals and outcomes. The activities must be clearly linked to the objectives, and clear, measurable indicators for the assessment of progress and outcome must be included.
2. The intervention design and delivery must be informed by knowledge of the risks to positive early development outcomes.
3. Designs must also be informed by evidence regarding the effectiveness of interventions for producing specific outcomes (improved child nutritional status; parenting knowledge; child emotional well-being etc). The best evidence for effectiveness is obtained from interventions that have included robust evaluation techniques and some form of control comparison. Efficacy studies, which require a very high standard of design and control, are not common in this field, except in the case of certain child health and nutrition interventions.
4. The intervention needs to target those characteristics of participants and their circumstances that, when changed, are likely to lead to an improvement in outcomes. This applies to both direct interventions with children and adults who

care for them, and whose changed behaviour is believed to have an indirect positive effect on child outcomes.

- Measures of outcomes need to be valid and reliable, and must be aligned to the programme inputs and goals. This is because if measures of programme success are not appropriate, one could have a good intervention, but not see the positive results because the measures of success were not appropriate.

Examining Figure 1, and considering the above guidelines, it should be evident that each programme needs careful specifications. First, one needs an understanding of how the intervention will achieve these objectives. Second one has to set up a study to assess whether the intervention is effective. At minimum this requires a control group design of the kind displayed in Figure 2 below. Here a hypothetical study is presented which seeks to test the effects of adult literacy and child stimulation on language development and academic success.

**Figure 2 – Hypothetical home-based intervention to improve child development**



One needs to go further to elaborate on the various components of the intervention as in the logical framework displayed in Figure 3.

Figure 3 – Hypothetical log frame of a parent-focused home-based intervention to improve child development outcomes

	<u>Goal</u>	<u>Purpose</u>	<u>Outputs</u>	<u>Activity</u>
<b>Objectives</b>	Describe the expected long term <i>impact</i> of the intervention (e.g. children in the programme successfully complete school).	Describe the expected short term <i>outcomes</i> of the intervention (e.g. to improve child development outcomes prior to Grade R that will hold through Grade 3).	Project products on which the <i>assessment of the outcome</i> depends (e.g. evaluation report based on the findings of a control group design intervention).	<i>What was done</i> to achieve outcome & impact? (e.g. two generation programme; parents participated in literacy skills training; parents trained for 6 months weekly in home-based child stimulation).
<b>Indicators for success</b>	Define what successful impact is (e.g. Children in the programme obtain a Matric).	Define what a successful outcome is (e.g. to improve child development outcomes at age 5 prior to Grade R, and at Grade 3 when children are assessed).	Good indicators of programme outcome & impact e.g.: Outcome Parents: % literate after intervention. Outcome child: % with age appropriate language scores on standardised developmental test. Impact child: % who completed matric.	Did the activity <i>happen as intended</i> ? Programme is faithful to the intended design and implementation manual.
<b>Measures</b>	Describe the tool used to measure the impact (e.g. the DoE Matric exam).	Describe the tool used to measure the outcome (e.g. Appropriate Developmental Assessment at age 5; Systematic DoE Assessment Grade 3).	Good tools to measure outcomes and impacts. (e.g. valid reliable piloted culturally appropriate tools for baseline and follow-up assessments of parents and children)	How did you <i>monitor</i> your activities? Describe in detail, the monitoring tools (e.g. attendance registers; number of sessions etc).

Quality concerns enter the picture at every point, but particularly in the column headed '*Activity*'. The key message is that:

- If the intervention is inappropriate to the intended goals and outcomes, if it is not delivered as intended (low programme fidelity), if it is not intense enough, and if the participants do not engage sufficiently with the programme, success will *not* be observed.

### 3. Interventions to improve child development outcomes

Key target groups of the NIP for ECD are young children (0-4 years of age), expectant and nursing mothers, and community groups. The intention is to provide:

*“An integrated approach for converging basic services for improved child care, early stimulation and learning, health and nutrition, water and sanitation – targeting”*  
(p. 19).

The NIP envisages several levels of intervention with the family being one. The goal is to ensure “quality care, nutrition, hygiene, safe shelter, water provision, primary health care and many other key caregiving practices” (p. 34).

At the community level, the goal is to provide “access to services at clinics, community help groups and care centres, one-stop service centres, playgroups, parental support programmes, community management of childhood illnesses, etc.” (pp. 34-35).

In this section we discuss interventions at both levels.

As Haddad (2002) notes, it is important to define ‘integrated service’ if one is to be able to monitor the impact of integration. And of course integration may mean different things depending on the community in which services are offered.

In the field of ECD, integration refers to a co-ordinated policy for children that achieves the goal of ensuring that services for young children are linked across sectors so as to ensure comprehensive care for the young child.

The basic features of an integrated service include provision of food, protection, health care, affectional care, stimulation, and activities to promote learning.

It is clear from a range of sources that *local service co-ordination* is necessary for this to occur, and that it must involve the various branches of government that provide the services (e.g. the health and welfare departments) together with parents and relevant local community structures (Young, 2002; Haddad, 2002). This is often a challenge, but is essential for true integration and has been shown above there integrated interventions have been provided at programme level, child outcomes improve (Walker et al., 2005).

The evidence suggests that where it may be challenging to bring government and NGO services structures together to integrate services for children (Longoria, 2005; Friedman et al., 2007). While health is a key node for young children, ECD programmes that provide integrated services from an NGO base and link children to government services may be an appropriate approach.

In South Africa as elsewhere, a key question is which is the best node from which to assist vulnerable young children and families, and link them to the services that they

need? This is not the topic for this paper, and would depend on a mapping of resources at local level. However, as will be evident in what follows, there are a number of examples from developing countries around the world suggest that the primary health system is key to child health and development at least in the first three years of life, and as these systems are usually best developed and have widest coverage, this is the place from which to start. ECD facilities and preschools as well as community-based programmes are also important nodes for service linkage for those who participate in them.

### 3.1 Improving nutritional status

The NIP seeks to improve the nutritional status of children. In the case of the formal setting, a key intervention is to provide meal subsidies for children. ECD centres may have community food gardens that provide food for the centre and / or community members. Clinics and NGOs may be other points of delivery. In the case of household level interventions, interventions would depend on the target population (whether they be pregnant women, infants, older children, children affected by AIDS, or the whole household).

When considering interventions to address malnutrition, it is important to note that it has also been established that poor caregiver well-being may compromise early bonding, and also places the child at risk for malnutrition as noted above (Richter, 1997; Richter et al., 1991; Richter, 1994; Richter, 1997; Richter & Greisel, 1994; Cooper et al., 2002d).

Richter (2004a, p.44) observes that in her experience and drawing on the research evidence:

*“Disturbances in caregiver–child relationships probably contributed to the etiology of malnutrition, in ways similar to those described among children with nonorganic failure-to-thrive. Attachment disturbances also impeded children’s chances of recovery. In contrast, children from well-functioning families may become malnourished as a result of a combination of disadvantages, including illness, but these children were assisted in their recovery by the affectionate attention of their caregivers. My coworkers and I realized that in order to promote children’s development and to assist the most vulnerable children, we needed to take account of factors that affected caregivers’ mental and motivational states and that rendered them less sensitive and responsive to young children.”*

The key message then, is that where there is malnutrition, it is necessary to understand the care context, which may well be a significant part of the problem that needs to be addressed.

There are several indicators of poor nutritional status in children (for a discussion, see Saloojee, 2007). One measure, stunting, is one of the most important indicators of

child (non) well-being. Stunting<sup>2</sup> indicates that the child has been malnourished for a period of time, and that a range of damage has been done to the child's maturing brain in particular. The National Food Consumption Survey of 1999 found 21.6% children (1-9 years) to be stunted (Labadarios, 2000). This indicates a huge proportion of children who in all likelihood will not manage in school and have compromised life chances. Stunting by age three to four is irreversible as this is the most rapid period of growth. Nutritional supports for vulnerable young children are therefore fundamentally important.

Direct interventions for pregnant women could include nutritional supplementation and for infants, breastfeeding (but see below).

What is the evidence for good practice in regard to nutrition programmes delivered via home-based programmes? There are a number of studies on this issue with the Jamaican example being one of the most important in demonstrating the combined impact of nutrition and early stimulation (Grantham-McGregor et al., 2007; Grantham-McGregor, 2005; Grantham-McGregor, Walker, Chang & Powell, 1997; Martorell, 1996).

Balaji and Arya (1987) compared the physical and psycho-social development of children aged 4-5 years who participated in the Indian Integrated Child Development Services (ICDS) programme with children in villages that did not participate in the programme. The results showed that children in the ICDS area were significantly better nourished, performed better in cognitive tasks form and were more socially mature than controls.

Closer to home, a recent World Bank study conducted in Madagascar is instructive for its local base and intensive nature. Galasso and Umapathi (2007) investigated the effects of the quality of nutritional and child care inputs during early childhood on weight for age z-scores and the incidence of underweight outcomes. Nutritional outcomes were better when mothers were better educated, and villages had better infrastructure. Children under the age of three and the pregnant and lactating women may participate. A paid community worker from the village in which the programme operates weighs all the children under the age of three, every month. Counselling is provided to the mothers regarding the nutritional status of their children, and home visits occur if the child is not making progress.

Turning to South Africa, Le Roux (2006) has examined the speed of rehabilitation of 500 children participating in a combined clinic and home-based nutrition programme in Cape Town. Malnourished children were identified by community health workers who undertook house-to-house visits for this purpose. These workers had a three-week training course covering nutrition, general child health, HIV, TB, growth monitoring and interviewing techniques.

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<sup>2</sup> Children whose height is more than 2 Standard Deviations *below* the median height for their age reference value.

The results of the intervention showed that children under 3 years made the best progress. A combination of variables predicted poorest recovery: those whose initial malnutrition was most severe, had incomplete immunisations (a highly predictive factor), who had carers with more than three children, and whose care practices were rated as poor.

Apart from other important findings, it is of note that in Le Roux's sample of parents 25% had experienced at least three symptoms of depression in the week previous to the study, reinforcing the importance of attending to caregiver well-being in poverty contexts and where malnutrition is a risk. Depression was also associated with increased household crowding, children and adults missing meals, higher child care burdens, and poorer child care. Le Roux concluded that "child care practices" is one of the most important determinants of whether a child grows well or not. Interestingly however, maternal depression was not related to the child's recovery speed. A different set of mechanisms may be operating in the development of malnutrition, to those that are associated with recovery (in this study), and this needs further investigation.

It is clear that caregiver emotional distress, and particularly depression, are risk factors for child malnutrition and under-stimulation. In addition to Le Roux's research, other studies have indicated that depression is prevalent in South African women facing poverty and HIV (Cooper et al., 1999; Brandt, 2007; Williams, Anderson, McGee & Silva, 1990; Cooper et al., 2002c).

There are no South African interventions specifically targeting maternal depression in poverty contexts. A study to improve infant attachment among poor women in an informal settlement near Cape Town many of who were depressed), did improve attachment, but did improve rates of depression (which was not a target of the intervention) (Cooper et al., 2008).

Interventions to address maternal depression require both high intensity and significant cost (e.g. Lyons-Ruth, Connell, Grunebaum & Botein, 1990).

