

## **DISCUSSION PAPER**

***IDP No. 2010-02***  
***May 2010***

# **Good Governance of Early Childhood Development Programmes in Developing Countries: The Need for a Comprehensive Monitoring System**

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## **SUMMARY**

There is need for a holistic, comprehensive ECD monitoring system that covers the multiple facets (i.e. education, health, social protection and the social and economical context in which the child is born) of public and private ECD interventions in a country. Such a system is essential for ensuring that all children can reap the benefits of ECD. It serves as a means of support and oversight for monitoring the performance and planning of ECD policies and programmes in developing countries. The paper highlights the importance of comprehensive ECD monitoring for making evidence-based decisions, and discusses practical issues to take into consideration when developing such a system.

One of the first steps is deciding what to monitor through the selection of a limited number of valid and measurable indicators that are aligned to policy and programme goals. In this respect the capacity of the government system should be thoroughly assessed, including 1) the identification and evaluation of existing administrative and other data sources; 2) a training needs analysis of the administrators who will operate the monitoring system to allow for strengthening their skills and prepare them for their future duties; and 3) consideration of the long-term costs of operating a monitoring system in relation to the (projected) available funds, in order to ensure the sustainability of the system.

It is noted that the organization of the monitoring system should ideally follow the governance structure of the ECD sector(s). Also, identifying information should be included for linking data across providers; for example through the establishment of an ID given preferably at birth, made universally accessible and free of charge. Confidentiality must be addressed through specific standards for all steps of the monitoring process, developed in consultation with all stakeholders. Utilization of the monitoring system must be promoted at all levels – by individuals, communities, ministries and international organizations.

To date there is little evidence on the use of monitoring systems to strengthen planning and monitoring by policy makers and administrators, making this issue a critical area for further research and peer learning in the field of ECD.

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**Acknowledgements:** The authors would like to thank Pia Britto Rebello, Otoe Yoda and David Parker for their review and feedback on drafts of this manuscript.

Extracts from this publication may be freely reproduced with due acknowledgement. Suggested citation:

Vitiello, Virginia E. and Kools, Marco (2010), 'Good Governance of Early Childhood Development Programmes in Developing Countries: The Need for a Comprehensive Monitoring System'. *Innocenti Discussion Paper No. IDP 2010-02*. Florence: UNICEF Innocenti Research Centre.

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# GOOD GOVERNANCE OF EARLY CHILDHOOD DEVELOPMENT PROGRAMMES IN DEVELOPING COUNTRIES: THE NEED FOR BUILDING A COMPREHENSIVE MONITORING SYSTEM

Virginia Vitiello and Marco Kools

Keywords: early childhood, early childhood development, governance, indicator, monitoring system.

## 1. Introduction

During the early childhood period, lasting from birth through the early school years,<sup>1</sup> children undergo dramatic developmental changes that are strongly influenced by social and environmental conditions (Shonkoff and Philips 2000). In developing and developed countries, many children are exposed to risk factors that can adversely impact outcomes, including poverty, violence, poor sanitation, and malnutrition (Patrinos 2007; Walker et al. 2007). In response to this, countries around the world have developed a range of early childhood development (ECD) policies and programmes that aim to protect young children from these risks and support their cognitive, social, physical and emotional development.

In the past two decades, ECD has become a focal point for social welfare and poverty reduction in developing nations (UNESCO 2007). However, developing countries face significant challenges in implementing ECD policies and programmes. Shortages in financial resources often cause governments and development partners to prioritise other policy areas, such as primary education, rather than ECD. Moreover, most countries divide the responsibility for ECD among two or more ministries. Although this multi-sectoral approach has the potential to bring together different agencies, expertise and resources, it is also known to spark interagency conflict. In practice, access may be weakened and disparities in quality emerge as a result of this fragmented responsibility.

To address these and other challenges (also discussed here), a growing number of countries has consolidated all forms of ECD under one ministry (Kamerma 2005) intending to facilitate coherent policy development and implementation and avoid duplication, thereby resulting in saving costs.

Several countries have also developed a policy framework (i.e., an ECD policy, strategy, or action plan) that captures the many facets of ECD. However, even in cases where a single ministry or agency is responsible for ECD, and/or the country has developed a comprehensive ECD policy, the governance of ECD remains challenging as extensive interagency cooperation will always be necessary. As the early childhood field continues to develop, governance, involving the allocation of responsibility for decision-making and delivery across government departments, levels of government, and public and private sectors,

becomes increasingly important and policymakers must ensure a coherent ECD policy for all levels and actors (Neuman 2007). 'Good governance' is key for facilitating this interagency collaboration and can further ensure that services attain quality standards, are affordable, meet local demand, promote cost-effectiveness and achieve equity goals.

