

# Total Environment Assessment Model for Early Child Development

Evidence Report



Arjumand Siddiqi  
Lori G. Irwin  
Clyde Hertzman



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## Evidence Report

for the World Health Organization's  
Commission on the Social Determinants of Health

Prepared by  
Arjumand Siddiqi, Sc.D., MPH  
Lori G. Irwin, Ph.D., RN  
Dr. Clyde Hertzman, MD, M.Sc., FRCPC

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DESIGN: SHANNON@SHHDESIGN.CA

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## Executive Summary

### Executive Summary

The early child period is considered to be *the most important* developmental phase throughout the lifespan. Healthy early child development [ECD]—which includes the physical, social—emotional, and language—cognitive domains of development, *each equally important*—strongly influences well-being, obesity/stunting, mental health, heart disease, competence in literacy and numeracy, criminality, and economic participation throughout life. What happens to the child in the early years is *critical* for the child’s developmental trajectory and lifecourse.

The principal strategic insight of this document is that the nurturant qualities of the environments where children grow up, live, and learn matter the most for their development, yet parents cannot provide strong nurturant environments without help from local, regional, national, and international agencies. Therefore, this report’s principal contribution is to propose ways in which government and civil society actors, from local to international, can work in concert with families to provide equitable access to strong nurturant environments for all children globally. Recognizing the strong impact of ECD on adult life, it is imperative that governments recognize that disparities in the nurturant environments required for healthy child development, will impact differentially on the outcome of different nations and societies. In some societies, inequities in ECD translate into vastly different life chances for children; in others, however, disparities in ECD reach a critical point, where they become a threat to peace and sustainable development.

The early years are marked by the most rapid development, especially of the central nervous system. The environmental conditions to which children are exposed, including the quality of relationships and language environment, [in the earliest years] literally “sculpt” the developing brain. The environments that are responsible for fostering nurturant conditions for children range from the intimate realm of the family

to the broader socioeconomic context shaped by governments, international agencies, and civil society. These environments and their characteristics are the determinants of ECD; in turn, *ECD is a determinant of health, well-being, and learning skills across the balance of the lifecourse.*

The seeds of adult gender inequity are sewn in early childhood. In the early years, gender equity issues—in particular, gender socialization, feeding practices, and access to schooling—are determinants of ECD. Early gender inequity, when reinforced by power relations, biased norms, and day-to-day experiences in the family, school, community, and broader society, go on to have a profound impact on adult gender inequity. Gender equity from early childhood onwards influences human agency and empowerment in adulthood.

Economists now assert on the basis of the available evidence that investment in early childhood is the most powerful investment a country can make, with returns over the lifecourse many times the size of the original investment.

The scope of the present report is fourfold:

1. To demonstrate which environments matter most for children. This includes environments from the most intimate (family) to the most remote (global).
2. To review which environmental configurations are optimal for ECD, including aspects of environments that are economic, social, and physical in nature.
3. To determine the “contingency relationships” that connect the broader socioeconomic context of society to the quality of nurturing in intimate environments such as families and communities.
4. To highlight opportunities to foster nurturant conditions for children at multiple levels of society (from family-level action to national and global governmental action) and by multiple means (i.e. through programmatic implementation, to “child-centered” social and economic policy development).

In keeping with international policy standards, early childhood is defined as the



period from prenatal development to eight years of age. The evidentiary base, as well as interpretation of the body of evidence, is derived from three primary sources: 1) peer-reviewed scientific literature, 2) reports from governments, international agencies, and civil society groups, and 3) international experts in the field of ECD (including the Commission on Social Determinants of Health Knowledge Network for ECD) that is representative in both international and inter-sectoral terms. This evidence-based multiple-sourced approach ensures that the conclusions and recommendations of this report are borne out of the perspectives of a diverse array of stakeholders and are thus broadly applicable to societies throughout the world.

*One guiding principle is an “equity-based approach” to providing nurturant environments for children everywhere.* Multiple perspectives—from the provisions of human and child rights declarations to the realities reflected by research evidence—make clear the importance of equity. Programs and policies must create marked improvements in the circumstances of societies’ most disadvantaged children, not just in absolute terms, but in comparison to the most advantaged children as well.

What is now known is that, in every society, inequities in socioeconomic resources result in inequities in ECD. The relationship is much more insidious than solely differentiating the rich from the poor; rather, any additional gain in social and economic resources to a given family results in commensurate gains in the developmental outcomes of the children in that family. This step-wise relationship between socioeconomic conditions and ECD is called a “gradient effect.” However, some societies are more successful than others at “dulling” the gradient effect, thus fostering greater equity. Societies accomplish this by providing a range of important resources to children as a right of citizenship, rather than allowing them to be a luxury for those families and communities with sufficient purchasing power.

*Importantly, an equity-based approach is also the successful path to creating high average ECD outcomes for a nation.* Societies that demonstrate higher overall average

outcomes for children are those in which disadvantaged children are developmentally stronger than disadvantaged children in other nations, whereas, in all nations, children at the higher ends of the socioeconomic spectrum tend to demonstrate relatively strong outcomes.

In this report we provide a framework for understanding the environments (and their characteristics) that play a significant role in providing nurturant conditions to all children in an equitable manner. The framework acts as a guide to understanding the relationships between these environments, putting the child at the center of her or his surroundings. The environments are not hierarchical, but rather are interconnected. At the most intimate level is the family environment. At a broader level are residential communities (such as neighbourhoods), relational communities (such as those based on religious or other social bonds), and the ECD service environment. Each of these environments (where the child actually grows up, lives, and learns) is situated in a broad socioeconomic context that is shaped by factors at the regional, national, and global level.

The framework affirms the importance of a lifecourse perspective in decision-making regarding ECD. Actions taken at any of these environmental levels will affect children not only in present day, but also throughout their lives. The framework also suggests that historical time is critically influential for children; large institutional and structural aspects of societies (e.g., government policy-clusters and programs) influence ECD, and these are “built” or “dismantled” over long periods of time.

Socioeconomic inequities in developmental outcomes result from inequities in the degree to which the experiences and environmental conditions for children are nurturant. *Thus, all recommendations for action stem from one overarching goal: to improve the nurturant qualities of the experiences children have in the environments where they grow up, live, and learn.* A broad array of experiences and environmental conditions matter. These include those that are intimately connected to the child, and therefore readily identifiable (e.g., the quality of time and care provided by

parents, and the physical conditions of the child’s surroundings), but also more distal factors that in various ways influence the child’s access to nurturant conditions (e.g., whether government policies provide families and communities with sufficient income and employment, health care resources, early childhood education, safe neighborhoods, decent housing, etc.).

While genetic predispositions and biophysical characteristics partially explain how environment and experience shape ECD, the best evidence leads us to consider the child as a social actor who shapes and is in turn shaped by his or her environment. This is known as the “transactional model,” which emphasizes that the principal driving force of child development is relationships. Because strong nurturant relationships can make for healthy ECD, *socioeconomic circumstances, despite their importance, are not fate.*

**The family environment** is the primary source of experience for a child, both because family members (or other primary caregivers) provide the largest share of human contact with children and because families mediate a child’s contact with the broader environment. Perhaps the most salient features of the family environment are its social and economic resources. Family social resources include parenting skills and education, cultural practices and approaches, intra-familial relations, and the health status of family members. Economic resources include wealth, occupational status and dwelling conditions. The gradient effect of family resources on ECD is the most powerful explanation for differences in children’s well-being across societies. Young children need to spend their time in warm responsive environments that protect them from inappropriate disapproval and punishment. They need opportunities to explore their world, to play, and to learn how to speak and listen to others. *Families want to provide these opportunities for their children, but they need support from community and government at all levels.*

Children and their families are also shaped by the **residential community** (where the child and family live) and the **relational communities** (family social ties to those with a common identity) in which they





are embedded. Residential and relational communities offer families multiple forms of support, from tangible goods and services that assist with child rearing, to emotional connections with others that are instrumental in the well-being of children and their caregivers. At the residential/locality level, both governments and grass-roots organizations also play a highly influential role. Many resources available to children and families are provided on a community-level through local recognition of deficits in resources, problem-solving, and ingenuity. There are, however, inequities in ECD that are apparent between residential communities, which must be addressed in a systematic way.

“**Relational community**” refers to the people, adults and children, who help form a child’s social identity: tribal, ethnic, religious, language/cultural. Often, this is not a geographically clustered community. Relational communities provide a source of social networks and collective efficacy, including instrumental, informational, and emotional forms of support. However, discrimination, social exclusion, and other forms of subjugation are often directed at groups defined by relational communities. The consequences of these forms of discrimination (e.g., fewer economic resources) can result in discernable inequities. Moreover, relational communities can be sources of gender socialization, both equitable and non-equitable. Relational communities are also embedded in the larger socio-political contexts of society; as such, reciprocal engagement with other relational groups, civil society organizations, and governmental bodies is a means of addressing the interests and resource needs of their members.

The availability of **ECD programs and services** to support children’s development during the early years is a crucial component of an overall strategy for success in childhood. ECD services may address one or more of the key developmental domains (i.e., language–cognitive, socio-emotional, and physical development). The quality and appropriateness of services is a central consideration in determining whether existing ECD programs improve outcomes for children.

There are principles of ECD programs and services that are readily transferable between places; however, many program features require tailoring to the social, economic, and cultural contexts in which they are found. ECD services may be targeted to specific characteristics of children or families (e.g., low birth-weight babies or low-income families), may occur only in some communities and locales and not others, or may be more comprehensively provided. Each of these is also accompanied by their respective benefits and drawbacks; **however, the overarching goal of the global community should be to find means of providing universal access to effective ECD programs and services.** Health care systems (HCSS) are key to providing many important ECD services. The HCS is in a unique position to contribute to ECD, since HCSS provide facilities and services that are more widely accessible in many societies than any other form of human service, are already concerned with the health of individuals and communities, employ trained professionals, and are a primary point of contact for child-bearing mothers.

The influence of the **regional and national environments** is fundamental in determining the quality and accessibility of services and resources to families and communities. They are also salient for understanding the levels of social organization at which inequalities in opportunity and outcome may be manifest, and the levels of organization at which action can be taken to ameliorate inequities.

There are many interrelated aspects of **regional environments** that may be significant for ECD: physical (e.g., the degree of urbanization, the health status of the population), social, political, and economic. These aspects of the regional environment affect ECD through their influence on the family and neighbourhood, and on ECD services. In contrast to more intimate environments, such as the family, the significance of large environments, such as the region, is that regions have an effect on large numbers of children. Thus, changing the environment at this level can influence the lives of many children. More research and accumulated

knowledge is required in order to understand *how* regional characteristics can be modified to positively influence ECD.

The most salient feature of the **national environment** is its capacity to affect multiple determinants of ECD through wealth creation, public spending, child- and family-friendly policies, social protection and protection of basic rights. *The chances that children will face extreme poverty, child labour, warfare, HIV/AIDS, being left in the care of a sibling, is determined, first and foremost, by the countries in which they are born.*

At the level of the national environment, comprehensive, inter-sectoral approaches to policy and decision-making work best for ECD. Although ECD outcomes tend to be more favourable in wealthy countries than poor ones, this is not always the case. It is clear that a commitment of 1.5–2.0% of GDP to an effective mix of policies and programs in the public sector can effectively support children's early development. Those nations with less economic and political power are less free to determine their internal policy agendas, and are more influenced by the interests of the international community, including other nations and multilateral organizations. *Notwithstanding this, most of the recommendations in this report are within the capabilities of any national government that meets the international criteria for a "competent authority."*

The **global environment** can influence ECD through its effects on the policies of nations as well as through the direct actions of a range of relevant actors, including multilateral economic organizations, industry, multilateral development agencies, non-governmental development agencies, and civil society groups. A major feature of the global environment in relation to children's well-being is the element of power in economic, social, and political terms. Power differentials between types of actors, particularly between nations, have many consequences, including the ability of some nations (mainly resource-rich ones) to influence the policies of other nations (mainly resource-poor ones) to suit their own interests. Although power differentials may have invidious effects on

ECD, they can be exploited for the benefit of children, too. *Requiring a minimum level of government spending on ECD and compliance with the Rights in Early Childhood provisions of the Convention on the Rights of the Child (UNCRC), as pre-conditions for international developmental assistance, are two mechanisms that can be used.* Analogous mechanisms have been used effectively in other areas of international development in the past.

**Civil society** groups are conceptualized as being organized at, and acting on, all levels of social organization, from local residential through global. The ability of civil society to act on behalf of children is a function of the extent of "social capital," or connectedness of citizens, and the support of political institutions in promoting expressions of civil organization. When civil society is enabled, there are many avenues through which they can engage on behalf of children. Civil society groups can initiate government, non-government organization, and community action on social determinants of ECD. They can advocate on behalf of children to assure that governments and international agencies adopt policies that positively benefit children's well-being. Finally, civil society groups are instrumental in organizing strategies at the local level to provide families and children with effective delivery of ECD services, to improve the safety, cohesion, and efficacy of residential environments, and to increase the capacity of local and relational communities to better the lives of children. *Although research on the direct effect of civil society on ECD is limited, the strong statistical association between the strength of civil society and human development in societies around the globe leaves little doubt about its importance to ECD.*









## Introduction and Overview

*What children experience during the early years sets a critical foundation for their entire life course. This is because experiences shape early child development—including health/physical, social/emotional, and language/cognitive domains—which in turn strongly influences basic learning, school success, economic participation, social citizenry, and health throughout life. Assuring all children have quality experiences in early childhood is overwhelmingly contingent on the actions of family, community, and society in providing them with ‘nurturant’ environments in which to live and to thrive.*

*Introduction  
and Overview*

### Purpose of the Present Study

The present study is borne out of the imperative to find an equity-based approach for fostering successful early child development in societies throughout the world. A tremendous body of literature suggests that early child development [ECD]—physical, social/emotional, and language/cognitive—is a fundamental determinant of well-being throughout the life course.

The building blocks of ECD are rooted in the interaction between children’s biological factors and the environmental conditions which they experience during their earliest years; differences among children in successful ECD largely arise from differences in the extent to which their environments display ‘nurturant’ qualities. This study thus seeks to explore the most ‘nurturant’ environmental conditions for children, and ways in which nurturant conditions can be provided to all children in an equitable manner.

In particular, the scope of this volume is fourfold: 1) to demonstrate which environments matter most for children. This includes environments from the most intimate (family) to the most remote (global), 2) to review which environmental configurations are optimal for ECD, including aspects of environments that are economic, social, and physical in nature, 3) to identify the ‘contingency relationships’ that link broader

socioeconomic environments of society to the quality of nurturing present within the intimate environments in which children are embedded, such as families and communities. 4) To highlight opportunities to foster nurturant conditions for children at multiple levels of society (from family-level action to national and global environmental action) and by multiple means (i.e. through programmatic implementation, to “child-centered” social and economic policy development).

### Nurturant Conditions for ECD and Child Survival in Resource-Poor Nations: Indivisible Phenomena, Indivisible Goals

Though ECD is often framed as a ‘luxury’ on which resource-rich nations can afford to focus, ECD is important in all countries, resource-rich and resource-poor alike. Put bluntly, our planet provides *no* examples of highly successful societies among those who have ignored development in the early years. Without question, infant and child mortality rates in resource-poor nations are alarmingly and unacceptably high. However, they must not overshadow the equal (or greater) proportion of children who remain alive in these nations—the destitute environments in which children are dying are also those in which they are surviving. As such, the quality of environmental conditions in resource-poor nations is an urgent matter for improving child survival, as well as bettering children’s life chances, and those of their societies.

In these countries, children are likely to suffer from poor nutrition and poor health. A child here has a four in ten chance of living in extreme poverty and 10.5 million children a year die before age 5. [2]. They are also at high risk of never attending school [2]. The recent *Lancet* series on ECD estimates that there are 559 million children under 5 in developing countries—including 155 million who are stunted and 62 million who are not stunted but are living in poverty—for a total of over

200 million children under five years of age who are at extreme risk of impaired cognitive and social–emotional development [132].

Most of these children—89 million—live in ten countries (India, Nigeria, China, Bangladesh, Ethiopia, Indonesia, Pakistan, Democratic Republic of Congo, Uganda, and Tanzania) that account for 145 million (66%) of the 219 million disadvantaged children in the developing world. Many are likely to do poorly in school and subsequently as adults will likely have low incomes, high fertility, and provide poor health care, nutrition, and stimulation to their own children, thus contributing to the intergenerational transmission of disadvantage[3]. The loss of human potential that the above statistics represent is associated with more than “a 20% deficit in adult income and will have implications for national development” [3].

The overarching message of this work to governments, international agencies, and civil society partners is this: the agenda to improve child survival and health is indivisible from the agenda to improve ECD. That is, taking a developmental perspective on the early years provides a framework that subsumes issues of basic existence and healthy development; it allows us to understand the conditions that allow children to not only survive, but indeed to thrive.

### TEAM-ECD Framework

To this end, we provide the Total Environment Assessment Model of Early Child Development (TEAM-ECD). Developed by the World Health Organization’s Commission on Social Determinants of Health’s (CSDH) Knowledge Network on Early Child Development, TEAM-ECD is a means of framing the environments that are most salient for children, highlighting arrangements of each environment that provide optimally nurturant conditions for children, identifying the dependent and reciprocal relations between environments, and linking these to the biological processes with which they interact to foster successful ECD. TEAM-ECD thus places the child at the center of the environments in which s/he is embedded. In keeping with international policy standards,

we define early childhood as the period from prenatal development to eight years of age.

The environments are also later termed ‘spheres of influence.’ This is based on the inclusion in TEAM-ECD of contexts that conform to common understandings of the notion of environment—those that are geographically bounded—but also those that are formed through social organization and social connectedness, and are not readily discernable through the lens of physical space. By identifying the ways in which geographically and socially connected environments overlap, TEAM-ECD addresses the lack of mutual exclusivity between the two.

### TEAM-ECD and Past Frameworks of Understanding

TEAM-ECD builds on many past theoretical frameworks and conceptual models that address ECD and social determinants of health more broadly speaking. These include Urie Bronfenbrenner’s Bioecological Model and developmental psychology perspectives on ECD, understandings of ‘biological embedding,’ frameworks put forth in social epidemiology and related disciplines which address social determinants of health; a long history of research regarding social relations in human society; a vast literature in the political economy domain; and the World Health Organization Framework on Social Determinants of Health, developed recently in conjunction with the CSDH. Review of relevant literature in these areas is embedded throughout the text. Past frameworks which TEAM-ECD draws on are briefly reviewed in this section.

In his seminal work, Urie Bronfenbrenner provides an ecological framework with which to think about (hierarchically arranged) social and spatial contexts as they relate to children’s development [4]. In this model, the microsystem refers to a spatial context with which children come into “immediate” contact, this includes families and schools. The mesosystem describes slightly larger contexts, like neighborhoods, while the ecosystem refers to the broader contexts in which microsystems and mesosystems are



embedded. This includes (but is not limited to) aspects of society such as culture, values, and the law.

TEAM-ECD further refines the micro, meso, and ecosystems into spheres of influence that fall into each of these three contexts. Further, while Bronfenbrenner's model addressed the role of family, TEAM-ECD identifies additional environments that are socially, rather than geographically bounded. In addition, TEAM-ECD challenges the hierarchical perspective on environments of the Bronfenbrenner model, instead showing the interactions and interdependence between the various contexts that are significant for children.

In the field of social epidemiology and public health more generally, several models have been developed to address the role of social determinants of health, though not those concerned with ECD explicitly. The models offered by Diderichsen and Hallqvist<sup>2</sup> and by Diderichsen, Evans and Whitehead[5] provide some additional detail regarding the broad environment, namely by explicating the role of the policy domain as a social context. However, this model is still quite general in its effort to explain the effects of social stratification on health, and is geared to the understanding of adult health. TEAM-ECD further elaborates on the policy and social context environments, and provides a model that explicitly focuses on early child development.

Dahlgren and Whitehead[6, 7] offer a model which, like TEAM-ECD provides considerably more specificity of the environment, and one in which the interactional aspects of environments are captured. However, TEAM-ECD further develops this previous work in several ways. First, Dahlgren and Whitehead's model is aimed primarily at explaining adult health status, at least implicitly so. This is suggested strongly by the model's incorporation of "individual lifestyle factors" (referring to health behavioral factors) as a source of influence for health.

TEAM-ECD, by contrast, is primarily concerned with the three primary domains (physical, language/cognitive, and socio-

emotional) of children's development, which by and large don't have the same direct correlation to behaviors that health status does to health behaviors. In the context of ECD, children's behaviors are considered to be components of ECD (i.e. outcomes) to be understood and improved (or supported), rather than independent risk factors in and of themselves.

Second, Dahlgren and Whitehead's model provides a rather hierarchical notion of environments, while (to reiterate) environments in TEAM-ECD model are not strictly hierarchically conceptualized. Finally, Dahlgren and Whitehead do not explicitly address the temporal aspect of social determinants, nor of health. TEAM-ECD incorporates notions of time, both in terms of changes in environments over historical periods, and the development of children over the course of their lives.

Mackenbach et al.'s Model of Selection and Causation[8] introduces a temporal aspect with explicit acknowledgement of childhood circumstances and child health. However, the primary intent of this model is to introduce these factors as determinants of adult health, rather than to understand determinants of child well-being. Further, this model is less specific regarding environments, terming these collectively as 'structural/environmental factors.' Brunner, Marmot, and Wilkinson[9] also provide a model which incorporates early childhood only as a determinant of adult health, rather than guiding explanations of early childhood health (let alone broad notions ECD) itself. Like the Mackenbach model, Brunner et. al. use a broader and less refined classification of environmental factors when compared to TEAM-ECD.

In conjunction with the CSDH, the WHO has recently developed an elaborate framework entitled the 'WHO Equity Team Social Determinants Framework [10].' This framework provides a nuanced and differentiated understanding of environments that affect health and health equity. However, in parallel with models described above, the objective of this framework (at least implicitly so) is primarily to explain adult health. This model uses ECD as a determinant of health, but does not address how ECD itself is determined.

2. Diderichsen's and Hallqvist's 1998 model was adapted by Diderichsen, Evans and Whitehead, 2001

In summary, past frameworks have been critical in developing understandings of social determinants of health, and each has strengths and omissions. TEAM-ECD builds on and improves upon previous models for explaining ECD and conditions that are nurturant for children. By expanding the environmental spheres that are included, challenging the notion of strict hierarchy between environments, adding temporal components, and holding successful ECD as its central goal, TEAM-ECD offers the strongest means thus far of understanding (and therefore acting upon) social determinants of early child development.

### Evidentiary Base for TEAM-ECD

TEAM-ECD also draws on a large body of literature and expertise in order to document the features of environments that are most nurturant for children (see also appendix A). The evidentiary base, as well as interpretation of the body of evidence used in this volume is derived from three primary sources: peer-reviewed scientific literature, reports from governments, international agencies, and civil society groups, and international experts in the field of ECD (including the CSDH, Knowledge Network of ECD, which itself is representative in both international and inter-sectoral terms).

One irreconcilable factor is the imbalance in availability of information from each of these three sources across resource-rich and resource-poor nations. The preponderance of scientific literature arises from studies conducted in resource-rich nations, while evidence from resource-poor nations is largely contained in governmental and agency reports. Notwithstanding this issue, the evidence-based multiple-sourced approach ensures that the conclusions and recommendations of this report are borne out of the perspectives of a diverse array of stakeholders and broadly applicable to societies throughout the world.

Certainly, there are facets of ECD that are ‘context-specific’ (for example, cultural practices and norms), but from this body of evidence, one can glean key aspects of ECD that hold true in all cultures and in all

societies. In addition, TEAM-ECD provides a flexible means of integrating ideas of nurturance which may only be locally-relevant with those which are universal - for all children in all places.

### Universal Principles of ECD

There are several principles which are universally characteristics of ECD; they are consistently upheld irrespective of society, and a child and family’s place within that society. First, the early years of life are marked by the most rapid development, especially of the central nervous system (CNS).

Second, there are a number of sensitive or ‘critical periods’ in the development of the human brain that occur almost exclusively during this time period. For each of these critical periods, specific regions (and therefore specific functions) of the brain undergo crucial growth and formation.

Third, the environmental conditions to which children are exposed in the earliest years literally “sculpt” the developing brain. The more ‘nurturant’ the physical, social, and economic environments of children during the early years, the greater the chances for successful development of the growing child.

Fourth, the development occurring during this time provides the essential building blocks for a lifetime of success in many domains of life, including economic, social, and physical well-being. Certainly people continue to develop beyond the early years, however science has demonstrated that healthy early child development—which again (for the sake of emphasis) includes the physical, social/emotional, and language/cognitive domains of development, each equally important - is fundamental to health, success, and happiness not only for the duration of childhood, but throughout the life course. As such, *the environmental conditions to which children are exposed in the earliest years of development are consequential over the entire life course.*

Fifth, and related to the preceding point, the pervasive socioeconomic inequities in adult health outcomes (and many other markers of well-being) have roots in socioeconomic inequities in ECD. That is, during

the earliest years of life, differences in the extent of nurturance provided by children's environmental conditions lead to differences in ECD outcomes; the effects of these early inequities last for a lifetime, and translate into inequities in health in later childhood, adolescence, and in adulthood. *In sum, the socioeconomic environment is a fundamental determinant of ECD and, in turn, ECD is a determinant of health and well-being across the balance of the life course.*

## Primary Principles of TEAM-ECD

Rooted in these universalities, TEAM-ECD is based on three underlying principles:

- 1) Early Child Development—physical, social/emotional, and language/cognitive—is the result of interactions between children's biological factors and the environments in which children are embedded.
- 2) Successful ECD occurs when environmental conditions—physical, social, and economic—demonstrate characteristics that are known

to be 'nurturant' for children.

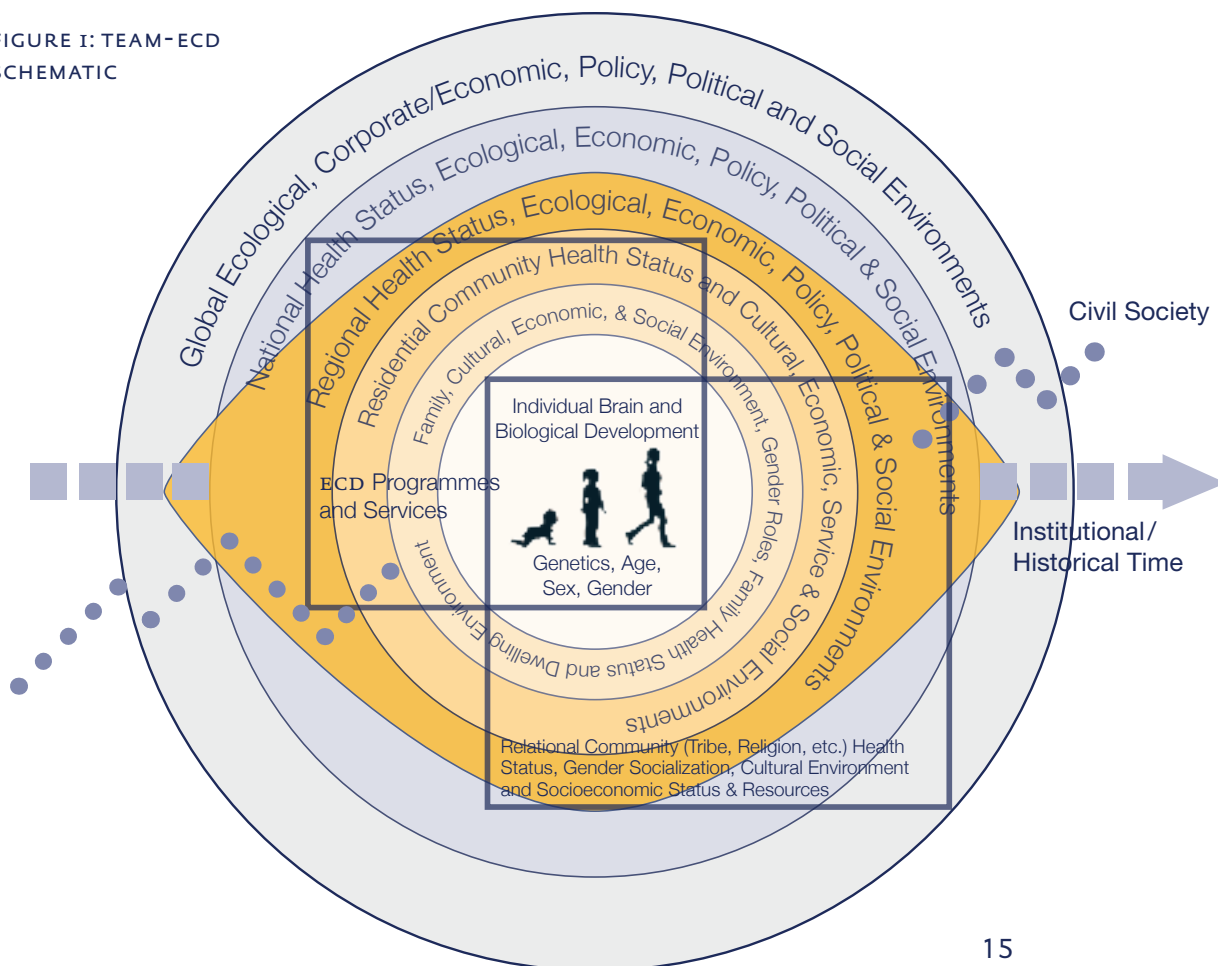
- 3) Using an equity-based approach to provide nurturant environments for all children will lead to equity of Early Child Development and equity in well-being throughout the life course.

## TEAM-ECD: Organizational Overview

Figure 1 provides the heuristic depiction of TEAM-ECD. TEAM-ECD is organized by interacting and interdependent 'spheres of influence.' They include the individual sphere (which is the central sphere in the model and reflects the child itself, including her/his biological characteristics), the family and dwelling sphere, the residential community sphere, the relational community sphere, the ECD services sphere, the regional environmental sphere, the national environmental sphere, and the global environmental sphere. Each chapter in this study is devoted to describing one of these spheres of influence in terms of the aspects of each—physical,

Introduction  
and Overview

FIGURE 1: TEAM-ECD  
SCHEMATIC



THE VALUE OF LOCAL KNOWLEDGE:  
A CAUTIONARY NOTE ON  
UNIVERSALIZING APPROACHES  
TO EARLY CHILD DEVELOPMENT

It is essential to encourage and support services that invest and give “a good start in life involving nurturing, care and a safe environment” to children during their early years [184]. That is the ultimate goal of working globally to establish a unified framework of understanding and unified standard for ECD measurement. However, a long history of experiences provides evidence that, whether intentionally, inadvertently, or due to systematic lack of inclusion, many efforts aimed at universalizing knowledge and practices (with respect to ECD but also many other aspects of life) have been based on dominant Anglo-American values, goals, norms, and ideals. When this is the case, the suggestion is that there is an implicit denial of global equity [185]. The following examples illustrate this point.

In many areas of the world, breastfeeding has been a timeless tradition. Yet, for many years, European and American organizations and corporate entities pulled mothers away from this practice through advocacy for formula feeding. With the scientifically accumulated knowledge regarding the merits of breastfeeding garnered today in western nations, Euro-Americans have now introduced a global call for mothers to return to breastfeeding. In this case, the value of breastfeeding in nations of Africa and Asia was already known through years of tradition and experience, but was initially subverted and trumped by ‘wisdom’ [sic] imported from Europe and America [186].

Even within Anglo-American nations, minority groups face similar issues. Indigenous populations are a case in point. In many Indigenous communities around the world, the concept of citizenship is premised on the notion that “...every entity and being is part of a whole in which they are interdependent...” The concept is one that privileges the group over the individual, fostering a sense of collectiveness, or social responsibility. By contrast, most Euro-American nations have an approach to citizenship that is entrenched in the self, private property and other liberal notions. Early childhood programs based on Aboriginal cultures therefore, might depart from those rooted in Anglo-Canadian traditions in the fundamental values which are imparted [187]. For instance, the value of individual self-expression (in terms of language/cognitive/communication skills) may be subordinated to group expression. Further, an irony similar to the aforementioned example exists, in that the understanding among scholars from

European and American nations has turned to the importance of social capital, collective efficacy and similar manifestations of connectedness, for the establishment of healthy and successful societies [188].