The evidence is that while it is intuitive to attempt to change maternal mood in order to improve early mother child relationships and child socio-emotional outcomes this is a considerable challenge. However, participants in the research conducted by Cooper and colleagues valued the support they received from lay home visitors. Perhaps again, one needs to be more modest in one's goals and recognise that outcomes of this kind as well as practical support are very important to recipients. In sum, efforts to address the emotional status of mothers who live in challenging circumstances should in clued programmes that:

*"Focus on mother's daily lives – which help them to learn more adaptive problem solving skills, lend emotional support... have the potential to for reducing depressive symptoms" (Brooks-Gunn, Berlin & Fuligni, 2000, p. 563).*

It is now recognised that when children are malnourished, and apart from food insecurity, it is also probable that the caregiver's well being is compromised to the extent that she or he is not paying sufficient attention to the growth and development of the child. Sensitive care giving is failing. We have noted above the relationship between negative emotional status and illness in caregivers in this regard.



So the implication is that where one confronts malnutrition in a context of caregiver depression and emotional burden, the appropriate intervention is to combine nutritional support with psychosocial interventions to improve the emotional status of the mother and sensitise her to the needs of the child. Not only will this improve the bonding process and guard against malnutrition and child illness, the improvement in the child's responsiveness is also likely to reinforce the caregiver's affectionate engagement with the child (Engel et al, 2007).

The World Health Organisation (WHO) publication "*A critical link: Interventions for physical growth and psychological development. A review*" is clear that in poor environments, the promotion of psychological functions such as cognition and language is often best accomplished through the *integration* of nutritional support and psychosocial interventions (1999). The WHO guidelines, based on the research evidence, state that programmes that have the greatest impact on child growth and development:

1. Commence prenatally and extend into infancy and early childhood as a continuous chain of support;
2. Growth and development programmes that *combine interventions* (for the reasons noted above) and that utilise several simultaneous 'delivery channels' are most efficacious (e.g. home visits, group counselling, childcare centres and mass media). Combined interventions would include a *package* of (for example): child nutrition, parental education on diet and feeding practices, supplementary foods or micronutrient supplements, and parenting and child development education;
3. Combined programmes are more efficient and cost effective as they avoid duplication; also families access an integrated package of services which reduces their service access costs;
4. *Joint interventions* that individually focus on the child and the parent are more effective than either one alone when it comes to improvements in children's psychological development;
5. The more parents are involved in these programmes, the more powerful their impact on child growth and development (see below);
6. The *intensity* of home visiting (frequency) in programmes such as these has a critical bearing on outcome. For example, Jamaican research on effectiveness of home visiting to improve child growth and development, has established that *significant improvements* occur with weekly visits, *low* effects with bi-weekly visits, and *no* effects for monthly visits (Powell & Grantham-McGregor, 1989).

The implication is therefore that nutritional programmes must assess whether caregiver well-being is compromised within a context of under- or malnutrition, and provide an integrated approach including psychological support to the caregivers as well as the necessary nutritional supplementation (World Health Organization Department of Child and Adolescent Health and Development, 1999).

Engel and colleagues (2007 p. 230) conclude as follows:

- "Improving the diets of pregnant women, infants and toddlers, can prevent stunting and result in better motor and mental development.
- Iodine supplementation improves cognitive outcomes.

- Iron supplementation to prevent anaemia has positive effects on motor, social emotional and language development.”

We note that iodine deficiency is not a major problem in this country.

### **Nutrition in the context of HIV and AIDS**

Richter, Manegold and Pather (2004) note that there is an argument that as young vulnerable children in families affected by AIDS may be at particular risk for under and malnutrition, they should be targeted for nutritional support (to reduce the risk that the rest of the family consumes the food). The alternative position is that feeding schemes should reach all vulnerable children in communities. Increasingly it is recognised that this is good practice as it is not appropriate to single out children affected by AIDS in the midst of the many who may not be directly affected but who are nonetheless desperately in need of support.

In the case of infants, breastfeeding is recommended, particularly for those living in poverty. However, when it comes to breastfeeding by women with HIV, Rollins (2007, p. 488) notes:

*“There is no doubt that breast milk can transmit HIV or that an infant’s chances of survival when living in a poor or rural community are greatly decreased by not breast feeding. The challenge is how health systems can, at scale, help individual women, whether infected with HIV or not, appreciate the inherent risks and opportunities of their environment and make good decisions about how to feed their infants.”*

### **3.2 Home-based interventions: stimulation and affectional care**

The NIP goals of promoting early learning stimulation and the development and implementation of psychosocial programmes are particularly relevant to home-based interventions. These are also associated with the third phase of the NIP which involves the establishment of the ‘Mother-child programme’, including home visits and involving the delivery of a child stimulation “starter kit” as well as parent support and referrals to health and social services.

Also, it is increasingly recognised that interventions targeting malnutrition should not stand alone from those that intend to improve child development and care, and attend to the well-being of the mother or principal carer (Richter, 1997; Richter, 2004a). This is particularly important in the context of context of HIV and AIDS and poverty. We shall address nutritional programmes that are linked to other interventions for child development in this section.

And as Engel and her colleagues note: “Inadequate stimulation and interactions can affect child development through disrupting basic neural circuitry” (2007, p. 230).

When coupled with malnutrition, the results combine to severely compromise child development.

The 1990 Jomtien World Congress on Education for All resolved to pay increased attention to the extension of early stimulation interventions for young children and to improved programme quality (Willms, 2002).

Research conducted in developed countries indicates that cognitive stimulation by caregivers, and their display of sensitivity, warmth and responsiveness to the child, are strongly associated with children's cognitive and social development and emotional well-being (Walker et al., 2007).

It is a considerable challenge to separate out literature that addresses early stimulation from the emotional climate in the caregiver-child relationship that is integral to the creation of a positive learning environment. Some programmes do, however, focus more on improving stimulation, while others place more emphasis on parenting practices. Where programmes have specific foci, this is addressed.

According to Evans (2006):

*“The broad objective within parenting programmes is to create awareness of the importance of the caregivers’ role in relation to supporting children’s growth and development, and to strengthen or modify caregivers’ attitudes, beliefs and practices in relation to caring for a child” (p. 8).*

Evans notes that ‘parenting programmes’ may include a wide range of educational initiatives. They include those that inform parents how to stimulate young children's development, as well as interventions that seek to change discipline practices and increase caregiver sensitivity and responsiveness. But parenting programmes may go beyond a focus on parenting per se, and could include, for example, adult literacy.

It is important therefore to distinguish between the different content and goals of parent programmes so as to assess their impact.

### **Evidence from minority world research**

There is a considerable literature on longitudinally evaluated programmes directed at disadvantaged children in the United States. These include Early Head Start, the Perry Preschool Study, the Abercadian programme and High Scope, among many others. We do not review them all here but point to some exemplars.

Abercadian and Perry were high-quality combined preschool plus home visiting programmes for disadvantaged children. In the case of Perry, the latter component was intensive and included weekly home visits to each mother and child. Children were more school ready than controls (Schweinhart, 2007). Positive long-term outcomes on development were also evident.

Early Head Start targeted disadvantaged pregnant and young women with young children. Evaluated outcomes included positive developmental gains (Love et al., 2005).

The Home Instruction Program for Preschool Youngsters (HIPPY)<sup>3 4</sup> is much less ambitious and is an example of a strictly parent-focused home-based early education intervention for four and five year-olds that aims to improve school readiness in children from low-income backgrounds whose parents have limited education (Baker, Piotrkowski & Brooks-Gunn, 1999). There is no direct intervention with children.

It operates in a number of countries, including South Africa, where it started in 1988. HIPPY interventions are adapted to local environments. Families are supposed to be visited bimonthly over two years by para-professional trainers who provide teaching materials and parenting advice. Visits are supplemented in alternate weeks by group meetings with parents and paraprofessionals led by professional HIPPY programme co-ordinators.

Experimental evaluations of HIPPY in the USA have produced variable findings (see below for the Turkish evaluation). For example, a rigorous evaluation conducted by Baker and colleagues (1999) showed that HIPPY results varied across regions. Where it was applied in a New York sample, children scored higher than controls on measures of cognitive skills, classroom adaptation and reading. HIPPY children recruited in Arkansas, however, performed worse than controls on these measures. Reasons are not clear but it appears that there was significant variation in parent participation and buy-in as well as delivery. Also, and as indicated above, the emerging evidence is that indirect programmes of this nature in poor communities are not as effective as combined parent-child approaches to improve child cognitive and related outcomes.

It is difficult to tease out reasons for the variation in findings. The key though is that HIPPY (and other parents-only programmes) use indirect interventions with parents to change child outcomes. The intervention relies on the indirect effects of changes in parental behaviour on the child (Brookes-Gunn, Berlin & Fuligni (2000). One has little control over what the parent or other trainee does with their training when they are with their child.

As Brookes-Gunn and colleagues note:

*“To test this premise, it is necessary to demonstrate that an intervention influences parental outcomes and that these outcomes are associated with child outcomes” (p. 564). This influence must be independent of other influences.*

Essentially, the programme’s effect on the child is mediated (or influenced indirectly) by the effect of the intervention on the parent.

However, we often assume that we can change parental behaviour through a few instructions and visits. This is a myth. Changing parent behaviour is challenging (Halpern, 1999; Halpern, 2001). In part the reason is a function of the challenges the parents face (often these programmes target people with significant personal

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<sup>3</sup> <http://www.hippy.org.il/html/aboutus.html> Accessed 20 February 2008.

<sup>4</sup> <http://www.hippy.org.il/html/aboutus.html> Accessed 20 February 2008.

difficulties), but apart from that, parent engagement is the key issue. That in turn is dependent on the relationship between participant and programme staff (Simeonsson & Bailey, 1990).

Of course parent involvement may have more to do with the parent's commitment than anything else. What are called selection effects are at play here. This means that programme recipients who are more motivated, stay in the programme, engage better with the staff, carry out their learning at home, and have better outcomes.

In parent programmes, wherever they are delivered:

*“The data indicates that both the dosage (frequency and duration of the intervention) and parent involvement as an active participant in the programme activity, are associated with child development outcomes (when other influences are controlled)” (Lian, Brooks-Gunn & Meissels, 1995).*

Authorities agree that whatever the programme, but perhaps particularly in home-based interventions, it is essential that five elements need to be considered:

1. The goals and pathways through which the programme is expected to have its influence on the child (the theory of change) must be explicit;
2. The main targets of the intervention must be clear;
3. The intervention must be clearly described;
4. The method of delivery, dosage and duration criteria must be clear (inputs); and
5. Outcomes must be clearly specified, realistic and measurable. Unfortunately this is often not the case.

### **Evidence from majority world research**

The evidence base for effective majority country programmes that seek to change parenting and other aspects of caregiver behaviour is scanty. In part this is because few studies have been done. There is more evidence on interventions to improve child health and nutrition. Also, it needs to be stressed that the majority of programmes for which there is evaluation data do not rely solely on home-based interventions but include other elements.

Parenting programmes designed to improve psychological capacities that enhance readiness for school include stimulation of motor development; cognitive development and approaches to learning; language development, early literacy and numeracy; social development and participation, and emotional development. These will not be dealt with separately as it is increasingly common for it to be regarded as good practice for them to be dealt with together in home-based stimulation programmes.

Engel and her colleagues (2007) reviewed 20 majority country studies that had a sound experimental or evaluation design.

*Six comprehensive* interventions are considered in Engel's review. These include the Integrated Child Development Services (ICDS) in India. The integrated package includes nutrition counselling to pregnant and lactating women; growth monitoring

for children aged 0-5; and feeding and pre-school centres for children aged 3-6 years (Engel et al, 2007). Other comprehensive programmes based in Bolivia, Uganda and the Philippines (Armechin et al., 2006) were reviewed.