The question emerges, however, of what 'good governance' entails. The 2007 EFA Global Monitoring Report, which focused on governance in ECD, identified several key characteristics of good governance. The first is to involve stakeholders from a range of sectors (e.g. health, nutrition, education), to ensure that ECD policy development and implementation meet the diverse needs of children. Inter-sectoral efforts work best when they are led by a strong agency with decision-making power. Second, the responsibilities for ECD must be clearly delineated. The involvement of each ministry and sector must be clarified and systems for accountability put in place. Third, the risks and opportunities for integrating ECD into the education system must be considered. Fourth, in order to reduce the geographical and socio-economic disparities that can arise with decentralization, local actors need funding and capacity-building to develop and implement ECD programmes effectively. Fifth, it is necessary to establish regulations and monitoring systems that can be applied equally to the full range of public and private settings (Neuman 2005, 2007; UNESCO 2007).

This paper focuses on this last 'lesson' or requirement of good governance: the need for a national ECD monitoring system. This is critical as, although much debate has centred on designing ECD monitoring systems in developing countries to address budget accountability, little attention has been paid to how these systems can be effectively used for monitoring the performance and planning of ECD policies and programmes. This paper therefore explores the monitoring system as a means of support and oversight for monitoring performance and for planning ECD policies and programmes in developing countries. Specifically, this paper has two purposes. First, it aims to highlight the importance of a comprehensive ECD monitoring system for making evidence-based policy and programme decisions. Second, it addresses a range of practical issues to be considered when developing an ECD monitoring system; these include the tracking of children through multiple service contexts, maintaining confidentiality, and ensuring that the system is used to

inform practice. The use of administrative data is also discussed as a crucial building block in the development of an effective, comprehensive monitoring system.

The next section elaborates on the interpretation of a comprehensive ECD monitoring system and explains how this can work for making evidence-based decisions.

## 2. A Comprehensive ECD Monitoring System

A monitoring system should at all times be guided by the specific country context and ‘data needs’ of its users. Within this context, we argue that it is necessary to develop monitoring systems based on the holistic Early Childhood Development (ECD) approach. This approach is based on the fact that young children’s development occurs simultaneously across multiple domains, including health, motor, social, and cognitive development. The ultimate goal of ECD programmes is to improve the capacity of young children to develop and learn across all of these domains. Consequently, ECD interventions involve a wide range of strategies, including educating and supporting parents, delivering services to children, developing the capacities of caregivers and teachers, and using mass communications to enhance parents and caregiver’s knowledge and practices. Programmes for children can be centre- or home-based, formal or non-formal, and can include parent education.

This holistic approach to ECD programming should be reflected in the selection of indicators that capture the inputs, processes, outputs and outcomes of a wide range of ECD interventions. Indicators should address the period from infancy into primary school (up to 8 years old) and capture the multiple facets of ECD programmes, i.e. education, health, social protection and the social and economic context in which the child is born.

It is also essential that the monitoring system includes both public and private providers so that policymakers can monitor the entire ECD sector and ensure, as far as possible, uniformity in service provision in terms of access, quality, costs and effectiveness.

Though by its nature a monitoring system will reflect a broad overview or simplification of real programmes and policies, policymakers and administrators require detailed information which will allow them to make evidence-based and targeted decisions. It is therefore important that monitoring systems include disaggregated data rather than broad summary statistics. For example, a government wishing to achieve gender balance in the enrolment rates of children aged three to six by the year 2010 clearly requires data disaggregated by gender to monitor progress toward this policy goal. Similarly, when governments are expanding services

and need to monitor whether these are reaching all children, particularly the most disadvantaged in society, information on ethnicity, language or household poverty is highly relevant.

These are just two examples of how disaggregated data can be of great value for monitoring the implementation of ECD policies and programmes and in helping to find solutions when problems arise. Unfortunately, many countries in the world do not have adequate monitoring systems, as noted by the Committee on the Rights of the Child in 2005. In particular, the Committee highlighted that often specific and disaggregated data for children in the early years is not readily available. Therefore the Committee urged all “States Parties to develop a system of data collection and indicators consistent with the Convention and disaggregated by gender, age, family structure, urban and rural residence, and other relevant categories”.<sup>2</sup>

In supporting the Committee’s call on governments to develop a holistic and comprehensive monitoring system, we argue that this system should cover all public and private ECD programmes and policies and include disaggregated data that will facilitate evidence-based decision-making and, if need be, targeting of interventions.