Thus, in spite of acknowledging the global diversity of ECD services, it seems difficult, if not impossible, to transcend touting Western ECD as instinctively superior and as the gold standard by which to measure all other forms of ECD. TEAM-ECD’s explicit approach is to create an analysis of the individual-environment-interactional determinants of ECD that, from inception to final report, is based on information and expert opinions gathered from a range of nations around the globe. Throughout the work of the WHO Commission on Social Determinants of Health Knowledge Hub on Early Child Development, a process was created through which to achieve this crucial aspect of the work at hand.

Nonetheless, history compels an authoritative caution. There are always shortcomings and lacunae that arise, but the Knowledge Hub for ECD has done its utmost to address this on an ongoing basis. For instance, many of the discourses, conventions and documents regarding ECD are often exported from the Anglo-American nations to other parts of the world. As such, the knowledge that they draw upon relies heavily on scientific literature, rather than other types of knowledge, such as ‘gray’ literature. TEAM-ECD, by contrast, has incorporated scientific knowledge, gray literature from around the world, and the individually held knowledge of ECD experts from many different nations of the world.

Despite the many merits of a universal approach to ECD, the value the duality (or plurality) of most ECD environments is equally as critical to bear in mind. In so doing, it is crucial not to compromise useful local precepts and practices for “received knowledge and techniques.” It is also critical to create a platform through which the experience and knowledge of societies in Africa, Asia, and South America, may be represented to the fullest extent in dialogues about healthy practices and shared knowledge with respect to ECD.



social, cultural, and economic—that maximize nurturance, and equity of nurturant experiences (though physical factors are less emphasized).

Where relevant, chapters consider the role played by civil society. In this regard, the underlying notion of the framework is that civil society groups are organized and act upon every level of society (i.e. every sphere of influence). Civil society is thus depicted as traversing all environments.

Temporality is also incorporated in two respects. Historical time, referring to the *gradual* building-up and/or tearing down of nurturant conditions (which is particularly applicable to institutions, policies, and other structural aspects of environments), is conceptualized as connecting to all environments - this represents the *change* in structural features of environments and *contingent changes* in other (intersecting) environments. Further, changes in the child over her/his life course are represented by the growing person in the central (individual) sphere of influence.

The purpose of TEAM-ECD is to frame aspects of environments that are universally critical to providing nurturant experiences for ECD. However, it is not the intent of TEAM-ECD to suggest singularity in what might characterize nurturance. Notwithstanding deference to the Convention on the Rights of the Child, the framework is based on the notion that nurturance may be manifest in many different ways, in different cultures and different societies.

Thus within its universal approach, TEAM-ECD provides support for application of general principles of nurturance for ECD to local contexts and realities. Having made that commitment explicit, it is still the position of the authors that the value of local knowledge should be entrenched from the outset of this work.



## Chapter One: The Individual as a Sphere of Influence

### Overview

The earliest years of life are characterized by the most important development that occurs in a human lifespan. There are several bases for the bold and unequivocal nature of this statement. The early years are marked by the most rapid development, particularly that of the central nervous system (CNS)[11]. The ‘sensitive periods’ for the development of the brain almost exclusively occur during this time[11]. The human brain is, in essence, the “master organ” of development. As such, brain development that occurs in the early years provides the essential building blocks for each domain of ECD and for a lifetime of success in many domains of life, including economic, social, and physical well-being [12].

### A Population-Based Approach to Understanding ECD

Much is known about the ‘typical’ trajectory of brain and consequent ‘functional development’ (i.e. in the physical, cognitive, and social domains) that occur during the early years; yet, more recently there has been an emerging literature that offers a critique of this conventional wisdom and provides alternative understandings of early childhood development.

Traditional notions of child development trajectories consist of a set of ‘hierarchical’ competencies that have been deemed by scientists and practitioners as characterizing ‘normal’ or ‘typical’ development. In general, the prevailing principal is that there are *stages* of development that are generally marked by age, and thus competencies accrue to children in a hierarchical fashion over time. Developmental trajectories have been established for language/cognitive, socio-emotional, and physical domains.

In the present volume, we employ an alternate, population-based approach to understanding the development of children. In contrast to developmental trajectories which compare children to pre-established benchmarks, a population approach suggests that children’s developmental competencies (and inequities in competencies between children ) are better understood in relative terms; in comparison with the distribution of developmental competencies in the population from which they arose. In the latter approach then, healthier development refers to the outcomes of those children at the ‘higher’ end of the developmental spectrum in the population, whereas vulnerability is marked by the outcomes of the children at the ‘lower’ end of the spectrum; ECD outcomes are characterized on a continuum, rather than a characterization of attainment versus failure to meet benchmarks.

Inherent to the population-based approach then, is the notion of differences between individuals and sub-groups within a population. Thus, unlike the developmental trajectories approach, issues of inequity are made explicit. Further a population lens naturally re-orientes focus from the ‘abilities’ of an individual child to reach predetermined developmental standards, to the causal factors that underlie ECD and inequities in ECD; by emphasizing differences in ECD at the population-level, environmental conditions are primarily implicated since variations at this level are much more likely to be attributable to experiential (environmental) differences between children than differences in their biological or genetic characteristics.

### ECD and Biological Embedding

Though a population-based approach provides a means for understanding ‘social causation’ of ECD, it is, in and of itself, insufficient for understanding the *mechanisms* through which early child development occurs; the way in which social conditions ‘penetrate the brain.’

The fundamental mechanism through which the human brain develops is through the interaction of information contained in an individual’s genetic code with the

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environmental exposures (i.e. experiences), which stimulate the activation of this information, and affect the way in which this information is expressed. This interactive process is known as *biological embedding* [11], though there are also many other analogous terms used for the concept of nature-nurture interactions, particularly those that occur during the early years of life. The interest here is in the interplay—moment to moment, hour to hour, day to day—between the environments where children and their families live, work, and grow up, on the one hand, and the biological development and responses of these children, on the other. In this section, the scientific basis for the notion of biological embedding is explored.

The types of studies discussed here reflect the current state of the available information. Accordingly, much of what is presented about this process is derived from animal studies (See Appendix A), and pertains to the earliest times of infancy, and to very proximal environmental influences. In later years, as functional developmental skills emerge, the environmental influences that have been studied broaden, however specificity regarding the processes through which biological embedding occurs has often been sacrificed. For subsequent sections in which the role of the broader environment is discussed without direct reference to the biological processes that are concomitantly induced, the present section is also intended to serve as a foundation for inferring how macro-environments might interact with biologic and genetic processes occurring within young children.

## Basics of the Developing Brain

Environmental factors—physical, social, cultural, and economic—are critical to the healthy development of the human brain. So significant are experiences and exposures derived from the environment that science is unable to discern which if any genetic factors would be able to properly ‘guide’ even the most basic neurophysiological development without the input of the environment.

Not even the development of the core components of the Central Nervous System is predestined by genetic constitution, and

requires certain in-utero environmental characteristics to be present. However, since these environments are almost universally available, CNS development occurs so uniformly amongst children that the influence of the environment in this regard is not readily apparent [13]. Further, some effects of biological embedding maintain their impact over multiple generations, which then also renders the misleading appearance of a solely genetically driven phenomenon [13].

A telling example comes from sex-specific differences in development that are often attributed to genetic differences between males and females. On average, the brain and many brain structures are 10% larger in boys than in girls, though there are some structures for which girls exhibit larger size. This may be driven in part by differences in sex hormones, however, there is also evidence that the physical environment influences observed brain-size differentials [14].

Science has progressed sufficiently far that we now understand some of the exact mechanisms through which human physiology is altered by the environment. Differences in biological embedding (which, to reiterate, are primarily driven by differences in experiences and exposures rather than in genetic coding) result in demonstrable systematic differences in the function of at least three important physiological control systems: the Hypothalamic-Pituitary Adrenal (HPA) Axis (which controls cortisol secretion), the Sympathetic-Adrenal-Medullary (SAM) Axis (which controls epinephrine and norepinephrine secretion), and the Pre-frontal cortex (which controls executive brain functions).

As well, biological embedding spurs two simultaneously occurring processes: the production (in fact, overproduction) of neurons, neural pathways, and synapses between neural cells, and the simultaneous elimination of ‘unnecessary’ cells. These phenomena are collectively called *neural sculpting* [15]. Such fine tuning—the extent and type of production and elimination of neurons and neural connections—are also heavily dependent on the experiences and environmental stimuli to which children are exposed[13].

The environment, then, plays a central role in facilitating ‘healthy’ neural sculpting.



Continuing environmental stimulation is also necessary to retain many of the functions developed during the initial phases of sculpting. In other words, there is a “use it or lose it” principle that drives neural and synaptic genesis; those synapses that are not progressively encouraged will waste over time [16].

During the earliest years of development [17] there are also genetically programmed ‘critical periods’ of the biological embedding and neural sculpting processes, during which particular parts and/or functions of the brain are the focus of development and undergo rapid growth [15]. Most of the critical periods that have been identified relate to aspects of motor and sensory function [17], though increasingly, scientific evidence suggests critical periods for many intellectual and affective processes of development as well [15].

During a given critical period, a specific area of the brain is especially sensitive to the environmental stimulation that the brain receives. The implication of this heightened awareness is both that cells associated with that region are the most ready to learn during this time, but they are also most vulnerable to cell death and degeneration [15]. The extent of learning versus death and degeneration that occurs is directly attributable to the environmental experiences of the child. It is also important to underscore that, though the majority of critical periods occur during the first three years of life, biological embedding and the plasticity of brain development continues into later years of childhood and beyond [17].

## Nutrition

### NUTRITION & BIOLOGICAL EMBEDDING

The effect of nutrition on a growing child is a critical aspect of biological/experiential interaction. Children’s optimal development requires adequate nutrition, and receiving adequate nutrition is a fundamental right of children (see General comment #7 of the Convention on the Rights of the Child). The importance of nutrition for healthy children begins *in utero* with adequately nourished mothers. Malnutrition is implicated in more than half of all child deaths worldwide.

Although this is a worrisome figure, it is also essential to recognize that nutritional deficiencies at all stages of growth have long-term damaging effects on the intellectual and psychological development of children: unacceptable loss of human potential [3]. *Here is a prime example of where child survival, food security, ECD, education and gender equity agendas converge.*

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### EFFECTS OF MATERNAL NUTRITION ON GROWTH AND DEVELOPMENT

Starting from birth, epidemiologic studies implicate the role of maternal nutrition. For example, low birth weight (a major factor in determining infant mortality) and subsequent health outcomes during childhood into adulthood are shaped by the nutritional status of mothers.

Particularly important, is the presence of fatty acids in the maternal diet. Many studies have shown that insufficient presence of fatty acids in fetal retinal and neural membranes is associated with, among other things, reduced visual function and behavioural abnormalities in infants [189, 239]. Because specific fatty acids (i.e., n-6 and n-3) cannot be produced by the human body, these need to be accumulated by the fetus and accessed through placental transfer. A diet poor in fatty acids will not provide the fetus with these essential elements that are associated with healthy physical and brain development.

During the first months of life, breastfeeding plays an important role in providing children with these and other necessary nutrients. The advantages of breastfeeding in the first year of life are well documented [190]. Not only is breastfeeding associated with healthier physical, brain, and social development but in resource-poor countries exclusive breastfeeding can be protective of several types of diarrhoeal disease which is one of the primary causes of infant and child mortality [191].

Breastfeeding carries with it a dual role in healthy infant development. It also encourages attachment with the mother, providing children with feelings of security; a key requisite for optimal child development is secure attachment to a trusted caregiver, with

consistent caring, support and affection early in life. Infants and toddlers with a secure attachment use the emotional and physical security that it provides as a base from which to explore things and people in the environment. Successful attempts at exploration increase the child's self-confidence and encourage more exploration. Thus the child begins to learn about and master his or her environment and to gain in both competence and self-confidence [18].

#### EFFECTS OF EARLY NUTRITION THROUGHOUT THE LIFE COURSE

From childhood through adulthood, one's emotional health and habitual way of reacting to new situations have their basis in the secure attachments formed initially through processes such as breast feeding. Beyond breastfeeding, however, nutrition will continue to play a critical role in children's ability to learn.

Children who are malnourished (and there are approximately 150 million children under the age of five years in the developing world) are more susceptible to the effects of infection; have more severe diarrhoeal episodes; have a higher risk of pneumonia; have lower functioning immune systems; and often have low levels of iodine, iron, protein and thus energy, which can contribute to chronic illness [19].

They also are more likely to suffer the consequences of poor physical and mental development; and have poorer school performance [192]. Children who are hungry during school are prevented from benefiting from education both in developed and developing countries [192] while younger children may be impaired in their ability to interact effectively with their physical and social environments.

Epidemiological studies on the importance of nutrition and growth during the early years has led to a hypothesis that the risk of developing chronic non-communicable diseases in adulthood such as hypertension, coronary heart disease or diabetes is influenced not only by genetic and adult life-style factors but also by nutritional (and other) factors acting in early life.

A substantial number of published studies suggest that impaired foetal growth is related to higher risk of hypertension, diabetes and

cardiovascular disease in adulthood [192, 237, 238]. More recent studies point to a particularly high risk of cardiovascular disease in overweight or obese subjects with a history of impaired foetal growth and in subjects who experienced accelerated growth in childhood [193, 236].

It is thus likely that early nutrition and growth make a major contribution to long-term disease risk. The evidence for "developmental origins of health and disease" then has obvious and important biological, medical, and social implications [194, 235] and also illustrates the importance of life course and intergenerational influences of ECD.

#### AN AGENDA FOR ADDRESSING MALNUTRITION

We now know that malnutrition is shaped by a complex combination of environmental, social and economic factors, which begin *in utero* and affect both physical growth and mental development. What can be done to address the nutritional needs of mothers and young children?

In many resource-rich countries the most destitute mothers are able to receive some nutritional supplementation from government programs. However, even there, the available support is often insufficient resulting in poor maternal and infant/child nutrition [195]<sup>3</sup>. In resource-poor countries, the resources and infrastructure are lacking for broad-based government programs.

In the global context, reducing malnutrition requires systematic action at the local level in the areas of maternal health (including adequate nutrition) and health care; food security, with adequate micronutrient intake; safe water; access to education for all; and protection from illness such as provided by immunization programs. While attention to these factors is important, it is equally important to ensure the presence of a systematic, community-based follow-up and support for malnourished children and their families—especially the most vulnerable children.

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3 Interestingly, both malnutrition and obesity are present in richer countries, and both of these (seemingly opposite conditions) are far more prevalent in lower socioeconomic groups (Drewnowski & Specter, 2004 and reference for malnutrition in rich countries)

## The Roles of Relationships and Play in Providing Experiences for Young Children

Although adequate nutrition is essential for development, the quality of relationships is equally important for children's development. Existing literature leads us to consider children as social actors [196, 203, 234], who are not only shaped by their environment but, in turn, shape it as well. A child's individual development is transactional, reciprocal and mutually constituted. Young children develop best in warm, responsive environments that protect them from inappropriate disapproval and punishment, environments in which there are opportunities to explore their world, to play, and to learn how to speak and listen to others [197]. Notwithstanding the complexity of ECD, the many factors that influence ECD come down to these simple attributes of the child's day-to-day experience. *Improving the quality of children's day-to-day experience through relationships needs to be a primary goal of all initiatives regarding parenting, childcare and monitoring rights in early childhood under the CRC.*

*The science of play:* The central role of play in children's development is not always appreciated. Play processes influence synaptic formation and are linked to secure attachment with caregivers and relationships with other children. Play provides an important socializing function, beyond the merits of being physically active, in which children learn about and negotiate identity and the social subtleties of relationships [198]. Play may vary according to individual children's temperaments, gender, culture or their families' parenting practices, but the impact of play on developmental processes is universal across cultures [199]. Play can be structured or unstructured; it can be done alone, with a caregiver or in a group; it evolves over time; it requires, at a minimum, a safe environment and developmentally appropriate resources. Stimulation (e.g., mothers and children playing with homemade toys) has an independent effect on perceptual motor development outcomes among stunted children, over and above nutritional supplementation

[3]. McArdle, however, suggests that "play is marginal to the plans of governments and local authorities" [200] and not viewed as a "serious" activity. *Potentially, one of the most efficient strategies for improving ECD is simply to find ways to convince parents and caregivers of the importance of play and the ways they can promote it.*

### GAPS IN KNOWLEDGE REGARDING BIOLOGICAL EMBEDDING AND FUTURE DIRECTIONS

Basic research on the fundamental biological processes involved in early child development continues at a remarkable pace, both in terms of animal studies and increasingly, neuro-imaging studies in babies. There are three main challenges, however, that remain. The first, that unlike animal studies, it is difficult (both practically and ethically) to manipulate the environments of young children in order to produce scientifically robust indications of the roles that physical, social, and other contexts play during the early years of life.

Second, that current attempts to study the 'community' (for example, the neighbourhood) as an environment in relation to children have focused on functional outcomes of development (namely the three main identified domains of ECD), while sacrificing information on the specific processes involved with biological embedding of experiences from these more macro environments. For example, there has been a proliferation of studies on the neighbourhood context, which have contributed tremendously to our knowledge of how physical, social, and economic conditions of neighborhoods affect children's developmental outcomes [20]. However, we are left to infer from these studies what potential underlying mechanisms of biological embedding may be occurring.

In general, social epidemiological studies had until recently been unsuccessful in combining understandings of the social environment with its effects on human biology, relying mostly on measures of health outcomes. Increasingly however, scientists are using bio-physiological measures (most commonly, cortisol levels, and increasingly analysis of DNA) to understand the impact

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of the environment on micro-physiological processes. (Many avenues of research have been pursued in this regard. In particular, many investigations have focused on measurement of blood pressure and cortisol levels in response to socioeconomic conditions) [21].

Finally, the common understanding of the environments that are thought to be pertinent to children's well-being still remains quite narrow. Future research must attend to the roles of environments (and their features) more broadly defined. There is a particular dearth of information regarding regional, national, and global environments. The critical roles of factors operating at these larger geo-political levels is well illustrated by the analysis of the Convention of the Rights of the Child presented below.

Two key integrated solutions are proposed here to resolve these issues. First, that explicit measures of biological embedding (rather than solely functional outcomes) become of equal priority in future research endeavors regarding child development. Second, that research attend to the broader environment as a context that influences early child development. The collective body of knowledge would benefit from comprehensive studies that incorporate both multiple geo-political contexts and collect information on neurophysiological development (as well as functional outcomes of development) for children across these contexts.

Though ideal, this of course would be a costly and logistically burdensome undertaking. A more intermediate approach might be to encourage smaller studies in different locales (e.g. different regions and nations) to attempt such ventures, so that a basis for comparison is established for outcomes related to biological embedding and functional aspects of development across various societies.

## CRC & GC7 Challenges Remain

There remain multiple challenges to the Convention and its General Comment. Most notably the question remains, to what extent do the *Convention on the Rights of the Child* and the *General Comment* mirror the huge variety of "childhoods in a multicultural universe in need of exploration?" [202].

In addition, the relationship between enforcement of the CRC, possible resultant sanctions on countries in violation of the convention, and the possible ill-effects of these sanctions on ECD is perplexing. How to hold countries responsible for upholding children's rights without in turn negatively affecting children's development, remains an important question.

## Summary/Framing the Remainder of the Volume

In keeping with the central importance of biological embedding and the influence of many and varied environmental factors for this process and for ECD more broadly, TEAM-ECD provides a framework that uses a 'cell-to-society' approach to early child development. The basic premise is that the process of biological embedding and of early child development in the physical, language/cognitive, and socio-emotional domains is affected by variations in many aspects of environmental conditions and defined at many levels of societal aggregation.

The child as an agent with a voice to contribute is an integral part of this approach. TEAM-ECD draws on theoretical and empirical understandings in a broad array of disciplines to conceptualize the environments that are significant for children, the ways in which these interact with one another, and in turn how they influence early child development.

### KEY MESSAGES: THE INDIVIDUAL CHILD

1. Health, nutrition, and well-being of the mother are significant for the child's development.
2. Three broad domains of development—physical, social-emotional and language-cognitive—are interconnected and equally important.
3. Children shape their environments as well as being shaped by them.
4. Social determinants shape brain and biological development through their influence on the qualities of stimulation, support, and nurturance available to the child.
5. Play is critical for a child's overall development.

## GENERAL COMMENT NO. 7: IMPLEMENTING CHILD RIGHTS IN EARLY CHILDHOOD<sup>4</sup>

### *Introduction*

From an environmental influence that is ‘directly’ experienced by the child, we draw attention to the influence of a global environmental factor that is also critical to ECD. Specifically, we highlight an aspect of the policy environment at the global level through discussion of the Convention on the Rights of the Child (CRC). The CRC reminds us that children, whilst retaining their entitlement to the full range of human rights, are often marginalised or excluded, and represent a special case requiring additional safeguards. However, within the constituency of children, particular groups remain vulnerable to further risk factors requiring additional measures for State ratification. For example, the two Optional Protocols to the CRC on “*children in armed conflict*” and “*the sale of children, child prostitution and child pornography*”. Additionally, the Committee on the Rights of the Child have also adopted eight General Comments guiding States on specific issues such as, HIV/AIDS, the aims of education, on violence against children, and last year, “*General Comment 7 (GC7) on Implementing Child Rights in Early Childhood*”.

GC7 recognises that in implementing the CRC States parties have often overlooked young children as rights holders [201] (GC7 para.3). The Comment seeks to redress this by clarifying State obligations for CRC implementation with respect to all children “*below the age of 8*” (GC7 para.4). In the introduction the Committee declares; “*This general comment arises out of the Committee’s experiences of reviewing States parties’ reports. In many cases, very little information has been offered about early childhood, with comments limited mainly to child mortality, birth registration and health care.*” (GC7 para.1)

In contrast to the emphasis on this limited set of usual suspects in State reports GC7 presents an ecological and holistic view of young children as competent social actors actively participating in families, peer groups, communities and society (GC7 para.5). Young children regarded as active meaning makers with “*evolving capacities*” (CRC Art.5) [22] requiring age-appropriate guidance and support whom, both as individuals and as a constituency, have a voice which must be given due consideration. Parents/Caregivers and States are reminded to balance control and guidance with respect to the evolving capacities of the young child, and of the obligation to facilitate genuine participation of young children in the processes affecting their development.

To consider GC7 further we make reference to the CRC’s four fundamental principles; non-discrimination (Art.2); life, survival & development (Art.6); the “*best interests of the child*” (Art.3); and, the right to express an opinion and have those opinions considered (Art.12).

### *Fundamental Principles*

The four fundamental principles, as with all the CRC articles, are to be regarded as universal, interdependent, and indivisible. For example, we cannot consider genuine participation in isolation when: to ignore views and voice is discriminatory; to deny agency inhibits full personal development; and when adults decide without appropriate, or even any, consultation what is best for the child.

GC7 recognises that young children are, by virtue of their age, discriminated against, marginalised and excluded. GC7 reinforces the non-discriminatory language of the CRC (Art.2) identifying young girls as particularly vulnerable but referring also to discrimination in relation to disability, HIV/AIDS, ethnic and social caste, refugee & asylum status, those born out of wedlock, and those affected by multiple dimensions of discrimination (GC7 para.11).

Secondly, with respect to the best interests of the child, GC7 emphasises the CRC (Art.3) obligation to consider those best interests in relation to all decisions and actions which affect child development. At an individual level GC7 reinforces the issue of participation in decisions relating to the care, education and health of the young child. However, GC7 also reminds States that young children, as a specific constituency, must be considered more widely in policy making with respect to the indirect impacts of environmental, transport, and housing policy (GC7 para.13).

Thirdly, with respect to CRC (Art.6) and life and development GC7 acknowledges early childhood as a time of particular vulnerabilities. The Comment identifies specific threats to positive development from the physical effects of preventable malnutrition and disease to the detrimental psychosocial impacts of neglect and abuse. Measures to address these vulnerabilities, for example, in relation to improving peri-natal care, reducing infant mortality, and general steps to improve child well-being are called for. The question of well-being is considered holistically encompassing both the physical and psychosocial development of the child. GC7 again emphasises the interdependence of rights in relation to well-being and development through the implementation of

<sup>4</sup> Here we include a summary of the GC7 by Alan Kikuchi-White, External Relations Officer, BvLF, Den Haag September 2006.

the rights: to health; to education & play; and to social security (GC7 para.10).

Lastly, we consider specifically the right to express a view and to have those views given serious consideration. GC7 reinforces this principle and identifies the young child as *“an active participant in the promotion, protection, and monitoring of their rights”* (GC7 para.14). Discriminatory views of young children denied voice and agency on the basis of age and immaturity, as incompetent and empty vessels passively subject to socialisation processes, and as undeveloped and in need of training, are rejected. GC7 also points to the multiple languages or paths of communication that are available to children and to adults either willing or able to listen. It is argued therefore, that young children are able to communicate many thoughts, feelings and wishes long before verbal or written forms of language are available to them. In facilitating that communication GC7 calls on States to develop policy that allows for appropriate consultation with young children; that encourage families and caregivers to anchor the child’s view in their activities; and that trains parents, professionals and other authorities in facilitating that participation.

The conflict between adult attitudes and childhood capabilities is addressed in GC7 with respect to the notion of the *“evolving capacities”* of the child as identified in the CRC (Art.5). Evolving Capacities are referred to as *“the process of maturation and learning whereby children progressively acquire knowledge, competencies and understanding”*. GC7 is very clear on the interpretation of this article in relation to young children. Evolving Capacities is an *“enabling principle”* requiring parents, caregivers and professionals, with appropriate State support, to adjust levels of direction, guidance and control, with respect to the child’s emerging interests, wishes, and capacity for autonomous decision making. Evolving Capacities are not an endorsement of authoritarian practices which restrict autonomy and self-expression justified by appeals to the incompetence and immaturity of children or the need for socialisation (GC7 para.17).

In essence GC7 embraces the notion of the young child no longer powerless, voiceless or invisible, but as a positive participating social actor, actively *“being”* in the here and now rather than solely as a *“becoming”* for the future (GC7 para.14).

#### *Implementation*

With regards to the care and protection of young children GC7 focuses on parental/caregiver responsibilities and the States’ obligation to support those caring environments. In this regard the Comment restates the CRC definition of family as

the *“fundamental group”* and the *“natural environment”* for growth and well-being but recognises that the concept of family extends well beyond the *“nuclear”* model. Parents and caregivers are identified as principal actors in the construction of identity and the development of skills, knowledge and behaviours, and as duty-bearers in the realisation of the young child’s rights (GC7 para.15). States are therefore reminded of their obligation to support these caregiving environments and their facilitation of child participation.

On health, in addition to provisions such as sanitation, immunisation, and clean drinking water, GC7 calls for age-appropriate health education for young children allowing them to participate actively in healthy lifestyles and ultimately in the realisation of their own right to health (GC7 para.27). With respect to social security GC7 (para.26) refers to CRC (Art.27) and the entitlement to a standard of living adequate to the *“physical, mental, spiritual, moral and social development”*.

On education GC7 reiterates the aims of education expressed in General Comment 1 (GC1), to *“empower the child by developing his or her skills, learning and other capacities, human dignity, self-esteem and self-confidence”* (GC1 para.2). Human rights education which facilitates the young child’s practice of rights and responsibilities making them active participants in the realisation of their rights is called for (GC7 para.28).

In meeting these obligations GC7 calls on States to implement properly resourced, human rights based, coordinated strategies and training, which set professional standards for age-appropriate practice.

#### *Summary*

GC7 has been drafted to reflect the concept of child participation as a cross-cutting issue. As such, the emerging vision, which runs like a golden thread through the whole document, is one of an actively participating and socially competent young child. This young child is ecologically situated: within family and caregiving environments; in relationships with peers; as part of a community; and as a member of society. This young child is to be considered holistically: as a being whose emotional, social physical and cognitive capacities are evolving in various social & cultural settings. GC7 presents a vision of the young child, which embraces holistic and ecological considerations and requires us to reconsider young, active, participant children in the broadest possible sense, both as individuals and as a constituency.

Kikuchi-White, A. (2006) **Implementing child rights in early childhood: young children as active social participants**. General Comment 7. Bernard Van Leer Foundation, September.

## DOMESTICATION OF THE CONVENTION ON THE RIGHTS OF THE CHILD IN KENYA

### *Introduction*

The following narrative provides a country-level account of the implementation of the CRC. The narrative was provided by two people intimately involved in the process, Dr. Annah Wamae—Head Division of Child Health, Ministry of Health and Mr. Ahmed Hussein—Director of Children Services, Ministry of Home Affairs.

In July, 1990, Kenya ratified the United Nations Convention on the Rights of the Child (CRC). In order to facilitate implementation of the convention, it was found necessary to ‘domesticate’ it; the provisions of the CRC needed to be concretized in relation to the existing institutional capacities of Kenya. The process of domestication was quite involved and lengthy.

### *Process of domestication*

The process was initiated by the Kenya Law Reform Commission, but was found to be taking too long. The delay necessitated the formation of another task force which included a prominent federal judge, (who is now a member of the United Nations Committee on the Rights of the Child). The role of the task force was to spearhead and hasten the process.

The process involved various stakeholders including line Government Ministries, Non-Governmental Organisations, parliamentarians and UN Agencies, who participated in several meetings for consensus building.

The first years were used to prepare the overall report to the CRC on Kenya’s status regarding the articles of the CRC. Debate on the report in parliament took seven more years; from 1994 to 2001. There was a lot of advocacy and lobbying during this period which eventually led to the enactment of the Children’s Bill into the Children’s Act in 2001<sup>5</sup>. In order to pave way for the enactment of the Children’s Act and harmonise it with existing laws, many pre-existing laws had to be repealed.<sup>6</sup>

### *Implementation*

A National Council for Children’s Services (NCCS) was established in accordance with the Children Act. The NCCS consists of a Chairman and members drawn from line Government Ministries, NGOs, Faith-Based Organisations and Private Sector. The Council falls under the Office of the Vice President and Ministry of Home Affairs but runs independently.

This Council oversees the implementation of the Act by all the players and works through Area Advisory Councils (AACs) at the lower levels. The latter are located at all levels of administrative structure (District, Division, location). Children Officers exist at Regional and District levels. A health officer is also a member of the Council at all levels.

Advocacy/sensitisation of the key actors (Children Officers, Chiefs, Police Officers) has been completed. For the police department, there is already a curriculum which is being used at Police Training College. Magistrates have also been sensitized on the Children’s Act while Children’s Courts have been established to deal with children’s issues.

Several guidelines have been developed including those on Adoption, Establishment of Children’s Homes, and a policy on Orphans and Vulnerable Children is in place. Several gaps have been identified since 2001; The country is now in the process of reviewing the act and filling-in identified gaps.

### *Obligations*

One of the requirements is that the state parties provide regular reports to the Committee on the Rights of the Child, detailing the status of implementation of the Convention. The first such report was presented in January 2000 and discussed with the Committee in September 2001. The Committee on the Rights of the Child sent concluding observations in November 2001 detailing suggested measures to further fulfill the implementation of the CRC.

The second report on the status of the implementation of the CRC in Kenya was submitted to the Committee in September 2005. Discussion of the report occurred between the Committee and a delegation from Kenya, led by the Vice President and comprised of senior technical officers from the line Government Ministries involved in providing services to children. The country awaits the Concluding Remarks for this second report.

### *Lessons Learnt*

- Domestication of the CRC provides a stable foundation for its implementation.
- The process of domestication can be tedious and involving
- Advocacy and lobbying are essential for stakeholders to buy-in and own the process
- A multisectoral approach is needed in the process of domestication
- It is important to harmonise the laws touching on children’s issues with the domestication document

5 The Children’s Act was based on the Convention on the Rights of the Child and the African Charter on the Rights and Welfare of the Child. The latter is the African Region’s adaptation of the CRC which takes into consideration issues specific to Africa. It also includes the responsibility of the child

6 Laws that were repealed included the Children’s and Young Persons’ Act Cap 141 of the Laws of Kenya, the Adoption Act Cap 143, and the Guardianship of infants Act.

## CHILDREN AS ACTIVE PARTICIPANTS IN SHAPING THEIR ENVIRONMENTS

For the preponderance of this volume, the focus is on the influence of environments on children. However, it is worth noting that there is also a burgeoning body of work on the reciprocal relationship; the influence that children impart on their environments. Recent studies demonstrate that children can provide information about their wider social worlds and contribute to knowledge for understanding children's development [23, 203].

There are many reasons that this latter perspective does not routinely receive prominence. Perhaps the most critical is that children have remained marginalized as sources of knowledge in the research process. Recently, researchers have begun questioning why children have remained the objects of study in research and have called for children to occupy the position of subject in knowledge development [24-27].