Evaluations indicate that these programmes have positive effects on child health, nutrition and cognitive outcomes.

Comprehensive programming is supported by the evidence.

The findings for the four parenting programmes that had satisfactory evaluation designs in Engel's review were:

- Parenting practices improve when both parents and children are *actively* involved in the intervention; and
- Early stimulation interventions that focus on caregiver training alone are less effective than those that combine this ingredient with direct interventions with the child. Simply providing parenting information has little to no effect on child outcomes.

Furthermore, Walker and colleagues (2007) note that in developing countries (including South Africa), studies have shown that:

- Interventions in which children received additional stimulation showed better cognitive outcomes than controls;
- Caregivers who are more sensitive have more securely attached children; and
- More responsive parenting is associated with better cognitive outcomes in preschool children, and they are less at risk for malnutrition.

The Philippines intervention was led by that country's government (Armechin et al., 2006) and sought to support local government to "deliver a broader and better set of ECD-related services to pregnant women and children under seven" (p. 1). The goal was to impact on cognitive, language, social, motor and language development, and nutritional status (see also the Philippines case study conducted as part of this research for a detailed comment).

The programme includes an integration of immunisation, IMCI, Integrated Maternal and Child Health (IMCH), and nutritional and micronutrient support; an eight-week enrichment bridging programme to improve readiness for the first year of school delivered at the beginning of Grade 1; day care for children aged 3-5 years; support for 'day care moms' (who mind children under 3 years); and workshops on parent effectiveness and stimulation.

These elements are all of interest to South Africa, as is the fact that the programme is funded by government, supported by their Early Childhood Care and Education Act.

A key ingredient of success in this initiative is likely to be the fact that it is driven from the country Presidency down to municipal level, where local funding and commitment are evident in high cover for nutritional support, parent education workshops and home visits.

This indicates that:

- Children in communities served by the programme improved significantly on a number of measures of health, nutrition and development, and their health and development outstripped those in communities that do not receive the programme.
- Children below age four improved more than those older and they also changed faster in response to the interventions. Particularly rapid and significant change was evident in cognitive and language skills amongst 2- and 3-year-olds.

Earlier in this paper, we referred to evaluations of the HIPPIY programme conducted in the USA. The Turkish Early Enrichment Programme (TEEP) is the only majority country evaluation of this intervention. The TEEP employed a culturally sensitive version of HIPPIY bi-weekly with mothers who had no more than primary school education. Results showed a range of positive improvements, including maternal sensitivity and responsiveness to their children, as well as improved cognitive development on the part of the children (Kagitcibasi, 1996).

It is therefore possible to achieve improved child cognitive outcomes through home-based early stimulation interventions with caregivers in poor communities, but they have to be well designed and delivered by competent assistants on a regular long-term basis.

The key messages from evaluated majority country programmes are that effective programmes require:

- “Integration of health, nutrition, education, social and economic development, and collaboration between governmental agencies and civil society.
- A focus on disadvantaged children.
- Sufficient intensity and duration and include direct contact with children beginning early in life.
- Parents and families as partners with teachers or caregivers in supporting children’s development.
- Provide opportunities for children to initiate and instigate their own learning and exploration of their surroundings with age-appropriate activities.
- Blend traditional child-rearing practices and cultural beliefs with evidence-based approaches.
- Provide early child development staff with systematic in-service training, supportive and continuous supervision, observational methods to monitor children’s development, practice, and good theoretical and learning material support” (Engel et al., 2007, p. 234).

Information for parents is not enough. Practitioners need to model the desired behaviour and practice with the carer and the child.

For improvements in cognitive functioning to come about, the evidence is that the more intense the intervention and the longer the duration, the greater the gains for disadvantaged children. Indeed:

*“There is a linear relationship between frequency of home visits and improvements in child development” (Engel et al., 2007, p.235).*

There is no South African research on the effects of home-based interventions to improve cognitive, language and related outcomes in early childhood. Clearly there is an urgent need for demonstration projects to test the effects of such interventions.

### 3.3 Interventions to support vulnerable parents

Interventions of this nature seek to provide support to parents in particularly challenging circumstances where multiple problems may be evident. Examples would be caregivers with emotional problems such as depression, teen parents, those living in long-term deep poverty with few support systems, and caregivers in multi-problem families where, for example, violence and substance abuse are problems. All these challenges impact on the capacity of the primary caregiver to form a positive and sensitive relationship with the child. As we have noted above, the quality of the relationship between carer and child provides an important foundation for children, and in these challenging environments, there are many stresses on caregiver wellbeing.

As with other areas, there is an extensive literature and interventions that have been subjected to research using controlled outcome studies are reviewed by Evans (2006). We provide some examples and a summary of the key lessons.

It is recognised that commencing parenting programmes early is good practice. A good example is the Nurse-Family Partnership programme in the USA. The NFP programme has been subjected to an RCT. Beginning in pregnancy, mothers were enrolled in the third trimester of pregnancy, and followed using home visits (first weekly then monthly) until the child was two years old<sup>5</sup>.

Among other components, the intervention during pregnancy included educational inputs in preparation for labour and childbirth, plus child development information on the newborn child and early child care. In the years following birth, the home visiting programme sought to improve children’s health and development by helping parents provide sensitive and competent care giving (by nurse modelling or modelling of sensitive parent-child interactions).

In the short term, the programme resulted in:

- Improved prenatal health;
- Fewer childhood injuries; and

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<sup>5</sup> <http://www.nursefamilypartnership.org/index.cfm?fuseaction=home>



- Improved school readiness (cognition and language).

Long-term outcomes included a range of benefits, such as increased likelihood of maternal employment. As will be evident, to achieve these gains the intervention was of long duration and involved regular, frequent contact with the parents in the programme.

A very different example is the Australian Triple P-Positive Parenting Programme (Sanders, 2003). Triple P “aims to prevent severe behavioural, emotional and developmental problems in children by enhancing the knowledge, skills, confidence and teamwork of parents” (p. 4).

In addition, according to Sanders:

*“Triple P aims to enhance family protective factors and to reduce risk factors associated with severe behavioural and emotional problems in preadolescent children. Specifically the program aims to: 1) enhance the knowledge, skills, confidence, self sufficiency and resourcefulness of parents of preadolescent children; 2) promote nurturing, safe, engaging, non-violent, and low conflict environments for children; and 3) promote children’s social, emotional, language, intellectual and behavioural competencies through positive parenting practices” (p. 4).*

This clinically oriented programme is informed by psychological research and is applicable to families with children in the 0-4 bracket. It is available at different levels of intensity, depending on the needs of the population and the intervention objectives.

Evaluation of brief primary care setting interventions (four two-hour group sessions facilitated by nurses plus four telephone follow-up consultations) has shown that Triple P is effective in reducing conduct problems among disadvantaged 3-4 year-olds.

While this intervention is focused on problematic parenting styles and children with conduct difficulties, it may well have utility as a brief intervention delivered by community nurses with sound training to assist parents with discipline issues, even in the absence of child problems.

## South Africa

There is a wide range of parenting initiatives in South Africa run by non-profit organisations in many parts of the country.

There are no rigorous evaluations available. However, a process of evaluation conducted by the Parent Centre<sup>6</sup> in Cape Town is available. Like the Nurse-Family Partnership programme (although not modelled on it), the intervention provided antenatal education and support to some 40 young vulnerable mothers. They were followed up post-natally. Subjective ratings by parents indicated that they valued the

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<sup>6</sup> <http://www.theparentcentre.org.za/>

support received and that it assisted them a great deal with parenting. No child outcomes were measured. The programme follows good practice in this type of intervention but requires more robust evaluation.

Only one home visiting intervention for poor women, designed to improve maternal sensitivity and infant-mother attachment, has been experimentally evaluated in South Africa using an RCT (Cooper et al., 2002b; Cooper et al., 2008). Results show that a 15 home-visit programme using trained facilitators from the same community as the participants improved maternal sensitivity and reduced intrusiveness at 12 months post intervention. At 18 months, these children were more securely attached than controls (Cooper et al., 2008). A significant proportion of participating women were depressed at the start of the trial. Mothers reported benefiting a great deal from the support received, although levels of depression were not affected.

A major challenge in assessing effectiveness across these programmes is their variety. There is not a consistent body of evidence based on a common set of intervention modalities.

Myers (2004) sums up the evidence for home-based interventions to improve parenting for children under three:

*“In many countries, programmes of parental education have been developed to help parents be better parents. Rigorous evaluations of such programmes have not been frequent and what one can find shows very mixed results. A general conclusion seems to be that a combination of direct attention and work with parents is the most effective route to pursue. Little has been done to identify the quality elements of such programmes or to link results to quality” (p. 9, authors’ emphasis).*

Evans comments that measures of parental change in minority world studies are frequently not very rigorous – “parent impact data have been gathered largely through self-report and/or interviews with those who worked with the parents” (Evans, 2006, p. 39).

This is crucially important. The measures are not based on the observation of change in parenting behaviour that is essential to demonstrate the connection between inputs for parents, changes in their behaviour, and specified child outcomes. Nonetheless, these interventions are promising. The pathway through which change occurs seems to be associated with improvements in maternal self-esteem and confidence in child care, together with increased child development knowledge, warmth and sensitivity.

From a programme design point of view, it is obvious that high intensity home visiting is an expensive and commonly unaffordable option. Group work with parents is an option, but there are no controlled studies that have compared regular stand-alone group sessions for parents with the face-to-face individual home-visiting variety. This would be an important area for further investigation – particularly in low resource environments – because commonly the two modalities are combined and as far as we have been able to establish, evaluations have not attempted to separate out the contributions of each to changes in parenting and child outcomes.

Even before we touch on the pressing issue of maltreatment, there is not a great deal to guide us as to ‘what works in parenting’. This does not mean we cease these forms

of intervention. There is evidence from rigorous evaluations such as that conducted in the Nurse-Family Partnership programme that demonstrates what is possible.

For majority world country programmes there is a need to design interventions that are rigorous, that actually measure changes in relevant parent attitudes and behaviours that are linked to inputs and programme goals, and which are tested against control groups. Changes in the parents must be shown to be linked to child outcomes.

### 3.4 Prevention of child maltreatment

#### Changing discipline practices as a child protection strategy

Many programmes directed at carers seek to change harsh discipline practices and promote greater sensitivity. This is particularly important as a primary prevention approach to the reduction of child maltreatment (see below) (Gomby, 2007).

Nonetheless, if the following pointers are attended to in the normal course of service delivery, the evidence indicates that they are likely to improve child protection in vulnerable contexts:

1. Efforts to strengthen parenting knowledge and capacities in the antenatal period linked to other Ante Natal Clinic visits. Carers should be assisted to have a basic understanding of how children grow and develop so that their expectations are realistic – particularly in the case of infants and young children;
2. Support to these populations should follow through in the form of home visits throughout the first two years;
3. Target in particular teen parents and first-time parents, single parents with limited support, and parents with substance abuse problems such as alcohol and *TIK*;
4. Low-birth-weight and preterm infants, and children with chronic illness and disabilities are particularly vulnerable to maltreatment;
5. Observe and respond to early warning signs of abuse and neglect (which may be detected at the clinic, school or the ECD facility); and
6. An approach to interventions that value and support carers and recognises indigenous knowledge and strengths. Carers, particularly those subject to abuse and under stress, are therefore assisted by services to cope and to develop their strengths while being provided with emotional support.

#### Interventions prevent further maltreatment in identified cases

We concentrate here on interventions to prevent maltreatment once the risk to the young child has been identified.