## 3. Distinctions between Monitoring and Evaluation

It is important to clarify the distinctions between two aspects of programme and policy accountability systems: monitoring and evaluation. Monitoring refers to the continuous process of collecting information related to policies and programmes (Kusek and Rist 2008). More specifically, monitoring is the continuous oversight of the implementation of an activity which seeks to establish the extent to which input deliveries, work schedules, other required actions and targeted outputs are proceeding according to plan, so that timely action can be taken to correct any deficiencies that are detected (UNICEF 2002). Typical data sources include routine administrative data, surveys, discussions with informed people, rapid appraisals and legislative and policy documents. When findings are used to monitor the development results (effects or impacts) it is often referred to as *ongoing evaluation* (UNICEF 2002, UNFPA 2004).

Evaluation involves the collection of data to address specific questions about how and why programmes work (Kusek and Rist 2008). UNICEF (2002) defines evaluation as a process which attempts to determine, as systematically and objectively as possible, the relevance, effectiveness, and impact of activities in the light of specified objectives. Evaluation is a learning- and action-oriented management tool and is an organizational process for improving current activities and future planning, programming, and decision-making.

Monitoring and evaluation represent qualitatively different yet complementary activities (see Table 1). This paper focuses on monitoring as our specific area of interest is how policymakers and administrators of developing countries can *continuously* monitor performance and improve their daily planning and implementation ability in the field of ECD. The development and use of a comprehensive monitoring system is essential for achieving these goals.

Table 1: Similarities and differences in M&E

	Monitoring	Evaluation
Purpose	Adjust implementation; identify necessary actions	Effectiveness/impact analysis; policy adjustment
Main Action	Tracking trends and progress	Assessment; plan is compared with achievement
Focus	Inputs; outputs; processes; instruments (actions)	Outputs vs. inputs; process vs. results; results vs. costs; impact; relevance to values
Data Sources	Monitoring systems; surveys; progress reports	Monitoring data; case studies and surveys
Undertaken by	Implementing agencies; social actors	Evaluators on behalf of implementing agencies; social actors
Frequency	Continuous	Periodic

Source: Authors' adaptation of Table 1 in Council on Higher Education 2004.

#### 4. Why Develop an ECD Monitoring System?

Monitoring systems are developed for several reasons. Most importantly, they facilitate evidence-based decisions and assist targeting programmes for specific groups. A specific and important use of a monitoring system, for example, is to determine whether public services are reaching the intended users. One goal for ECD monitoring may be to help target services to the most vulnerable populations (Károly et al 2007). A country will therefore need to know who the most vulnerable children are, where they live, and how many children in the population meet enrolment criteria; monitoring systems play an important role in providing such information and are an essential tool for policymakers and administrators as they ensure that data is collected, processed, analysed, securely stored, and disseminated to relevant stakeholders. As a result, data is made available to support a range of management functions.

In this context it is important to note that for several years the principles of donor alignment and funding of government plans and budgets are increasingly replacing the project-based approach to development

interventions. In this new, programme-based approach, now a major element for policy-based development aid, governments and development partners work jointly to achieve specific development objectives, mostly in the medium to long term (Atler, 2007). The programme-based approach depends on the availability of reliable data and information for planning, implementation, monitoring and evaluation.

Governments and development partners also need to develop data systems with broad coverage in order to demonstrate their progress towards development goals, especially given the scope of, for example, the Millennium Development Goals and Education for All Goals (Holvoet and Renard 2007). Government accountability and transparency are important pre-conditions for development partners. Their willingness to support a developing country depends on the availability of reliable information which will allow them to objectively assess the country's need for assistance and the accountability of the government system. The Paris Declaration on Aid Effectiveness (2005) reinforces the need for selectivity in the allocation of development assistance resources, as development funds are constantly decreasing. As a result, developing countries are competing for the support of development partners and a monitoring system provides a vital tool in gaining their confidence and involvement.

A monitoring system also plays an important role in the process of budgeting development programmes. For example, policymakers and administrators need to estimate the unit costs of a child in an ECD programme. In particular, a monitoring system can be used to support the development of a medium term expenditure framework by providing a valuable overview of the financial resources needed to maintain or expand the ECD system over a three- to five-year period).