In ECD research, the emerging recognition of the need for insights into the mechanisms that might be health promoting for children, and a richer understanding of the depth and quality of social relationships of children [28] would be greatly enhanced by including the perspectives of children. In particular the current body of research would benefit from the addition of more in-depth qualitative studies that explore what matters in the

daily lives of children. It is unrealistic to think that large-scale qualitative studies can be performed across contexts yet it is not impossible.

Children can provide a unique contribution to our knowledge-base [29] about the effects of experiences on ECD. To be a child is to be a thinking, acting, individual who shapes and is in turn shaped by social experiences. If young children were granted greater access to a public voice, they might be able to contribute to the social structures that concern them—yet this remains a challenge.

Notwithstanding this, we promote the notion that children's voices CAN and SHOULD contribute to our knowledge generation about children where possible. Further, we promote the notion that ALL children's voices should be represented. For example, undoubtedly, there are far more languages (often stigmatized as dialects) than the few that have been studied to map language acquisition to cognitive development.



## Chapter 2: The Family as a Sphere of Influence

### Overview

Families serve as the most influential environment for young children. Our notion of the family is consistent with that of the new CRC General Comment #7 on Early Childhood, which states that the family is

the “fundamental group” and the “natural environment” for growth and well-being but recognises that the concept of family extends well beyond the “nuclear” model. Parents and caregivers are identified as principal actors in the construction of identity and the development of skills, knowledge and behaviours, and as duty-bearers in the realisation of the young child’s rights. (GC7 para.15) [204].

As such, we define ‘family’ in broad terms, referring to any group of people who dwell together, eat together, and participate in other daily home-based activities together. The family therefore includes the nuclear type (composed of a mother and/or father, and their children) but also extended sets of relations, groups of orphans residing together, and the like.

Families are the primary source of experience for a child; family members (or primary caregivers) provide the largest share of human contact and experiences with children. Whether a child is provided with adequate nutrition, care, attention, and other nurturant conditions that s/he requires for well-being is related to the extent to which her/his family has access to the resources (e.g. financial, social networks) to do so. Families are also significant because they mediate a child’s contact with the larger environment. For a child to be exposed to their community, a family-member generally must take the child into the community<sup>7</sup>.

<sup>7</sup> Of note, it is also true that once children are old enough to interact with their broader environments, children can be a mechanism for promoting interactions between their families and their communities, thereby increasing the social capital of their families.

### Families Provide the Primary Source for Relationships: the Fundamental Role of Caregiver Attachment

A strong body of animal research demonstrates that the bond between mother and child is fundamental for early childhood. Compelling studies of Rhesus monkeys have shown that babies develop early bonds to their biological mothers [30]. This is critical for several reasons. Most obviously, mothers provide babies with nutrition, shelter, and safety; in the animal world, infant mortality rates are expectedly much higher among those whom have been abandoned by their troops [31].

However, studies have also shown that the social bond between baby and mother provides many more functions other than guarding against extreme forms of deprivation. Baby monkeys use their mothers as a secure base from which to explore their physical and social environments [32]. The better the early attachment, the more explorative behavior is demonstrated by the baby [32]. As well, studies of rats have demonstrated that more ‘nurture’ provided by the mother (as exhibited by handling, licking and suckling) results in better physiological regulation of the baby, in particular with respect to functioning of the adrenocortical axis, resulting in diminished glucocorticoid secretion in response to stress, and less neuronal loss in the hippocampus as they age [33].

There are also analogous and related findings in humans (See also Chapter 1). The attachment theory of John Bowlby (1969) shows that secure attachment to a trusted caregiver who provides consistent caring, support, and affection in early life is a key requisite for healthy ECD [205]. Securely attached infants and toddlers use their emotional and physical security as a base from which to explore their environment. Successful attempts at exploration increase the child’s confidence and encourage further exploration. Thus, the child begins to learn about and master her/his environment and to gain in both competence and self-confidence.

By and large, supportive evidence for Bowlby’s theory comes from observational studies. Representing an extreme case of lack

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of attachment to a primary caregiver, prior research has shown that there are differences in the physiological and functional developmental outcomes of children reared longer in orphanages, versus those who are adopted early. These studies suggest that children who are adopted early show much lower cortisol levels and much fewer behavioral difficulties than those children who remain in orphanages for longer [34].

Beyond observational data, there has been a randomized control trial study that demonstrated an independent effect (over and above nutritional supplementation) of stimulation (as operationalized by mothers and children playing with homemade toys) on perceptual motor development outcomes among stunted children [3]. Attachment is associated with quality internal fantasy lives, flexibility and complexity of play, and greater emotional range [35].

Findings regarding the importance of primary caregivers (and by extension, families) for children, has led to the exploration of the factors that facilitate healthy social bonds and caregiving practices. All families need some support to learn how to develop and apply sensitivity and responsiveness in their childcare practices. There are, however, both biological and environmental factors that can negatively impact on attachment. These include low birth weight, malnutrition and infections, poverty and its associations, conflict and domestic violence, and mental health problems such as maternal depression. In these instances, external support for families is particularly important.

#### FAMILY SOCIOECONOMIC STATUS

Family socioeconomic circumstances have been a major area of study in this regard. What is noteworthy here is that, though ‘poverty’ (as generally measured by some monetary threshold) poses a significant barrier, healthy bonding, caregiving, and ultimately ECD outcomes, are not solely limited to those falling below the threshold. Rather, *degrees of change* in resources throughout the socioeconomic spectrum results in *degrees of change* in ECD.

This pattern of an incremental, linear relationship between socioeconomic status and human development in a population is referred to as a socioeconomic gradient (further explanation of socioeconomic status (SES) gradients is provided later in this chapter). Socioeconomic gradients suggest strongly that, in contrast to strategies which attend only to those below the poverty threshold, a society-wide approach much be applied in order to truly address the association between socioeconomic conditions and ECD, a point to which we return later.

Ample evidence suggests that family (SES) is associated with a myriad of development outcomes for children all across the world [36–38]. In particular, there is a rich literature on the tremendous influence of maternal education on providing children with stimulating and supportive, and nurturant environments for children [39–42]. Further, the literature suggests strongly that socioeconomic gradients in early childhood replicate themselves as socioeconomic gradients throughout the human lifecourse [11].

A review of the outcomes associated with family SES are extremely diverse, ranging from increased probability of having low birth-weight (itself associated with a host of developmental difficulties later in life), to risk of dental carries, to poorer cognitive test scores, to difficulties with behavior and socialization, and to increased odds of disengagement from school [36, 43].

Social and economic resources are significant for ECD and related outcomes for several reasons. For instance, low levels of education and literacy affect the knowledge and skill-base of children’s caregivers; feeding and breastfeeding practices (which in turn affect childhood stunting and wasting or obesity) vary by SES. From an environmental perspective, there are two major reasons that socioeconomic conditions matter. First, children born poorer are more likely to be exposed to conditions that are adverse for development (e.g. crowded or slum living conditions, unsafe neighborhoods, etc). Second, studies have shown that poorer children are also more likely to be affected by adverse conditions, resulting in a ‘double jeopardy’ of sorts [17].



Research on the mechanisms that explain these phenomena have focused on two pathways in particular: First, that SES influences children through its effects on parental stress. Lower-income parents have been found to be at increased risk for a variety of forms of psychological distress, including negative feelings about self-worth, and depressive symptomatology. It is thought that this arises through a combination of greater exposure to “negative life events and...fewer resources with which to cope with adverse life experiences.” [44].

Second, that SES influences children through its effects on the nurturance of the home environment [45]. Using a standardized scale of parent-child interaction and facilitation of learning experiences, it has been found that high-income families tend to provide more optimal learning environments, including having better access to books, than their low-income counterparts. In their early years, such measures as “frequency of shared reading” and “frequency of library visits” have been associated with children’s oral language abilities [46].

As well, based on the correlation between low income and jobs that have little autonomy and opportunity for skill development, there is some suggestion that unchallenging workplace environments affect parents’ ability to provide cognitive stimulation in the home [45]. Finally, family SES is also associated with ability to provide other critical resources, such as health care and high quality day care which exert a profound influence on developmental health [47].

#### FAMILY CHARACTERISTICS

Family structure has also been hypothesized to affect child well-being. Research from resource-rich nations has shown that, on average, children from single-parent headed households (of which most are single mothers) tend to demonstrate poorer academic and socialization outcomes than their counterparts in two-parent households [45]. However, the literature in this field also suggests that presenting the relationship in this distilled manner may be overly simplistic [48]. For instance, it is still unclear whether

the ill-effects of single-parent households is related primarily to the strong correlation between single-motherhood and poverty, or if there are other pathways (such as exposure to unresolved conflict as a result of divorce, increased stress and work life-home life conflicts that can lead to less time spent with children) through which single-parenthood negatively affects children’s social and cognitive development [45, 49].

There are also a host of other family characteristics that have been studied with respect to ECD and child well-being in general. Family health conditions have a particularly strong impact. A major issue in many nations is the prevalence of Human Immunodeficiency Virus (HIV) among the adult population. The effect on children has been widespread, from contracting the infection themselves (through vertical transmission from mother to child), to the phenomenon of children taking up adult roles within the family such as caring for their parents and siblings. Many children have experienced orphanhood or become the heads of their households due to the death of their parents. In particular, this may influence girls’ development to a greater extent, since they are more likely to bear the responsibility of household matters, and may therefore forgo schooling [50].

Other aspects of parental health also seem to be significant for children. Maternal physical and mental health has been associated with compromised child development outcomes including malnourishment [51, 52], psychosocial functioning [52-54] and cognitive development [52, 55]. A review of children’s physical outcomes associated with parental depression includes allergies, asthma, frequent colds and coughs, headaches, and indigestion [52, 56]. The mechanisms linking parental well-being to children’s well-being are many and varied. They include the ill consequences of social withdrawal [51, 52], unhealthy behaviors such as smoking and overeating or lack of quality nutrition [52, 57], less nurturing parenting behaviors [52, 58-60], and less sense of efficacy regarding their children’s development.

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Other studies have focused on relational qualities within families as measures of risk for adverse children's outcomes. A recent review of research demonstrates an association between families which experience heightened levels of conflict and aggression and those that are characterized by cold, unsupportive, and neglectful relationships with a variety of outcomes in children, ranging from physical health outcomes and risky health behaviors, to emotional and social well-being [52, 61].

#### THE ROLE OF FATHERS

The role of fathers as part of the family-level sphere should not be underestimated, and is often regrettably marginalized. The United Nations Commission on the Status of Women "...[encourages] men to participate fully in all actions towards gender equality and [urges] the establishment of the principle of shared power and responsibility between women and men at home, in the community, in the workplace, and in the wider national and international communities..." [62] Certainly, this includes the role of fathers in nurturing ECD of their children and those in their communities.

There is also a substantial evidence base establishing the significant impact men have on children's lives and well being, and a growing body of practice showing how working with men can be an important part of effective engagement with families. In fact, engaging with fathers and other men who affect the well being of children and families is now firmly emphasized in many policy frameworks as a strategic requirement for all children's services [206].

#### GENDER INEQUITIES WITHIN FAMILIES

Inequities within families may be significant from the standpoint of the social determinants of health, especially with respect to gender: "Women's access to power at the household level has the most direct impact on families and children ... [through lack of control over] allocation of resources for food, health care, schooling and other family necessities" [19]. As a result, female children

are more likely to receive less food, and to be denied essential health services and education. Household chores and caregiving keep adult women out of the paid labour force and girls out of school. Moreover, when mothers do work, female children are more likely to be kept home from school to care for other siblings, especially when there is no option for substitute caregivers such as childcare. Also according to the recent UNICEF report,

Nearly 1 of every 5 girls who enrolls in primary school in developing countries does not complete a primary education. Missing out on a primary education deprives a girl of the opportunity to develop to her full potential. Research has shown that educated women are less likely to die in childbirth; ... are more likely to send their children to school; ... [and] that the under five mortality rate falls by about half for mothers with primary school education. [19]

It is clear that women's roles (decision-making power) within the family, as well as their educational levels, play an important part in promoting ECD. Women's education not only contributes to lower mortality rates, but also long-term education, for girls. Gender equity at the family level contributes to reducing the intergenerational transmission of poverty through improved development, access to education, and proper feeding [19].

#### FAMILY DWELLING

The family dwelling also contributes to (or detracts from) nurture for children. The starkest representation of this comes from studies of homeless families and children which find much higher rates of physical and mental illness and worse developmental outcomes among this population [63]. This may be due to many factors, including the economic, social, and service resources that are directly or indirectly related to having a home.

Of course, not all homes are equally as nurturing. Countless studies from resource-rich nations have demonstrated that high levels of lead (which are overwhelmingly clustered in low-income housing) are associated with multiple adverse developmental outcomes in children, most notably asthma [64].

In addition, physical and mental health are linked to housing conditions such as overcrowding, indoor air pollution, as well as dampness and cold [63, 65-67]. Slum conditions may be even more detrimental for a variety of outcomes in children. In many respects however, slums are more conceptually akin to ‘neighborhoods’ or ‘localities’ and so will be discussed Chapter 3.

#### FAMILY SUPPORT

Families need to be able to access the resources that enable them to make choices and decisions in the best interests of their children, including services such as parenting and caregiver support [207], quality childcare [208, 230-233], and primary health care and education. Globally, one particular area where families require social protection is in resolving the demands of work and home life. Heymann’s [209] research on children and families in resource-poor countries demonstrates the importance of access to quality childcare for families the world over. Her research demonstrates that millions of children worldwide are being left home alone, left in informal childcare (often in the care of other children), or being brought to work and exposed to unsafe working conditions. Public provision of quality, affordable childcare is part of the solution to this problem.

#### SUMMARY

This review highlights the significance of the family environment for early child development. There are numerous aspects of families that are tightly associated with children’s well-being and with each other. An overall examination of the findings in the field suggests that social and economic resources are directly or indirectly implicated in almost every aspect of a family’s ability to provide nurturing environments for their children [68].

## Putting Family Socioeconomic Resources in a Population Context: The Phenomenon of Socioeconomic Gradients in Health and Human Development

### THE EVIDENCE BASE FOR SOCIOECONOMIC GRADIENTS

In this section, we further discuss the effects of socioeconomic resources from a population perspective, highlighting the phenomenon known as a ‘gradient effect’ of socioeconomic resources on health (and briefly mentioned above).

The “gradient effect” refers to the *standard-form* relationship that characterizes health and developmental outcomes (of children and adults) as one ascends from the lowest levels of family socioeconomic resources (measured mostly, in various studies, by income, education, or occupation) to the highest<sup>8</sup>. It is standard form because it applies to a remarkably broad range of outcomes, and has been replicated in many wealthy and non-wealthy societies where this relationship has been measured [69-85]. Figure 2 provides an example of socioeconomic gradients in child stunting for three countries in the Andean region of South America [86].

SES gradients are apparent for a variety of outcomes throughout the human life course, from infancy through adulthood. The outcomes that have been measured rest largely in the domain of physical health and cognitive development. In the health domain, SES gradients have been demonstrated for infant mortality, low birthweight, childhood injuries, child mortality, dental caries in children, malnutrition in children, infectious disease in children and adults, health care services use, and chronic diseases in adulthood.

SES is so powerfully related to health that as the major diseases have changed over time, the gradient effect has replicated itself on new

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8 There are also ‘gradients’ observed for other social characteristics, most notably race/ethnicity. These are thought to be in large part due to inequalities in SES patterned by race/ethnicity. The scope of the current discussion is limited to SES-based gradients

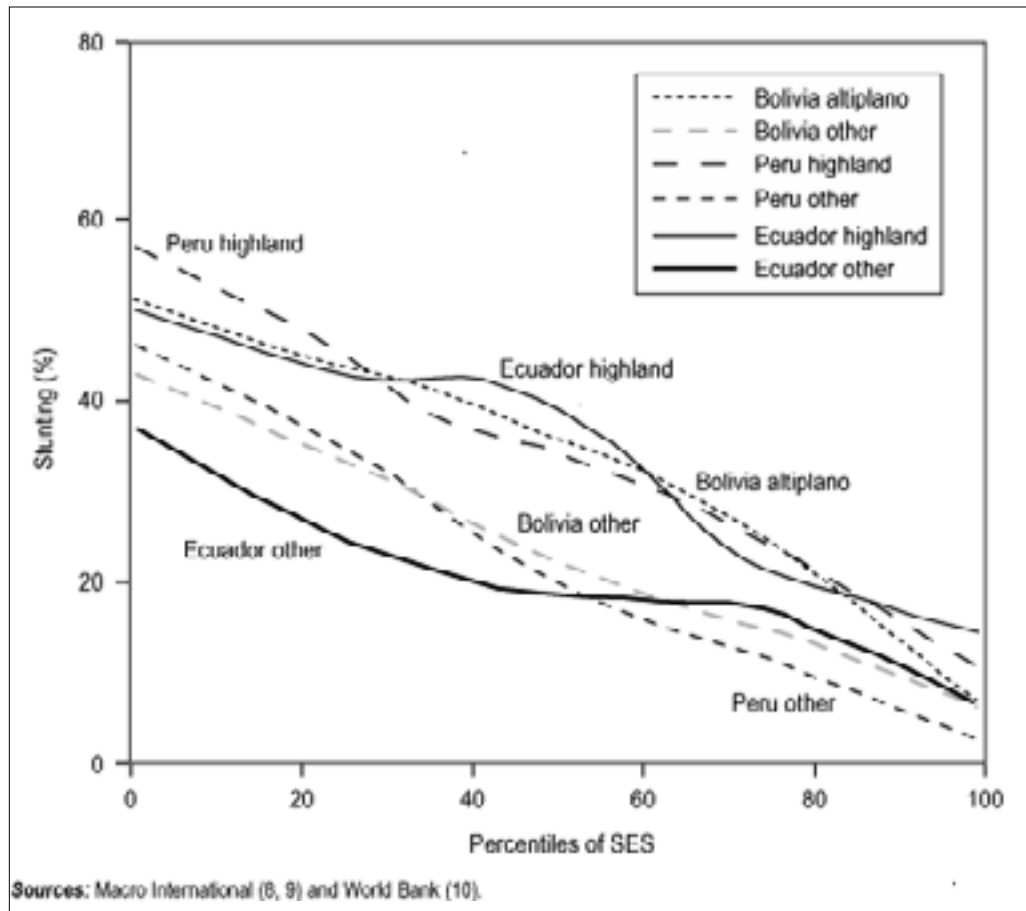


FIGURE 2: SOCIOECONOMIC GRADIENTS  
IN STUNTING AMONG THREE  
ANDEAN COUNTRIES

diseases as they have emerged. Data from the turn of the century for countries such as England and Wales show the gradient effect for the major causes of disease and death of the time (infectious diseases) among adults. Over the next 3-5 decades those diseases declined and were replaced by chronic diseases such as heart disease. At first, heart disease displayed a different epidemiological pattern, disproportionately affecting those who were privileged enough to live long enough to get it. But over time the socioeconomic gradient re-asserted itself. In the case of heart disease this occurred by the 1950s.

For children's health, the association with SES is rather weak in the resource-rich nations, in large part due to the lack of chronic physical illness or death in children in these countries. However, there is strong indication that SES is associated with lead exposure and incidence of asthma there [64, 87-89]. However, the evidence in

other parts of the world is starting to show an SES-health relationship. A recent study found a striking association between SES and under-5 mortality in a population of children from 43 resource-poor countries. The same study suggested that, among these nations, socioeconomic inequality in child mortality was increasing (the gap was widening) as the overall economies were growing [90].

In the cognitive domain, SES has been linked to school enrollment, mathematics and language achievement and literacy, and school attainment. Most of these studies involve older children and adults, however there is data to demonstrate the effects of SES on children's cognitive development outcomes. Much of this data is derived from research conducted in the United States and other resource-rich nations [91]. However, there is also evidence that arises from investigations involving resource-poor nations. In particular, the effect of SES on reading literacy among fourth-graders was clearly demonstrated in the Progress in International Literacy Study (PIRLS), which involved a sample of 43 nations, many of which could be characterized at the lower end of the world economic spectrum [92]. In Zimbabwe, cognitive performance as measured by children using taxonomic versus functional classification strategies was associated with social class. A host of studies have also found that language proficiency is associated with SES in young children [43].

Compared with cognitive development, socio-emotional development shows a less consistent association with SES. In part this is due to the fact that psychological conditions are difficult to assess and diagnose in children. In very young children, there seems to be an absence of an SES gradient in socio-emotional development. However, in middle childhood, there is relatively strong evidence of SES gradients, particularly in externalizing behaviors [43].

There are also some exceptions to the general pattern of SES gradients, in which health and development outcomes improve with improved SES. For example, gradients in obesity for some nations suggest that richer individuals are more likely to be obese [93]. As well, a recent study suggested that childhood

insulin resistance was more prevalent among those with wealthier and more educated parents in Estonia and Portugal [93].

#### FIVE CHARACTERISTICS OF SES GRADIENTS

Across this incredible body of evidence, there are five main generalizable characteristics of SES gradients. First, that within a population, the effect of SES is generally continuous, or stepwise, such that each additional increment of SES results in additional gains to one's health and development (NB: there are contexts in which this is not strictly the case). In other words, there are successive increases in these outcomes from lower to higher socioeconomic levels in society. The gradient effect, then, can be conceptualized as a roughly linear relationship for the purposes of this discussion (see Figure 2). The primary implication of the continuous nature of the relationship is best understood by contrasting it to a threshold effect. A threshold effect would imply a dichotomous relationship within a society; wherein the assumption would be that one level of health/development is associated with being 'rich' and another with being 'poor.' The gradient effect instead suggests that there are *degrees* of change in health and development associated with degrees of change in SES [77].

Second, as aforementioned, SES gradients in health and development are evident in every country in which they have been measured, be they wealthy countries or poor, minority or majority, so-called 'developed' or 'developing'. In other words, irrespective of the space occupied by any nation on the 'world's socioeconomic spectrum,' poverty thresholds (though important in their own right) are not in and of themselves a sufficient way of characterizing the relationship between individual/family socioeconomic conditions and health. Even in countries with widespread abject deprivation, degrees of improvement in socioeconomic circumstances are associated with degrees of improvement in health and development.

This is well illustrated by socioeconomic gradients in resource-poor nations that extend even to 'slum' living conditions. Data from Kenya demonstrates that, indeed, neo-

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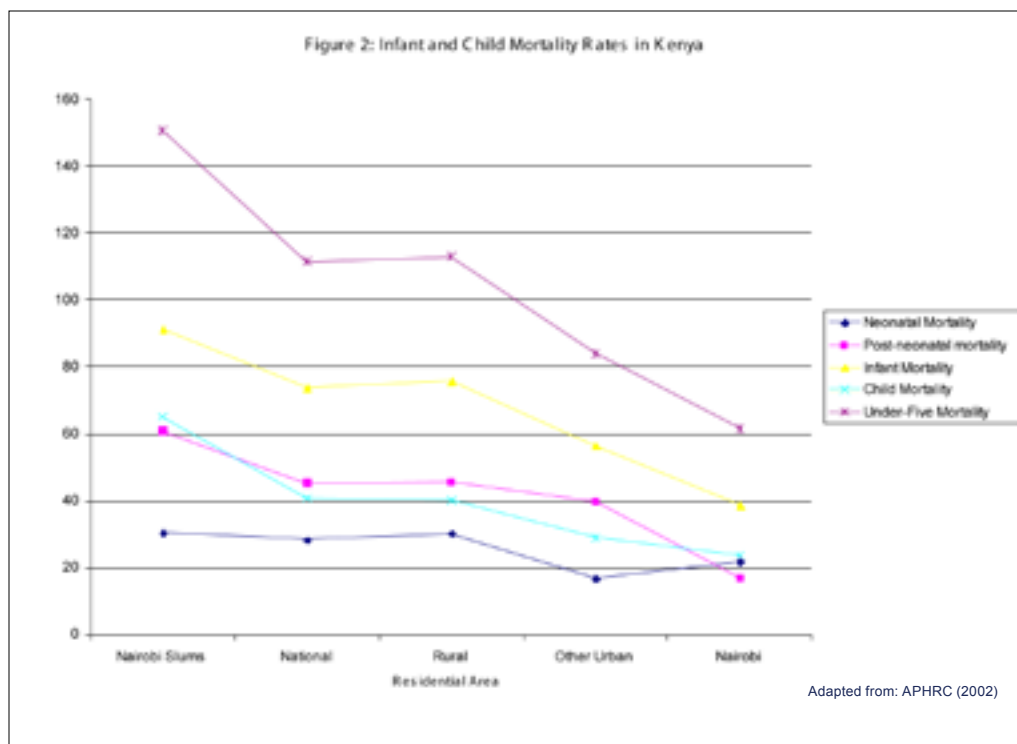


FIGURE 3: SOCIOECONOMIC GRADIENTS IN  
INFANT AND CHILD MORTALITY IN KENYA

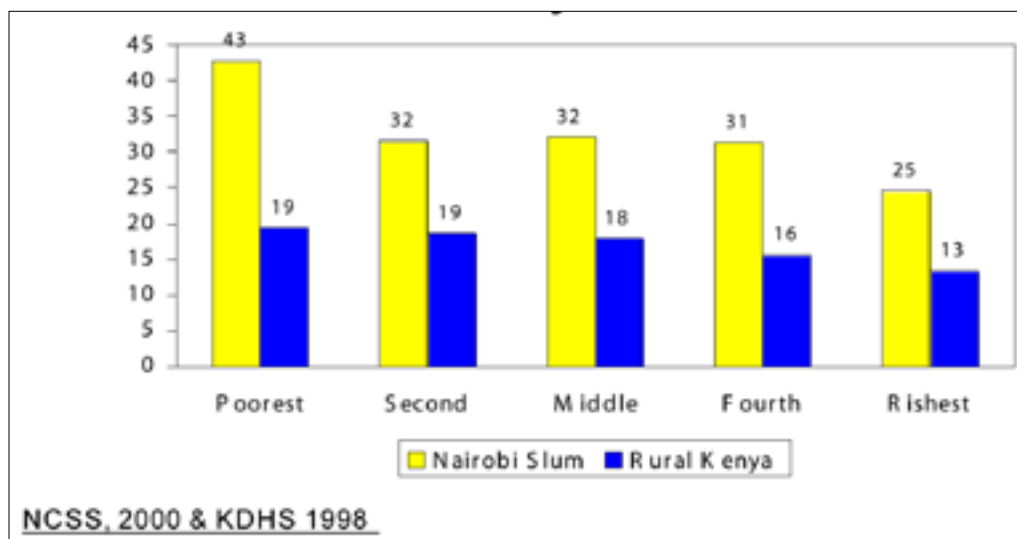


FIGURE 4: SOCIOECONOMIC GRADIENTS IN  
CHILDHOOD DIARRHEA WITHIN SLUMS IN  
NAIROBI AND WITHIN RURAL AREAS OF KENYA

natal, infant, child, and under-five mortality rates are highest among those who reside in Nairobi's urban slums. However, rather than a clear threshold, Figure 3 [94] shows that there appears to be a clear gradient effect by residential location (urban versus rural versus slum), albeit minimally, for neonatal mortality. A similar pattern emerges for diarrhea rates among children 0-35 months, with rates of 32% for slum children, 17 for rural children, and 13 for children in Nairobi [95]. Remarkably in fact, even *within* slum areas in Nairobi and rural areas of Kenya, there exist socioeconomic gradients in diarrhea (see Figure 4).

This is not to minimize the profound ill effects of common notions of poverty. Rather, it illustrates that there is no definitive divide in well-being between the 'haves' and the 'have nots,' even in nations where those existing in extreme poverty and those in extreme wealth seem world's apart. People's resources and welfare are separated by incremental differences. We are far more connected to one another than a solely poverty-based approach might have us believe.

Third, the gradient cannot be explained away by reverse causation or differential mobility [96, 97]. Early on, the evidence base for socioeconomic gradients in health largely came from studies that were cross-sectional in nature. This resulted in considerable ambiguity regarding the 'direction' of the association between SES and health; did declining health status result in downward social drift (due to loss of employment and income), or was low SES responsible for ill health? Subsequent studies have demonstrated that the overwhelming portion of the relationship represents a "causal" link from SES to health rather than the reverse. This was demonstrated through a variety of means, including longitudinal studies [97] as well as a consistent association between educational attainment (a measure of SES, and one that is most often obtained temporally prior to measurement of health) and health outcomes [98]. Further, for children's outcomes, it is far less likely or plausible that poorer developmental health is the cause of declines in family SES.

The preceding points characterize SES gradients in their general form, providing

the universal qualities of gradients in every society. The next points attend to the patterns that emerge when we simultaneously examine socioeconomic gradients in different societies, as in Figure 2. These properties suggest the role played in early child development by society and its various institutions and aggregations. That is, *the following points put into broad societal context the role of family socioeconomic conditions as a determinant of early child development*. The remaining chapters in this volume further detail the possible aspects of the broader societal context that are highly influential for families' (and thus children's) resources.

One discernable property is that across populations or societies, the 'steepness' of the gradient (i.e. the strength of the linear association) is not uniform. That is, if one plots on a graph the SES gradients in health in different societies (as depicted in Figure 2), the lines do not fall on top of one another, suggesting that the additional gains to health from increased SES are larger in some societies than in others. In fact, the pattern that emerges suggests that, across nations, differences in health outcome at high levels of SES are far smaller than at lower levels.

In other words, those societies with a 'shallow' SES gradient (indicating less socioeconomic inequality in developmental health) do not get that way by 'pulling down' the health of the high SES groups, but rather by 'pulling up' the health of the lower groups. It then also follows that the average health of 'shallow gradient' societies tends to be better than 'steep gradient' societies. International comparisons have shown this for the development of literacy and numeracy skills across OECD countries [1] and for health status across the European community [82]. The fourth characteristic of SES gradients then, is that those societies which produce the least inequality in health and human development across the socioeconomic spectrum also have the highest average levels of health and development. This pattern is sometimes referred to as the "flattening up" of the SES gradient [99].

The fifth characteristic of socioeconomic gradients is that the arrangement or ordering

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of nations in terms of the steepness of their gradients appears not to be random. That is, although they have been poorly studied to date, there seem to be systematic differences in institutional arrangements between those societies in which the SES gradients in health and development are steep, versus those in which they are shallow.

Another way to state this is that since there is no necessary, or predictable, level of health or development associated with any given position on the socioeconomic spectrum (as described in the fourth point, above); as such, health and development at any given socioeconomic position is highly dependent on the extent to which different societies tie SES to one's ability to procure health-promoting resources and, conversely, the extent to which SES serves as a sorting mechanism for 'exposures' that are harmful to health. It can be argued that societies which are nurturant for children (and adults) are those whose institutions work to break these ties. In other words, in some societies, factors fundamental to health and development are provided as rights of citizenship, rather than according to socioeconomic privilege.

#### SES GRADIENTS SUGGEST THE FUNDAMENTAL INFLUENCE OF SOCIETAL DETERMINANTS OF HEALTH

There is also another line of reasoning that supports the thesis that societal factors are fundamental to the expression of socioeconomic inequalities (gradients) in health and development. That is, that if socioeconomic inequalities are critical for health, then so too are the societal conditions that create the inequalities themselves. The extent of socioeconomic stratification that exists in society is not innate. Rather, it is strongly influenced by actions and inactions taken by societies that, cumulated over time, become embedded in institutions. Most of the evidence in this regard arises from research on resource-rich nations. The notion is powerfully illustrated by contrasting poverty rates in these nations before and after taxes and transfers are accounted for. Data from the Luxembourg Income Study demonstrates that, based on market income (i.e. prior to

taxes and transfers), at 31%, poverty rates<sup>9</sup> in the United States were up to 5-6% lower than in several OECD nations, including France and Sweden, and on par with others such as Australia, Canada, Spain, and Germany. However, after taxes and transfers, the United States had the highest poverty rate among the OECD nations at 18%, between 6% and 11% higher than all other OECD nations with the exception of Australia which has a post tax and transfer poverty rate of 16% [100].

The difference in poverty rates is even more marked with respect to children. Prior to transfers, poverty rates across OECD nations for lone parents are consistently high, with a range of 32% in Italy, to a whopping 80% in the Netherlands. However, after redistributive measures were applied by governments, the rate for lone mothers was reduced to approximately 10% in many OECD nations, with a low of 4% in Germany. By contrast, the poverty rate for lone mothers in the United States remains at 60% [101]. In epidemiological speak, the function of societal policies can be thought of as *necessarily causally prior* to the effects of SES on health outcomes.