According to the WHO and ISPCAN (2006, p. 7), child maltreatment:

*“Refers to the physical and emotional mistreatment, sexual abuse, neglect and negligent treatment of children, as well as to their commercial or other exploitation.”*

Young children are particularly vulnerable to physical maltreatment in the home in the form of deliberate violence such as hitting, beating, kicking, shaking, biting, strangling, scalding, burning, poisoning and suffocating. Shaken baby syndrome is also recognised as a form of maltreatment.

Apart from deliberately cruel actions such as the above, parental discipline practices believed to be acceptable, including harsh physical punishment, is a form of abuse and can have very serious physical and emotional consequences.

There is growing evidence that frequent physical abuse in the first two years of life is associated with changes in the brain (WHO & ISPCAN, 2006).

Although the true figures are not known, child maltreatment is a very serious problem in South Africa, and children under age 5 are particularly at risk (Dawes & Mushwana, 2007; Townsend & Dawes, 2004; Dawes, Long, Alexander & Ward, 2006).

As much as we need to address this problem, and as should be evident by now, changing home conditions and parenting is a challenging matter. This is particularly so when domestic violence is present.

Nonetheless, intervention studies in developed regions indicate that maltreatment can be reduced and prevented by using home visiting and parenting training, both of which have been and are currently being evaluated (Centers for Disease Control and Prevention, 2003; Centers for Disease Control and Prevention, 2004).

These programmes require considerable investment and professional involvement. Even in model evaluated interventions, one should be cautious about the applicability of the findings to contexts within which programme resources are very limited (Duggan et al., 2004a; Duggan et al., 2003; Duggan et al., 2004b).

There are no South African interventions of this nature.

Parents who maltreat children commonly have serious personality problems and are very hard to change, even with high-dose programmes with experienced staff. Also, many significant proportions of high-risk families drop out of these sorts of programmes. Like all such interventions, the quality of the visiting service makes a difference. They may well require integrated services.

### **Integrated services for particularly vulnerable families with young children**

There is a strong argument for provision of integrated services, especially for vulnerable families. However, outcomes of such initiatives, no matter how well resourced, are by no means assured, particularly if the target population faces both personal and economic problems. This was the case in the American Comprehensive Child Development Programme (CCDP). It was a two-generation demonstration project targeting 21 communities frequently with multi-problem families, all of whom were on welfare. It employed “case management and home visiting to assure low-income children and their parents of a range of educational, health and social services” (St. Pierre & Layzer, 1999, p. 134). Children were directly linked to health

and developmental services (parent education and then centre-based from 3 years old). Parents were provided with home visits to link them to health services (including mental health and substance abuse services). They also received Parenting Education and job training and other educational classes. Home visits occurred at least twice per month from infancy till the child went to school.

The sad conclusion of this well-designed, theoretically grounded and enormously expensive project is that it failed to achieve its intended objectives. The main reason lay in the presumption that parent education (in the first 3 years of life) would work – again an example of the failure of a parent change programme with challenged parents.

As the authors note, we know too little about how to intervene effectively with parents, particularly those who have limited literacy and who face many other challenges.

The authors conclude (p. 149):

*“Creating exemplary parents is a daunting challenge for any program. So too is creating the kinds of parents who can combat the damaging effects of unsafe neighbourhoods, unsafe and unsanitary housing, and lack of financial resources.”*

This comment is entirely apt for South Africa.

And they caution further:

*“Researchers simply do not know which aspects of parenting skills are the most decisive influences in children’s lives, or whether parent literacy, labour force attachment, or a solid understanding of child development is the most important determinant of children’s development” (p. 149).*

Even though the review was published in 1995, these comments remain valid. It is essential that we bear them in mind in planning South African interventions.

### 3.5 Interventions to reduce the risk of unintentional injury

Obviously interventions to prevent child maltreatment are also relevant here, but this section deals with *unintentional* injury.

The World Health Organisation<sup>7</sup> has guidelines in this regard, as do several other organisations. The European Association for Injury Prevention and Safety Promotion<sup>8</sup> and the Centers for Disease Control and Prevention<sup>9</sup> in the USA have a range of evidence-based resources for child injury prevention. In South Africa the

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<sup>7</sup> [http://www.who.int/violence\\_injury\\_prevention/child/en/](http://www.who.int/violence_injury_prevention/child/en/)  
[http://www.who.int/violence\\_injury\\_prevention/child/injury/prevention\\_guide/en/index.html](http://www.who.int/violence_injury_prevention/child/injury/prevention_guide/en/index.html)

<sup>8</sup> <http://www.eurosafe.eu.com/csi/eurosafe2006.nsf/wwwVwContent/13childsafety-cxvbcx.htm>

<sup>9</sup> <http://www.cdc.gov/ncipc/>

Paraffin Association (PASASA)<sup>10</sup>, the Child Accident Prevention Foundation of South Africa (CAPFSA)<sup>11</sup>, and the Medical Research Council<sup>12</sup>, among others, provide useful resources.

Although the WHO Key Family Practices do not speak specifically to child injury, it would not be difficult to add key information on how to prevent these problems.

In South Africa, there is no systematic evidence base for unintentional injury prevention, but the international and local guidelines suffice.

In this country, poisoning and burns or thermal injuries have been identified as a leading cause of childhood unintentional injury, particularly in infants and toddlers, and children aged up to five years. The incidence of poison/paraffin ingestion similarly mainly affects children under five years. Drowning is also a significant risk factor for children once they become mobile. Other common, less serious unintentional injuries during childhood include falls and the ingestion of foreign objects, the latter peaking at the age of three years (Van der Merwe & Dawes, 2007).

A recent review of the evidence on parenting interventions to reduce injury concludes that these interventions can reduce medically reported unintentional injury (Kendrick, Barlow, Hampshire, Polnay & Stewart-Brown, 2007). What follows is based on the summary of this evidence for home-based and other unintentional injury prevention interventions, based on Van der Merwe and Dawes:

Most existing childhood injury prevention interventions are instructive in nature and aim to reduce or eliminate childhood injury by developing either or both active and passive safety promoting behaviours. Passive safety promoting behaviours include environmental modifications (for example, the use of safety plugs or stair gates), while active safety promoting behaviours refer to caregiver-based behaviours (for example, prohibiting the child from sitting on high surfaces).

Interventions aimed at reducing or eliminating childhood unintentional injury are as follows:

- Supervise children's activities.

This has been shown to impact significantly on the risk of sustaining a number of childhood injuries; pedestrian injuries specifically have been associated with unsupervised playing in close proximity to heavy traffic, walking to school and running errands in the neighbourhood while unaccompanied by an adult. As children become more mobile this risk increases, particularly in areas with poor traffic control and when children are not properly supervised.

- Reduce or prevent where possible caregiver alcohol and/or drug use in high-risk individuals.

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<sup>10</sup> [www.paraffinsafety.org](http://www.paraffinsafety.org)

<sup>11</sup> [www.childsafe.org.za](http://www.childsafe.org.za)

<sup>12</sup> <http://www.mrc.ac.za/crime/crime.htm>

This has been identified as an important risk factor for child unintentional injury. The use of alcohol and/or drugs interferes with caregivers' capacity to monitor and supervise the activities of children, consequently placing their safety at risk. In addition, alcohol and other substance abuse are major contributors to dangerous driving and the high road traffic trauma rates.

- Caregivers should be alerted to potentially hazardous substances and objects in and around the home, for example sharp objects; hot fluids; machinery; small, inedible objects; poisons (including toxic) plants; drawstrings and cords; latex balloons and plastic packets; highly flammable fabrics; and so on.
- Encourage them to use child-resistant containers for harmful substances (including paraffin).
- Encourage them to use paraffin stoves that adhere to the South African Bureau of Standards' safety standards for paraffin stoves.
- Electrification avoids the dangers of paraffin stoves and ingestion, but the risk of burn or thermal injuries remains in relation to boiling liquids.
- The main wall and floor finishes of shelters (e.g. flammable plastic, wood and card board) are related to the incidence and severity of burn or thermal injuries (e.g. in shack fires).
- The house should have a storage space for dangerous substances and appliances.
- The use of stair gates and safety barriers on bunk beds and infant high chairs is important.
- Reduction of geyser hot water temperature to a safe preset temperature (e.g. 54°C).
- Use appropriate swimming pool fencing.

Parent education linked to the Key Family Practices of the IMCI can also contribute to child safety in the home.

There are no evaluations of South African interventions that we are aware of.

### **3.6 Home- and community-based interventions to support children affected by HIV and AIDS**

The NIP states (p. 12) that:

*“One of the aims of the NIP for ECD is to ensure access to an appropriate and effective integrated system of prevention, care and support services for children infected and affected by HIV and AIDS.”*

There are several different categories of child affected by HIV and AIDS in the community and the family: children who are infected; children living in households within which carers and/or other members have HIV or are already ill with AIDS-related diseases; children who have lost carers to AIDS; those who have been fostered

by relatives or others; those in residential care; and those living in child-headed households.

Infants and children under 5 who are living with AIDS are extremely vulnerable, and indeed, few infants currently survive. Most are likely to have been infected by vertical transmission, but older children may have been abused or infected on visits to clinical facilities through failures to observe protocols (Brookes, Shisana & Richter, 2004). HIV also impacts on neurological development.

Children with AIDS present enormous care challenges, particularly to carers in poor households who themselves are HIV positive. They are also more vulnerable to malnutrition, diarrhoea and pneumonia, and the risk of death is high (NASCOP, 1998). The focus of intervention with these children tends to be bio-medical (obviously necessary), but with insufficient attention to their psychological well-being or that of their carers – who are likely to lose the child in many instances.

We have already noted the importance of nutritional support to HIV-positive pregnant women. We have also pointed to the importance of providing nutritional support to young children whose families cannot provide adequate nutrition (regardless of their status). This contribution does not deal further with the specialised topic of the medical response to HIV-positive children (see Saloojee & Bamford, 2006; Saloojee, 2007).

We focus more on the social and psychological impacts that need to be addressed by interventions.

In our context, AIDS affects poor families. It causes significant shocks to their economic well-being, and massively amplifies their existing burdens under poverty. It further increases risks of poor developmental outcomes for young children (Richter et al., 2006).

However, as these authors caution, while children affected by AIDS face particular challenges (including stigma), there are children rendered vulnerable by factors other than AIDS in communities affected by the virus and:

*“Such a large number of vulnerable children require the urgent strengthening of systems to improve the situation of all children living in communities affected by HIV and AIDS – to complement programmes that support the most vulnerable children” (p. 9, authors’ emphasis).*

It follows that the NIP, while needing to address the specific needs of children affected by HIV and AIDS, should not contribute to the tendency to select these children out from among the many other vulnerable children in AIDS-affected communities. Not only does this ignore the many other vulnerable children, it duplicates effort and results in stigma (Richter et al., 2006).

A further consideration is the burden of care by women, particularly those who are ill. These women are at risk for depression, and as we have already noted, this in turn increases the risk of child neglect due to their lack of sensitivity to the child’s needs cause by their own distress. The emerging evidence is that poor women on anti-



retrovirals are likely to have better well-being and less risk of depression than women with AIDS who are not (Brandt, 2007; Brandt et al., 2006). They would also benefit from psychosocial support (Cooper et al., 2002a) coupled to psychosocial interventions designed to increase their sensitivity and responsiveness to their children. Initiatives to improve support from neighbours and other community members are also important.

In terms of interventions, we do not have a developed evidence base on psychosocial interventions specifically for children who are living in households where caregivers have HIV and AIDS. In many respects this is not necessary.