Further, in recent years there has been a gradual move away from traditional conditions for policy-based loans and grants towards 'triggers' and 'milestones'. Thus, in order to receive the next instalment of a loan or grant a government is required to show it has achieved the agreed mid-term results or targets. Governments therefore require reliable data and information to demonstrate the achievement of goals and therefore ensure the continuation of financial assistance.

#### 5. Challenges in Monitoring ECD in Developing Countries

We have argued that the development and use of a comprehensive ECD monitoring system is a worthy investment. However, the challenge of this undertaking might temper initial enthusiasm or even deter governments altogether. Even in cases where one ministry or agency is made responsible for ECD and the country has developed a comprehensive ECD policy,

the governance of ECD remains challenging as it demands extensive cooperation between multiple partners. Overcoming potential difficulties is a challenge, especially in a context where ministries, agencies or departments are competing for technical and financial support from development partners. As a result, development of the ECD monitoring system might fail to get off the ground even when there is policy commitment.

Further, relevant data and information that would facilitate evidence-based planning is not always available and, even when it is, a range of factors may prevent it from being adequately used for planning (e.g., when agencies are failing to share data<sup>3</sup>). The situation is often further complicated in decentralised systems where policymakers often struggle to achieve an appropriate balance between local discretion and central monitoring (Neuman 2007). In the context of decentralised governments, loose links are often found between central and local government, clearly hindering information sharing (Kusek and Rist 2008).

It is also important that private providers are included in the monitoring system to avoid 'knowledge gaps' in the provision of ECD programmes. Attempts by governments to include private providers in the monitoring efforts might meet with considerable resistance that must be overcome.

Finally, in countries where governments struggle to provide for the basic health and safety of their citizens, monitoring for accountability may rank low as a national priority. Similarly, when countries experience frequent regime changes, citizens may not feel safe sharing personal information with the government (World Bank 2007). Monitoring systems require participation on the part of citizens, government actors, NGOs and UN agencies, and trust in all these stakeholders is extremely important. Political interests represent a further challenge. Stakeholders may attempt to hide or dismiss findings that show that programmes are not reaching their goals (Holvoet and Renard 2007). In countries where corruption is a serious problem, politicians may also be reluctant to establish systems which require transparency (Kusek, Rist and White 2005).

In addition to these challenges further problems exist in developing countries. The statistical and technological capacity to set up a functioning data system is often lacking (Kusek et al. 2005). In addition, monitoring systems should also be part of a comprehensive national ECD strategy to ensure that services are available, especially to the most disadvantaged children, but many developing countries may not have a clearly articulated strategy or policy in place. Not every country is therefore in a position to implement an ECD monitoring system that is expensive, requires trust in public officials, and demands a sustained, coordinated effort.

The remainder of this paper presents practical issues for constructing a comprehensive ECD monitoring system. How these issues can be addressed in the broader context of monitoring is discussed, and the solutions found are then applied to the ECD context.

## **6. Developing a Comprehensive Monitoring System**

### **6.1 Deciding what to monitor**

There is no single blueprint for a 'good' ECD monitoring system that can or should be copied by other countries; countries' needs and capacities vary to such an extent that no blueprint can be generally relevant. However, stakeholders should consider several key issues when developing a monitoring system.

First, it is essential to *decide what to monitor*. Valid and measurable indicators must be selected when constructing and developing a monitoring system. A degree of simplification and the reduction of the total number of possible indicators related to ECD interventions, policies, and programme objectives are necessary in order to focus on indicators that are measurable, but also have conceptual validity. To guarantee these requirements, the selection of indicators should be guided by three basic principles. First, ensure that each indicator is linked to a policy or programme goal. This requires stakeholders to clarify the goals of ECD policies and programmes and operationalize these using a series of indicators. This represents an important step away from the use of existing administrative data sources only, towards designing a dedicated, fully functioning monitoring system. For example, if a government has set itself the specific policy goal of increasing ECD enrolment of five year olds to a certain percentage, then the ECD enrolment rate of five year-olds is a logical choice of indicator.

However, it might sometimes be difficult to ensure an exact correspondence between goals and indicators, especially when measuring 'quality'. Proxy indicators like the educational levels of ECD staff or staff-child ratios might partially help policymakers and programme designers overcome this problem.