The roles of institutional arrangements in reducing socioeconomic inequality, and undoing the link between socioeconomic conditions and health status are difficult to separate, since they may function in a reciprocal manner. That is, reductions in income inequality provide public support for increases in systems that distribute resources in an egalitarian manner, and the egalitarian distribution of resources in turn may reduce levels of socioeconomic inequality [102]. From the perspective of creating societies that support ECD, an imperative of future research is to understand which institutional features promote socioeconomic equalities in ECD and which detract from it. The following chapters discuss the main societal institutions that to play a major role in this process, and highlight the available evidence to date.

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9 Poverty was measured using a relative standard of 40% of median income, and 50% of median income (Smeeding and Ross, 1999).

## Childhood Resilience a Matter of Family, Community, and Societal Support: Promoting Patterns of Resilience in Children through Nurturant Environments

Many families that face daily challenges because of their socioeconomic disadvantages are nevertheless able to create the essential nurturant environments for their children. *Resilience refers to the capacity of a child to thrive, despite growing up facing adversity.* Bartley's review of research on this issue points to "the importance of social relationships, of ties to the community, and social interactive 'relationship' skills as key sources of protection" [210]. The family provides the most important social relationships for enhancing children's resilience [211]. Children all over the world face situations such as witnessing and experiencing violence in their families and the broader community, bullying, disability, divorce, and witnessing or experiencing the effects of alcohol and substance abuse in their families, while others confront catastrophic events or day-to-day atrocities such as war, poverty, disease, famine, floods, HIV/AIDS, and forced labour. How a child emerges from these situations depends upon multiple factors at the individual, family, community, and broader societal levels [210, 211].

Studies of the experiences of children exposed to war and children of battered women demonstrate that the family can provide a buffer against extreme circumstances [212]. Berman's and other studies point to the importance of enhancing the family's capacity to support young children in times of stress and atrocity [213]. Families require proper safety nets, such as social protection policies, access to appropriate services, and sufficient income, to enhance their ability to bolster children's resilience regardless of the daily challenges the family faces.

Resilience can be enhanced through the relationships that families, caregivers, and children establish with others in their locality or relational communities (e.g., religion-based communities), as well as through ECD,

health, nutrition, and other services that are provided by governmental and non-governmental organizations (NGOs), and through larger policies that facilitate educational attainment, income transfers, health care, and access to safe housing. Institutional features of society that strengthen the "connectedness" of citizens in positive ways will enhance resilience in children and families (e.g., Positive Deviance [19]). Accordingly, governments, international agencies, and civil society groups should use the criterion of connecting children with adult mentors to judge program and policy proposals.

*Spheres of  
Influence:  
The Family*

### KEY MESSAGES: THE FAMILY

1. The family is a fundamental source of nurturing for a child.
2. Socioeconomic gradients in developmental outcomes reflect difficulties families with few resources face in providing nurturant environments for their children.
3. The 'gradient effect' occurs for almost all outcomes in almost all places illustrating the critical nature of socioeconomic resources.
4. Families require access to a range of supports and programs for their children, but also for themselves.
5. Within families, gender-based bias may create inequities in the nurturant conditions afforded to girls compared with boys. Giving greater power in decision-making to mothers can alleviate some of this inequity.







## Chapter 3: The Residential Community as a Sphere of Influence

### Overview

Children and their families live in localities or residential communities, though the type of locality/community varies tremendously. In rural settings, people generally reside in village-based communities, while in urban settings, the forms of clustering may be more diverse, and includes neighbourhood or slum communities. Nonetheless, however, there are core features of all localities that have been identified as being extremely important for ECD.

The focus of this section is to identify and discuss the key aspects of the residential community, and where available, highlight the associated evidence. Unfortunately, most of the evidence in this regard has been conducted in urban neighborhood contexts in the resource-rich nations, particularly the United States and the United Kingdom. The research conducted in these nations does, however, provide insights for resource-poor nations, and suggests avenues for further research in other contexts.

The pertinent features of a residential community for children include the economic environment, the physical environment, the service environment, and the social environment [103]. Inequalities in these residential characteristics result in inequalities in health.

The economic environment of a locality is critical for the well-being of children, and is heavily linked with the other types of environments. Economic well-being of a locality can be characterized in several ways, including the aggregate financial stability of the families which reside in the locality (i.e. the neighbours), and the financial resources of the community in total (i.e. through government sources such as property taxes), though the most studied aspect is the former.

The socioeconomic well-being of a residential community is most often defined as the average or median family income level,

the percentage of residents with a high school diploma, or the percentage of employed or unemployed individuals in the community [20]. Studies have found that high levels of SES in a neighbourhood are associated with better school readiness and school achievement in younger children (including intelligence quotients, verbal ability, and reading recognition). In older children and adolescents, higher levels of SES are associated with fewer externalizing behaviors, less peer reported aggression, less delinquent and criminal behavior, and less peer rejection [20].

Socioeconomic aspects of neighborhoods are thought to affect well-being through their influence on the physical, service, and social environments. There is a clear inverse association between the SES of a community and the extent to which its residents will be exposed to toxic or otherwise hazardous exposures such as wastes, air pollutants, poor water quality, excessive noise, residential crowding, poor housing quality, and the like [104].

The financial resources of neighbours also bear directly on the extent of services that are available in a residential community. These include institutions and facilities for learning and recreation, child care, medical facilities, access to transportation, food markets, and opportunities for employment [20].

Finally, the social environment of a neighbourhood is also associated with its degree of socioeconomic stability. The underpinning for exploring the social environment of neighborhoods comes largely from the concept of 'social capital', which has been explicated extensively by a host of sociologists [105, 106, 107]. The essential premise of this concept is that there are social properties of entire communities or societies that deserve distinct characterization, over and above the phenomenon of describing an individual's (or family's) social relationships [105].

This includes the extent to which adults and children in communities are linked to one another, whether there is reciprocated exchange (of information, in-kind services, and other forms of support), and whether there is informal social control and mutual support. This latter social feature of communities is tied to the notion of 'collective efficacy', which refers to a "shared belief of a collectivity [108]." Collective efficacy empha-

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sizes the active engagement of members of a community [108]. Stocks of social capital and collective efficacy have been shown to be nurturant for children and their families, both in the context of urban neighbourhoods in resource-rich nations [108] as well as in the village context in resource-poor nations [109].

However neighbourhoods are not the only urban context in which children live. In the resource-poor nations, many children in cities live in slums. Though the scale of the problems encountered by slum dwellers is markedly more distinct than those of children in relatively poor neighbourhoods, the same sets of factors are applicable; the economic, physical, service, and social environments are all critical in this context as well.

There are many places in which slums are established, mostly on undesirable land or abandoned properties. Slum homes are usually built from materials that are old and lack durability. The literature on slums suggests that lack of clean water, and adequate sanitation, and the use of cooking fuels in such severely crowded and unventilated abodes result in high levels of acute ailments for young children such as tuberculosis, diarrheal disease, parasitic infections, dengue fever, and acute respiratory infections [110, 111].

Compared to the physical environment, the social and service environments of slums have been far less examined. In part, this may be due to the sheer overwhelming nature of the physical environment. However, there is evidence that social features of slum communities are also critical. In Ahmedabad, India, several slum areas have received a host of social infrastructure from the Self Employed Women's Association (SEWA). SEWA is a non-profit NGO built on an 'integrated services model'.

In addition to micro-loans, SEWA provides training, child care, medical, and other social services to its members and their families. Out of this arrangement, slum dwellers have not only received these services, but as well, the grass-roots, member-driven orientation of SEWA has also facilitated dramatic development of social capital and collective efficacy in these communities.

Children's cognitive and socio-behavioral outcomes in the context of slums have not been explored in any notable way. Further research should attend to the long term developmental outcomes of children who reside in slums. In addition, ECD outcomes of children living in slums may be influenced by the broader context, and this is also worthy of further investigation. For example, the role of organizations such as SEWA in mitigating the adverse effects of slum conditions should be explored systematically. As well, the influence of national governments that provide greater universal access to basic nutrition, schooling, and health services is also an important avenue for future research.

Though strategies for improving the prospects of children may vary by the type of the locality, much can be learned and translated from past efforts in different contexts. The example of SEWA provides evidence that a multi-sectoral, community-based approach provides great benefits to children and their families. An approach known as Asset Based Community Development (ABCD) has also been shown to increase the social capital/collective efficacy of communities in the United States. The principle of ABCD is to move from assessing the needs and deficits of communities to identifying and mobilizing their strengths and assets [112].

Five key factors have been identified including 1) the skills and capacities of the individuals who reside in the community, 2) the associations found within the community (i.e. groups of residents from the locality who come together for a common purpose), 3) institutions such as government agencies, businesses, and non-profit organizations, 4) economic development potential and 5) land and other physical assets [112, 113].

In the Seattle, Washington area, a broad-based approach was used to make local neighborhoods more nurturant for children. The public health authority there used a multi-pronged approach, including 1) developing partnerships with ECD stakeholders, 2) building a common knowledge base, 3) developing a local policy agenda, 4) organizing support at the community level, and 5) monitoring the policy environment.

The policy changes developed and implemented included those that addressed improvements in basic services in early childhood, as well as improvements in more structural factors, such as improving low-income housing conditions, and fostering the development of civil society groups in local areas [114].

Finally, it is critical that grass-roots efforts (and citizens in general) also engage the larger policy-making levels that have strong influence on the conditions of localities. Though much can be done at a local level, residential communities are embedded within a larger societal context that affect their environments and resources, and that influence inequalities between residential communities. Regions and nations hold considerable accountability for inequities in the extent to which residential communities of children are nurturant.

#### KEY MESSAGES:

##### RESIDENTIAL COMMUNITY

1. The integrity and accessibility of physical space in which children can explore and play is critical for all three domains of ECD.
2. The physical, socioeconomic, and service aspects of residential communities all strongly influence ECD.

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Influence:  
Residential  
Community*



## Child Friendly Cities \*

With rapid urbanization taking place across the globe, cities are becoming home to an increasing proportion of the world's children. Despite this reality, most cities fail to meet the needs and fulfill the rights of their young citizens (Riggio, 2002). In both the developed and developing world, urban children face conditions that breach their basic rights and hinder their chance for optimal development (Riggio, 2002).

In light of this reality, the Child Friendly Cities Initiative (CFCI) was established in 1996 based on the resolution passed during the second UN conference on Human Settlement (Habitat II) to make cities livable places for all (Child Friendly Cities, UNICEF). The initiative challenges cities to uphold the rights of the child as stated in the UN Convention on the Rights of the Child (UNCRC). In accordance with the UNCRC, the CFCI acknowledges that all children in cities have the right to access services that meet their basic needs and to experience opportunities that promote their development (Child Friendly Cities, UNICEF). As advocated by the CFCI, the rights of children can be realized in cities through the adoption and implementation of governance approaches and participatory urban management that include children directly in the process (Child Friendly Cities, UNICEF).

Since 1996, 708 cities<sup>10</sup> worldwide have taken part in the CFCI (Child Friendly Cities, UNICEF). The largest concentrations of these cities are found in Brazil, France and Italy. As well, important CFCIs exist in many other African, South American, European and South Asian Cities (Figure 5). In each participating city unique and important initiatives are taking place. To reflect the diversity of innovation taking place in participating cities, three case studies will be profiled: the CFCI taking place in the Philippines; children's participation in the governance and municipal budget of Barra Mansa (Brazil); and the CFCI taking place in the Occupied Palestinian Territory.

### CHILD FRIENDLY CITIES INITIATIVE, PHILIPPINES

In 1999, in cooperation with UNICEF, the Philippine National government launched their CFCI. The main goal of the initiative is to achieve the Philippine National Development Plan for Children, also known as Child 21<sup>11</sup> (UNICEF IRC, 2004). The CFCI is implemented through local governments and communities making it part of existing institutional frameworks and mechanisms. Furthermore, the CFCI attempts to address a broad range of interventions within a limited number of cities in order to offer maximum support. The five participating cities—Pasay City, Manila, Quezon City, Cebu city and Davao City—are striving to fulfill seven key objectives and follow nine key strategic actions seen as crucial to making these cities “child friendly” (UNICEF IRC, 2004).

Since the inception of the CFCI in the Philippines, significant research has taken place to assess the successes of the initiative and give voice to people living in the participating cities. A report published in 2006, titled *Making Philippine Cities Child Friendly: Voices of Children in Poor Communities*, highlights the positive impacts of the initiative while also recognizing that significant work remains before realizing the rights of all Filipino children (Racelis & Aguirre, 2006) are realized.

### BARRA MANSA, BRAZIL

Barra Mansa is an industrial city located in the state of Rio de Janeiro. Barra Mansa is recognized by the CFCI for its creation of a Children's Participatory Budget Council (CPBC). This unique project, which began in 1998, involves the election of 18 girls and 18 boys (aged 9-15) each year to ensure that the municipal council addresses their needs

<sup>10</sup> Please note the number of cities belonging to the CFCI as stated on the CFCI website (<http://www.childfriendlycities.org/networking/index.html>) is 859, however our in-house calculation of the cities listed resulted in 708 cities.

<sup>11</sup> Child 21 is a strategic framework that aims to guide stakeholders involved in planning programs and interventions that uphold and protect the rights of Philippine children in the 21st century (Project Review: CFCI, Philippines, pg.3).

\* Written by E. Larcombe, BA, HELP Mapping Unit

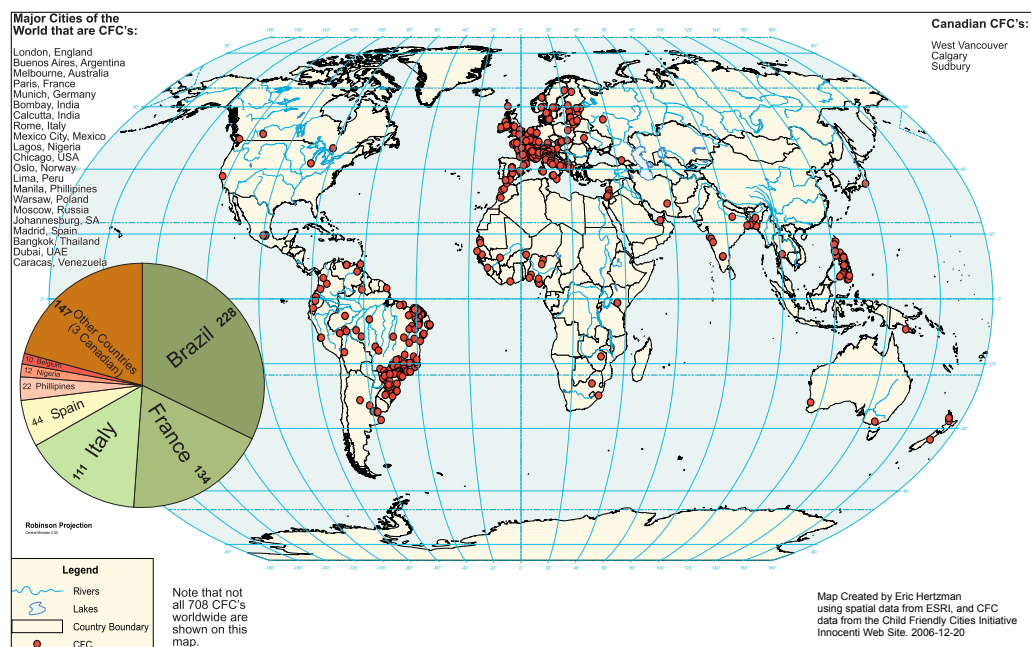


FIGURE 5: CHILD FRIENDLY CITIES

and priorities (Guerra, 2002). This initiative was part of a broad vision developed by council to: promote and institutionalize the participation of children and youth in the management of their city; to encourage their civic engagement; and to help them recognize the importance of their role as citizens (Guerra, 2002).

Each year since its commencement, more than 6,000 children have taken part in discussions and assemblies to elect their child councilors and share their opinions regarding civic priorities. In addition to participating in the planning and developments that take place in Barra Mansa, the children's council has US \$125,000 for use on priorities and initiatives decided by the council. Examples of some projects funded from this budget are: repairs to schools and school equipment, improvements to play-grounds in low income areas, repairs to sewers and drains and tree planting within the city (Guerra, 2002).

#### OCCUPIED PALESTINIAN TERRITORY

CFCs are taking place in four locations within the Occupied Palestinian Territory—two in the Gaza Strip (Rafah and Gaza City) and two in the West Bank (Jenin and Jericho).

This initiative started as a pilot project in 1996 to help communities living in densely populated areas under incredibly challenging conditions (Riggio, 2002). Its objective, as stated in a CFC report, was: “to support decentralization processes, promote community participation and translate the principles of the Convention on the Rights of the Child into the daily lives of children, families and communities (Riggio, 2002).” Out of this pilot project fifteen ‘Children Activity Centres’ were created for children to participate in educational and recreational activities that were lead by youth leaders (Riggio, 2002).

Currently the focus of the CFCI in the Occupied Palestinian Territories is to protect the rights of children more directly exposed to the armed conflict. In each of the four locations mentioned above a ‘dual-approach’ to planning has been implemented—first to identify and respond to present emergency needs and second to encourage more comprehensive protection strategies for children (UNICEF Occupied Palestinian Territory, 2003). As a result of this CFCI, ‘Safe Play Areas’ have been developed to limit children’s exposure to violence and increase children’s participation in positive and health-promot-

ing activities (UNICEF Occupied Palestinian Territory, 2003). Furthermore, Children's Municipal Councils have been formed in each of the participating cities where children are trained as leaders in their communities, where they plan and conduct small projects to engage new children and where they can observe the important role they play in influencing change in their communities. In addition to this, large-scale activities are being implemented in each city including fun days, sports competitions, and community campaigns on key issues of concern for children (UNICEF Occupied Palestinian Territory, 2003).

#### CHALLENGES AND OPPORTUNITIES

Since the implementation of the CFCI a large number of cities have taken great strides to improve the quality of life of young people. That said, in each case a number of limitations and constraints exist. While some cities maintain a larger share of these challenges to this day, no city can claim to be completely child friendly. The nature of these challenges are as diverse as the children they affect. While some cities struggle with the pollution and hazards relating to automobile traffic, other cities are facing civil war or endemic poverty. Challenges to fulfilling the rights of all children are particularly difficult to overcome if they are related to the long-standing cultural and social traditions of a particular geography. For instance, in some parts of the world gender inequality prevents females from attaining even a basic level of education.<sup>12</sup> In addition to the socio-cultural challenges tied to a particular geography, the conditions affecting children's welfare in cities are exacerbated by the socio-economic hierarchies that exist at the local level (between localities) as well as at the national and global level.

Despite the challenges faced by the CFCI, it is important to recognize that along with these challenges come great opportunities for growth and improvement in the lives of

children living in urban areas. The CFCI and the resulting work taking place in cities across the globe have embraced this opportunity.

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The Millenium Development Goals Report (2006), UN New York. Available at: <http://unstats.un.org/unsd/mdg/Resources/Static/Products/Progress2006/MDGReport2006.pdf>

<sup>12</sup> This educational gender gap is explored in the UN's Millennium Development Goal's report (2006) where in several parts of the world the number of girls enrolled in primary education is consistently less than the number of boys.

## Chapter 4: The Relational Community as a Sphere of Influence

### Overview

Relational communities are central to the lives of most people in the world. These communities are socially bonded based on commonalities in religion, race or ethnicity, tribe, or other similar characteristics. Relational communities may or may not overlap with one's residential community. There are several functions that are served by relational communities, and solid evidence supports the association between membership in relational communities and children's well-being.

Conversely social exclusion of some (less powerful) relational communities from aspects of broader society results in deprivation for their members in terms of resources and health. In turn, this can result in inequities between relational groups. For children, development in early childhood may be directly supported by relational communities (especially for older children), but is bolstered mostly indirectly, through the effects of communities on parents and caregivers.

Humans are inherently social beings, and as such they seek to relate to other people. In a society, there are several sources of obtaining bonds with others, of which one major way is connectedness based on socially defined groups. Thus, family members can develop relationships with other individuals or families and add to their social network on this basis. Prior evidence suggests, for example, that religious participation provides greater social ties and social support [115]. Further, as school-aged children's interaction with their environments increases (e.g. school teachers, community program staff, other adults, peers and so on) social ties and social support for families is likely to be augmented.

### Relational Communities and Social Support

Such relationships offer many forms of social support with respect to children and their caregivers. The main aspects of support are: informational support, emotional support, and instrumental support [116].

### Informational Support

Informational support refers to the advice and knowledge that people garner from one another. Relational communities are often a main mechanism through which information regarding child rearing practices, child health and development is transmitted.

Traditions regarding child rearing are passed down through generations, not only within families but also throughout broader socially bonded groups. To the extent that they are integrated into the community, children themselves receive information about the world through community members, as well. While this is intuitively true for older children it is also true for younger children, though usually facilitated by a parent or caregiver. In this way, relational communities can be instrumental in shaping a child's perspective, which in turn can affect their cognitive, socio-behavioral, and even physical development.

It should be noted that, occasionally, child rearing practices that are commonly held within a relational community may be in conflict with the prevailing norms of the larger society in which the community's exist, with the laws of the state, with scientific evidence, or with universally recognized human or child rights.

For example, female circumcision is practiced in many African nations, predominantly in the northern region of the continent. The percentage of circumcised girls there ranges from 5% to 99% [117]. This practice is attributed to the cultural practices of some relational communities, which in certain countries exercise great influence over government policies and social norms, in turn resulting in the extremely high percentage of female circumcision in these nations.

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There is also evidence of cultural beliefs resulting in child abuse. For example, in some relational communities, a child with a disability or some other health condition may be viewed as a bad omen. Children with seizures or convulsions may be perceived to be bewitched, and hence are taken to a traditional healer instead of a conventional health worker. Children with disabilities may be hidden to avoid family shame, and thus hidden away and denied health and development services [214].

There has been considerable outcry against these practices, rooted in the physical and psychological sequelae of the process [118] and perhaps even more significantly, the potential violation of the rights of the child [119]. These issues are not easy to resolve, particularly when they are considered in the larger context in which they occur. For instance, the ability of parents to find husbands for their daughters is said to be compromised if they have not been circumcised [215]. By no means is this a justification of the practice. Rather, it calls attention to the fact that resolving an issue such as female circumcision requires understanding and attending to cultural practices and *contexts in their entirety*.

## Emotional Support

Emotional support refers to the comfort, caring, and psychological reinforcement that individuals receive from members of their social network. Emotional support can be critical for the well-being of caregivers, which in turn facilitates their ability to provide nurturing parenting to their children.

In a prospective study, the survival rates for people who had been hospitalized for myocardial infarction were positively associated with extent of emotional support they received [120]. In addition, the role of emotional support in mitigating depression and the other effects of depression have been well established by a host of studies [216].

## Instrumental Support

Instrumental support refers to the tangible goods and services that people receive from

their social networks. This may take the form of money or other goods (for example ‘hand me down’ clothes, toys, and other products for babies), child care, and the like. In most theoretical approaches to understanding how resources are procured, the main sources are considered to be the family, the state/government, and the market [121]. One’s social networks (and thus their relational communities) are arguably a fourth major source.

During the post-communist era, the Eastern European region experienced a marked disruption, indeed in many countries a virtual collapse, of government institutions. The intended development of market institutions to replace many of the activities previously performed by the government was much too rapid and insufficiently implemented. This period has thus been marked by a rise in the use of social networks to obtain goods and services that were previously distributed through institutional means [122, 123].

## Collective Support in Relational Communities: Social Capital

Thus far, the discussion has centered on the use of relational communities as sources of developing ‘individual’ or ‘family based’ relationships. However, in aggregate, the interconnectedness of individuals within a community creates a supra-individual, supra-familial, *collective*, social resource known as social capital (note: this concept was also introduced in Chapter 3). Social capital, to reiterate, is the extent to which individuals are linked to one another, whether there is reciprocated exchange (of information, in-kind services, and other forms of support), and whether there is informal social control and mutual support [124]<sup>13</sup>.

Research confirms the anecdotal evidence of the varying degrees of social capital that are present in different relational communities. Social capital between immigrants and people in their ancestral lands provides a compelling example of the ability of this resource to keep in tact relational communities despite geographical divides.

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<sup>13</sup> As is apparent, there is marked overlap and ambiguity in the distinction between social networks and support on the one hand, and social capital on the other.

A study of United States immigrants and their native communities in the Dominican Republic demonstrates that many ideas, notions of identity, and other customs and traditions are transmitted from the country of origin to the adopted country, and that this is facilitated through the accumulation of social capital within the Dominican community [125].

In New York, there is evidence that Tango dancers within the Argentine immigrant community use a collective sense of reciprocity to circulate information about jobs, health resources, and the like [126]. Countless other studies site similar improvements in economic, health, and other outcomes related to well-being in part owing to the social capital available through relational communities [217].

The connectedness of such communities often serves as an entry-point to reach a large population of children for the purposes of improving their developmental well-being. For example, in the Muslim community, children often attend Madrassa's<sup>14</sup>. These have been used as entry points for early childhood education by such NGOs as the Aga Khan Foundation in Kenya. This also allows other aspects of ECD to be coupled with schooling [218].

Social capital also facilitates the use of respected community members or leaders as 'gate-keepers' to access the larger relational group. In communities that are particularly cohesive, gate-keepers are more likely to be able to communicate with many other members of their group through occasions at which the group congregates, and through the free-flow of information that occurs from the tight interconnectedness of community members.

## Adverse Effects Of Strong Bonds Within Relational Communities

It is also important to acknowledge the potential adverse effects of social bonds within relational communities. In many circumstances, the interconnections between

members of a community (known as bonding social capital) are not replicated in connections between communities (known as bridging social capital).

This can result in inequities between communities, especially where power differentials exist between relational groups, which tend to be the case. Though the causality is unclear, (i.e. do social bonds within relational communities increase due to social exclusion from broader society, or are these unrelated phenomena?) it is often the case that less powerful relational communities do not have full access to the social capital of the larger society in which they are embedded.

Research from Sweden demonstrates that recently arrived immigrants are far less likely to participate in civic activities than their Swedish-born counterparts. This includes gatherings such as union meetings, meetings of other organizations, and large get-togethers with extended kin [127]. Lack of social participation may have several consequences, including feelings of disempowerment, compromised access to information and services of many kinds, lowered generalized trust in society at large, and ill effects on health [127].

There are also other ways in which the lack of bridging social capital can adversely affect families, and therefore children. In an investigation based in the United States, researchers found that there were marked differences in the quantity and quality of summer-time activities in which children of different ethnicities were engaged, with ethnic minorities attending fewer programs of lower quality than their white counterparts [128]. Authors concluded that a major component in explaining these differences was the knowledge of, and access to, high quality programs, which were more prevalent among white Americans.

When relational communities are able to create bridging forms of social capital with other communities, there is evidence of the success that this creates. A study of Taiwanese companies in Silicon Valley, United States, demonstrates that these firms hold bonding forms of capital within the Taiwanese members of their organizations in order to conduct daily operations, and generate bridging forms of capital with other

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<sup>14</sup> Religious-based schools

American employees and companies in order to compete in the marketplace. Without the bridging capital, Taiwanese companies would face much greater difficulty in integrating into the American economy [129]. Interestingly, another study based in Silicon Valley showed a positive correlation between bonding (intra-group) and bridging (inter-group) forms of social capital among white and African Americans [130].

In a rural context, empirical results from Sri Lanka suggest that inter-ethnic cooperation between farming organizations (another type of relational community—based on common occupation) resulted in improved crop performance. Further, this occurred during a time of water shortage, during which Sinhalese farmers (who were located further upstream) shared water resources with their Tamil counterparts further downstream [131].

Peer culture can also be characterized as a relational community, and a significant one at that. Children spend influential time with their peers, and away from adults. ECD outcomes may be influenced by shared knowledge and practices within peer groups. In a basic sense, cognitive development may be affected by the stimulation received by a child's peers; emotional development may be shaped by a child's place within their peer group, and by the feedback they receive from their peers; physical development may be affected by the extent to which different peer groups have the access and inclination to healthy eating and physical activity.

## Relational Communities in the Context of Broader Society

It is important to reflect on the embeddedness of relational communities in the greater sociopolitical context. Earlier, the influence of relational communities in influencing governmental responses (or lack thereof) was discussed in the context of female circumcision. However, there are a variety of ways in which relational communities organize and lobby for the interests of their members.

In the case of unions (if one conceptualizes these as a relational community) this is rather straightforward. The function of unions is to

negotiate for better wages and other working conditions of their constituents. However, more socially-based relational communities also interact with government bodies. For example, ethnic and religious-based communities facing inequities may lobby for betterment of the socioeconomic conditions and improvement in all forms of service delivery for their members<sup>15</sup>. In subsequent sections, the influence of government bodies will be discussed in terms of the influence of these larger contexts in providing nurturance to children through relational communities, residential communities, and through families

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<sup>15</sup> For example, faith based organizations in the United States.

### KEY MESSAGES:

#### RELATIONAL COMMUNITY

1. Relational communities are a primary source through which families derive values, norms, and social support.
2. Bonding within relational communities may result in social exclusion (even conflict and discrimination) between them.
3. Gender norms and roles are often rooted in the social beliefs of relational communities, thus addressing gender equity at this level is essential.

## Chapter 5: The ECD Services Sphere of Influence

### Overview

This chapter focuses on ECD services as a critical component of the broad environment. Similar to relational communities, the ECD services environment may or may not overlap with one's residential community, and transcends the regional, national and global environments.

The term 'Early Child Development Services' is purposely inclusive. The kinds of programs and services that are beneficial for young children, the manner in which they are administered, and the outcomes they aim to improve are many and varied. Though it is an area of continued debate and discourse, the global community has arrived at key principles and characteristics of effective ECD interventions.

This chapter will offer discussion about some of the principles, characteristics and types of ECD programs that lend themselves to transferability (e.g., programs, services, contexts and community) and we will discuss the opportunities and barriers for scaling up. A major theme throughout this chapter is the integral role of health care systems (HCSs) in providing ECD services. This stems from the fact that HCSs are a common point of contact for families and young children throughout the world. Building on the established infrastructure (varying degrees in different country contexts) that health care systems provide, we further investigate how to build ECD capacity through these points of contact.

### Section 1: ECD Programs and Services

We ground the work of this chapter on the notion that access to 'quality' programs matter for early childhood development<sup>16</sup>. When we think of quality we think of those kinds of services that bring children

in contact with *nurturant environments*.

Quality ECD programmes and services are those that nurture all aspects of children's development—physical, social–emotional, and language–cognitive. Governments need to integrate quality ECD programmes and services into social protection policies<sup>17</sup> to ameliorate the effects of growing up in poverty for millions of children worldwide and to meet the Millennium Development Goals. The evidence is disturbing: 40% of children in resource-poor nations live in extreme poverty; 10.5 million children die from before they are 5 years old; many children never attend school; 28% of children in resource-poor countries are stunted [132]. Evidence shows that conditions in resource-poor countries that foster poverty, illness, lack of access to schooling, and malnutrition lead to an intergenerational transmission of poverty affecting the productivity of future adults and putting an increased burden of cost on the economic resources of a country. In resource-rich countries, the conditions are not as dramatic and the implications for human development are not as dire, but the differences are really just a matter of degree. Across the resource-rich world, developmental vulnerability rises as one goes down the socioeconomic spectrum, such that, in most Organisation for Economic Co-operation and Development (OECD) countries, 25% or more of children reach adulthood without the basic literacy and numeracy skills required to cope in the modern world [219]. Thus, ECD is an issue for all societies, not just the resource-poor.

Kamerman and Gabel's global overview

<sup>16</sup> Later in this chapter we will discuss the challenges of assessing/evaluating quality in ECD programs. Depending on your lens, quality is measured in various ways or combination of ways—child outcomes, parental outcomes, social networking and so on. For simplicity sake throughout this section we consider 'quality' in the sense that the environment created provides nurturance for the early childhood development

<sup>17</sup> Governments have an obligation to provide social protection affecting children which includes: 1) social assistance/economic support: conditional/unconditional cash transfers, child care grants, social pensions, tax benefits, subsidized food, and fee waivers; and 2) social services for children and their families including protective (and preventive) services such as foster care, adoption, residential treatment, family and community support services for children with special needs, as well as early childhood care (Kamerman & Gabel, 2006).



of social protection policies found that in OECD countries, policies that had a positive influence on outcomes for children included “increasing children’s access to reasonable quality early childhood care and education” [220]. They also found that in countries where resources were limited (and policy data is also sparse), priorities must be set such that the most vulnerable are targeted, while universal coverage should remain the longer term goal.