Richter and colleagues (2006) point to the need to define terms such as ‘psychosocial’ and ‘psychosocial support’ if we are to assess effects of interventions.

*“Psychosocial interventions and psychosocial support programming are specific and formalized activities, programmes and services (and include) counselling, debriefing and cognitive behaviour therapy. Psychosocial support programmes are efforts by individuals and groups outside of the child’s usual social networks, such as memory work, play and camp groups.*

*Psychosocial care and support is provided through interpersonal interactions that occur in caring relationships in everyday life, at home, school and in the community. This includes the love and protection that children experience in family environments, as well as interventions that assist children and families in coping” (p.14-15).*

For these authors, “psychosocial interventions” and “psychosocial support programming” interventions are distinguished from “psychosocial care and support”, which refers to the “everyday family systems of care which support children’s psychosocial wellbeing” (p. 15). These everyday systems can of course be strengthened through intervention.

These are very useful distinctions that help us to clarify what we mean when we talk about ‘psychosocial’ interventions for young children affected by HIV and AIDS.

A key programme message from Richter and colleagues is:

*“Children affected by HIV/AIDS have critical psychosocial needs. These are best addressed through supportive relationships and structures embedded in children’s everyday lives. Standalone psychosocial interventions and programmes should reinforce, and not replace, the essential psychosocial care and support that children receive from caregivers, relatives and friends – support that occurs day-by-day and across the lifespan” (p. 29, authors’ emphasis).*

The first randomised controlled trial longitudinal study to be conducted in South Africa has recently appeared. The intervention tested the effects of a home-visiting programme that included an early stimulation component on the neurodevelopmental status of young children infected with HIV. All the children were malnourished and their motor and cognitive development was delayed at baseline. The programme was effective in improving the motor and cognitive outcomes of the children after a one-year intervention (Potterton, 2006). This is a very promising initiative.

Apart from this more recent research, Richter, Manegold and Pather (2004) note the dearth of good research on programming and stress the need for programmes to be evaluated so that good practice can be established and programmes can go to scale.

They list a range of promising responses to the situation of children affected by HIV and AIDS that is too detailed to reproduce here. To summarise, in terms of community- and household-level interventions for children living in family-like settings, the following are noted:

- Home visits to monitor child well-being and raise awareness of children's needs, and also to prevent abuse and provide support to vulnerable carers;
- Provision of shelter and repair of shelter;
- Food support of various kinds;
- A range of supports for access to health care, particularly in rural areas;
- Provision of clothing to needy children;
- Availability of pre-school programmes (not necessarily formal);
- Cash transfers; and
- Specific support to families who foster orphans and other vulnerable children.

Drawing on emerging evidence, Richter, Foster and Sherr (2006) provide a cogent argument for our need to support all vulnerable children in the family (or substitute family) context:

*“The best way to support the wellbeing of young children affected by HIV/AIDS is to strengthen and reinforce the circles of care that surround children. Children are best cared for by constant, committed and affectionate adults. When the caregiving circle is broken for some reason, extended families normally plug the gap. When the circle of care provided by kin is broken, community initiatives need to stand in, and when the circle of care provided by community is broken, external agencies need to play a part. Embracing all efforts should be a strong and continuous circle of support provided by government provision and legislative protection. The optimal use of the resources of external programmes is to assist communities in supporting families. Families are best placed to provide for the psychosocial needs of young children. When it is necessary for external agencies to provide direct services to children and to families, their touch should be light and, to be sustainable, it should be balanced by appropriate actions to strengthen extended family and community supports” (p.11-12).*

These comments should alert us against the provision of residential care as far as possible, except as an emergency resort. Expert opinion is strongly against this path (Foster, 2006; Richter et al., 2006). Residential care is more expensive, and particularly for infants and young children, long-term placement impacts negatively on a range of child development outcomes in ways that cannot be reversed (Beckett et al., 2002; O'Connor et al., 2002). In addition, orphanages undermine traditional care giving systems.

There has been a tendency in programming for children in communities affected by AIDS to have a narrow psychological group and individual focus (e.g. bereavement

work). While a limited number of children may need such intensive support, the vast majority will not. It is increasingly recognised that rather than these intensive programme interventions, helping children to return to (or sustain) normal life functioning is crucial. This includes normalising family functioning. As Richter, Foster and Sherr put it:

*“Normalisation involves helping a child feel safe in the context of their familiar surroundings and routines, receiving affection, nurturance and reassurance from supportive adults and older siblings, returning to school, and playing with friends”* (p. 34).

And when traumatic events occur, such as the death of a parent, care and support from familiar kin is essential, rather than their becoming involved in quasi-therapeutic sessions with unqualified people:

*“It is often best for young children’s coping to be immersed in supportive day-to-day activities”* (p. 35).

This section has not drawn on a strong randomised control trial or quasi-experimental evidence base. This does not exist. Rather, it links to what we know from tested interventions designed to support child development more generally in adverse circumstances. This knowledge has powerful relevance for this category of vulnerable children.

At the end of the day, integrated approaches that combine (psycho) social, health and material support to caregivers and families are needed to improve outcomes for young children affected by AIDS.

Richter and colleagues (2006) provide a final message:

*“The only way to effectively protect, promote and enhance the health and wellbeing of young children is to improve the quality and stability of the care they receive from those closest to them, from their caregivers and families.”*

### **3.7 Setting-based care contexts: outcomes and quality**

According to the NIP, formal setting programmes include “services such as crèches, day-care centres and preschools, which parents and other primary caregivers use as a resource in the provision of ECD, and the care, education and well-being of their young children” (p. 35). These services may take the form of not-for-profit, private for-profit and state-run entities.

Child development includes motor development, cognitive growth and approaches to learning; language development, early literacy and numeracy; social development and participation, and emotional development. These will not be dealt with separately as it is common for them to be part of integrated formal setting programmes.

The Department of Education’s (DoE) draft Curriculum Guidelines 0-4 provide developmental standards and outcomes for children under 5 years that align with the

domains noted above (Department of Education, 2005). The DoE Guidelines specify a set of “desired results” that:

*“Describe the broad expected competences that children should acquire and develop, through planned and unplanned programmes and activities both in the home and institutionalised care and education environments. These desired results cut across the traditional domains of childhood development, physical, cognitive, social, emotional language, perceptual as well as moral and spiritual. Sometimes aesthetic development is also added to this list.” (p. 13).*

- “Children demonstrate critical thinking and problem solving abilities” (this would fall into the *cognitive* development domain).
- Children demonstrate an understanding and awareness of self, positive self-concept, self-regulation, discipline and personal identity” (these would fall into the *social* and *emotional* development domains).
- Children demonstrate awareness of diversity, respect and ability to live and work with others” (the *social* development domain is relevant).
- Children show abilities to communicate and use language” (the *language* development domain applies).
- Children demonstrate capabilities and interest in emergent and real life mathematical literacy activities and information” (again the *cognitive* development domain applies).
- Children demonstrate physical, motor abilities and health and well being” (this would fall into the *motor* development domain).
- Children demonstrate interest and abilities to learn” (this would fall into the *cognitive* development domain) (p. 13).

A central goal of the NIP is to promote quality care for children and also to improve developmental outcomes.

Only two small-scale unpublished outcome studies are available for South African formal ECD evaluations. Both found gains in child outcomes relevant to schooling following participation in high-quality, centre-based programmes compared with control groups (Vinjevoold, 1996; Herbst, 1996). Short & Biersteker (1984) followed the scholastic performance of ECD centre participants into adolescence and they performed above the coloured school population average. There are no peer-reviewed studies (Biersteker et al., 2008).

When evaluating the evidence for quality provision in ECD settings, it is important to distinguish between day care settings that provide *childcare* for children under three, and those that cater for 3-4s in preschool type environments.

Both have the potential to monitor and support child health and nutrition and connect children to the services they need. Both may function as nodes of care and protection for vulnerable children, and both may serve as points of outreach to families for purposes of home-based programme delivery.

## **Infant and toddler group care quality**

This form of care is not only formal and centre based. It may include children in playgroups and childminding of groups of children. However, the research evidence comes from formal types of care.

In the developed world there is far more research on quality parameters of preschool settings than on formal early child care provision such as crèches (Melhuish, 2004; Anderson et al., 2003).

Melhuish has reviewed the major United States experimentally evaluated infant and toddler interventions for children under 3. They include the Abecedarian Project (from 3 months through to the year prior to school), Early Head Start (birth to 3), and the Infant Health and Development Programme (premature and low birth weight children followed to year 8).

As one example, the Abecedarian Project compared the impact on developmental outcomes of disadvantaged children of a high-quality, setting-based early care (carer to child ratio = 1:3) plus an intensive home visiting programme with home visits, social and medical services and nutritional supplements. The participants have been followed into adulthood.

In this project, and apart from the positive long-term effects, day care plus home visiting produced the best outcomes. These children also had the more school-appropriate behaviour, such as focused task-orientation, than those who did not attend (Melhuish, 2004).

For the projects as a whole, quality early setting-based care plus home visiting improved child outcomes relevant to schooling. Quality setting-based care on its own improves outcomes for poor children.

Turning to studies of children cared for in a variety of settings that range from good to poor quality, the most comprehensive evidence comes from the longitudinal study of early child care conducted by the National Institute of Child Health and Development (NICHD)<sup>13</sup> (NICHD Early Child Care Research Network, 2000).

The findings are not as clear cut as those for preschool studies and teasing out the influence of child factors, home influences and centre effects is a challenge in young children whose development is rapid. For example, wealthy parents tend to have access to better facilities than their poor counterparts (known as a selection effect), so the influence of home and centre co-vary, and these have to be controlled in order to see the effects of each.

Majority country studies of group care for this age group although few and not longitudinal, support the above conclusions as regards the effects of infant and

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<sup>13</sup> <http://secc.rti.org/>.

toddler care on cognitive and language development, and provide additional information relevant to low resource settings.

A study of a convenience sample of infant and toddler group care programs in low resource communities that deliver group care was undertaken in Bolivia, Chile, Colombia, Guatemala, Peru, the Philippines, and Venezuela (O'Gara, Lusk, Canahuati, Yablick & Huffman, 1999). While not an outcome evaluation study, the authors comment that key features of good care for this age group includes:

- Lower child-to-caregiver ratios and smaller scale home-like facilities are better;
- Group care centres contribute to child health and development by linking parents to services; and
- The setting must not simply provide for health and hygiene but also work toward the psychosocial development of the child.

A promising but not systematically evaluated approach to improving the care and sensitivity of parents and child care works is the International Child Development Programme (ICDP) developed by the ICDP group under the leadership of Hundeide and his associates. It is used in a number of developing countries including South Africa, Mozambique, Congo and Angola. The programme that can be implemented in conditions of poverty and underdevelopment, by trained non-professionals.

ICDP seeks to improve child care and developmental outcomes by sensitizing carers and parents to key processes that facilitate children's psychological development and enhancing the relationship between carer and child<sup>14</sup> (Richter, 2003). Empathic caring is the central concept – learning to value the child and enter her world so that one can respond appropriately to her needs. The programme also helps carers to understand and practice more enriched interactions that scaffold cognitive and language development. ICDP practitioners run training sessions for community members over a period of weeks that include modelling of interactions with children and observations of mother and child interaction<sup>15</sup>.

Finally, clinics also have the potential to provide family outreach programmes and indeed this is the case in many countries (including South Africa), where the majority of home children attend public health clinic services in contrast to the small minority who attend day care and preschool services of some kind.