Second, *information requirements should be kept to a minimum*. Collecting, processing, analysing, storing and disseminating data and information is costly, increases the burden on programme administrators, and adds to the cost of the system (Bennett 2008).

Third, *the information collected should serve the requirements of those who will use it*, including policymakers, administrators, development partners and other stakeholders. The importance of the relevance of monitoring systems will be elaborated below.

### Input, process or outcome indicators

Traditional monitoring systems often address the implementation of policies and programmes: for example, how many centres were built, how many teachers were hired, and how much money was spent (Kusek and Rist 2008). There has been a clear tendency to select input indicators rather than process or outcome indicators. In recent years, however, monitoring systems have shifted, becoming increasingly results-based, focussing to a greater extent on achieving outcomes or results. This means that indicators must be closely aligned with programme goals. With a greater focus on outcomes, monitoring systems can be used to formulate policies based on programme effectiveness and cost-efficiency, key factors for policymakers and administrators who often have limited budgets for ECD interventions. There are clear incentives for moving towards outcome indicators as these provide evidence of the results of the efforts made by both government and development partners and are evidence of the accountability and transparency of the ECD system.

### Examples of ECD monitoring frameworks for further reference

Several attempts have been made to develop a comprehensive ECD monitoring framework at the national and international level. For example, in 1996 the European Commission Network on Childcare presented the report 'Quality targets in services for young children: Proposals for a ten-year action programme'. The proposed monitoring framework consisted of 40 indicators for measuring the quality of ECD services; however, for several reasons this framework was never adopted by the Commission.

More recently Bennett (2008) attempted to develop a comprehensive framework introducing a series of benchmarks for early childhood policies in rich nations. The ten benchmarks, which are also featured in the UNICEF Innocenti Report Card 8 *The Childcare Transition*, focus on social conditions for families, governance, programme access, and programme quality. While goals will vary for developing nations, the Bennett framework highlights the complex nature of monitoring ECD policies and programmes and provides recommendations for addressing important components.

Another example for constructing the indicators of a monitoring system for developing countries are the 'Guidelines for the Asia and Pacific Education for All Mid-Decade Assessment: Identifying and Reaching the Unreached' (UNICEF, UNESCO, and UIS, 2006). The Guidelines were developed in a partnership between UNESCO, the UNESCO Institute of Statistics (UIS) and UNICEF with the aim of helping countries in the Asia and Pacific region to assess their mid-decade progress towards the six EFA Goals. The Guidelines include a monitoring framework for the analysis of a

range of relevant early childhood indicators and, while traditional indicators for Early Childhood Care and Education (EFA Goal 1) focus only on formal pre-schools, the Guidelines also capture the inter-sectoral nature of early childhood and the importance of non-educational factors in the development and educational success of children. The Guidelines discuss three groups of indicators: 1) Policy and System indicators; 2) Core indicators; and 3) Additional indicators, providing 27 altogether. Though the number of indicators is quite large (and may therefore need to be reduced to save costs and minimize administrative burden), the field-tested Guidelines could serve as a helpful starting point for developing countries intending to develop a comprehensive ECD monitoring system.

## **6.2 Capacity Assessment**

### Administrative and non-administrative data

The identification of existing sources of data and the evaluation of their usefulness in monitoring is another essential element in developing an ECD monitoring system. Two sources of data may be used: 1) administrative and 2) other, 'non-administrative' sources.

Administrative data provide a key building block in developing a monitoring system. Once administrative data sources have been identified and evaluated, administrators can then expand or improve data collection activities to correct any information gaps. The use of administrative data to monitor ECD has multiple benefits. It can be relatively cost-efficient, since provisions for data collection are generally already in place. Administrative data can also be used to track national progress toward specific goals, such as the enrolment of target populations.

However, the use of administrative data has some potential limitations. Administrative datasets tend to be broad without being deep, meaning that much of the information collected by agencies is not relevant to monitoring for results. Moreover, administrative data may be incomplete or of poor quality. On balance, however, it is felt that the potential benefits are greater than the potential limitations.

Given that administrative data may be utilized to provide information covering the multi-faceted ECD sector, the following sources may be considered.