*Economic arguments:* Economists now argue on the basis of the available evidence that investment in early childhood is the most powerful investment a country can make, with returns over the lifecourse many times the size of the original investment. ECD programmes foster and promote the quality of human capital: that is, individuals’ competencies and skills for participating in society and the work force [221]. The competencies and skills fostered through ECD programmes are not limited to cognitive gains, but also include physical, social, and emotional gains, all of which are determinants of health over the lifecourse [222]. Much of the burden of disease worldwide (e.g., cardiovascular disease, obesity, HIV/AIDS, depression) begins in early childhood [223]. Accordingly, ECD programmes—which incorporate and link health-promoting measures (e.g., good nutrition, immunization) with nurturance, participation, care, stimulation, and protection—offer the prospect of sustained improvements in physical, social–emotional, and language–cognitive development, while simultaneously reducing the immediate and future burden of disease, especially for those who are most vulnerable and disadvantaged. According to the recent UNESCO Global Monitoring Report, in every country, it is children from the poorest communities who are least likely to have access to ECD programmes—“those most exposed to malnutrition and preventable diseases”—yet who would also benefit the most.[2]

Engle et al. remind us “to achieve the Millennium Development Goals of reducing poverty and ensuring primary school completion for girls and boys, governments and civil society should consider expanding high

quality, cost-effective ECD programmes” [219]. Early interventions can alter the lifetime trajectories of children who are born poor or are deprived of the opportunities for growth and development available to those more fortunate. ECD programmes and services (e.g., childcare for working parents, preschool, access to primary school) have high rates of return, and are an effective route to reduce poverty, to foster health, productivity, and well-being.

If governments in both resource-rich and -poor societies were to act while children were young, by implementing quality ECD programmes and services as part of their broader social protection policies, they would each have a reasonable expectation that these investments would pay for themselves many times over [224, 229]. In resource-rich countries where the issue has been studied directly, savings come from reduced remedial education and criminal justice costs [224, 229]. Economic gains come from improved access of mothers to the labour force [225] and increased economic activity in adulthood among those whose developmental trajectories were improved through intervention [226]. The economic benefits of ECD intervention over the long term have not been directly studied in resource-poor countries; however, a rather robust literature suggests economic growth in resource-poor nations accrues to a variety of outcomes that stem from investments in human capital [281–284]<sup>18</sup> more generally, such as increased school enrollment and improved literacy rates. It is widely understood that the transformation of the “Tiger Economies” of Southeast Asia from resource-poor, low life expectancy to resource-rich, high life expectancy societies was accomplished primarily through investment in children, from conception to school leaving. During this period, conditions for young children markedly improved, with infant mortality dropping from approximately 140/1000 in 1946 to less than 5/1000 in 2000 [133, 134]. From 1975 to 2002, the average GDP per capita in the Tiger Economies increased from approximately

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<sup>18</sup> Human capital refers to the accumulated pool of human resources that are translatable into economic productivity for a society.

\$4000 to \$23,000. [133, 134] Thus, the scale of potential economic gain for resource-poor societies in adopting child development as a cornerstone to their development strategies can be measured not just in cost-benefit terms at the micro level, but in multiples of economic scale [227, 228]. Rather than provide a “laundry list” of specific ECD programs that have evidence of effectiveness, the following paragraphs present *generic characteristics as well as strategic and organizational principles* of quality, sustainable programs that are transferable around the globe.

ECD programmes and services address one or more of the following key issues: breastfeeding, childcare, early childhood education, nutrition, and other forms of family support. These include services directed to children, such as day cares, preschools, home and community-based child development centres, and other such programmes and services. There are also programmes and services that focus on children indirectly, through their support for parents and caregivers; these include parenting programs, home support or home visiting, and other family support programs.

In addition, health care services are a very important point of contact for young children and their families. When ECD programmes and services are added to the delivery of established health care services, they become a highly effective way of promoting ECD.

The quality and appropriateness of programmes and services is a central consideration in determining whether such programmes lead to good outcomes for children [47, 192, 231, 232, 240, 242]. There are three aspects of quality in ECD programmes and services: structure, process, and nurturance. Structure includes such things as appropriate staff training and expertise, staff to child ratios, group size, and physical characteristics of the service that ensure safety. *Process* aspects include staff stability and continuity, and relationships between services providers, caregivers, and children [208, 231, 232]. *Nurturant* environments include those where exploration is encouraged; mentoring in basic skills is provided; the child’s developmental advances are celebrated; development of new skills is guided and extended; there is protection from

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#### THE EARLY CHILDHOOD DEVELOPMENT VIRTUAL UNIVERSITY

The Early Childhood Development Virtual University (ECDVU) represents an innovative approach to the leadership and capacity building requirements of countries seeking to enhance their social and economic development through addressing the human development needs of their youngest citizens, and the families and communities which nurture them. The ECDVU is a key North-South institution currently working closely with academic institutions in Ghana, Malawi and Tanzania, and with academic, governmental and non-governmental groups in other parts of Sub-Saharan Africa (SSA) and the Middle East and North Africa (MENA). The ECDVU was made possible through support received from The World Bank, UNICEF, UNESCO, the Bernard van Leer Foundation (BVLf), CIDA, a host of local organizations in a dozen ECDVU-participating countries in SSA, and four countries in MENA. International and local partner funds have allowed the delivery of combination web- and face-to-face leadership courses designed to advance country-identified, inter-sectoral early childhood initiatives. These have included, for example:

country level policy development (see Chalamanda); HIV/AIDS and single mothers’ programme development (see Nyesigomwe and Matola); and innovative parent-support training (see Habtom). These and other activity descriptions can be found at [www.ecdvu.org](http://www.ecdvu.org) (ECDVU, 2005), and in Pence & Marfo (2004). The ECDVU is one facet of a three-pronged capacity building effort—the other two being two-week ECD seminars and a major, Africa-wide conference series (Pence, Habtom & Chalamanda, in press). The ECDVU program was developed to work with communities, cultural groups, and countries in ways that respect local knowledge but also provide interaction with other sources of knowledge. The work of the ECDVU helps to advance major international development objectives, including the MDGs, Education for All, and the CRC, as well as regional and local objectives (e.g., PRSPs, SWAPs, national MDG objectives). An external Impact Evaluation (see the World Bank Evaluation [ECDVU, 2005]) conducted at the conclusion of the 2001–2004 pilot delivery noted that, “By any measure ECDVU has been singularly successful in meeting and exceeding all of its objectives. . . , there is every reason to believe that future activities will achieve even greater results for expanding and improving ECD” (ECDVU, 2005).

inappropriate discipline; and the language environment is rich and responsive [197]. Nurturant environments should also include equity in treatment of boys and girls: in opportunity, expectations, and aspirations [135]. In addition to these fundamental aspects of quality, ECD programmes and services should be based on consensus as to the nature of successful child development and a set of valid, reliable indicators of ECD [135, 243, 244] (see also Appendix C).

Beyond the aspects of quality programs, a set of principles has been demonstrated to sustain ECD programs worldwide. This includes cultural sensitivity and awareness; community ownership; a common purpose and consensus about outcomes related to the needs of the community; partnerships among community, providers, and parents; enhancing community capacity through active involvement of families and other stakeholders; and an appropriate management plan (which includes users) that facilitates the monitoring of quality and the assessment of program effectiveness [243]. With respect to ECD programmes and services, a number of studies have shown these quality principles to enhance outcomes for young children [2, 219, 240, 245]. Furthermore, the ECD programmes most associated with positive outcomes for children are those that build on existing resources and networks and revolve around the creation and maintenance of collaborative relationships between multiple interest groups, such as families, communities, and services providers [246]. Programmes that build on existing resources and networks often do so by encouraging the participation of parents, traditional caregivers, and older siblings. These types of programmes often include parent education, parent support groups, home visiting, and community-based and community-run childcare, and are strengthened by the co-ordinating support of several spheres of influence [2, 247].

ECD services may be targeted to specific characteristics of children or families (e.g., low birth-weight babies or low-income families), may occur only in some communities and locales and not others, or may be more or less comprehensively provided.

Each of these is also accompanied by their respective benefits and drawbacks; *however, the overarching goal of the governments should be to find means of providing all children with effective ECD programmes and services* [248].

**Health care systems:** Health care systems (HCSS) are in a unique position to contribute to ECD at a population level, given that HCSS are already concerned with the health of individuals and communities, employ trained professionals, provide facilities and services, and are a primary contact for child-bearing mothers. In many instances, health care providers are the only health professionals whom families come into contact with in the early years of the child's life; they thus reach the majority of children in a community. When the HCS is used as a linkage point, health care professionals can be highly effective in promoting ECD.

#### KANGAROO CARE: BEGINNINGS IN BOGOTA, COLUMBIA

Each year about 20 million infants of low birth weight are born worldwide, which imposes a heavy burden on healthcare and social systems in developing countries (Ruiz-Pelaez, Charpak & Cuervo, 2004).

Premature babies (under 2000 grams) born in poorly resourced settings may not have access to incubators and those that do are separated from their mothers. Kangaroo Care was first developed in 1978 to help premature babies with temperature regulation and bonding in Bogota. Mothers, fathers or caregivers carry/sleep with newborn babies skin to skin in upright positions 24 hours a day. Kangaroo Care has been shown to be at least as effective as traditional care in incubators at a fraction of the costs. It is a practice with roots in local traditional child rearing that has been taken up in many industrialized nations (e.g., France, Sweden, USA, Canada and more). Kangaroo Care has been shown to:

- deliver ideal conditions for premature infants
- reduce costs of caring for premature infants
- improve breastfeeding rates
- improves bonding
- in some settings reduce morbidity and hospital stay

The critical intersection of the ECD and child survival agendas happens in HCSS. While this report has included devastating statistics about millions of children dying throughout the world—many from preventable causes—here we suggest that linking ECD programmes and services with HCSS will improve child survival rates. The example of Kangaroo Care from Bogota, Columbia, is instructive here. Kangaroo Care is based on mothers, fathers, and caregivers providing skin-to-skin contact for low birth-weight infants as part of early stimulation, which has been shown to improve survival rates of the most vulnerable infants. Through skin-to-skin contact, infants gain the early stimulation and warmth that matters for their survival; costs of this intervention are minimal, but benefits are immeasurable.

While the case of Kangaroo Care is a unique, hands-on intervention, developed in hospitals and carried out within and beyond the walls of institutions, health care providers can facilitate ECD in various other ways as well. HCSS can serve as a platform for information and support to parents around ECD; they can integrate ECD into existing programs such as Integrated Management of Childhood Illness (IMCI)/Care for Development, Accelerated Child Survival and Development (ACSD), Baby Friendly Hospital Initiative (BFHI)[135] and nutrition/growth monitoring and promotion that exist in most countries; they can then link children and families to existing community-based ECD services. Examples of this process include health or community development programmes that have added an early stimulation and care component, and ECD programmes that have been coupled with other health services such as a women's health programme or a reproductive health programme. They are an important point of contact that can extend ECD programming to children and families who would otherwise have no access, and can often do so for relatively small marginal costs. Because of the opportunity that HCSS provide simple interventions can have a far reach. For example, if culturally and developmentally suitable lowcost books for early child development were available, health care professionals

could provide families with books and encourage reading and stimulation.

A notable exception to using the HCS as a point of contact is in the case of remote rural areas or urban slums of resource-poor countries, where HCSS cater to populations who are either too poor to access health services, or the services are inaccessible or too weak. In these situations, most community-based interventions for women, children, and families are delivered by NGOs and voluntary organizations (e.g., SEWA, programmes delivered by Save, and the BVLF, Aga Khan, and Soros Foundations' community development projects). Further details can be found in Appendix C, which presents two examples of community development: *Equal Access: Using Communications to Reach Parents and Communities on Early Child Development in Nepal* and *Village-Based ECD Curriculum Development in Lao PDR*.

Local, regional, and national governments, with the support of international agencies and civil society partners, must be the key players in developing, promoting, and funding a basket of ECD programs and services that conform to the principles articulated here.

## Implementation Strategies

ECD programmes and services are delivered to children and families in several ways. They can both target specific populations, or seek more universal coverage. Furthermore, services may deal with one or more aspect of early child development and or may be coupled with other types of services.

ECD services may be administered and delivered at nearly all levels of governments and via Civil Society Organizations (this term encompasses Non-Governmental Organizations, Community-Based Organizations, as well as Faith-Based Organizations) as well as large international organizations and foundations. Integrated approaches adopt a holistic view of ECD and are based on the recognition that ECD does not belong uniquely in the domains of the health care or education system. Integrated approaches to ECD services rely on multiple government ministries and departments,

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#### THE ERITREAN MODEL: AN INTEGRATED APPROACH TO ECD PROGRAMS<sup>19</sup>

The Eritrean coordinated and integrated approach to ECD can be viewed as one possible model of comprehensive ECD service delivery. The approach is based on a holistic understanding of children's early developmental needs not only from the child's perspective but from a systems perspective. The Eritrean model has taken many of the above characteristics, principles and types of programs into consideration; and also involves all levels of social aggregation in ECD service delivery. The Eritrean Integrated Approach to ECD was initiated in 2000 and was made possible by funding from the World Bank. The broad mandate of Eritrea's new integrated approach to ECD is to reach the Millennium Development Goals and the goals of the Education for All movement. This broad mandate, as well as specific program goals are clearly laid out in a policy document which acts as an administrative guide for the multiple government ministries and sectors of society that are participating in this co-ordinated effort. By combining the following five major components—Early Childhood Education and Care, Child Health, Child and Maternal Nutrition, Socioeconomic support for children in need of special protection, and strengthening of the EECD Program Management, Supervision, and Strategic Communication—Eritrea has managed to create a comprehensive and integrated national ECD program [249]. The Eritrean approach is an exemplary model of how societies can strengthen and promote the healthy development of children and families.

Designing and implementing this new integrated approach involved several steps. First, the target groups were identified—children, families, caregivers, community institutions e.g. health centres, community centres, schools, policy makers, donors etc. Second, the nature of the integrated package of service delivery was defined—e.g. a focus on all domains of child development as well as a focus on socio-economic development. Third, the type of institutional arrangements necessary for service delivery were identified e.g. sectors were given equal status, encouraged to work towards common goals, and an ECD Management Team and an ECD Policy Technical Support Committee were created in order to coordinate the activities of these multiple sectors. These three primary steps resulted in the creation of an integrated multi-sectoral program which operates on many levels including policy, strategy & planning, implementation in provision of services, and activities such as training,

development of guidelines and manuals, messages for sensitization, monitoring and evaluation [249].

At the level of policy and implementation there is a mandate to raise awareness, provide standards for provision of services, develop capacity, implement an inclusive approach, contribute to the development and implementation of an integrated parenting enrichment and resource centre, and generally promote environmental health and hygiene. At the level of service provision village level control and co-ordinate of programs is encouraged by national support for permanent local staff people. These village level staff communicate with Village Working Groups and Zonal Working Groups (each administrative zone consists of several village in a geographic area) and function as an important channel through which training, program monitoring and evaluation take place on a quarterly basis.

Eritrea's Integrated Approach to ECD, while still in the early stages of implementation, has nonetheless generated several success stories. In the area of Early Child Education and Care 105 kindergartens were established, 6 Resource Centers were built and 291 Community Care Giving Centers were opened. A School Health and Nutrition Program was implemented nation-wide resulting in increased preschool and primary school enrolment. In the area of social protection, 31,895 orphans were successfully reintegrated in 11,668 host families, 10 group homes were constructed accommodating 96 orphans and 56 Group Home Mothers and social workers were trained. 366 street children received vocational training and 262 families with street children were given economic support. In the area of Child Health, US \$7.4 million of medicine, equipment and vitamins were procured and distributed. 123 latrines and 112 water and sanitation interventions were constructed. 602 health workers were trained and 2,239 Growth Monitoring Promotion workers were trained. 3000 mothers were trained in food security. 10,000 smokeless stoves and 130 water pumps were distributed to needy mothers.

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19 The Sure Start programme in England is another example of how multiple government ministries integrate their ECD services. See <http://www.surestart.gov.uk/>



including, but not limited to departments of health, education, social welfare, and children and families, for example.

Eritrea has a newly developed integrated approach to ECD. It was development in 2000 and is now in its early stages of implementation.

## Scaling-up ECD Programs

Scaling up is a process whereby as societies we go from pockets of children having access to nurturant conditions to universal access to nurturant conditions and environments. As evidence accumulates on the costs and benefits of model exemplary programs that have only limited implementation, more research on the process of bringing ECD programs to scale will be necessary. What is clear, however, is that the involvement of multiple layers of society is instrumental for the success of programs. The capacity of local knowledge and expertise are enhanced through the organizational infrastructure and financial resources of governments and other larger entities. As well, these linkages provide a means for scaling up the ECD services that are available in different localities, to move toward universal availability of these services for all young children. According to Barnett [250]:

A small-scale program, however, can lose many of its benefits when expanded into a large-scale government program. At this time, research is unclear about why this frequently occurs. One reason may be that governments underestimate the costs and expand programs with much less funding for each child served than the model used. It is now being observed through pilot studies that some types of programs may expand easily into national programs, whereas other programs may encounter barriers, which greatly reduce the success of the expansion. Strategies for building infrastructure, including administration and training, may facilitate successful program expansion. Limiting program expansion to a manageable annual rate of growth may also be advantageous. A study of the issues involved in scaling up ECD programs could be instructive for the task of creating a global environment that is supportive of children's health and development.

### REQUIREMENTS FOR BRINGING PROGRAMS TO SCALE

- political commitment of the important and involved parties
- local level ownership of and commitment to the scaling-up process
- creation of scaled-up program sustainability through policy and leadership changes
- creating sustainability through training programs that train and empower trainers to be agents in change
- development of the capacity for training at the local level
- municipal level control and commitment to local programs
- attention, appreciation, and inclusion of local/municipal concerns, issues, attitudes, etc.
- creation of an enabling environment for social and professional change
- presence of or creation of a large scale and effective communication/information distribution system
- reliance on public and private sector funding, i.e. combining funding from private foundations, and international development funds with governmental funding
- political and financial support from Ministries of Health, Education, etc. and State Governments
- working with a social, educational or health philosophy, such as health equity or personal empowerment through education and engagement
- working with community-based and community-engaged programs
- having pilot studies, and evidence-based research to validate and support scaling-up

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Despite the gaps in knowledge, the results of several pilot studies have identified some of the conditions or requirements that are essential for successfully bringing programs to scale. The following list of the conditions/requirements needed for successfully bringing programs to scale is general and preliminary because the process of scaling-up ECD programs has yet to become a subject of systematic study.

In addition to the conditions that support the scaling-up process, pilot studies have identified a series of barriers, which undermine the success of the scaling-up

#### BARRIERS TO SUCCESSFULLY BRINGING PROGRAMS TO SCALE

- pace of expansion, especially in terms of time need to create policy, resources, and structures for scaling up
- lack of resources
- degree of change required by the service delivery system to accommodate the new program
- lack of political commitment at all levels
- policy/leadership changes
- time and resource investment
- long-term failure of training programs
- lack of formalized agreements between sectors of government
- lack of capacity to organize and manage a scaled-up program

process. The types of problems associated with bringing a small locally-conducted program to a larger, national scale include, problems in co-ordination, management and decision making, problems in ensuring quality-control, problems with resources, problems with sustainability, and problems with commitment to and relevance of the program at all levels. Above is a summary of some of the potential barriers that make the scaling-up process difficult.

### Evaluation and Assessment of ECD Programs

Assessing the quality of these ECD programs is an extremely challenging and complex issue. There are differing views regarding the metric(s) by which to assess quality, and often, programs are not assessed at all due to budgetary and time constraints. As well, it is often difficult to judge those key attributes of ECD programs that can be used in other settings, versus those whose value is idiosyncratic, and specific to the context in which

they occur. Program assessment, however, is now globally recognized as an important and essential part of making ECD both a national and a global development priority.

Program evaluation and assessment can identify the efficacy of ECD programs to achieve program goals. Evaluation can monitor program outcomes in order to chart the changes and progress being made. This evaluation data can then be used in several important ways. It can be used to reflect on program design and make changes that will increase the efficacy of the program. It can be used to advocate the expansion of a given program. It can be used to obtain funding and gain political support for a program; and it can be used generally to advocate for the establishment of comprehensive and permanent national ECD programs.

While we are promoting the notion of ECD program *types* and *principles* as well as the *qualities* of nurturant environments that matter for successful ECD programs, the Knowledge Hub also acknowledges an important body of research involving successful ECD interventions and programs.

### Cost-Benefit Perspective

#### A COST-BENEFIT PERSPECTIVE ON POLICIES THAT FOSTER EARLY CHILD DEVELOPMENT

The TEAM-ECD framework recognizes that policies have a major influence on early child development. Policies may be enacted at multiple levels of government, including localities (such as cities or towns), provinces, states, and other regional entities, at the national level, and even at the international level. Policies relevant to ECD focus directly on ECD programs and services (most commonly early childhood education programs), but broader social and economic policies also have a strong influence on ECD. In fact, it has been suggested that in order to foster successful societies, it is imperative to utilize a “child centered social investment strategy [136].”

However, as with all policies, there is a need for evaluating those that provide strong returns (in this case to ECD), and especially that do so at as low a cost as possible.

This section reviews some of the seminal studies regarding the costs and benefits of ECD-related policies. Overall, findings suggest that, even when using conservative assumptions, the benefits of providing publicly funded child care outweigh the costs, and in fact "...represent a prudent and productive use of scarce public funds...[137]" Unfortunately, there is insufficient evidence to judge the costs and benefits of social and economic policies with respect to their influence on ECD.

#### EVALUATIONS OF MAJOR EARLY CHILDHOOD PROGRAMS IN THE UNITED STATES

The United States has created several major programs directed at young children. Most of these have been targeted, with the objective of providing services for the most disadvantaged members of society. One such endeavor is the program for Women, Infants, and Children (WIC). WIC intends to improve the nutritional status of young children by providing food, breastfeeding counseling, and other nutritional resources to 'at-risk' low-income women and their children up to five years of age.

WIC has been evaluated in terms of its cost-effectiveness primarily in contrast to the amount saved by Medicaid (the health insurance program in the United States for the most disadvantaged of their citizens). Analyses have demonstrated that there has been a significant cost savings in the Medicaid program due to the implementation of the WIC program (in the order of \$1.77 to \$3.13 in savings on Medicaid for every dollar spent on WIC) [138].

In another project, the Perry Pre-school program, a randomized control trial was used to assess the influence of this early childhood education program on future outcomes of children. Using a total sample of 123 children, results demonstrated that the group participating in the Perry Pre-school program had higher school completion rates, higher literacy scores, higher earnings, greater home ownership, and fewer occurrences of socially deviant behavior, out-of-wedlock births, and receipt of social services. The monetary equivalent was estimated to be \$7.16 in

benefits to the general public for every dollar invested initially in the program [251].

The Head Start Program, larger in scale than the Perry pre-school program, has also been evaluated extensively. Short-term results suggest gains in cognitive test scores, however, these recede considerably over time for African-American children [252, 253]. The Head Start Program differs from the Perry Pre-school program in that it is much more universal, heterogeneous in the population it serves, and much less well funded. Additional studies have attributed much of the difference between Perry pre-school and Head Start to differences in the quality of the two programs [253, 254].

Overall, one major conclusion that can be drawn from the American intervention programs is that social development and skills that are fostered early are much more likely to result in sustained improvements in social outcomes over time. By contrast, interventions aimed at improving cognitive skills and intelligence quotients have been much less successful to date [139].

#### CASE STUDY OF BOLIVIA

There are few examples of evaluations from ECD programs in resource-poor nations. In this section, we discuss evidence from a Bolivian ECD program, known as the PIDI program. The PIDI program "...consists of non-formal, home-based day-care centers where children receive nutrition, health, and cognitive development services..." The PIDI uses a model in which there are 15 children per center, with one main caretaker and two assistants. Children receive meals, immunization and other basic health care, and a curriculum of games and exercises aimed at promoting their cognitive development. Like the example of the American programs, PIDI is targeted, and intended for very poor families living in near-urban areas. The cost of PIDI is considered to be high, and is estimated at approximately \$50 million to \$100 million annually, for the 150,000 to 300,000 eligible Bolivian children.

The benefits of PIDI are tremendous. A study conducted on this program suggests that the first place to begin in calculating

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the benefits of this program is to estimate its influence on child survival. Results show that the mortality of children enrolled in PIDI is less than 1%, compared to approximately 20% among the same population not enrolled in PIDI. This is largely attributed to the safe, hygienic environment of the child care centers, and to the nutritional benefits that the program entails.

There are also benefits in terms of psychosocial development. Prior research demonstrates that 40% of children show signs of stunted psychosocial development at the point of initial enrollment into PIDI. After one year of participation, this rate is reduced to 20%, and after two years to 5%. In terms of school enrollment, data suggest that almost all children who leave PIDI enroll in primary school, an improvement of 20% in this population prior to the existence of the program.

All of these factors are thought to increase the productivity of the program's participants. In monetary terms, using several sets of assumptions, the future productivity-related benefits of PIDI amount to \$1,935,652 or 126% in excess of the initial investment.

However, there are also other benefits other than those that can be expressed in productivity terms, also known as indirect program benefits. In particular, there are also gains to be made for society at large, such as those that accrue from potential reductions in future fertility. Study authors estimate possible reductions in fertility of 30% to 60% (the program is too young to have empirical data on this topic). Further, there are also hypothesized improvements in social citizenship accruing to initial investments in an ECD program such as PIDI.

#### CASE STUDY OF CANADA

There are also insights to be gained from Canada. A Canadian based study suggests that for every dollar spent on publicly funded high quality child care for all children aged two to five years with working parents, as well as enriched nursery school for children who receive primary care from a parent at home, there are two dollars worth of benefits that accrue to children and their parents [137].

Based on the case study of Canada, the basics costs of early child care are as follows. One of the main costs of providing high quality child care is the wage and benefit levels required to hire well-educated, well-trained, and dedicated staff. Other factors for determining the cost of child care include the ratio of children to staff utilized, and the number of children who would utilize full-time versus part-time care. In Canada, the estimated cost in 1998 was \$8500 for full-day care in a good quality early childhood education program, which results in a gross expenditure of \$7.9 billion, or \$5.3 billion after accounting for current government expenditure—the equivalent of less than 1% of Canada's gross domestic product (GDP). By contrast, France spends approximately the same amount as a percentage of its GDP, while Denmark spends 1.2% of its GDP on programs for children under six years of age, and Sweden spends 2% of GDP for all preschool and school-aged children.

It is difficult to assess in monetary terms the benefits of early childhood programs to child development. It is also difficult (although perhaps less so) to understand the value of these programs to parents in terms of employment benefits. Using different sets of assumptions, the Canadian case study projected the net benefit of a publicly funded child care program to be \$4,308 per child in child development benefits and \$6,240 in labor force benefits to parents, per child.

However, aside from a cost-benefit assessment, public funding also requires another means of justification: that a significant proportion of the benefits must accumulate in the public domain, rather than being purely private (i.e. benefiting solely the parents themselves). Though this is again, difficult to quantify, the Canadian case study suggested that, in fact, there is considerable public interest in high quality child care. High quality child care, they argue, enables parents to seek stable and continuous employment, and has marked positive effects on child development. Further, in later life, children whose development is nurtured in early life "...as adults, they are more productive, their health is likely to be better, they pay more taxes and are less likely to require welfare and other social transfers..."



## EVALUATING THE IMPLICATIONS OF BROADER SOCIAL POLICY EFFECTS

As has been highlighted by both the case study of Bolivia and of Canada, there are wide implications of providing nurturant ECD programs, beyond those of the immediate gains in child development. There are economic, social, and well-being related benefits that accrue to both individuals and to society at large. It also follows then, that aspects of society other than the design and implementation of ECD programs also developmental status of children, and the outcomes that flow therein.

The work of James Heckman is central to the knowledge to date regarding investments in early childhood. His research suggests that human capital formation requires emphasis on families, which he states "...are just as important, if not more important, than schools in promoting human capital..." [139] Changing quality of schools (e.g. class sizes or teacher salaries) will only create marginal benefits. Heckman's research suggests that tax policy does not yield strong effects on human capital formation per se, but may have indirect effects through its influence on wage inequality, a strong consideration in terms of nurturant environments [139, 140].

There has also been additional speculation regarding the influence of various social policies on early child development, though little data regarding these associations (let alone their costs and benefits) has been garnered to date. Empirical evidence using data collected by the OECD has started to demonstrate that, across nations, those that have the most 'generous' welfare provisions tend to be those which support the highest average levels and lowest socioeconomic inequalities in cognitive outcomes [134]. Multilevel analyses of these nations demonstrate that levels of social spending and reductions in income inequality also foster literacy outcomes among adolescents [141]. Less is known about social outcomes. Future research must continue examining these issues, with emphasis on the cost-benefit analyses of wider social policies and returns to ECD, difficult as these calculations may be.

### KEY MESSAGES:

#### ECD PROGRAMMES AND SERVICES

1. Public investment in early childhood programs and services is extremely powerful, with far greater returns to society occurring in many areas (education and beyond) and throughout the life course.
2. The ultimate goal of every society should be universal access to quality services and programmes that are built on existing service infrastructure (e.g. health care system).
3. There are multiple entry points for ECD services and programmes, including health care systems, community-based childcare, and preschool education.
4. Health care systems (HCS) are in a uniquely powerful position to contribute to ECD, since they are often the first system-of-contact for children and mothers.
5. HCSS can ensure that development programmes address ECD in a comprehensive manner, combining health and nutrition with early learning; addressing the needs of children and of families.
6. Current effective strategies through HCSS should be widely implemented in resource-poor countries.
7. Those responsible for ECD programmes and services must develop partnerships with families and tailor services to the needs of those they serve.
8. Programmes and services should be built upon understandings of quality and equity, and should be monitored in these regards.
9. Governments have a central role to play to ensure that ECD programmes and services are fully integrated into social protection policies.

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## Chapter 6: The Region as a Sphere of Influence

### Overview

As the scientific and first-hand knowledge of early child development grows, it becomes apparent that the broader environments in which children are embedded are also pertinent, indeed critical, for their welfare. One such environment is the regional environment. ‘Region’ is a loosely defined term that refers to various sub-national geopolitical entities such as urban versus rural areas, states, provinces, and the like.

Regions may be very significant for child development, particularly their social, economic, political, ecological, and population health characteristics. In some instances, the sheer ‘balance of power’ or perceptions of regional versus national influence over citizens’ affairs is in and of itself a factor that is influential for well-being of children as well as adults. The main purpose of explicating the regional environment is to demonstrate that, within nations, socio-political conditions (and associated factors) may not be homogeneous, and that their variation likely occurs along geopolitical boundary lines, leading to potential inequities between regions.

### Economic and Ecological Characteristics of Regions

Admittedly, most of the importance attributed to the regional environment is due its compelling nature at a conceptual level, rather than direct supportive evidence. For instance, it is known that economic circumstances of areas (from smaller environment such as neighborhoods, to larger ones such as nations) are significant for child health and population health in general [255]. It follows then that regional economic well-being might also be significant for children. Further, in many nations, there tends to be marked

differences in income and wealth of regions within any given nation [256].

We know that in low- and middle-income countries, inequalities in child health outcomes—for example under-five mortality rates—vary according to geography, such as between rural and urban areas and between provinces. In regions where this is the case, the inequalities are often due to unequal allocation of resources [90]. Regional inequalities in ECD can also be seen in resource-rich countries, as is the case for the province of British Columbia, Canada [257].

The map in Figure 6 demonstrates a three-fold difference in rates of vulnerability (14.0–45.9%) for children reaching school age (5 years) according to the Early Development Instrument (see Appendix D). The pie charts layered on top of the regional areas describe the social and economic characteristics of the given region. Figure 6 shows the scale of social and economic inequality across regions and the associated inequalities in child outcomes. In many regions, however, SES does not seem to predict vulnerabilities in ECD. The research to understand how some low SES communities “buck the trend” and produce good ECD outcomes is, itself, in its infancy. We are confident that when the characteristics of these “resilient communities” are better understood, they will provide useful lessons for communities around the globe. Figure 6 also demonstrates what a powerful tool the mapping of ECD by locality and geographic region can be for the purposes of public discussion and policy-making. In regions with high levels of inequality it has been shown that poverty impacts performance in the early school years.