To summarise, the evidence indicates that key quality parameters for infant and toddler group care are:

Key findings:

- Other things considered, the strongest effects of good child care on cognition and language are apparent in the *most disadvantaged* children. However, a

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<sup>14</sup> [www.icdp.info/Introduction%20to%20the%20ICDP%20Program1.pdf](http://www.icdp.info/Introduction%20to%20the%20ICDP%20Program1.pdf) Accessed 22-02-2008.

<sup>15</sup> [www.icdp.info](http://www.icdp.info).

significant risk is attached to the fact that poor children are likely to attend poor care settings that merely compound the effects of disadvantaged backgrounds. For advantaged groups, it makes little difference whether they attend care or not (apart from social development outcomes) because of their home environment. In the NICHD studies, the quality of parenting was a stronger and more consistent predictor of children's development than early child-care experience (Belsky et al., 2007).

- Regardless of the type of care setting (centre-based group or home-based), *small group sizes* with *low child-adult ratios* together with non-authoritarian child-rearing beliefs were associated with 'positive' (warm accepting and sensitive) care giving. The structural parameters simply make it easier for carers to demonstrate these qualities (NICHD Early Child Care Research Network, 1996).
- Safe, clean, and stimulating physical environments are also associated with positive care giving.
- There is emerging evidence from the NICHD study, that children who spend extended periods of the early years in centre-based are more at risk for aggression and problem behaviour as reported by teachers (Belsky, 2006; Belsky et al., 2007).
- Group care centres must contribute to child health and development by linking parents to services.
- The setting must not simply provide for health and hygiene but also work toward the psychosocial development of the child.

### Pre-school settings

Preschools have a key role to play in providing nutrition and promoting the health and safety of children. The focus here is educationally oriented pre-school programmes. The quality of ECD programmes has received increasing attention in research on formal settings – mainly preschools.

Two approaches to the assessment of the quality in the child's early learning environment currently predominate:

1. Structural measures such as the number of children, teacher / child ratios and teacher qualifications (as proxies for quality) which are included alongside process measures in the Early Childhood Environment Rating Scale (ECRS) (Harms, Clifford & Cryer, 2005; Harms, Cryer & Clifford, 2003), and
2. Process measures including the CLASS (Pianta, 2005; Pianta, La Paro & Hamre, 2003).

Process variables have been shown to be better predictors of child outcomes (LoCasale-Crouch et al., 2007; Burchinal et al., 2000d). One might expect this variable to be related to teacher qualifications. However, findings on teacher education are equivocal. Recent research suggests that while important, qualification level does not contribute as much as one would expect to the quality of what goes on in the classroom – at least in north American pre-schools (e.g. Pianta, La Paro, Payne, Cox

M.J & Bradley, 2002; Early et al., 2006; Early et al., 2007). Indeed, Early and colleagues' review of seven major studies, found no or contradictory associations between teacher qualifications and 4-year-old children's academic outcomes. They stress that it is not qualifications per se that make the difference to instructional quality. It is rather teachers' interactions with children that count.

Well-designed longitudinal studies conducted in the minority world point to the benefits of quality early education for children from high-risk family environments that compromise psychosocial development and reduce the probability of good school performance.

Like all the other areas considered in this report, there is a very extensive literature on this topic. Some key examples are presented.

Sure Start<sup>16</sup> is a major UK initiative to deliver integrated health, early education, child care and family support to children in the early years. The intervention is available to all children and families in deprived communities, and the first results of the programme became available in late 2005 (Rutter, 2007). It forms part of the Labour Government's approach to improving the situation of poor children in the UK, which has the worst child outcomes in the European Union.

Rutter (2007, p. 136) notes that the intervention provides five core services: "1) outreach and home visiting; 2) support for families and parents; 3) good quality play, learning and childcare; 4) primary and community healthcare including advice about child and family health; and 5) support for children and parents with specialised needs." Included in the programme is a stress on improving the quality of service delivery as well as refurbishment of centres (very much along the lines of the South African NIP for ECD.

In spite of its many potential merits, a key challenge for the evaluation of Sure Start is the fact that there a range of different programmes is offered in the same area, many are not manualised (have a clearly specified programme), and the fact that an RCT design with a wait list community control group was not used (to address selection effects<sup>17</sup>). The results thus far have been disappointing. For example, 3-year-old children's parents were more accepting and used less harsh punishment. There was no overall effect of the intervention on child health and behaviour. Children did better when their mothers had not been teenagers at the time of their birth.

Rutter (1997, p. 138) concludes that it is not possible to address the question of whether or not Sure Start is effective, because of the huge variety of programmes offered across the areas within which Sure Start is implemented:

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<sup>16</sup> <http://www.surestart.gov.uk/>

<sup>17</sup> These occur when parents choose to send children to particular facilities. For example, better off parents send their children to facilities with a better reputation, meaning that children from better of homes end up in better facilities and one cannot know whether the outcomes are due to the home or facility programme.



*“That is because there is no such thing as Sure Start in the sense of a defined programme with a definable intervention strategy (despite government implying the contrary). Instead, it constitutes a large ‘family’ of programmes that involve as much diversity as commonality. It is obvious that SSLPs include a host of useful initiatives and a wealth of good ideas but, equally, it is likely that they will include many well-intentioned elements that are ineffective or even counter-productive.”*

These are important cautionaries for the design of demonstration projects to test the effects of components of the NIP for ECD. We will return to these issues at the end of the paper.

The Effective Pre-school Primary and Secondary Education Project is a major longitudinal study of young children’s development (intellectual and social/behavioural) between the ages of 3 and 7 years conducted in the United Kingdom<sup>18</sup> (Sylva, Melhuish, Sammons, Siraj-Blatchford & Taggart, 2004).

Key findings include the following:

- Attending pre-school from an early age enhances children’s development (particularly the disadvantaged child), and half time attendance is good enough;
- Good quality services achieve better intellectual/cognitive and social/behavioural outcomes for children: these include staff with higher qualifications, they provide “instructive learning environments and ‘sustained shared thinking’ to extend children’s learning” (Sylva et al., 2004, p. 1). The key quality parameters were “the quality of adult-child verbal interactions; staff knowledge and understanding of the curriculum; knowledge of how young children learn; adult’s skill in supporting children in resolving conflicts and helping parents to support children’s learning in the home” Sylva et al, p. 4).
- The home learning environment is an important factor, but it is what parents do (stimulation, reading, scaffolding of learning) that makes the difference in child outcomes.

The most well known evaluated pre-school programmes in the USA are the High/Scope Perry Preschool Project, the Abecedarian Project, and the Chicago Child-Parent Center programme show positive cognitive developmental outcomes for children and children from more disadvantaged backgrounds improve more than those who are reared in better circumstances.

A systematic review of the research conducted on preschool programmes for American disadvantaged children conducted by Anderson and colleagues (2003), focusing only on effectiveness studies concluded that:

*“There is much less evidence available on the effects of these programmes on social development – mainly because this aspect of development has been measured much less frequently than cognition.”*

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<sup>18</sup> <http://www.ioe.ac.uk/schools/ccpe/epe/index.htm>

The evidence from a range of other studies including the United States National Institute of Child Development (NICHD) Study of Early Child Care<sup>19</sup> is that good preschool classroom quality predicts readiness for school as assessed by language, numeracy, reading skills, overall cognitive development and social development (Burchinal et al., 2000c; LoCasale-Crouch et al., 2007; Pianta et al., 2005; Peisner-Feinberg, 2004). To achieve the results they do, it is clear that investment in quality is needed.

While these findings are relevant for all concerned with developing early childhood interventions, it is important to reflect on their external in the South African context. Apart from the huge investments, long duration and high quality inputs, we must consider the target population.

How similar are these families and children to the poor sector of the South African population targeted by the NIP?

No doubt there is some equivalence with those South African families that share the experience of multiple problems (on welfare; inner city poor residents; single parents; domestic conflict; substance abuse etc). But in the South African case and in complete contrast to the target populations of the USA, where a small minority is on welfare (and not just for lack of employment opportunities), we have a situation where the vast majority of households and children live in poverty and this is for structural economic reasons (profound lack of employment opportunities), rather than being a result of personal challenges.

### **Majority country centre-based studies**

Turning to child development outcomes from majority country studies of centre-based settings, Myers (2004) concludes that in spite of much lower resource levels,

*“We are accumulating evidence over a broad spectrum, from the Majority as well as Minority World, that ECCE programmes can have important effects on learning and development, but we have much less evidence from the Majority World about the specific effects of quality on outcomes... very little of this evidence comes from the lowest income countries or from Sub-Saharan countries. However, if the findings hold from elsewhere that ECCE programmes can make a difference and that potential effects are greatest for those from lower-income families, then we may expect a positive impact there as well, contingent however, upon how quality figures into the equation” (p. 14).*

The High Scope ten country study IEA Pre-primary Project assessed how process and structural setting characteristics of centres attended by children age 4 were related to cognition and language at 7 years. The Project includes mainly minority world countries, but does include some from the majority world.

In sum, the findings indicate that in both majority and minority world countries, better child outcomes were correlated with:

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<sup>19</sup> [http://www.isisweb.org/ICIS2000Program/web\\_pages/group422.html](http://www.isisweb.org/ICIS2000Program/web_pages/group422.html) Accessed 11-02-2008.

- Years of teacher education (not level of ECD qualification);
- More free choice activity for children;
- Less time in large group activities; and
- A greater variety of materials and equipment; and promotion of active learning by children (Montie, Xiang & Schweinhart, 2006).

The two key factors that consistently account for these outcomes seem to be:

1. Individualised support for learning which scaffolds the child's development of skills relevant to school; and
2. A positive emotional climate in the classroom (sensitive, warm and positive teachers).

As LoCasale-Crouch and colleagues note (p. 4): "quality of classrooms' social and emotional interaction predicts children's performance on standardised tests of literacy skills" (in the equivalent of our Grades R and 1).

Quality inputs must of course be related to child outcomes, and "the problem is to reach agreement about what effects are desired" (Myers, 2004, p. 15).

Myers' points are particularly pertinent for majority country contexts where numbers of competing cultural goals for childhood may prevail (as in South Africa or countries like Brazil and the Philippines). This point is taken up by Pence and his colleagues in their critique of mainstream assessments of quality, that quality is not fixed, but rather local and variable (Dahlberg, Moss & Pence, 1999; Pence et al., 2004). Myers (2004) argues that this critique points to the need to develop quality assessment parameters in dialogue with community members and parents and then base assessments on agreed parameters. This could present challenges for monitoring systems that seek to generate reports beyond the local level. But there are likely to be some dimensions on which most would agree.

For these and other reasons, the development of operationalised measures and standards for quality elements is a considerable challenge. There are, however, an increasing number of instruments for assessing programme quality (e.g. the Classroom Assessment Scoring System (CLASS) and the Early Childhood Environment Rating Scale or ECERS). The ECERS has been used in twenty of countries beyond the USA where it was developed including Asia and certain Latin American sites. The only African country appears to have been Kenya.

Among other points, Myers (2004) concludes his EFA paper by making a point that is very important in the South African context:

*"Although seeking high quality is important it is also possible to find significant and even dramatic effects of programmes which are of minimal quality, judged by standards of the Minority World. Emphasis, then, should be placed on assuring that programmes are not of such low quality that they produce negative or negligible (from a cost standpoint small results that may not justify the expenditure and should be redirected toward a strategy that is more effective) and on upgrading low quality programmes so they produce better outcomes" (p. 24).*

As South Africa has no studies as yet that can tell us which quality parameters make a difference to child outcomes, we will have test those developed elsewhere while taking into account local views of parents and practitioners. Also there are no longitudinal studies in the country that can assist us in identifying effectiveness parameters of local ECD programmes.

While the question of which assessment parameters are of most importance remains unresolved – particularly in low resource settings, there is a degree of consensus on the key quality parameters (but not the benchmarks) that promote good child outcomes in the preschool years (2004; Pence et al., 2004; Myers, 2004; Myers, 2001).

Quality parameters are presented in Table 1, with links to the South African ECD Guidelines (informed by Biersteker & Kvalsvig, 2007).

**Table 1 – Linking the South African ECD guidelines to key quality parameters**

Key quality parameters for assessment of formal settings for ECD	Links in South African Guidelines for ECD Services
Facilities and their surroundings/physical environment (structural measures).	Cleanliness, building safety, square m indoor and outdoor per child, ventilation, sanitation, water, floor covering, safe flooring fencing all regulated – alterations and additions to comply with National Building Safety regulations.
Materials and equipment (a structural measure).	Good repair and cleanliness and sufficiency specified for large equipment such as play apparatus, bedding mattresses, seating and working surfaces, as well as appropriate indoor and outdoor equipment (toys, books, and print and other material specified)
Trained caregivers/education agents; ongoing supervision (process measures)	Level of training: minimum Level 1 and Level 4 for supervisors who also need management experience. Note that the evidence reviewed suggests that teacher qualification cannot stand as a good proxy for what they <i>actually do</i> when interacting with children in their care.
Services/curriculum (a process measure).	Not specified except for statement re holistic development. Range of activities giving opportunities to choose, routines included.
Integration of education and care (a process measure).	Guidance around records to be kept, feeding and nutritional requirements, how to deal with children’s illnesses, obligation to report suspected abuse, health records, first aid box.
Ratio of children to adults (a structural measure)	Specified Birth to 18 months one for 6 or less, 18 months to 3 one for 12, 3 – 4 one to 20, and five to 6 one to 30.
Partners/parental and community participation including communication with parents about children’s progress and active parental involvement in the centre (process measures).	The guidelines indicate parents are partners and that there should be a good relationship with them and that they should be involved in running of the centre (this would involve being on the governing body of community facilities).
Finance/resources/management/planning/organisation/leadership/conditions of service and wages (structural measures).	Management systems – guidance is given about the administrative requirements, policies etc. Financial systems are checked as part of the registration process and job descriptions are required for staff. Little is said about service conditions and the area of financing, resourcing and management is thin in these guidelines.
Teaching strategies (a process measure) need to be culturally appropriate and would include: frequent, warm and responsive interactions; good communication and listening; activities that occur alone and in groups and which cover multiple dimensions development and encourage problem solving; consistency in discipline and responsiveness; good time management; equal treatment regardless of factors such as gender and ethnicity.	Promotes an active learning approach, play-based , fun, set up so children an interact with others. Daily programme including creative activities, phys activities, imaginative play, talking and listing, intellectual activities, quiet play and rest. Practitioners to praise, encourage, help children think about what they are doing, use language to extend learning, Respect child’s culture, language, dignity, and individuality. Do not punish physically

In sum, the Guidelines touch in a very simple way on each of these areas but lack depth (because they are minimum standards – and are weakest in the area of curriculum and most prescriptive regarding health and safety issues).

As noted in the discussion of the research findings, it is crucial to go beyond structure dimensions and examine the actual teaching strategies used by teachers – even though this may be more challenging. However, structure and process are of course related. For example, high quality care at least requires a child-teacher ratio that permits the individual attention and related interaction processes needed to improve the developmental outcomes of children from low stimulation home environments (Burchinal et al., 2000b). South African ratios are specified in Table 1 above.

At the time of the Nationwide Audit of ECD in 2000, the average practitioner to child ratio was 1:19, with a range of 1:16 in Gauteng to 1:24 in the Eastern and Northern Cape. However, it must be noted that these ratios include a range of age groups from under three through to seven years old which suggest that care ratios for younger children are likely to be too high.

Where ratios are poor, and particularly with children under age three, north American findings remind us that poor quality of care in formal community-based care has been linked to negative child outcomes (Burchinal et al., 2000a). In other words, such settings do not merely fail to promote child development, they also produce worse outcomes than one would expect if no programme were provided.

Outcomes for children which might be used to test programme effects could include those developed for other papers in this series (2.1 and 3.1).

- Age-appropriate: fine and gross motor coordination; language and communication; cooperative play and social interaction with peers; emotional regulation; social interaction; numeracy; early literacy (; interest in early reading and writing activities.); social; interest in learning; problem solving abilities.
- Overall emotional wellbeing.

These capacities are the key child outcomes that are relevant for schooling and should be promoted in formal setting programmes. It is conditions in the child's home that play the most powerful role in their development, particularly in the absence of more formal setting opportunities.

It is worth noting that Engel and her colleagues (2007) reviewed 20 majority country studies that children who had the opportunity to attend a formal ECD programme had the edge over children who did not. They showed higher levels of cognitive functioning, and gains in socio-emotional functioning were also evident. They were also more likely to enter school at the correct age, and to perform better. In the long term, they were less likely to fail a class.

These are powerful points. And if one looks at the data for early school outcomes in Latin America, one sees that Cuban children are far ahead on language and mathematics achievement as well as arrange of other indicators. As Willms notes (2002, p. 112):

*“Cuba’s very high test scores are not attributable solely to parent’s higher level of education (than the comparison countries), but were also due to factors pertaining to early child development, school resources, and school policy and practice.”*

The comprehensive ECD service system in Cuba includes the following key features, among others (Young, 2006):

- Services begin in pregnancy and at neighbourhood level. Pregnant women receive milk and staple foods, and parenting programmes are available;
- All services are intergenerational. For example, a literacy programme for parents is linked with development strategies for their children;
- A national network of ECD programs consists of thousands of micro-projects (or units), each providing services to 15 or 20 children in any one place; each unit is labour intensive and depends heavily on parents; and
- Unit clusters link with city-wide support systems.

Should we not be listening to this message?

To conclude, the evidence regarding what constitutes quality in the formal setting pre-school context is as follows:

#### **Minority country research**

- ECD programmes are recommended because they prevent delays in cognitive development and improve disadvantaged children’s readiness to learn in school;
- Attending pre-school from an early age enhances children’s development (particularly the disadvantaged child), and half-time attendance is good enough;
- The quality of adult-child verbal interactions;
- Staff knowledge and understanding of the curriculum and of how young children learn;
- Staff ability to help parents to support children’s learning in the home; and
- The home learning environment is an important factor, but it is what parents do (stimulation, reading, scaffolding of learning) that makes the difference in child outcomes.

#### **Majority country research**

- Teachers with more years of education produce better child outcomes;
- If children have more free choice activities than regulated activities controlled by the teacher they do better;
- Children who spend less time in large group activities do better;
- A variety of learning materials is required;

- Children do better if they are supported in their activities by practitioners and educators who are able to scaffold the development of skills relevant to school; and
- The emotional climate in the classroom is positive (sensitive, warm and positive teachers).

Finally, regardless of the context, although seldom mentioned but particularly important for the South African context, centres play an important role in child protection.



## 4. Conclusion: implications for demonstration projects

In research carried out for this paper we have undertaken a Rapid Evidence Assessment of the key literature to ascertain the *specific factors that have been identified as being associated with programme effectiveness* in ECD, and the key ingredients of successful interventions.

Our focus has been on evidence from majority country settings. We found that beyond the child health domain, information on programme effectiveness and efficacy from majority country contexts is limited and there is hardly any data from South Africa. Information from minority countries, particularly as regards child development programmes, was included.

We set out to answer two key questions:

What are the ingredients and design parameters of:

1. *Home-based programmes* that are effective in changing parenting and other aspects of caregiver behaviour that are associated with improvements in children's nutrition, protection and development – in particular motor, language, cognition and socio-emotional domains – and that link families to services for the benefit of the child?
2. *Formal setting programmes* that are shown to be associated with improvements in children's psychological development, and that link families to services?

Table 2 summarises the evidence as to 'what works' to improve early well-being and development. With few key exceptions, we do not include child health as this was beyond to scope of the current review.

**Table 2 – What works to improve early childhood outcomes?**

Desired outcome	What works: implications for interventions
1. Prevention of Low Birth Weight	<ul style="list-style-type: none"> <li>▪ Improving the diets of pregnant women reduces risk of low birth weight and stunting;</li> <li>▪ Ensure that every pregnant woman has adequate antenatal care (at least four antenatal visits with an appropriate health care provider);</li> <li>▪ The mother also needs support in seeking care at the time of delivery and during the postpartum and lactation period.</li> </ul>
2. Prevention of Foetal Alcohol Syndrome (FAS)	<ul style="list-style-type: none"> <li>▪ Early identification of at-risk mothers during pregnancy is critical;</li> <li>▪ Primary health practitioners who can screen for, diagnose and manage alcohol-exposed pregnancies play a key prevention role;</li> <li>▪ Delaying pregnancy in women at highest risk and who already have a child with FAS;</li> <li>▪ Brief Motivational Interviewing (BMI)<sup>20</sup> techniques are efficacious with substance abusers and could be considered for at-risk mothers who present at antenatal clinics;</li> <li>▪ Education of communities as to risks and that address norms have a role to play in increasing awareness, but no trials have been conducted in South Africa to demonstrate impact.</li> </ul>
3. Promotion of hygiene practices, child safety and injury prevention practices and knowledge of when to seek health care	<ul style="list-style-type: none"> <li>▪ Educate carers in the UNICEF/WHO IMCI 16 Key Family Practices;</li> <li>▪ Supervise children’s activities;</li> <li>▪ Reduce or prevent where possible caregiver alcohol and/or drug use in high-risk individuals;</li> <li>▪ Alert caregivers to potentially hazardous substances and objects in and around the home;</li> <li>▪ Encourage caregivers to use of child-resistant containers for harmful substances (including paraffin);</li> <li>▪ Encourage use of paraffin stoves that adhere to the South African Bureau of Standards safety standards for paraffin stoves;</li> <li>▪ Electrification avoids the dangers of paraffin stoves and ingestion, but the risk of burn or thermal injuries remains in relation to boiling liquids;</li> <li>▪ Use fire resistant or retardant materials for informal housing;</li> <li>▪ Provide a storage space for dangerous substances and appliances;</li> <li>▪ Use stair gates and safety barriers on bunk beds and infant high chairs;</li> <li>▪ Preset geyser hot water temperature to 54°C or less;</li> <li>▪ Use appropriate swimming pool fencing.</li> </ul>
4. Prevention and remediation of malnutrition	<ul style="list-style-type: none"> <li>▪ Commence in pregnancy where appropriate;</li> <li>▪ Integrate nutrition programmes for infants and children under 3 years with psychosocial support for caregivers;</li> <li>▪ Provide iron and Vitamin A supplementation where appropriate;</li> <li>▪ Programmes should combine early stimulation through responsive parenting, together with improved nutrition;</li> <li>▪ Assess for caregiver depression and distress and address if necessary.</li> </ul>
5. Promotion of sensitive, responsive and affectional care in all developmental settings, including in contexts within which children are affected by HIV and AIDS	<ul style="list-style-type: none"> <li>▪ Programmes that focus on assisting caregivers with their daily life challenges, help them to learn more adaptive problem-solving skills and lend emotional support have the potential to reduce caregiver stress and promote more sensitive caring;</li> <li>▪ Promising interventions include those which provide parenting advice and support to vulnerable and very young mothers, starting with antenatal care and followed up with home visits and support groups thereafter. Contacts must be frequent, regular and of at least a year’s duration;</li> </ul>

<sup>20</sup> BMI is a directive, client-centred counselling style for eliciting behaviour change. <http://www.motivationalinterview.org/clinical/whatismi.html>.