In geographically larger nations weather conditions also may vary, which, in addition to affecting economic circumstances may also result in differences in ecology and thus types of disease exposures, especially infectious diseases [258]. In Nigeria, a study found that the nutritional status of nursery children differed significantly between the southern region (Lagos State) and the northern region (Jos Plateau State) [142]. This study cited differences in the rate of parasitosis as a possible primarily explanatory factor.

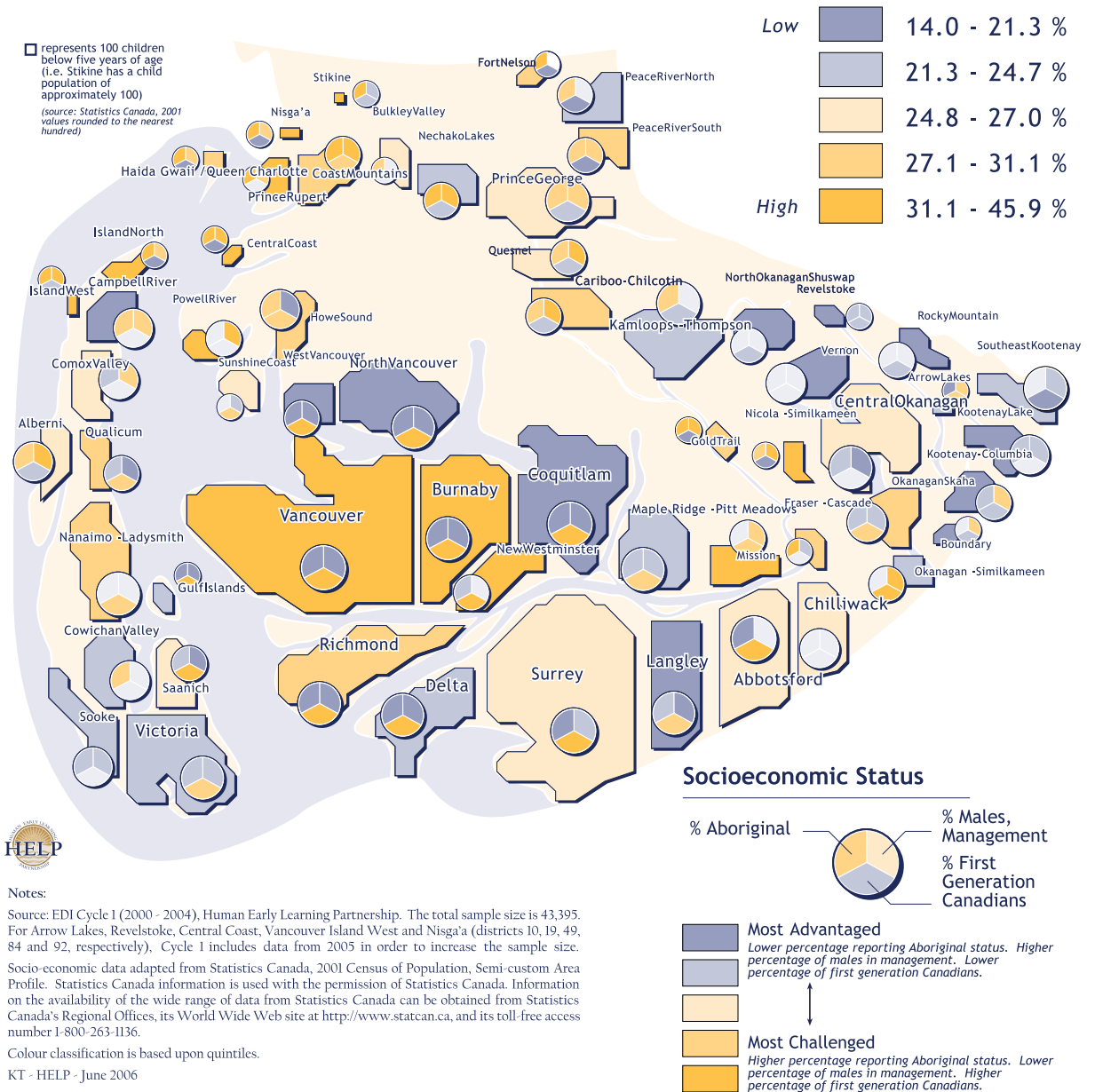
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## Vulnerable on One or More Scales

Percentage of children vulnerable

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**FIGURE 6: EARLY DEVELOPMENT  
INSTRUMENT VULNERABILITY MAP**

The presence of parasites in turn varies by regional climatic and ecological conditions. Infectious disease may affect many aspects of the health of adult caregivers or of children themselves. When the health of adult caregivers is affected, so too is their ability to provide nurturant environments for children.

Sickness compromises one's ability to be gainfully employed in a consistent manner (which in addition to affecting family income can, in aggregate, affect regional economies [143]), and also diminishes the capacity to provide other important aspects of adequate care giving, such as nurturing, warmth, and



attention. When children themselves are exposed to diseases, there are obvious detrimental effects on their physical development. However, less is known about the influence of infectious disease on children's socio-emotional and language/cognitive forms of development.

## Sociopolitical Aspects of Regions

### INCOME INEQUALITY

In contrast to most area-level analyses, which tend to focus on pure economic factors, most of the research thus far on regional characteristics in relation to human welfare (if not child development itself) concerns the impact of the socio-political environment. For instance, there is a rich literature (primarily derived from the United States) that demonstrates an association between state-level income inequality (i.e. distribution of income) and a variety of health outcomes. This research suggests that, above and beyond the wealth of a region (in this case, the state), the greater the inequality in the distribution of income between households, the worse the health and related outcomes of the population, including adult mortality, infant mortality, low birth-weight, malignant neoplasms, coronary heart disease, expenditure on medical care, homicide, and violent crime [144-146]. The extent of income inequality, in turn, is determined by decisions made partially at the regional level (but also at higher levels, such as the nation) regarding wage rates, income tax, transfers, social expenditures, and other mechanisms of distribution and redistribution [147].

### SOCIAL CAPITAL

The presence of more egalitarian distribution of income and associated policies are themselves linked with social climates in which there is a sense of collectivity and cohesion, or social capital [102]. At the regional level, social capital has been operationalized in many different ways. The most common approach is to aggregate the responses of individuals within a region to social-capital-related survey questions, thereby arriving at a regional 'level' of cohesion. Questions that are thought to reflect social capital include those that concern the extent of social trust, norms of reciprocity,

and participation in civic associations. Using such measures, previous studies have shown that at the state-level in the United States, social capital is associated with the extent of income inequality [148] and with measures of health itself for both children and adults [148, 149].

In one of the best-known works on social capital, the 20 regions of Italy were examined, in order to understand factors that accounted for differences in the functioning of each of their local governments [102, 150]. Results suggested that indicators of social capital primarily account for the wide variation observed in government performance there. Governments which performed the best (as measured by responsiveness to citizens) were located in the northern region where civic participation was far greater compared to southern Italy, where governments were characterized by high levels of corruption and inefficiency.

Though there is insufficient evidence to understand whether (or how) income inequality influences health in resource-poor nations, there is evidence of the influence of social capital. A study conducted on different areas in India concluded that reduced inter-ethnic conflict was associated with the presence of common (rather than ethnically segregated) social institutions (e.g. business development councils). The hypothesized mechanism was the increase in bridging social capital attributed to increased inter-ethnic interaction [259].

### WOMEN'S STATUS

Other types of socio-political factors in regions are also significant. One characteristic that figures prominently for human welfare is the extent of women's economic, social, and political welfare. In the United States, women's status, as measured by political participation and economic autonomy was predictive of the health of women and of men [151].

In southern India, a large body of research has found that the norms of this region, in contrast to the norms of northern India, "...provide women more exposure to the outside world, more voice in family life, and more freedom of movement than do the social systems of the north...[152]" In fact, recent

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research findings rebuke the notion that differences in women's autonomy in South Asia can be ascribed to religious differences (with the main suggestion that Hindu women are more autonomous than Muslim women). These findings show that the north-south regional differences are much more salient [152]. Women's autonomy itself is determined largely by women's education, which is much more accessible in southern regions of India, such as the state of Tamil Nadu [152].

There are also commensurate differences in the health status of women and children between northern and southern India. Fertility rates and lower and contraceptive rates higher in the north compared to the south [153-155]. By the end of the 20th century, infant mortality rates in Kerala, India had fallen to approximately 17 deaths per 1,000 live births, compared with an Indian average of 90 deaths per 1,000 live births [260]. The differences in the sociopolitical climate between northern and southern India have also been found to influence rates of abortion. Abortions in rural areas of India tend to be performed by under-qualified practitioners in unhygienic conditions, and account for a major cause of maternal mortality there and in other resource-poor nations [153].

#### COMPLEXITY OF REGIONAL FACTORS

In other regions of the world, regional factors also seem to be significant for population health and well-being. The factors involved are equally complex, and often difficult to ascertain. In Brazil, for example, there seems to be clear regional differences in the prevalence of Acquired Immuno-Deficiency Syndrome (AIDS). Rates in expanding urban areas seem to be particularly high, with the triangle region joining the major metropolitan areas of southeastern Brazil, Sao Paulo, Rio de Janeiro and Belo Horizonte [156]. This has been attributed to many factors that distinguish this region from others, such as the density of population, prevalence of poverty, and migration patterns.

The influence of the regional environment is certainly significant for many aspects of human welfare in general, for the physical health and development of children, and

likely for their language/cognitive and socio-emotional development as well, though these propositions require further investigation. Various interrelated aspects of the regional environment are important in aiding or detracting from well-being. They are also integral for exacerbating or mitigating inequities in resources and in outcomes across regions.

In addition, many interrelated factors determine the regional environment itself, and its relative 'potency' compared to more micro or more macro environments. In nations where regions exert fair independence and autonomy, these geo-political units become even more salient for population health and development. In nations that are smaller, and exhibit greater centralization, regional factors may not be as considerable. There are also circumstances in which regional environments may interact directly with supra-national/global factors. In other words, the global environment may differentially influence some regions within nations compared to others. A classic example of this is the effects of global industrial relationships and practices on the environment of the Brazilian Amazonian region, and the effects on the populations there that follow [157].

All of this suggests that it is necessary to be mindful of regional variability within nations, and the regional environment as a source of nurturance for ECD. In future sections, the larger environments in which the region is embedded, namely the national and global environments, will be further explicated.

#### KEY MESSAGES: REGIONAL

1. Monitoring variation in children's developmental outcomes at the regional level provides insights regarding 'nurturant' macro-environmental conditions.
2. Effective governance for ECD programs and services generally takes place at the regional level.
3. 'Indirect' (social/economic) policies that affect ECD are also often enacted at the regional and national levels.

## Chapter 7: The Nation as a Sphere of Influence

### Overview

The national environment serves as a powerful influence on early child development. The basis for this statement comes in part from direct evidence on national-level factors and in part from an inescapable logical extension of the profound impact of socioeconomic factors at the family and neighborhood levels on children's well-being. In other words, if socioeconomic conditions matter, then so too do the societal conditions that create the conditions themselves [77]. These conditions are largely a function of the institutional and structural aspects of the nation.

### Economic Well-Being and Distribution of Income

The economic status of nations is well known to influence well-being. For most of the world, increases in national income are associated with increases in life expectancy [261] and a host of other health outcomes for adults and children [262]. Less formal evidence exists for other types of child development outcomes, however in studies of adolescent and adult literacy, there is also an apparent association between per capita gross domestic product and levels of reading, math, and science literacy [263]. Policies that foster economic growth, therefore, are very relevant to early child development.

However, past research also demonstrates that economic prosperity is not, in and of itself, sufficient for well-being. In fact, among the wealthiest countries of the world, additional gains to national income confer no effects on various measures of well-being. Among these nations, (and even among some of the middle- and low- income nations), the degree of income inequality seems to be an independent contributor to health status.

Cross-national studies have found an association between the dispersion of income at the national-level and a variety of population health indicators, including life expectancy and infant mortality [158, 159]. In fact, the effect of income inequality on infant mortality withstands the effects of other powerful predictors of mortality during the first year of life including doctors per capita, nurses per capita, indicators of urbanization, female literacy, and reproductive rates [160].

It should be acknowledged that, across nations, there are mixed results regarding the income inequality-health association. Among the studies conducted in this area, income inequality tends to be significantly associated with measures of health in studies based within the United States [144, 145, 148, 161, 162, 264]. Most elsewhere, however, researchers have obtained null results. These studies have been conducted in countries such as Japan [265], Chile [266] and New Zealand [267]. Several reasons for this pattern have been put forward, including the possibility that the association between distribution of income and population health in the United States is anomalous.

However, the observation has also been made that income inequality is related to the extent of social provisions that benefit health<sup>20</sup> [268, 269]. Thus, the evidence is also consistent with the notion that the countries (such as the United States) which are marked by high levels of income inequality, offer weak social welfare protections, and consequently demonstrate poor population health. By contrast, nations such as Japan, Denmark, and New Zealand, are marked by lower levels of income inequality, stronger welfare states, and better population health. Framing the literature in this manner makes an examination of income distribution across nations compelling<sup>21</sup>.

<sup>20</sup> Coburn (2000) refers specifically to the concept of "neoliberalism" as being the root cause of income inequality. He defines neoliberalism as domination of free-market ideology in the functioning of the state, and civil-society, which he sees as inextricably linked. We see his notion of neoliberalism as being the antithesis of social welfare provisions, and a strong social welfare state. We focus in this paper on these latter concepts, which seem more clearly defined in the literature, and thus provide greater opportunity for precision of measurement.

<sup>21</sup> Early work in this area was largely cross-national and ecological in nature (Rodgers 1979; Flegg 1982; Waldman 1992; Wilkinson 1992; Wilkinson 1996), though most efforts since then have focused on single nations.

## SOCIAL ENVIRONMENT

As introduced in the section on regional environments, the extent of income inequality is associated with the extent of social capital found in societies. Prior evidence comes from research on health trends in Central and Eastern Europe; in particular the rapidly increasing mortality in this region during the time of communist transition, in which income inequality rose dramatically. During this period, it has been noted that neither heart disease, nor cancer, nor infant mortality, whose trends remained stable, contributed to the sharp acceleration of mortality. Instead, it was increases in deaths due to homicide, mental disorders, and cirrhosis which showed significant departures during this time period, from their previous secular trends [163].

This pattern is indicative of a deteriorating social environment. This is further corroborated by the fact that decline in health status was more pronounced among single individuals than those that were married, suggesting that the political economy was a more likely a source of social corrosion than of corrosion of family life [164]. Other studies tested this hypothesis in a more formal manner using data from the 1980s, and found that by one measure of a functioning civil society, trust in institutions, Central and Eastern Europe show markedly low trust, especially concerning parliamentary bodies and trade unions [122, 133].

In turn, low social capital manifests as low levels of political participation or conversely, high levels of political apathy. This is particularly true of ‘bridging’ and ‘linking forms of social capital, which refers to relations in society that “are outward looking and encompass people across diverse social cleavages [107]”, especially those that bridge power differentials and provide access to public and private goods and services [270]. Examples of action brought about by bridging social capital are the civil rights movement in the United States, and the anti-apartheid movement in South Africa.

## SOCIAL WELFARE POLICIES

Thus far, the scarce evidence on several national-level factors that are important for children’s well-being (either directly or indirectly) has been highlighted. These factors, including economic development, income inequality, social capital, and political participation, are themselves intimately linked to policies that are fostered at the federal level. Evidence from the political economy literature for example, demonstrates that tax and transfer policies have a large influence on income inequality [165].

Unfortunately, the evidence of the direct impact of policies themselves on children’s welfare is even scarcer than that of policy-related factors such as the ones discussed. This may be due to the lack of availability of data, and the manner in which the literature on social determinants of health has unfolded; beginning with a focus on more proximal social conditions and slowly moving to larger geo-spatial considerations. Further, the evidence that is available on policy effects is concentrated largely on resource-rich nations.

To date, one of the most comprehensive reviews of social policies in relation to inequities in child welfare across countries examined the impact of policy on child (i.e. family) poverty among the OECD nations [166]. The review identified five primary policy domains that matter: 1) income transfers (cash and tax benefits), 2) employment policies, 3) parental leave policies, 4) early childhood education and care services, and 5) prevention and other interventions related to teen pregnancy and births. Data from the Luxembourg Income Study has demonstrated that, based on market income (i.e. prior to taxes and transfers), at 31%, poverty rates<sup>22</sup> in the United States are up to 5-6% lower than in several OECD nations, including France and Sweden, and on par with others such as Australia, Canada, Spain, and Germany. However, after taxes and transfers, the United States has the highest poverty rate among the OECD nations at 18%, between 6% and 11%

<sup>22</sup> Poverty was measured using a relative standard of 40% of median income, and 50% of median income.



higher than all other OECD nations with the exception of Australia which has a post tax and transfer poverty rate of 16% [100].

The difference in poverty rates is even more marked with respect to children of lone mothers. Prior to transfers, poverty rates across OECD nations are consistently high, with a range of 32% in Italy, to 80% in the Netherlands. However, after redistributive measures are applied by governments, the rate for lone mothers is reduced to approximately 10% in many OECD nations, with a low of 4% in Germany. By contrast, the poverty rate for lone mothers in the United States remains at 60% [167].

#### CASH TRANSFERS IN MEXICO: CASE STUDY OF PROGRESA

An interesting randomized control trial in Mexico has integrated access to transfers with improvements in children's physical health and has shown much success. PROGRESA (renamed OPPORTUNIDADES) is a national program designed to mitigate the effects of extreme poverty and socioeconomic inequalities in child well-being.

The program involves giving cash transfers to families, provided that children aged 0-60 months are immunized and attend well-baby visits where their nutritional status is monitored, they are given nutritional supplements, and their parents and caregivers are given health education, pregnant women receive prenatal care, lactating women receive postpartum care, other family members receive physical check-ups once per year where they also receive health education, and adult family members participate in regular meetings where health, hygiene and nutritional issues are discussed.

An evaluation of this study found that children born during the two-year intervention period experienced one fourth the illness in the first six months of life than the control children, and children aged 0-35 months during the intervention experienced 39.5% less illness than their counterparts in the control group. Children in the PROGRESA program were also one fourth as likely to be anemic, and grew one more centimeter on average. Finally, the results of this study

suggest that the effects of the program were cumulative, increasing the longer the children stayed in the program [168].

#### OTHER NATIONAL POLICIES

Data from OECD nations also suggests that policies that promote maternal employment are crucial to decreasing child poverty. For example, a reduced (35 hour) work week and increased flexibility in work schedule (such as the policies found in France) has assisted parents in maintaining a better work life/home life balance. Generous parental leave policies are also an important element in providing women with the opportunity to enter the labor force, and thus contributing to reduction in maternal (and thus child) poverty rates. Early Childhood Education and Care (in addition to direct benefits to children) also provides a further mechanism for women to be gainfully employed.

Finally, the report highlights the importance of decreases in teenaged births as having great significance, and themselves being related to "...greater knowledge about and access to more effective contraception...and lower rates of income poverty and inequality which exclude youths from the benefits, cultural norms, and aspirations of the majority...[166]"

National policies are a major determinant of ECD. Policies that are significant transcend sectors that have traditionally been viewed as important for children such as education and health care. They include policies related to economic growth, taxes and transfers of income, employment and labor market policies, to name just a few. National policies that are nurturant for children are, in turn, shaped by the extent to which citizens and political entities prioritize child welfare, but also by the extent to which nations are able to act as autonomous agents with regard to internal policy matters. Nations whose ability to act independently is compromised by global economic and political factors, can only implement policies in favor of their citizens if this is promoted and supported in the global landscape.

It is often said that problems that are not measured or counted become invisible to the

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global community. We therefore put forth the suggestion here that creating a global measurement system to monitor ECD is an essential component of every nation's ECD strategy. We highlight here the major considerations in creating a means to measure ECD around the world.

## Population-based Measurement of Early Child Development from a National Perspective

In the international development community, there have been multiple efforts to assess social welfare in ways that facilitate comparison across societies. To date, many approaches have been developed, each with their own set of assumptions regarding the factors that contribute to, and reflect, well-being. The World Health Organization's Commission on Social Determinants of Health Knowledge Network on Early Child Development proposes that ECD is an outcome (or rather, a set of outcomes) that is fundamentally reflective of the *social success of societies*. ECD is also an indicator of future societal success because it is associated with learning skills, health, and other measures of well-being throughout the life course, and as such, can be considered a fundamental measure of the potential for societies to flourish in multiple social domains. The extent to which a nation provides opportunities for healthy child development is the extent to which the well-being of its most vulnerable members is supported.

Prior literature suggests that individuals within societies are differentially affected by adverse conditions such as lower levels of GDP, and high levels of income inequality, and the like. We suggest here that children are often a vulnerable group, due to a variety of factors, from their stage of biological development, to their compromised ability to exercise life choices. Knowledge of ECD levels in a society provides a direct measure of societal welfare by highlighting well-being during the early years, but in the process also addresses society's future prospects for well-being. Thus, we are promoting population-based measurement of ECD with the aim of con-

structing a globally accepted social indicator.

Despite an extensive literature review, we have been unable to locate prior efforts to frame ECD in this manner. The reason seems to be that, until now, ECD has been an individual-oriented field, dominated by psychological and educational approaches and focused on curriculum and program implementation strategies. The advent of the Knowledge Hub, under the auspices of the WHO, provides an opportunity to add a different perspective, the population health perspective, to the mix. Population health sees ECD as a social determinant of health; requiring that we come to understand, through acts of measurement, where systematic differences in the prospects for healthy child development are emerging among clearly defined populations of children around the world. Once identified, these systematic differences become the basis for understanding the *modifiable* determinants of ECD; for measuring progress in ECD over time; and for measuring equity of access to the conditions that support healthy child development.

### THE VALUE OF MEASUREMENT

There are very good reasons to believe that having an internationally comparable, population-based approach to measuring ECD throughout the world can contribute to improving ECD over time. As Nurper Ulkuer of UNICEF has pointed out, we can currently measure infant mortality rates (IMR) and under five mortality rates (U5MR) across whole societies in a valid, reliable, and credible fashion. As a result, individual states and the global community recognize the scale of the child survival problem and have set Millenium Development Goals (MDGs) to address it. Similarly, the level of early childhood nutrition across populations is estimated through rates of stunting. This act of measurement, too, has led to national and international recognition of the scale of the problem, and an MDG has been set. The problem is that we have no comparable indicator for ECD and, as Alfredo Solari of the Inter-American Development Bank put it, "no measurement, no data, no problem". In other words, unless the international community

can come to agreement on a way to measure ECD that is analogous to IMR, U5MR and stunting we will never be able to achieve national and international recognition of the scale of the ECD challenges we face, or be able to set any credible international goals.

Coming to agreement on an internationally comparable ECD indicator will not be easy. The indicator must meet the following criteria:

- encompass those domains of early development that influence health, well-being, learning and behaviour across the life course.
- be based upon a common international concept of the relevant domains of ECD; consensus as to the specific elements within each domain that must be measured the same way everywhere in the world; and recognition of those elements that are distinct in different contexts.
- notwithstanding the above challenges, be transferable to diverse global contexts; recognizing that the conditions under which children are dying are the same conditions under which children are living.
- provide valid and comparable information for children of a given age, regardless of whether or not they are in school.

Because of these challenges, the ECD indicator cannot be 'single attribute', like infant mortality. Instead, it must tap into multiple attributes of child development. Perhaps the most notable successful precedent on the international stage to date is the Human Development Index (HDI), introduced by the United Nations Development Program (UNDP) in 1990. The HDI assesses the status of societal welfare using a composite score based on three measures: life expectancy, adult literacy, and purchasing power adjusted per capita gross domestic product (GDP). It is fair to say that the HDI has had a marked influence on discourse regarding international development. With respect to ECD, the multiple attributes must be broad enough to meet the first criterion above, that is: to encompass those domains of child development that influence health, well-being, learning and behaviour across the life course. In practice, there are three broad domains of development that meet this criterion: physical, language/cognitive, and social/emotional.

The process of 'reducing' such diverse domains as physical, social/emotional, and language/cognitive development to a single, transferable and comparable index is known as 'commensuration'. That is to say, by reducing each domain to a number, we can then compare them directly with one another and, by reducing these numbers to a single multi-attribute index, we can compare ECD across societies just like we currently do with infant mortality. Calls for commensuration are obviously controversial and have caused intellectual divisions for as long as there has been intellectual discourse. For example, Plato was in favour of commensuration and Aristotle was opposed to it. Not surprisingly, this division is alive and well in the ECD international development community to this day. The four criteria listed above reflect a compromise between, on the one hand, the need to succeed in an act of commensuration, in order to allow ECD to compete with other childhood priorities (like survival) on an 'epistemologically level playing field' while, on the other hand, not letting the reductionist tendency necessary for commensuration to somehow defeat global diversity by making ECD appear to be a matter of 'one size fits all'.

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## THE EARLY DEVELOPMENT INDICATOR (EDI) AS A STARTING POINT

*Here we describe the Early Development Indicator (EDI) as the approach that has made the most progress, globally, towards fulfilling the promise of ECD as a social indicator. This section is meant to serve as a starting point for international discussion and not as a fait accompli.*

In the fall of 2004, the province of British Columbia, Canada, became the first jurisdiction in the world to produce population-based maps of ECD. Population mapping was undertaken in order to assist the province and local communities in recognizing and addressing the challenges they face in fulfilling the objectives of the Canadian Children's Agenda. Early child development was measured using the Early Development Instrument (EDI). The EDI is a checklist that teachers of 5-year old children complete for each child in their class after they have known them for several months. It measures a child's development in five areas that encompass the three domains described above:

- 1) physical health and well-being,
- 2) social competence,
- 3) emotional maturity,
- 4) language and cognitive development,
- 5) communication skills and general knowledge

The EDI has been validated as a direct measure of ECD in multiple country contexts and as an indirect measure of the environments in which children live; that is, a proxy for measuring the nurturant qualities in environments. It has been used successfully with children from a range of cultural backgrounds, including Canadian Aboriginal children. Results from the EDI are interpreted at the level of the community. Personal information is not analyzed at the individual level, so it does not serve as a developmental screening test.

Vulnerability cut-off scores have been defined for each scale of the EDI.

The typical profile of a child who falls below the vulnerability cutoff on the *physical health and well-being scale* is a child with average or poor fine and gross motor skills, sometimes tired or hungry, usually clumsy, with flagging energy levels, and average overall physical development.

The typical profile of a child who is vulnerable on the *social competence scale* is one with poor

overall social skills, with regular serious problems in more than one area of getting along with other children, accepting responsibility for own actions, following rules and class routines, respect for adults, children, and others property, with self-confidence, self-control, adjustment to change, usually unable to work independently.

The typical profile of a child who is vulnerable on the *emotional maturity scale* is one with regular problems managing aggressive behavior, prone to disobedience, and/or easily distractible, inattentive, impulsive, usually unable to show helping behavior towards other children, and who is sometimes upset when left by the caregiver.

The typical profile of a child who is vulnerable on the *language and cognitive scale* is one with problems in basic reading/writing and number facts—unable to read and write simple words; uninterested in trying, and often unable to attach sounds to letters, has difficulty with remembering things, counting to 20, recognizing and comparing numbers, and is usually not interested in numbers

The typical profile of a child vulnerable on the *communication skills and general knowledge scale* is one with poor communication skills and articulation, limited command of the language of instruction in school, who has difficulties in talking to others, understanding and being understood, and has poor general knowledge.

Data like these are useful for at least seven purposes.

### 1. Monitoring the State of ECD at the level of the population

When the EDI is implemented across a whole population of children it provides the basis for calculating a multi-attribute index using scale scores or vulnerability rates. In particular, the vulnerability rates for each scale, or for one or more scales, in a given community, region, or nation can be communicated in the same manner as the infant mortality rate. For example, in the province of British Columbia where the infant mortality rate is approximately 4 per 1000 live births, the vulnerability rate (using the EDI) is approximately 25%, or 250 per 1000 children age 5.

### 2. Judging resilience of communities in supporting child development

Making a meaningful improvement in ECD outcomes means finding ways to create 'universal access' to the conditions for healthy development irrespective of where children and their caregivers



live, or the social groups to which they belong. This line of analysis has its roots in the African proverb, 'It takes a village to raise a child.' Implicit in this statement is an assumption that the community context in which children grow influences their development. Put simply, the assumption is that the *village* nurtures. Child development is not just a reflection of private parenting patterns, or the resources that individual families have to invest in their children. It also reflects the broader social dynamics and institutions through which the entire citizenry organizes itself economically, culturally, socially and so on. In this sense, community-based analysis of the EDI reflects the local conditions for young children in the places where they grow up, live, and learn. Thus, it provides feedback to a given community as to whether it supports or undermines child development, and what proportion of its young children has access to nurturant conditions for development.

### 3. Evaluating change in ECD over time

When EDI data is collected in successive years it is possible to calculate whether or not progress is being made in improving ECD outcomes over time. In British Columbia, we have established five criteria for judging positive change, based upon calculating average scores and vulnerability rates for each EDI scale. Clear evidence of positive change over time will be indicated by:

- an upward shift in the distribution of individual EDI scale scores across an entire region,
- increasing average scores across the vast majority of communities within a region,
- decreasing inequality in average scores among these communities,
- decreasing proportions of vulnerable children in the vast majority of communities,
- decreasing inequality in the proportion of vulnerable children among these communities.

Conversely, the reverse will signal clear evidence of negative change.

### 4. Understanding the state of ECD in special populations

In British Columbia, recent immigrants; those with English as a second language; Aboriginal children; and those living in highly transient or poor neighbourhoods represent populations of special interest because of historic evidence of being at developmental disadvantage. Although it would seem, at first glance, that measurement of ECD would contribute to stigmatizing these groups, in

practice the EDI has proven useful for de-stigmatizing them. This is because population-based data collection allows us to get beyond comparing the *average state of ECD* among historically disadvantaged groups to the *average state of ECD* among the general population. Instead, it provides enough detail such that sub-groups within each historically disadvantaged group can be compared to one another. This, in turn, creates an opportunity to distinguish the environments in which these groups are thriving from those where they are not.

### 5. Creating the basis for international comparison

The argument for international comparison has been made earlier in this section. There is promise for developing a protocol that could compare ECD in many societies and, thereby, highlight the principal domains of ECD as ends in themselves for the purposes of community development and global priority setting. At present, the EDI has been implemented in regions of Canada, Australia, the US, Chile, Jamaica, and Kosovo. At least a dozen other countries have recently expressed interest in using it. Yet, the movement to spread it globally faces several challenges.

- As a result of the multi-country standard setting research being carried out by Kagan and Rebello under the auspices of UNICEF, we know that the five scales of the EDI match the four domains of development that enjoy an international consensus (physical, social, emotional, language/cognitive). However, as of this writing, we do *not* know if different societies agree on the attributes of these domains. It seems clear that the EDI will have to undergo a series of adaptations in order to provide equally valid information in all societies.
- Several international initiatives have shown that household surveys are feasible, even in some of the world's poorest and most disorganized societies, as a method of collecting ECD information on children who do not start school at a predictable age (if at all). As of this writing, the Inter-American Development Bank is proposing a study in Latin America to evaluate the feasibility of combining EDI data with household survey data in societies where a significant fraction of children do not attend school at EDI age (that is, at age 5).
- One of the most difficult challenges that needs to be faced is that, in societies where the formal economy is weak, the attributes that allow children to thrive might be quite different

from the winning attributes in societies with strong formal economies. Thus, imposing the EDI (or a variation of it) upon a society with a weak economy may create a steering effect that undermines, rather than improves, the immediate life chances of young children.

## 6. 'Anchoring' developmental trajectories

Although the primary direction of interpretation of the EDI is backwards, to reflect the 0-5 period of life, the EDI also turns out to be a powerful tool for looking forwards in time, to judge success during school age. By 'linking' EDI data to birth records, information about early environments and, subsequently, to later school records, it is possible to create developmental trajectories for populations of children in communities, regions, and whole societies. The purpose of this is to steer society in the direction of understanding, at the level of the population, how things that occur early in life create opportunities for, or barriers to, later life success. In other words, the objective is to direct societies' attention to child development in the same way that the GDP directs it to economic growth. In British Columbia, we are currently piloting community-based developmental trajectories as a tool for public discussion.

## 7. Informing policy development for ECD

Our experience in British Columbia is that, in the hands of community leaders and provincial policy-makers, the EDI provides fertile grounds for program and policy development. EDI data has been available to decision-makers for approximately 3 years. In that time period EDI has informed over 200 policy and program initiatives in a jurisdiction of 4.2 million people. It is beyond the scope of this discussion to detail these initiatives but, to date, they fall into five categories.