Desired outcome	What works: implications for interventions
6. Promotion of early stimulation for child development	<ul style="list-style-type: none"> <li>▪ South African research shows that home visits and support groups with depressed women can assist but must be of high intensity and be sustained;</li> <li>▪ The only way to effectively protect, promote and enhance the health and wellbeing of young children is to improve the quality and stability of the care they receive from those closest to them, from their caregivers and families;</li> <li>▪ Provide HAART to eligible mothers of young children.</li> </ul>
7. Key quality parameters for formal ECD settings	<ul style="list-style-type: none"> <li>▪ Have systems for early detection of developmental delay and disability in the public health system linked to Road to Health Card assessments;</li> <li>▪ Stimulation programmes are particularly important for children with disabilities and chronic illness, as well as HIV and AIDS;</li> <li>▪ Integrate early stimulation programmes in the home with other interventions that are offered to parents (e.g. of nutritional support, food gardens, CHBC, etc.);</li> <li>▪ Home-based early stimulation programmes must be regular, intensive (not less than twice monthly for in excess of a year), culturally appropriate, and build on existing household activity;</li> <li>▪ Both parents and children must be actively involved in the intervention. Simply providing parenting information has little or no effect on child outcomes.</li> </ul> <p><b>Infant and toddler care:</b></p> <ul style="list-style-type: none"> <li>▪ In general, small group sizes with low child-adult ratios are preferable, and together with non-authoritarian child-rearing beliefs are associated with ‘positive’ (warm, accepting and sensitive) caregiving;</li> <li>▪ Safe, clean and stimulating physical environments are also associated with positive caregiving;</li> <li>▪ Children who spend extended periods of the early years in centre-based care are more at risk for aggressive behaviour;</li> <li>▪ Group care centres must contribute to child health and development by linking parents to services;</li> <li>▪ The setting must not simply provide for health and hygiene but also work toward the psychosocial development of the child.</li> </ul> <p><b>Preschools key findings:</b></p> <ul style="list-style-type: none"> <li>▪ ECD programmes are recommended because they prevent delays in cognitive development and improve disadvantaged children’s readiness to learn in school;</li> <li>▪ Attending pre-school from an early age enhances children’s development (particularly the disadvantaged child), and half-time attendance is good enough;</li> <li>▪ The home learning environment is an important factor, but it is what parents do (stimulation, reading, scaffolding of learning) that makes the difference in child outcomes.</li> </ul> <p><b>Pre-school quality parameters:</b></p> <p><i>Structural parameters:</i></p> <ul style="list-style-type: none"> <li>▪ Facilities and their surroundings/physical environment (cleanliness, safety, opportunities for a range of stimulation in a range of developmental domains);</li> <li>▪ A variety of learning materials is required;</li> <li>▪ Low ratio of children to adults (as for younger children, small group sizes with low child-adult ratios are preferable);</li> <li>▪ Finance/resources/management/planning/organisation/leadership/conditions of service and wages.</li> </ul> <p><i>Process quality parameters:</i></p> <ul style="list-style-type: none"> <li>▪ Trained practitioners: staff with greater knowledge and understanding of the curriculum and of how young children learn are associated with better quality and child outcomes. Their ability to help parents support children’s learning in the home is also associated with better child outcomes;</li> <li>▪ Ongoing supervision of staff;</li> <li>▪ Integration of education and care;</li> </ul>

Desired outcome	What works: implications for interventions
	<ul style="list-style-type: none"> <li>▪ Partners/parental and community participation, including communication with parents about children's progress;</li> <li>▪ Active parental involvement in the centre;</li> <li>▪ Teaching strategies need to be culturally appropriate (using local materials and practices on which to build activities);</li> <li>▪ Teaching strategies include frequent, warm and responsive interactions; good communication and listening; children have better outcomes when the emotional climate in the classroom is positive (sensitive, warm and positive teachers);</li> <li>▪ Activities that occur alone and in groups and which cover multiple dimensions enhance development and encourage problem solving.</li> <li>▪ Active individualised support by staff for children's learning scaffolds the child's development of skills relevant to school;</li> <li>▪ If children have more free choice activities than regulated activities controlled by the teacher they do better;</li> <li>▪ Children who spend less time in large group activities do better;</li> <li>▪ Consistency in discipline and responsiveness;</li> <li>▪ Good time management;</li> <li>▪ Equal treatment regardless of factors such as gender and ethnicity.</li> </ul>
8. Prevention of maltreatment	<ul style="list-style-type: none"> <li>▪ Target in particular teen parents and first-time parents, single parents with limited support, and parents with substance abuse problems such as alcohol and TIK;</li> <li>▪ Low-birth-weight and preterm infants, and children with chronic illness and disabilities are particularly vulnerable to maltreatment and their carers need support;</li> <li>▪ Efforts to strengthen parenting knowledge and capacities in the antenatal period should be linked to other antenatal clinic visits;</li> <li>▪ Carers should be assisted to have a basic understanding of how children grow and develop so that their expectations are realistic – particularly in the case of infants and young children;</li> <li>▪ Clinic, crèche, ECD facility staff need training in observation and respond to early warning signs of abuse and neglect;</li> <li>▪ Centres play an important role in child protection as the child is in a safe, monitored environment.</li> </ul>
9. Improved access to social security and health services at local level	<ul style="list-style-type: none"> <li>▪ Strong local government support for integrated ECD through local multi-service hubs within walking distance of households.</li> <li>▪ Use of locally recruited outreach workers from clinics and other facilities (e.g. ECD sites) to facilitate family connection to required services.</li> </ul>

The best and most numerous impacts are obtained from programmes that offer a mix of home-visiting and centre-based services and that are fully implemented as they are designed (Love et al., 2005). One may add that the target population makes a huge difference, particularly when dealing with parents who face many personal difficulties.

The constant message in this field is '*start early*' for best effect! This means in pregnancy and the first two years of life. Interventions at later stages struggle to reverse earlier deficits, particularly if the intensity of the intervention is compromised by weak design and delivery.

Overall, programmes that have the greatest impact on *child growth and development*:

1. Commence prenatally and extend into infancy and early childhood as a continuous chain of support.

2. *Combine interventions* that utilise several simultaneous ‘delivery channels’ (e.g. home visits, group counselling, childcare centres and mass media). Combined interventions include a *package* of (for example) child nutrition, parental education on diet and feeding practices, supplementary foods or micronutrient supplements, and parenting and child development education. They are more efficient and cost effective, they avoid duplication and families access an integrated package of services which reduces their service access costs. Evaluations indicate that these programmes have positive effects on child health, nutrition and cognitive outcomes. Comprehensive programming is supported by the evidence.
3. For South Africa, the evidence sourced for this study suggests that multi-purpose service hubs (health, welfare, education, grants, library, etc.) within walking distance of households is required.
4. Services work best when negotiated with and are ‘owned’ by local target community. This is easier to say than do, but programmes that draw their care workers from the target community appear to have the best chance of reaching their targets and also promoting local buy-in.
5. Local government support, as in the Philippines and Cuban examples cited in the paper, makes a key difference in many programmes.

Finally, and regarding service integration, in South Africa as elsewhere, a key question is which is the *best node* from which to assist vulnerable young children and families, and link them to the services that they need? This is not the topic for this paper, and would depend on a mapping of resources at local level. However, as will be evident in what follows, there are a number of examples from developing countries around the world to suggest that the primary health system is key to child health and development, at least in the first three years of life, and as these systems are usually best developed and have widest coverage, this is the place from which to start.

Demonstration projects to scale up ECD 0-4 and improve child outcomes in South Africa should choose a particular focus for intervention, and draw on the robust evidence and promising practice presented here in order to construct at least quasi-experimental control group studies of a duration that is long enough to observe the desired effects.

This will take us part of the way. If we wish to be sure that the programme we are implementing are effective, then we must ensure the best design possible. Rutter (2007, p. 140) makes six points in this regard:

1. “Programmes that lack an explicit curriculum and that are varied across areas in a non-systematic fashion are impossible to evaluate in a manner that gives answers on what are the key elements that bring benefits. If the evaluation is to be informative on how to improve services in the future, it is essential to identify the mechanisms mediating efficacy.
2. Randomised controlled trials provide a much better test than non-experimental methods (however rigorous the statistics applied to the latter).
3. It is always desirable to determine the efficacy of an intervention under optimal research conditions before launching on a large-scale, multiple communities-wide effectiveness study of whether the results of the former can be implemented in the much more variable and less controllable circumstances of the latter.

4. For programmes intended to make a real difference in the long term, the research evaluation must also be long term (provided that the initial findings suggest that there is a reasonable chance that there might be long-term benefits).
5. It must be recognised that there may be subgroups who require something different and the design used must be able to detect such groups.
6. Research must check the extent to which findings apply across a range of difference contexts.”

The designs of demonstration projects to test the effectiveness of elements of the NIP for ECD should bear these in mind.

## Appendix

### Key Family Practices for healthy growth and development

Available at [www.paho.org/english/ad/fch/ca/GSIYCF\\_keyfam\\_practices.pdf](http://www.paho.org/english/ad/fch/ca/GSIYCF_keyfam_practices.pdf)

The goal of the practices is to:

1. Stimulate physical growth and mental development;
2. Prevent diseases;
3. Provide appropriate home care; and
4. Identify early signs and symptoms for parents to seek care outside the home.

For physical growth and mental development:

1. Breastfeed infants exclusively for at least six months. (Mothers found to be HIV positive require counselling about possible alternatives to breastfeeding on the basis of norms and recommendations by WHO/UNICEF/UNAIDS about HIV infection and infant feeding).
2. Starting at six months of age, feed children freshly prepared energy and nutrient-rich complementary foods while continuing to breastfeed up to two years or longer.
3. Ensure that children receive adequate amounts of micronutrients (vitamin A and iron in particular), either in their diet or through supplementation.
4. Promote mental and social development by responding to a child's needs for care through talking, playing, and providing a stimulating environment.

For disease prevention:

5. Take children as scheduled to complete a full course of immunizations (BCG, DPT, OPV and measles) before their first birthday.
6. Dispose of faeces, including children's faeces safely; wash hands after defecation, before preparing meals, and before feeding children.
7. Protect children in malaria-endemic areas by ensuring that they sleep under insecticide treated bednets.
8. Adopt and sustain appropriate behaviour regarding prevention and care for HIV/AIDS affected people including orphans.

For appropriate home care:

9. Continue to feed and offer more fluids, including breast milk, to children when they are sick.
10. Give sick children appropriate home treatment for infections.
11. Take appropriate actions to prevent and manage child injuries and accidents.
12. Prevent child abuse and neglect and take appropriate action when it has occurred.

13. Ensure that men actively participate in providing childcare and are involved in the reproductive health of the family.

For seeking care:

14. Recognize when sick children need treatment outside the home and seek care from appropriate providers.
15. Follow the health worker's advice about treatment, follow-up and referral.
16. Ensure that every pregnant woman has adequate antenatal care. This includes having at least four antenatal visits with an appropriate health care provider, and receiving the recommended doses of the tetanus toxoid vaccination. The mother also needs support from her family and community in seeking care at the time of delivery and during the postpartum and lactation period.



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