- identifying geographic areas and population subgroups where policy and program interventions will potentially have the greatest effect.
- creating formulas for ECD funding.
- understanding and defining the levels of intervention that have the potential to have the most impact across communities: clinical, targeted, universal, and civil-society.
- identifying systematic barriers of access to effective programs and acting to break these barriers down.
- designing interventions and policy changes that focus on the specific domains of the EDI (for instance, improving access to recreation

programs in places with high vulnerability in physical development).

## CHALLENGES TO IMPLEMENTING THE EDI (OR SIMILAR TOOLS) AROUND THE WORLD

There are many features of the EDI that enable it to provide useful information on ECD globally. However, there are also features of its design that pose challenges to its implementation in various contexts worldwide. There are several issues, which must be taken into consideration.

1. Since the EDI requires the three domains of ECD to be assessed by a primary school teacher at age 5, this becomes an obstacle in places where children may not begin formal schooling by that age, if at all. Further, the number of children out of school globally is substantial.
2. In order to truly capture a population-based assessment of ECD, there is a need for a strong, functional organization at the regional or national levels. This is in contrast to developing relationships with individual schools, a scenario in which data would be collected in some schools and not others, leading to estimates that do not capture population-level outcomes. For instance, in British Columbia, relationships have been forged with government, school-boards and other organizations that encompass vast areas, enabling population-level estimates.
3. Although the domains of ECD are common around the world, the content of the domains may differ by country. These variations must be respected, but create complications in terms of finding a unified, standard, measurement tool. A truly global-based content for each of the three major domains has not yet been developed.
4. At age 5, the EDI provides an estimate of ECD later than would be ideal. A measure that provided a sense of outcomes in children aged 18 months to 3 years would be desirable. Assessment in this age range is not provided by the EDI.
5. The EDI provides valuable information through the data that it accumulates. Maps facilitate understanding of the 'big picture' that the data conveys, and offer a highly usable way to move from the data itself, to goals of advocacy and policy implementation. However, the mapping process itself requires a great deal of infrastructure, and human and monetary resources.
6. Though the EDI is designed to monitor ECD

with the hopes that the information collected will improve ECD for children, there is also the possibility that the data may be used unintentionally, and even perversely. For example, past experience with measurement tools suggests the possibility that the EDI could be used as a means of ‘labeling’ a child or even denying a child school entry.

To many of these issues, potential solutions have already been offered. For example, by complementing the EDI with assessments such as the Demographic Health Survey (DHS) and the Multiple Indicator Cluster Survey (MICS), which are both household-based, children that are not in school, and younger children can also be included in population-based data collection strategies. Many of the other issues require much further consideration. However, it is clear that the path toward progress requires multi-sectoral communication and planning; from governments, non-governmental organizations and civil society, parents and caregivers, and members of community.

#### KEY MESSAGES: NATIONAL

1. National governments must be held responsible for upholding their commitments to the CRC and the MDGs.
2. Investing in ECD is an integral component of a nation’s long-term economic and social strategy; underinvestment in ECD undermines societal progress.
3. “Child and family friendly” societal investment strategies can be enacted regardless of the relative level of the per capita gross domestic product (GDP) of a society.
4. Requirements of international conventions, such as the CRC, International Labour Organization (ILO) Global Reports, and Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), can be used as levers for change at the national level.
5. Child survival and ECD are inseparable; investments that bolster ECD tremendously increase child survival while simultaneously improving the future life chances of all children.







## Chapter 8: The Global Environment as a Sphere of Influence

### Overview

The global environment is the overarching space that connects nations, and thus localities and people. There are several features of the global environment that are salient for early child development, including its social, economic, political, and ecological aspects. There are many different types of actors that fill the space of the global environment, including nation-states, multilateral economic organizations, multilateral development agencies, non-governmental development agencies, and civil society groups. All of these groups simultaneously contribute to and try to alleviate inequities in resources and in outcomes.

### The Role of Power

A major feature of the global environment in relation to children's well-being is the element of power in economic, social, and political terms. There are well-known power inequities that exist between countries. Power is manifest in many ways, including economic, social, and political forms of influence. A country's wealth and resources are a major determinant of its position in the global order. There are a variety of factors that contribute to the wealth of some nations compared to others. These include whether each was/is a colonizing versus colonized nations, the availability of natural and human resources within one's own borders, and the effects of climatic conditions on agricultural productivity.

The result is a world environment in which the majority of the world's power is concentrated in the resource-rich nations, and they in turn have substantial latitude in dictating the terms of global economic, social, and political arrangements. In other words,

globalization is a process in which there are globalizers, and those whom are globalized [271].

These imbalances are expressed through several different mechanisms. They occur in bilateral relationships, in which two nations make agreements to exchange resources or information. They also occur in multilateral contexts, for example development agencies which are funded largely by the resource-rich nations, have a great deal of leverage in determining the policy recommendations for majority nations.

### Structural Adjustment: Ghana and Beyond

One well-known set of policies that was introduced to many resource-poor nations in the 1980s and early 1990s was the Structural Adjustment Program (SAP) of the World Bank and International Monetary Fund. The stated purpose of SAPs was to increase the economic prosperity of resource-poor nations for the purpose of paying debts to high-income nations.

SAPs involved increasing privatization and decreasing the role of the government in many aspects of national economic and social endeavors, including reducing investments in social welfare programs (such as education, health care, and other services that benefit ECD) as a means to increase 'efficiency' and spur economic growth in the resource-poor nations [169].

Ghana's experience with structural adjustment is briefly described here. It is particularly compelling, since it is often viewed by international agencies as perhaps the most successful case of structural adjustment in Africa.

Ghana's SAP program commenced in 1983 and involved reducing government expenditures by cutting social services, adjusting the exchange rate through devaluation of the national currency, abandoning price controls, privatizing state-owned enterprises, and increasing the export-based portion of the economy. On a macro-level, the GDP of Ghana has improved, inflation has dropped, and foreign investment has increased. However,

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beyond traditional economic indicators, SAPs have not improved, and in many instances have worsened the social welfare of Ghana's citizens.

A combination of the introduction of user fees and cutbacks in government spending on education and health care have resulted in compromised access to these basic services for many children and families. The devaluation of the currency has meant an increase in the cost of imported goods such as medicines, school supplies, and other necessities, thus thrusting Ghana into massive debt. Poverty has decreased slightly, though it remains a massive problem. However, socioeconomic inequalities (such as income inequality and spatial inequalities—primarily urban versus rural) have increased tremendously in Ghana. These inequalities have tremendous negative consequences above and beyond those of poverty itself.

It is evident that SAPs, which evolve out of a global process, have had a significant (and dire) impact on the population of Ghana, including (and perhaps especially) its children [170]. Aggregate data from around the world demonstrates that SAPs have influenced children (directly or indirectly) in the areas of survival, immunization, prevalence of health attendants, nutrition, and balanced urbanization [171].

Though direct evidence of policy effects on health requires further directed study, the experience of Ghana and other nations is instructive. For example, investments and universal, unrestricted access to the fundamental inputs for early child and human development must be re-introduced in these societies. In Kenya, since the introduction of free primary education in 2003, pupil enrollment has increased by 1.3 million initially, and by an additional 0.2 million in 2004 [272]. Further, policies that produce economic growth at the expense of socioeconomic inequalities must be reconsidered.

There are also other fundamental policy objectives that must be accomplished at the global level. One such area is the removal of debts of resource-poor nations [172]. In fact, debt reduction is often considered to be the most important strategy for reducing poverty and improving the health of children

[173]. Another is the abolition of policies that sanction violence and wars. In Iraq, data corroborate the association between the introduction of sanctions there, and the incidence of disease in children [173]. Further, children in many resource-poor nations are recruited as soldiers, which one can safely assert affects all aspects of their development and welfare. Finally, the selling of arms and landmines that allow people to engage in warfare must end. The market for these goods is global, and thus this issue falls not only in the realm of the nation, but of the entire world [173].

Though they are few, there are examples of countries which experienced success as a result of participation in the global system. These nations also provide critical guidance. In general, nations which succeeded were those whose access to global markets increased (thus compensating for limited domestic markets), whose social safety nets were broad and strong, and plentiful human and physical capital.

These nations include China, Costa Rica, the East Asian 'Tiger Economies' and Vietnam. These case studies also provide evidence of how globalization can support children's well-being. In particular, the global economy can increase women's labor force participation. However, bundled with economic activity that provides jobs for women must be institutions for the care and education of young children [174].

## Global Declarations: the Convention on the Rights of the Child

The global environment is also characterized by important declarations that affirm the rights of children [22] and of women [273]—the latter of which, by extension influences the well-being of children. General Comment 7 of the CRC focuses on the rights of the child as they pertain to ECD. However, other sections of the CRC also have varying degrees of relevance to ECD. For example, Article 6 explicitly decrees that 'state parties' (which primarily refers to nations) are responsible for ensuring "...to the maximum extent possible...the development of the child..."

In contrast to many other initiatives that attend to the well-being of children, the CRC puts considerable emphasis on the social/behavioral domain of ECD. The preamble of the CRC particularly emphasizes the "...full and harmonious development of [the child's] personality...". Article 17 provides recognition of the importance of encouraging mass media to develop materials that foster children's social, spiritual, and moral areas of well-being (in addition to their physical and mental health).

Article 29 discusses the need of education to foster many aspects of social development in children. This includes development of their personality, talents, and mental abilities<sup>23</sup>, the development of respect for human rights and freedoms, the development of respect for the child's parents, his/her cultural identity, languages, and values, the national values of his/her nation, and the values of other places and peoples, and respect for the 'natural' environment. It also calls for education to prepare children to exist with a "...spirit of understanding, peace, tolerance, equality of sexes, and friendship among all peoples, ethnic, national and religious groups and persons of indigenous origin...". Article 31 recognizes the importance of a child's right to play and leisure, and ability to participate freely in cultural and artistic activities.

In the physical domain, Article 24 concerns itself with the rights of children to "...the highest attainable standard of health..." This includes the diminishment of mortality during the earliest years<sup>24</sup>, development of primary health care to meet the needs of children, combating of disease and malnutrition, ensuring of pre- and post-natal health care for mothers, the provision of health education for parents and children, and the development of preventive health care capacities.

Article 23 of the CRC also attends explicitly to the importance of supporting developmental capacities of children with mental or physical disability. This includes state recognition of the rights of disabled children to education, training, health care

and rehabilitation services, and preparation for employment and recreation opportunities that occurs "...in a manner conducive to the child's achieving the fullest possible social integration and individual development, including his or her cultural and spiritual development."

Other articles address the responsibility of states to recognize that children need access to resources to fulfill their developmental potential. Of note, Article 27 states that every child is deserving of a "...standard of living adequate for the child's physical, mental, spiritual, moral, and social development...". Article 18 suggests that state parties "...shall ensure the development of institutions, facilities and services for the care of children...".

The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) "...was adopted in 1979 by the [United Nations] General Assembly, [and] is often described as an international bill of rights for women...[175]". Since the convention is aimed at improving the circumstances of women, there are clearly implications for the well-being and development of children. However, there are also identifiable portions of CEDAW that explicitly concern ECD.

For example, Article 10 calls for equality of education. Reference is made to the early years with a call for equality of pre-school education, the reduction of female student drop-out rates and programs for girls who leave school prematurely, and equality of opportunity for sports and physical education. As well, the interpretation of CEDAW, particularly of Article 5, which addresses the role of 'maternity as a social function' extends to societal provision of child-care in order to enable women to combine "...family responsibilities with work and participation in public life...[176]".

## The Role of NGO's and Civil Society

At the global level, the role of non-governmental international bodies and civil society organizations is also critical in advocating for the economic, social, and political conditions that support ECD and children's welfare more broadly. Organizations such as the Bernard van Leer Foundation, the Aga Khan

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<sup>23</sup> This clause also mentions development of physical abilities.

<sup>24</sup> Specifically infant and child (under age 5) mortality.

Foundation, the Soros Foundation, and the like have been instrumental in working with the World Bank, the agencies of the United Nations, and others, to highlight the types of policies and programs that would benefit children.

In turn, the individuals and departments with whom they work are able to advocate within their institutions on the behalf of children and families. There are many civil society organizations that are also of fundamental importance. The Jubilee Debt Campaign, for example, is a coalition of local, regional, and national civil society groups who oppose the continuation of indebtedness of resource-poor nations to resource-rich nations and campaign widely on this issue. Other global civil society groups include Human Rights Watch, Save the Children, and Oxfam.

The Global environment in all its many forms is clearly of fundamental importance for ECD. One of the major issues on the global level is the power imbalances that drive policy formation and implementation, often resulting in circumstances (particularly in the resource-poor nations) that are not beneficial to children. Examples from nations that have been able to successfully contend with global forces are helpful in designing future policy directions. However, additional knowledge is required. One way to gain understandings of the effects on ECD of globalization is to use an 'impact assessment' framework, similar to those used to understand the roles of policy on the climate and physical environment [274]. Key to the spreading of this knowledge, as well as other forms of advocacy and action, are the non-governmental international bodies and civil society groups that serve as a bridge between global institutions and the interests of local communities, children, and families.

### Common Threads through the Spheres of Influence on Child Labor: From Globalization to Family Circumstances

One of the most alarming concerns for today's children is the issue of child labor. Data from

2002 compiled by the International Labor Organization (ILO) suggest that approximately 246 million children are engaged in some form of child labor, which is defined as most productive activity of children, but "...excludes the activities of children 12 years and older who are working only a few hours a week in permitted light work and those of children 15 years and above whose work is not classified as 'hazardous'..." Of these, 171 million child laborers were working in hazardous situations or conditions. The overwhelming number of child laborers (over 127.3 million) are concentrated in the Asia-Pacific region, followed by Sub-Saharan Africa (48 million) and Latin America and the Caribbean (17.4 million). Among child laborers, boys slightly outnumber girls (132 million versus 113 million), but even more disproportionately (95.7 million compared to 74.8 million) bear the burden of work that is characterized as hazardous [177].

The use of children to perform labor in order to produce commodities to be sold on the market is certainly nothing new. However, the world's capacity to ameliorate child labor has increased (though we may not always act on this capacity), primarily owing to more avenues for advocacy and institutional support for the protection of child well-being. Article 32 of the Convention on the Rights of the Child makes imperative that state parties recognize the right of the child to be protected from child labor, particularly work that is harmful to her/his development.

In addition, the ILO has developed the International Programme on the Elimination of Child Labour (IPEC). Though IPEC's mission is to eradicate all forms of child labour, its imperative is to focus on ending the worst forms of child labour, including slavery (and slavery like practices), the sale and trafficking of children, debt bondage /serfdom and forced or compulsory labour (including for armed conflict), the use of children for prostitution or pornographic intent, the use of children for illicit activities (e.g. drug trafficking), and the use of children for work which, by its nature is likely to harm their health, safety, or morals [178].

As eloquently stated by leading area expert Kaushik Basu, "...What should be done about

[child labor]? The answer depends critically on what gives rise to child labor and why it persists... [179]" Global economic dynamics have rightly been implicated in affecting changes in child labor rates. However, much of the conventional wisdom has framed this issue has a binary dynamic; does or doesn't globalization increase child labor rates? Globalization, in this case, is generally oversimplified to (and arguably mischaracterized as) the extent to which there is 'openness' to foreign trade of a given nation [275]. Studies that have framed the subject in this manner have produced mixed results, with some studies suggesting that trade liberalization reduces child labor, others suggesting that it exacerbates it [180].

However, we suggest that a broad review of the literature indicates a far more complex relationship between globalization and child labor. Many of the nuances of this relationship are also in large part dependent on other spheres of influence that accompany a nation's position in the global market, such as national social welfare policies, local neighborhood environments, and family characteristics. The consequences for children of neglecting the complex associations between spheres of influence are tremendous, even with the best of intentions.

During the 1990s, advocates for children sought to end child labor by encouraging the World Trade Organization to impose trade sanctions on countries with particularly high rates. Despite a motive rooted (at least in part) in improving the welfare of children<sup>25</sup>, the resultant effect of sanctions had the opposite effect and in many instances was catastrophic. Basu sites a UNICEF case study from Nepal in which children (who were largely employed in the handmade carpet manufacturing industry) were fired en masse. Shortly thereafter, the number of girl-prostitutes in Nepal rose by 5,000 to 7,000 [179]. This case clearly demonstrates the interrelationship between globalization, national-level responses to global pressures, families' economic circumstances, and risk of child labor.

Research on 2,500 families from Salvador

city in the Bahia state of Brazil provides further insights on the family-level (and child-level) factors that influence the propensity of children to engage in the labor force. Results of this study concluded that parental unemployment, low socioeconomic status, low maternal education, having a non-nuclear family, and feelings of unhappiness, were all related to the odds of engagement in the labor force [181]. The authors of the study remarked that their study shows family circumstances must be addressed, and that "... policies against child labor need to tackle unemployment of parents and family support... [181]"

Further research in the same area of Brazil also demonstrated an effect of neighborhood conditions as a sphere of influence on child labor, including low socioeconomic status, low levels of education and high levels of unemployment among neighbors, low levels of social support in the neighborhood, and high levels of perceived violence [181]. These results give strong suggestion for the influence of residential locality on child labor, but in context, also give rise to the notion that policy factors (for example those that affect the spatial concentration of poverty, unemployment, and violence) are also fundamental to consider.

Beyond even these considerations, the tale of child labor forces the global community to prioritize a 'child-centered social investment strategy [276].' As discussed earlier in this chapter, this necessitates resource-poor nations to escape the indebtedness that often inhibits their capacity to promote the welfare of their citizens and especially of their children. It also behooves nations to think broadly about ways in which child labor is a function of the economic and social dynamics of families, localities, communities, and regional and federal institutions and policies. The solution to child labor must begin with an understanding of this complexity.

Though somewhat controversial, it has been suggested by many (from academics, to civil society organizations such as Human Rights Watch) that the realities and issues facing children today (impoverished family conditions, children raising children, lack of governmental support etc.) may necessitate that, as part of an overall strategy to eradicate

<sup>25</sup> Of course, there were self-interest reasons on the parts of resource-rich nations for mounting this strategy as well.



child poverty, interim solutions to improve the conditions of children who work may be required. Further, these interim solutions may, in and of themselves be another avenue with which to eliminate the use of children as workers. For example, improving labor conditions (with national/international enforcement and accountability of global companies) may be one way in which to make the lives of children who work better in the short run, and may also be a mechanism to create disincentives for the exploitation of children [179].

If children cannot be exploited with minimal pay and poor working conditions, there is less reason to choose them over adult workers. This use of policy to bring about change (as part of a broader strategy) may bring about reductions in child labor over time, while simultaneously providing those children who work (for example those with younger children to care for) with better conditions in the short run. Of course, such a strategy must be married with increased governmental commitment to providing free education and income supplementation for children who leave the labor force.

These are troubling matters and in no way intended to suggest that child labor is acceptable in any way. However, there are harsh circumstances that must be considered in creating effective strategies. The idea is that creating sustainable initiatives must involve both major, revolutionary shifts in societal direction, combined with incremental societal change.

#### KEY MESSAGES: GLOBAL

1. Current global momentum is creating new opportunities and convergence of disparate initiatives regarding ECD.
2. Alliances should be encouraged between all individuals and organizations dedicated to child well-being and social welfare.
3. Because of its global responsibility in population health, the WHO should strengthen its commitment to ECD as a key social determinant of health.
4. The international community must establish a unified mechanism for monitoring child development between communities and societies and over time.
5. The CRC's new General Comment #7 on Implementing Rights in Early Childhood creates a strong opportunity to hold state parties responsible for equity in ECD and social determinants of ECD.

## Children and Families in Global Perspective: Discussion of and Excerpts from Heymann's *Forgotten Families*

### Introduction

With the tremendous connectedness of people and societies worldwide, a global perspective on the issues facing children and their families is critical. There are two primary factors that serve as the impetus for a global lens of examination. First, that with greater links between societies comes better information about the state of people and their environments everywhere. Second, that with increased complexity of the global economy, the policy decisions made in one nation or region have far reaching implications all over the world. In these regards, the work of Jody Heymann has made major contributions. Studies conducted by Heymann's Project on Global Working Families have ranged from in-depth interviews of more than 1,000 families in Latin America, Africa, Asia, North America, and Europe, to analyzing survey data on 55,000 families around the world, to examining the extent of public policies supporting working parents and their children in 180 countries. The following are some highlights from *Forgotten Families: Ending the Growing Crisis Confronting Children and Working Parents in the Global Economy* (Oxford University Press, 2006). More information can be found at [www.mcgill.ca/ihsp/](http://www.mcgill.ca/ihsp/).

### Popular Misconceptions on Caregiving for Young Children

One of the primary ways in which the global economy affects children and families is through the patterns of caregiving that prevail under various societal circumstances. "When you ask the leaders in most countries who is caring for infants, toddlers, and preschoolers, they have similar answers: 'Grandparents play a large role in our culture.' When pressed, they make clear that they

mean grandmothers. What about when grandmothers aren't available, you ask? 'There's lots of informal care,' they inevitably reply, 'other family members, neighbours, women in the community.' 'Many mothers can bring their children to work.' The answers are vague because they describe a world that has been kept out of sight, unexamined.

"[When stating to a large teaching hospital in Gabarone that] we were looking at the conditions that working families face . . . a hand went up. 'Those issues don't affect us here. Everyone has extended family members they can rely on so they never have any problem getting care for their children.' Though the belief was satisfying, the problem was that the experience of the families we had interviewed in Botswana belied it. We interviewed many families in which parents had no choice but to leave young children home alone, pull older children out of school to provide free care, or take children to the workplace even when doing so threatened the children's health and development or the parents' jobs. But before I could respond to the fantasy the first speaker relayed by sharing the experiences of some of the 250 we had already interviewed, a Motswana surgeon raised his hand and interjected: 'A lot of parents have no one they can rely on. I see the children who, because of that, end up being left home alone when they come into the emergency room or into my operating room with broken bones and burns.'"

### Empirical Findings on Caregiving Patterns for Young Children

#### EXTENDED FAMILY

"What, then, is the global reality? There is no doubt that both having two parents in a nuclear family and having extended family can make an enormous difference to children's care. Among families we interviewed, 33% of single parents had left their young children home alone compared with 22% of parents living with a spouse or partner. When single parents have no other adult caregivers in the household, young

children are even more likely to be left home alone (56% versus 23%). . . . But the myths that extended families alone solve the problem are mistaken in at least three ways. First, many working parents and their young children have sporadic, limited, or no contact with extended-family members they might ever turn to for help. Worldwide, with urbanization and the increasing mobility required to get and keep jobs, the number of working adults who live near enough to their own parents to be able to turn to them for regular assistance is rapidly declining.

“Second, even among those who continue to live near their children’s grandparents, many cannot rely on them for help. Grandparents themselves may need to work and may be as constrained as parents in their ability to provide routine care or even to take time off to care for a grandchild who is sick. Third, all too often those adult family members who might be able to help—because they are close by and are not working themselves or already caring for a full house—face physical and mental health constraints. In fact, when extended family members are close, they are as likely to be in need of care as to be able to assist with it.”

#### WHEN EXTENDED FAMILY IS NOT AN OPTION

“In situations where extended-family members are in need of care, preschool children often get less care than if no extended family were nearby. When mothers or fathers are caring for other sick family members, children are twice as likely to be left home alone. Forty percent of working parents caring for a sick spouse and 41% of parents caring for extended family had to leave a child home alone (compared with 22% not caring for a sick spouse and 21% not caring for other sick family members). When extended-family members don’t require assistance, they may still be too physically limited, frail, or sick to provide adequate care for their grandchildren, nephews, nieces, and other dependents because the same constraints on age and health that limit extended-family members’ ability to work affect the quality of the care they can provide.”

Further, these factors are patterned by parents’ socioeconomic resources. “Low income parents are less likely to receive help from and more likely to need to provide caregiving assistance to extended family.” 32% of those parents who earn less than 10 dollars per day (purchasing power parity adjusted) can rely on extended family for help (and do not need to provide assistance to them) compared to 46% of those parents earning more than 10 dollars per day. 47% of parents earning fewer than 10 dollars per day (purchasing power parity adjusted) need to provide assistance to extended family compared to 42% of those earning more than 10 dollars daily.

#### PARENTS TAKING THEIR CHILDREN TO WORK

When family is unavailable, another common global response is parents taking their children to work. “While some policy makers acknowledge the improbability of such safe care in factories and the unlikelihood that parents will be given permission to bring children to work elsewhere in the formal sector, they assume it is not only possible but a decent solution in the informal sector. The image conjured up is of a parent—nearly universally a mother—working with an infant swaddled tenderly on her back or a toddler playing happily at her side as she sells goods in a market or cleans a home. . . . In our studies, we met many women who had lost formal sector, decent paying jobs in order to care for their children. . . .

“At times, they subsequently found informal sector jobs which allowed them to bring their children, but even those women, who had the better experiences of the lot, did not have any romanticized fantasy of their children’s lives spent at their mother’s side while they worked. Most shared a bleak view of children at work with their mothers who had started in the informal sector because of lack of education and job choices and had never been able to leave because of caregiving responsibilities. . . .

“Even when children taken to work are not at high risk of sustaining sudden life-threatening injuries, their opportunities

for normal growth are often degraded daily. Amalia Montoya, born and reared in Cancun, Mexico, was raising her son as a single mother. She had been cleaning houses since age fifteen and never had the chance to finish school. Living far from her family, she had no one to turn to for help. Without sufficient publicly supported slots available, childcare was far beyond her economic reach. Amalia took her infant son to work with her because she had no other choice. 'It was really difficult because it's not the same as being in your own house. When he began to cry because he was hungry, I couldn't tend to him at the same time as working.'... She went on to describe how she grew depressed over the situation and her son's consequent malnutrition. ...

"Beyond Amalia's inability to feed her son regularly, she couldn't care for him adequately when he was sick. When Amalia gained access to a childcare center, perhaps the most telling summary of her son's experience was her delight in the most basic elements: 'I dropped him off at seven-thirty in the morning and picked him up at five o'clock in the afternoon. He ate there and everything.' She was grateful even for care that consisted of the most fundamental features: enabling her to work, providing her son with adult supervision, and ensuring that he could eat. ...

"The same stories echoed among the parents we interviewed in Botswana and Vietnam. What differed across national borders and economic circumstances was not the nature of the problem but the level of the parents' desperation. ... This is also similarly patterned along socioeconomic lines. One in four parents earning less than 10 dollars per day (purchasing power parity adjusted) have to take their children to work regularly, as do one in four parents who have only primary or middle-school education themselves. Parents who work in the informal sector are the least likely to have access to formal childcare; as a result, half of the parents we interviewed who worked in the informal sector needed to bring their children regularly."

#### INFORMAL CARE

"[Another] fiction about preschool childcare is that *inexpensive* informal care is a viable solution. It's clear that low-income families and many middle-income ones cannot currently afford or find space in formal childcare programmes for all of their children. But it's also clear that there is a large and apparently less-expensive informal sector market for care. Public policy makers often ask, without beginning to examine the double standard implied as they support formal early childhood care and education programmes in higher-income nations, 'Isn't informal care the solution for young children in poor countries?' These experts argue that it is less expensive and assume it is as good as formal care. Our experience is that, in the majority of cases, parents reported only that it was cheaper. ...

"While in theory, care provided by adults in informal care settings could be of equal quality to formal settings, this was not the common experience of most parents we interviewed, and in particular, this was not the experience of low-income families. Though many countries have some degree of subsidy for low-income families using formal childcare settings, far fewer subsidies and little public provision or supervision exist in informal settings. As a result of this and of parents' low wages, those low-income parents using informal care typically could afford to pay little. This resulted in their having extremely limited choices in childcare providers. The low wages they could afford to provide meant that, in general, they were hiring either adults who could not find other work or adults who provided the informal care while working at another job. The low skill level of those hired and the fact that those hired were, at times, simultaneously doing other work led to poor-quality care when it was provided. Moreover, problems that began with the poor quality of childcare providers in the informal sector were exacerbated by the lack of supervision in the informal sector. Parents we interviewed repeatedly recounted stories of going home to find that informal childcare providers had



left their children home alone for all or part of the day. . . .

“In countries we studied, many parents reported that they had to leave their young children in the ‘care’ of other children. In Vietnam, 19% of the working parents we interviewed had to leave children home alone or in the care of an unpaid child, and 4% relied on a paid child for childcare. In Mexico, 27% of the parents we interviewed had to leave children alone or in the care of an unpaid child, and 9% left their sons and daughters with another child who was paid as a provider. While Botswana had a nearly identical GDP per capita to Mexico and one that was more than seven times as high as Vietnam’s, Botswana families had the highest rate of leaving children home alone. With next to no publicly supported childcare, 48% of working parents in Botswana had to leave a child home alone some or all of the time or in the care of an unpaid child. . . .

“There was a clear social class gradient in informal care. Parents who were poor and parents who had the least educational opportunities themselves were the most likely to have to leave their preschool children in the care of another child. Parents with a middle school or less education were twice as likely (22 versus 9%) to have to leave their children in the care of other, unpaid children as parents with a high school education or more, who as a result earned more money . . . The calculus is cruel: 2.7 billion people live on less than \$2 a day, and 1.1 billion live on less than \$1 a day. Even those who manage to feed their children on less than \$2 a day simply cannot afford to pay, on their own, even for informal care of their preschoolers that will ensure the children’s safety and good health.”

#### CHILDREN HOME ALONE

“When parents were poor and couldn’t afford to pay for childcare, when parents had limited education themselves and therefore fewer job opportunities, and when parents faced costly penalties at work for caring for their children, they were more likely to leave children home alone on either a regular or an intermittent basis. . . . Forty six percent of those who lost pay because of caregiving responsibilities

ended up having to leave children home alone versus 21% who did not face penalties. Parents with a middle school or less education were more than twice as likely (39 versus 18%) to have to leave their children home alone or in the care of other, unpaid children as were parents with a high school education or more.”

### Developmental Consequences of Poor Quality Childcare

The developmental consequences of lack of quality childcare are tremendous. In Botswana, 53% of parents responded that their children had experienced accidents or emergencies while a parent was at work, as did 47% in Mexico and 38% in Vietnam. Thirty-five percent of parents in Botswana reported a negative impact of their working conditions on their children’s health. In Mexico and Vietnam, these figures were 21% and 25% respectively. “We as a global community, have agreed that all children have a right to a free public primary education. However, by doing nothing for most children in the critical developmental years from birth to five, we have effectively left hundreds of millions of children globally with little chance to succeed in school. Before they are six, they have no adequate chance to develop in a healthy way, let alone learn the requisite basic skills for beginning school.”

### The Need for Early Child Development Programmes

“We need to ensure that all children have access to early childhood care and education. The public sector in some countries and the private nonprofit sector in others have begun to address this problem. However, the gap between the care that is available and the number of families that need it is enormous.” Household surveys in several nations provide contrasting information on the percentage of children three to five years of age in early childhood education programmes. In Vietnam, where a national programme has been developed, 51% of children from single working-parent families are enrolled in early

childhood education (ECE) programmes, compared to 40% in Brazil, where municipalities have programmes, and 21% in Botswana, where there are no major public early childhood programmes. In both Vietnam and Brazil, 44% of dual-earner families had children enrolled in ECE programmes, compared to 25% in Botswana. In Vietnam, 46% of children living in extended-family households with all resident adults working were enrolled in ECE programmes, compared with 30% in Brazil and 19% in Botswana. Forty-two percent of children living in extended-family households with not all resident adults working were enrolled in ECE programmes in Vietnam, compared with 31% in Brazil and 11% in Botswana.

## Effects on Families

“Clearly, the dramatic changes in adult work lives are transforming the lives of children around the world. . . . but what effect has the labor force transformation, the rise of urbanization, and an increasingly globalized economy had on the economic [and related social] well-being of families?” Each brings opportunities and risks, but it is critical to reiterate that the negative impact of these factors fall disproportionately on those with fewer socioeconomic resources, and on women.

“On nearly every measure, from the availability of paid leave to adequate flexibility at work, the parents living in poverty we interviewed were facing worse working conditions.” Among those parents who earned less than 10 dollars per day (purchasing power parity adjusted), only 50% were granted paid leave from work for caregiving. Ten percent of those earning less than 10 dollars could alter their work schedules and were able to get paid leave for caregiving, compared to 18% of those earning more than 10 dollars. Only 36% of parents earning less than ten dollars per day had access to health insurance through their jobs, compared with 75% of those earning more than 10 dollars per day.

Single working mothers are much more likely to work longer hours than single men. Data from national living standards surveys

demonstrates that in Brazil, 65% of single working mothers average sixty or more hours of paid and unpaid work weekly. This proportion drops to 43% for single working fathers. In Mexico, the numbers are 76% and 64% respectively.

## Conclusion

“When young children are left home alone or in substandard care, the potential for tragedy is real.” This includes the risk of children suffering accidents or emergencies while their parents were at work and becoming the victims of violence. “But there is another, slower, but equally devastating type of tragedy that is transforming the lives of tens of millions of preschool children. Unable to find or afford decent care, needing to work and only finding jobs under the worst conditions, these parents are forced to leave their preschool children in care which jeopardizes their health and development as well as their safety. The quality of the care they receive is so poor that with each day that passes, their health and development slowly deteriorate, and their life-chances decline further.”







## Discussion and Conclusion

Children require nurturant conditions to thrive. This is because development in early childhood—in the physical, social–emotional, and cognitive domains—is the result of interactions between children’s individual characteristics (their health, nutrition, and genes) and their physical, social, and economic environments. This process begins in utero and continues throughout the life course; however, we know that the environments to which children are exposed during their earliest years are the most influential of any point in one’s life span. They affect not only the early childhood period, but also basic learning, school success, economic participation, social citizenry, and health. This is due to the early childhood period being marked by the most rapid development and also the largest concentration of ‘critical periods’ of development. In sum, enriched environments and the quality of stimulation, security, and support during sensitive periods of development are of utmost importance for the early childhood period and beyond.

The impetus for the present study was borne out of the vast literature that supports the aforementioned assertions. Indeed the evidence for the influence of environments on ECD is so overwhelming, that it bears consideration in any initiative regarding societal success and population well-being. This is the basis for its inclusion in the World Health Organization Commission’s on Social Determinants of Health; unlike other topic areas addressed by the Commission, ECD is not itself a ‘social determinant of health’ in the most constrained definition (though it is—as we have discussed throughout this volume—strongly socially determined), but is a fundamental determinant of almost all forms of health and well-being. Further, since it is influential for such a vast array of outcomes, many of which are strongly ‘social,’ one might suggest that, in aggregate, ECD affects many social aspects of society. In this broadly construed sense, then, ECD surely presents itself as a social determinant of population health.

In recognizing the role of ECD for the health of societies, a primary charge of this study was to present a critical analysis of the available evidence regarding determinants of ECD, which, to reiterate, are largely social, and are rooted in the extent to which environments in which children are embedded offer nurturance. In reviewing the relevant literature, the Total Environment Assessment Model for ECD was created, which provides an overview of the environments that matter most for children, as well as a sense of how these environments are inter-associated. The environments responsible for fostering nurturant conditions for children range from the intimate realm of the family to the broader socioeconomic context shaped by governments, international agencies, and civil society. These environments and their characteristics, then, are the social determinants of ECD.

Based on the research as well as the work of governments, non-governmental organizations, and civil society, an overarching insight is that large inequities exist—both between and within societies—in the availability of nurturant environments for young children, thus for their ECD, and thus for their outcomes throughout life. Most notably, inequities occur not solely between the richest and poorest members of society, but in ‘gradient’ fashion, such that, at the margin, each additional increment in socioeconomic resources results in incrementally superior developmental outcomes for young children. The evidence gathered here gives rise not only to comprehensive documentation of forms of inequities in early childhood, but also to causes of inequities, and promising avenues for providing universal access to nurturant conditions to children all over the world.

This study concluded that families are the fundamental source of nurturance for children, and that the economic, social, and physical security that the family environment provides for children is instrumental for their ability to explore and learn from their surroundings, and thus for their developmental outcomes. Unfortunately, some families are better equipped than others to provide children with such resources. The extent to which families can foster nurturant surrounding for

*Discussion and  
Conclusion*



their children is highly dependent upon the resources—social, economic, and programmatic—that are available to them. In turn, the availability of resources is dependent on the characteristics of the broader environments in which families and children are embedded. The goal of the international community and of nation-states must be to ensure that every family and every locality is enabled to provide nurturant conditions for their children.

While the knowledge base provides a basis for drawing these conclusions, there are ‘missing links’ that must be addressed. First, there is a paucity of evidence regarding the direct links between broader socioeconomic characteristics of society and ECD; thus far, we are able to make inferences based on the existing literature as well as the known effects of societal features on other outcomes that are related to ECD. Second, the international community lacks evaluation regarding policies and programs that are effective in the context of resource-poor nations; this is also somewhat true for resource-rich nations, but particularly significant for countries with few overall resources. Third, there is a lack of rigorous studies regarding the effects of civil society activities, both on ECD and on its social determinants. Fourth, the role of international conventions and ‘rights-based’ responsibilities of nation-states has been insufficiently addressed by scholars working on issues of child well-being and its social determination (in fact this perspective is under-utilized by scholars working in the area of social determinants of health more broadly). Finally, the world lacks a unified system for monitoring ECD. This is of utmost importance, given the power that information and data have to mobilize people and resources.

Through the process of gathering the knowledge base for the social determinants of ECD, some remarkable externalities have occurred that will go a long way in addressing these areas, both in terms of research and scholarship, but also with respect to active engagement with policy entities, NGO and civil society groups. In particular, this work has given momentum toward the creation of new alliances and initiatives among those whose primary goal is the improvement of

child well being. In addition, based on this document a final report has been created entitled “*Early Child Development: A Powerful Equalizer*.” It is anticipated that the contents of this report will greatly assist the Commission in communicating the imperative of attending to ECD and its social determinants.

What a child experiences during the early years sets a critical foundation for the entire life course. ECD, including physical, social–emotional and language–cognitive domains are most affected by the nurturant qualities of the environments where children grow up, live and learn. Yet, parents cannot provide strong nurturant environments without help from local, regional, national, and international agencies. This study proposes ways in which government and civil society actors, from local to international, can work in concert with families to provide equitable access to strong nurturant environments for all children globally. Recognizing the strong impact of ECD on adult life, it is critical for governments to acknowledge that, at the very least, disparities in the nurturant environments required for healthy child development will result in vastly different life chances for children; in others, disparities in ECD, through their influence on a host of outcomes, reach a critical point where they become a threat to peace and sustainable development. The results of our efforts suggest two primary directions for the future:

- 1) Continued research to provide a better understanding of the effects of environments on biological embedding and ECD, particularly that of broader environments.
- 2) The use of available information to inform action to further the goal of a “grass-roots to global” child-centered social investment strategy.

## Appendix A: Critical Appraisal of the Underlying Evidence

Elsewhere, it has been convincingly argued that, for several reasons, the traditional hierarchy of evidence may not be suitable for “appraising the evidence for social or public health interventions [277].” One particular case in which this is especially true is in the search for evidence concerning social determinants of health. That traditional evidentiary hierarchies are incompatible (or, at least, not completely compatible) with the available and desirable types of information in this area is supported by the prominence given to measurement and evidence issues by the WHO’s CSDH.

The evidence gathered by the Knowledge Network on ECD draws on several notions of what constitutes valid and reliable “evidence.” The aim is to provide meaningful ways of weighing the available data and information in the field. The following provides an overview of the manner in which evidence was weighed for inclusion in this report. It is organized according to the “spheres of influence” outlined in the TEAM-ECD framework, since “types of evidence” cluster along these lines as well.

At the level of the individual, much of the recent evidence that is available in the literature has developed out of the broad acceptance of the CRC. With children recognized as fully human beings with evolving capacities to contribute to their lives, researchers have also recognized the value of including children’s perspectives in their knowledge generation. A major limitation in interpreting this body of evidence (yet also its strength, in that it is methodologically appropriate [277]) is that the small sample sizes and nature of qualitative research limits the generalizability of the work. Despite this scientific limitation, the moral and ethical value or obligation to consider the wishes/perspectives/needs of children in this evidence was paramount. We therefore do not make broad claims that extend

beyond the evidence; rather, we suggest that, from the body of literature regarding children’s perspectives, children deserve to be considered social actors, and that it is our duty to consider their views in our work. The biophysiological responses to environmental stimuli that result in developmental outcomes for young children have undergone numerous and rigorous investigations. This is especially true compared to the body of knowledge regarding biological–environmental interactions for adults. Our knowledge of “biological embedding” comes from well-controlled experimental conditions that have been completed in both primates (including humans) and non-primates. In this way, information at this level meets the traditional “gold standard” of evidence.

With the family as a sphere of influence, the evidence-base is virtually void of experimental evidence. This is largely because it is neither feasible nor ethical to randomize or control family conditions. There are few exceptions to this, such as experimental (or quasi-experimental) evidence obtained from studies of siblings and orphans. Where possible, these studies have been included. For the most part, studies conducted about the effect of family characteristics/structure/parenting on children have been observational. Within observational research, both descriptive studies (e.g., ecologic and cross-sectional studies) and analytic studies (e.g., cohort studies) have been completed. Wherever possible, results obtained from cohort studies were favoured over those obtained from descriptive studies. In comparison to cross-sectional studies, cohort studies enable the establishment of temporal order: that the cause arose before the outcome. At the family-level, however, there was also an explicit desire to demonstrate *population-level* patterns between socioeconomic conditions and child development, and moreover, to demonstrate variation in these patterns across populations or societies. Therefore, at this level, for this task, cross-sectional, ecologic information was included. The trade-off here was in sacrificing temporal order to highlight an important aspect of developmental distribution that could not be captured without an ecologic perspective.

Appendix A

In addition, temporal order has been well established in the aforementioned cohort studies, which were also included to provide an individual-level perspective on socioeconomic conditions and ECD.

Evidence for the residential and relational communities, for similar reasons, arises primarily from prospective cohort investigations. Studies chosen for review were those which arose from the strongest research designs; those which were the best controlled, and most free of other forms of bias, as judged by the journals in which they appeared and their known scientific reputation in the field.

In order to maintain a social determinants of health perspective on the evidence we included in this report, in the ECD programmes and services section, rather than provide a “laundry list” of specific ECD programmes and services that have evidence of effectiveness, we chose to present *generic characteristics as well as strategic and organizational principles* of quality, sustainable programmes that are transferable around the globe. One rationale behind this decision is that, despite the best evidence of a programme or service’s effectiveness, we cannot support the practice of taking a successful program or service from one context and expecting it to work as effectively (or at all) in another context. What we *can* support is consideration of generic characteristics and principles that have crossed contexts or characteristics of nurturant environments that we know have been proven to support children’s development. To answer the question of criteria for inclusion of examples of programmes and services in this report, we turn to many sources: 1) to our ECD experts who have been on the ground and experienced the effects of particular programmes—this includes the notion of “best practice”; 2) to the grey literature; 3) to the evidence of program and services effectiveness; and 4) consideration of whether programs meet the criteria which we articulate in the ECD programmes and services section for creating nurturant environments for children. In some cases, the examples were chosen to support a particular point, such as with the Kangaroo Care; in other cases the inclusion was based upon the availability of information on the

programme or service. We did endeavour to include the highest quality programmes and services where available.

For the studies included in the regional, national, and international spheres, scientific rigour was much more difficult to ensure. As mentioned in the broader *TEAM-ECD* evidence document [278], this is largely due to the lack of studies conducted at this level. The literature review yielded very little experimental information, of which the primary example is the PROGRESA study. Beyond that, most of the information gathered comes from cross-sectional or other forms of descriptive observational studies. These studies, though they don’t provide definitive evidence, were included because they make strong suggestions about future areas to be investigated, and because there are strong plausible links between more micro-levels for which we have data (such as the family) and macro-environments such as the regional, the national, and international environments. In traditional scientific terms, plausibility is often assessed in biological terms. We contend here that what is apparent is a *sociological* plausibility.

## Appendix B: Evidence from Animal Studies and Correlate Evidence from Humans

The vast majority of the current knowledge on the effects of the environment on the developing brain has been informed by animal studies. This is particularly the case for evidence on the biological embedding and neurological development that occur during the earliest years of life. In subsequent years, when functional skills begin to emerge, they are more readily detectable (and therefore measurable) in humans. Some key animal studies are presented here, along with analogue evidence from human development.

Scientific understanding of the basis for attainment of vision comes in part from studies of kittens, in which it was demonstrated that visual stimuli had a direct influence on the development of the visual cortex. In these studies, it was found that kittens who did not receive horizontal (or vertical) visual stimuli during the critical period of vision development, had commensurate underdevelopment in that aspect of the visual cortex, and a corresponding deficit in ability to perceive objects in the horizontal (or vertical) plane [15]. Further, rats that are reared in environments which offer complex visual stimuli show an increase in the depth and area of the superficial gray layer of the superior colliculus [279].

Cynader and Frost [15] provide a useful functional analogue for humans. A child with astigmatism generally has this deficit first recognized when s/he attends school. This is perhaps due to the fact that this is the first opportunity for the child to receive visual tasks, which are sufficiently demanding, and to have their vision 'tested' in some capacity. At this point, corrective measures such as glasses can be used to compensate, however the critical period of visual development has passed, resulting in permanency of the deficit.

However, it is not only physical environmental exposures that are significant for

early child development; "...socialization shapes the essential human attributes of our species..." Studies of many vertebrate animals have demonstrated that the bond developed between parent and child; particularly between mother and child play a crucial role in the development of a variety of functional capacities in children. The direct implication of this is that the bonding process is an experience (i.e. a feature of the environment) that is involved in biological embedding.

In young chicks, the process of 'imprinting' has been observed, in which they form attachments with their hen, and she to them. Similar to the development of the visual cortex, imprinting also has a definitive critical period in which the process of bond-formation occurs most intensely [15]. An interesting related body of work has demonstrated that infant rats that undergo greater handling (akin to greater nurturing) have stronger negative feedback mechanisms in the adrenocortical axis, resulting in diminished glucocorticoid secretion in response to stress, and less neuronal loss in the hippocampus as they age [17, 33]. Experimental evidence has also shown that human neonates develop preferences to the smells, sights, and sounds of their own mothers [15]. Infant body temperatures are regulated by their caretakers, who respond to signals such as crying by holding their babies closer [182].

*Appendix B*



## Appendix C: Examples of ECD Programmes and Services linked to Health Care Systems

### Care for Development/Integrated Management of Childhood Illness

The WHO's IMCI program seeks to reduce childhood mortality, illness, and disability as well as promote health and development among children aged 0-5 years. IMCI has both preventive and curative aspects, which are designed to be implemented at the level of the family, the community, and through the HCS. IMCI prioritizes the proper identification and treatment of childhood illnesses within a variety of settings, including homes and health facilities, but also provides counseling for parents and caregivers, and referral services for severely ill children.

The main implementation involves the following steps:

- adopting an integrated approach to child health and development in the national health policy
- adapting the standard IMCI clinical guidelines to the country's needs, policies, available drugs, and to the local foods and language
- upgrading care in local clinics by training health workers in new methods to examine and treat children, and to counsel parents effectively
- making upgraded care possible by ensuring a sufficient supply of the right low-cost medicines and simple equipment
- strengthening care in hospitals for those children too sick to be treated in outpatient clinics
- developing support mechanisms within communities for preventing disease, for helping families to care for sick children, and for getting children to clinics or hospitals when needed (Source: WHO)

### Care for Development

In partnership with UNICEF, the WHO has developed a special early childhood development component, called the Care for Development, intended to be incorporated into existing IMCI programs. Care for Development aims to enhance parents' and caregivers' awareness of the importance of play and communication with children by providing them with information and instruction during children's clinical visits. Evidence has shown that Care for Development is an effective method of supporting parents' and caregivers' efforts to provide a stimulating environment for their children by building on their existing skills. Health care professionals are encouraged to view children's visits for acute minor illnesses as opportunities to spread the messages of Care for Development, such as the importance of active and responsive feeding to improve children's nutrition and growth, and the importance of play and communication activities to help children move to the next stages in their development

### Breastfeeding and Infant Stimulation

A pilot project in southern Iran aims to reach the national development goals of safe pregnancies and deliveries, promote breastfeeding and birth spacing, provide early psychological stimulation, as well as to help parents avoid developmental delays among young children. The project attempts to support and promote breastfeeding practices, both in the hospital and after discharge (receiving a home health nurse visit and consultation), by offering lactation consultants, interaction with and support of new mothers, and providing relevant training for new mothers who require more information, which has shown significant impact on breastfeeding success. In the region, women's literacy level is generally low, especially in rural areas. The program's aim is to bridge the gap between tribal and cultural patterns and beliefs about breastfeeding; child nutrition, health, and development; and the practice of correct breastfeeding, by providing support for consistent, high-quality information on breastfeeding. This HCS's point of contact

provides an opportunity for parents to access to lactation consultation and early childhood education classes. The mid-term evaluation of the project, in the form of a KAP (Knowledge/Attitude/Practice) study revealed that the HCS's involvement in the breastfeeding and nutritional education efforts in the region significantly improved mothers' knowledge, which led to their health promoting behaviours in terms of their children's health and nutrition. Further evaluation is still required to provide evidence about the impact of the program on children's developmental outcomes.

## Nurse Home-Visiting

### KAZAKHSTAN

Through its existing nurse home-visiting system, Kazakhstan has introduced an ECD education module to increase parents' understanding of their children's psycho-social and cognitive developmental needs—without additional costs. The Care for Development Module of the IMCI Training Package, jointly developed by WHO and UNICEF, were used as the basic training package. The project is supported jointly by WHO and UNICEF, and is carried out under the leadership of the Kazakhstani Ministry of Health. It builds on the country's existing HCSs, and aims at improving the capacity of service providers. During implementation, the program involves local medical training institutions, local administration, and community participation. Nurses visit newborn babies almost every week during the first month, and regularly afterwards. A Healthy Life Style Center is also involved in knowledge development, training, monitoring, and evaluation. The Healthy Life Style Centre is a semi-governmental training centre with strong academic links to the medical and social research institutions. This program has recently been evaluated and the report will be available soon.

This program, and several similar initiatives supported by international NGOs, the World Bank and others, can play an important role in furthering Kazakhstan's HCS reform.

### AUSTRALIA

Maternal and child health/community nurses visit young children regularly over the first 5 years of life in Australia,<sup>26</sup> and one of the goals of this activity is to promote ECD. In addition to monitoring development and responding to any parental concerns about development and behaviour, many nurses provide anticipatory guidance and suggest ways of promoting development. They run first-time mothers' groups, and provide parents with a range of written materials about ECD.

## Community Development Empowerment (CDE)

The Community Development Empowerment (CDE) Program in Malaysia was established to address the needs of children and families in resource-poor communities in an attempt to improve the environment within which children are raised. CDE includes the following activities:

- expanding preschool programs with emphasis on stimulating cognitive, physical, and socio-emotional development
- health care workers conducting meetings with community members to identify and map the existing formal and informal services that meet the particular needs of families

Once identified, the priorities for the communities are to establish a *childcare program* and *immunization* plan for young children, as well as *income-generating activities for women and single mothers*. Parents participated in the development and coordination of the interventions, such as pediatric assessment, educational services, intervention services, and childcare coordination. A major feature of the program was to strengthen the links between parental values, the community's social structure, and the HCS. This program builds on existing community resources and has been shown to be cost effective. CDE addresses children's particular ECD needs in combination with health care services and programs, and supports mothers to engage in income-producing activities.

<sup>26</sup> Home visiting programs like this Australian model can be found in many countries; the scope and age range of the visits may vary.

## Equal Access: Using Communications to Reach Parents and Communities on Early Child Development in Nepal: Kheldai Sikdai (“Learning while Playing”)

The Equal Access Initiative uses appropriate and low cost technology (satellite broadcasting, AM/FM broadcasts) and community outreach to disseminate information to families living in remote rural areas. Equal Access creates customized communication strategies and outreach solutions on a range of topics—prevention of HIV/AIDS, women’s health, and ECD. By designing and producing compelling local language audio and multimedia programs in-country, the program educates and catalyzes behaviour change in target audiences.

A new ECD radio program called *Kheldai Sikdai* (“Learning While Playing”) is now broadcast in Nepal via FM and satellite radio to ECD centers and a broadcast audience of millions. *Kheldai Sikdai* helps parents and communities create positive environments for children under the age of six. Through the program, parents learn about the importance of their children’s intellectual and emotional development. This entertaining and engaging program reaches out to parents and workers in children’s centers with ways to better identify, address, and support the needs of children. By bringing together educators, parents and trained ECD facilitators, “Learning while Playing” transforms the underlying lack of knowledge about ECD that perpetuates cycles of poverty throughout Nepal. While frankly discussing and contextualizing the impact of child rights, play-based learning, and parental and community roles in a child’s education, the programs work to transform the way in which children’s early education is conceived and implemented. A large part of this effort is working with educators and parents to move beyond the traditional rote teaching methods often referred to as the “three R’s: Reading, Riting and ‘Rithmatic” and to convince parents that quality play-based programs, stories, and songs are appropriate, valid, and accelerate children’s intellectual development. Additionally, the programs use interviews

with community members and education specialists, as well as songs and stories, to transform the mentality of educators, the government, and—most importantly—the parents of young children throughout Nepal, by creating an understanding of the appropriateness and long-lasting positive benefits of ECD programs for children prior to attending primary school. Episodes also discuss topics like safe motherhood, nutrition, and immunization. [183]

## Village-Based ECD Curriculum Development in Lao PDR

The Women’s Development Project worked to promote various development initiatives for women in five provinces of Lao PDR. After five years, interest developed and a need was identified to more directly address child development issues. The Early Childhood and Family Development Project (ECFD) grew out of this experience. Project Planning Workshops for ECFD were organized in villages in the initial steps of development and implementation. Village-level planning resulted in agreement on needs and objectives, an understanding of overall design, assessments of resources and constraints, activity planning, setting up the project committee, and criteria for selecting village volunteers. The community-based curriculum development process focused on participatory input at the local level to create a curriculum that could be adapted to the particular needs of different ethnic groups. The process focused on village data collection and needs assessment. Analysis of existing traditional knowledge was used as a basis for curriculum development. One of the most unique activities in the Lao PDR experience was a village engagement agreement signed by village members and the village development committee. It was based on a child rights framework and included actions that could be taken immediately while waiting for needed external assistance. [280].

## Reach Out and Read

Reach Out and Read (ROR) is a U.S. national non-profit organization that promotes early literacy by giving new books to children and advice to parents attending pediatric examinations about the importance of reading aloud. ROR programs make early literacy a standard part of pediatric primary care and as such are a point of contact with the HCSS, one that has proven to support children's early development. Following the ROR model, physicians and nurses advise parents that reading aloud is the most important thing they can do to help their children love books and to start school ready to learn. Pediatricians and other clinicians are trained in the three-part ROR model in an effort to promote pediatric literacy:

1. At every well-child check-up, doctors and nurses encourage parents to read aloud to their young children, and offer age-appropriate tips and encouragement. Parents who may have difficulty reading are encouraged to invent their own stories to go with picture books and spend time naming objects with their children.
2. Providers give every child between the ages of six months and five years new, developmentally appropriate children's book to keep.
3. In literacy-rich waiting room environments, often with volunteer readers, parents and children learn about the pleasures and techniques of looking at books together.

Research findings evaluating the impact of ROR's efforts have been remarkably consistent. Compared to families that have not participated in ROR, parents who have received the ROR intervention are significantly more likely to read to their children and have more children's books in the home. Most importantly, studies examining language in young children found an association between the ROR intervention and statistically significant improvements in preschool language scores, a good predictor of later literacy success.

There are currently ROR program sites located in all 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam. ROR programs are housed at hospitals, health centers, and private pediatric practices. (Source: <http://www.reachoutandread.org/index.html>)

## INTEGRATED FAMILY-BASED ECD (IFBECD)

In Thailand, several local and International organizations, for example, UNICEF, Christian Children's Foundation, and Save the Children, in collaboration with the Department of Health in the Ministry of Public Health and local universities, have supported the development the Integrated Family-Based ECD (IFBECD) project, which has been in effect since 1990. The project operates out of child health centres and involves collaboration between experienced mothers (who volunteer as ambassadors), the HCS, and the broader community (e.g., universities, other educational centers, not-for-profit organizations). Each ambassador works with five families in her neighbourhood and provides the mothers with information and advice about child health, nutrition, and development in a range of settings such as in peoples' homes or at a local market. Monthly training sessions (on issues such as family life, child development, infant care, etc.) and meetings are held in local departments of health to update the ambassadors on new information and materials in relation to child health and development. The approach is especially useful because older children frequently provide some care for their younger siblings or neighbours in Thailand the ambassadors also provide necessary information about the importance of child health, nutrition, and developmental issues to these older children. In one of the more "hands-on" lessons, students in the 5th and 6th grades work with and learn from the ambassador about how to determine the vaccination status and developmental progress of the younger children in their families. All these educational and training initiatives are coordinated through the Ministry of Public Health. In this case positive programme evaluations resulted in expansion of the programme to ages 0 - 18 years but in doing so the programme became diluted and is no longer functioning.

*Appendix C*



## Immunization

### EXPANDED PROGRAMME ON IMMUNIZATION

The WHO's Expanded Programme on Immunization (EPI) was originally launched in 1976, at a time when less than 5% of the world's children received immunization against the six most easily preventable diseases: diphtheria, tetanus, pertussis (whooping cough), polio, measles, and tuberculosis. Over the past 30 years, the EPI has increased its coverage to the point where there are now an estimated 500 million immunization contacts with children around the world on an annual basis. Disease prevention is a major component of reducing child mortality, and the long-term international success of the EPI has resulted in significant and measurable reductions in preventable disease. The long-term success and scale of the EPI is now providing a framework within which to introduce other children's health services.

The scale of the WHO's EPI, as well as its near-universal coverage, are now being recognized as potentially valuable opportunities with which to bundle other child health promotion activities. The time at which 90% of the world's children receive immunization, usually within their first two years of life, is a potential contact point for other health interventions or monitoring. Kenya has been especially proactive in utilizing this early contact point. The Kenyan Ministry of Health has recently decided to collect information about a few developmental indicators during immunization visits as a way of monitoring the progress of ECD in Kenya, on a population basis. Immunization visits are also viewed as an opportunity to distribute information about ECD and infant health to parents (personal communication, Annah Wamae). Other innovative projects that use immunization visits as the key contact point within the health sector include the large-scale distribution of insecticide-treated bed nets in Togo, designed to further reduce the spread of diseases like malaria.

The importance of universal immunization programs, both in terms of reducing childhood disease and providing opportunities for additional early childhood interventions,

should not be underestimated. Immunization programs are often reliant upon a combination of public, private, national, and international funding sources, and as such these programs often compete with other programs and priorities of national health agendas. While the 30-year history of EPI has yielded world-wide success, variations and fluctuations in immunization coverage at the national level indicate the difficulty involved in maintaining the universality of immunization programs.

### INTEGRATED CHILD DEVELOPMENT SERVICES

Another similar initiative in India, Integrated Child Development Services (ICDS), is a multi dimensional, community based effort aimed at improving the quality of life of women and children living in poverty. The program grew out of the recognition that all infants require developmental assessment, and that the established immunization clinic offered a point of contact with the HCS. As such, a more comprehensive ECD program was established. The clinics function in connection with health facilities' during babies' immunization visits, mothers are given information about development, a Developmental Observation Card (DOC) to help them monitor their infant's development, and an opportunity to seek detailed assessment guidance if necessary. The aim of the plan is to empower families, in particular mothers, to learn more about their infants' health and developmental issues by offering on-site education and the possibility of follow-up home visits.

As immunization programs become coupled with other child health services, such as early childhood interventions and ECD monitoring, there may be increased opportunities to find permanent public funding for these programs.

## Appendix D: Population-based Measurement of Early Child Development from a National Perspective

In the international development community, there have been multiple efforts to assess social welfare in ways that facilitate comparison across societies. To date, many approaches have been developed, each with its own set of assumptions regarding the factors that contribute to, and reflect, well-being. The World Health Organization (WHO) Commission on Social Determinants of Health, Knowledge Network on Early Child Development, proposes that ECD is an outcome (or rather, a set of outcomes) that is fundamentally reflective of the *social success of societies*. ECD is also an indicator of future societal success, as it is associated with learning skills, health, and other measures of well-being throughout the lifecourse; as such, it can be considered a fundamental measure of the potential for societies to flourish in multiple social domains. The extent to which a nation provides opportunities for healthy child development is the extent to which the well-being of its most vulnerable members is supported.

Prior literature suggests that individuals within societies are differentially affected by adverse conditions such as lower levels of GDP, high levels of income inequality, and the like. We suggest here that children are often a vulnerable group, due to a variety of factors, from their stage of biological development, to their compromised ability to exercise life choices. Knowledge of ECD levels in a society provides a direct measure of societal welfare by highlighting well-being during the early years, but in the process also addresses societies' future prospects for well-being. Thus, we are promoting population-based measurement of ECD with the aim of constructing a globally accepted social indicator.

Despite an extensive literature review, we have been unable to locate prior efforts to

frame ECD in this manner. The reason seems to be that, until now, ECD research has been an individual-oriented field, dominated by psychological and educational approaches and focused on curriculum and programme implementation strategies. The advent of the Knowledge Hub on ECD, under the auspices of the WHO's CSDH provides an opportunity to add a different perspective—the population health perspective—to the mix. Population health sees ECD as a social determinant of health, requiring that we come to understand, through acts of measurement, where systematic differences in the prospects for healthy child development are emerging among clearly defined populations of children around the world. Once identified, these systematic differences become the basis for understanding the *modifiable* determinants of ECD, for measuring progress in ECD over time, and for measuring equity of access to the conditions that support healthy child development.

Coming to agreement on an internationally comparable ECD indicator will not be easy. The indicator must meet the following criteria:

- encompass those domains of early child development that influence health, well-being, learning, and behaviour across the lifecourse
- be based upon a common international conception of the relevant domains of ECD, consensus as to the specific elements within each domain that must be measured the same way everywhere in the world, and recognition of those elements that are distinct in different contexts
- notwithstanding the above challenges, be transferable to diverse global contexts, recognizing that the conditions under which children are dying are the same conditions under which children are living
- provide valid and comparable information for children of a given age, regardless of whether or not they are in school

In light of these challenges, the ECD indicator cannot be a single attribute, like infant mortality; instead, it must tap into multiple attributes of child development. Perhaps the most notable successful precedent on the international stage to date is the Human Development Index (HDI), introduced by the United Nations Development Programme (UNDP) in 1990. The HDI assesses the status

Appendix D

of societal welfare using a composite score based on three measures: life expectancy, adult literacy, and purchasing power adjusted per capita gross domestic product. It is fair to say that the HDI has had a marked influence on discourse regarding international development. With respect to ECD, the multiple attributes must be broad enough to meet the first criterion above; that is, to encompass those domains of early development that influence health, well-being, learning, and behaviour across the lifecourse. In practice, there are three broad domains of development that meet this criterion: physical, language–cognitive, and social–emotional.

The process of reducing such diverse domains as physical, social–emotional, and language–cognitive development to a single, transferable, and comparable index is known as “commensuration.” That is to say, by reducing each domain to a number, we can then compare them directly with one another and, by reducing these numbers to a single multi-attribute index, we can compare ECD across societies, just like we currently do with infant mortality. Calls for commensuration are obviously controversial and have caused intellectual divisions for as long as there has been intellectual discourse. For example, Plato was in favour of commensuration and Aristotle was opposed to it. Not surprisingly, this division is alive and well in the ECD international development community today. The four criteria listed above reflect a compromise between—on the one hand—the need to succeed in an act of commensuration, in order to allow ECD to compete with other childhood priorities (like survival) on an “epistemologically level playing field” while—on the other hand—not letting the reductionist tendency necessary for commensuration to somehow defeat global diversity by making ECD appear to be a matter of “one size fits all.”

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HELP is a research institute within the  
College for Interdisciplinary Studies  
at the University of British Columbia.

Director: Dr. Clyde Hertzman

For more information please contact:

Lori G. Irwin

Human Early Learning Partnership (HELP)

440 – 2206 East Mall

Vancouver, BC V6T 1Z3

Voice: 604.827.5395 Fax: 604.822.0640

Email: [lori.irwin@ubc.ca](mailto:lori.irwin@ubc.ca)

Website: [www.earlylearning.ubc.ca/WHO](http://www.earlylearning.ubc.ca/WHO)

Mapping Portal: [ecdportal.help.ubc.ca](http://ecdportal.help.ubc.ca)