**National Statistics:** Many countries have a national system for collecting vital statistics, including birth and death registration (see, for example, Kenya's Department of Civil Registration, <http://www.births.go.ke/index.html>). Birth records often include a range of factors, such as maternal marital status, maternal age, multiple birth, gestational age, birth weight, and number of siblings (Delgado, Vagi,

and Scott 2007; UNICEF 2002). Information drawn from such records has a high potential to inform early childhood policy. Research has shown that risk factors listed in birth records are associated with delays in development (Delgado et al. 2007). High levels of birth risk may indicate poor maternal health or exposure to teratogens,<sup>4</sup> indicating the need for public health interventions (Walker et al. 2007). Furthermore, increases in healthy births and decreases in child mortality over time may be evidence that the implementation of policies or programmes is proving effective.

**Health:** Health systems are responsible for providing basic services to mothers and young children during early childhood, including prenatal and postnatal care, vaccinations, nutrition programmes and cash transfers. Child health and nutrition, including micronutrient deficiencies, lead exposure, malnutrition, and infectious diseases, are powerful predictors of physical, cognitive, and social development (Walker et al. 2007) and many important interventions aim to mitigate the effects of these risk factors (Engle et al. 2005). Administrative data drawn from the health system may include information about the exposure of children to health risks, treatments, vaccinations, and involvement in health intervention programmes.

**'Childcare' and 'Early Education' Programmes:** ECD programmes are often divided into programmes for children under the age of three, including childcare, nurseries, or crèches, and programmes for children from age three up to primary school age – generally known as early childhood education or pre-primary education programmes. Care for children aged zero to three is often less formal than early education for three- to six-year-olds (Marfo et al. 2008). Services for children under three tend to focus on appropriate caregiving and the provision of custodial care for working parents (Haddad 2002) which is often fee-based and in private childcare centres. In countries where traditional child-rearing practices are emphasized, non-formal arrangements involving neighbours, grandparents, aunts, or older siblings are also common (Marfo et al. 2008).

Tracking children through the broad array of zero-to-three childcare services could prove to be extremely difficult and is likely to be very country-specific (UNESCO 2007). Depending on the nature of care, information available from administrative data sets will vary widely. At the community level this could include the availability of social workers to provide support to caregivers. At the family level, data on participation in parenting programmes and enrolment rates in centre-based care may be available. If childcare centres and programmes are registered, data may include information regarding the type of programme, child-teacher ratios, and teacher qualifications. An important aspect of improving monitoring systems is to ensure

that as many childcare programmes as possible are registered.

**Box 1. Decentralized Governance of ECD in the Philippines (Caoli-Rodriguez 2007).**

Governance of ECD can be very complex, despite efforts to create a straightforward system. In the Philippines, for example, the Department of Education oversees preschool programmes for children over four that are housed within public schools. The Department of Social Welfare and Development oversees preschool programs not located within public schools as well as daycare and other services for children under four. The Council for Welfare of Children, under the Office of the President, coordinates activities between these agencies as well as with the Department of Health, local government, and non-governmental organizations.

For non-formal care in particular there may be no systematic data for infants' and toddlers' physical, cognitive, or social development. As a result it will be difficult to link services to child outcomes. As data collection capacities increase, the systematic collection of this information may gradually be included. Even if non-formal data are not a priority, countries may still be interested in questions of access to childcare and understanding how policy-relevant aspects of infant care relate to outcomes in primary school.

Developing countries are increasingly providing formal preschool education for children from age three to age five or six through public and private programmes. Although coverage remains low, especially in the least-developed countries, existing programmes are frequently regulated through national policies (UNESCO 2007). This means that there are established standards for student-teacher ratios, teacher qualifications, and curricula; this information may be available in administrative data. There is insufficient information regarding the extent to which countries implement valid and reliable assessments to track children's learning outcomes in preschool, but this situation may improve with the focus on results-based monitoring for accountability (Mackay 2007). Introducing an ID system may serve as an excellent means of tracking children's progress. Additionally, information on children's social and physical development and self-regulation can be considered important indicators of child well-being.

**Education:** A critical aspect of early childhood policy is the extent to which pre-primary experiences prepare young children for school. Administrative data collected by schools may include school entry screening results, attendance, retention, and dropout (Felner et al. 2008). Schools may also report children's grades or test

scores. Linking pre-primary data with school outcome data can help countries determine whether certain experiences are associated with better school outcomes and whether changes in policy are associated with changes in achievement (Yeboah 2002).

***Other, Non-administrative Data Sources:*** In developing nations, many sources of data exist outside the official, government-run monitoring system (Mackay 2000). The potential of these data often remains under-utilized for evidence based decision-making. These sources typically include monitoring and evaluation data collected by sponsors of specific programmes – NGOs, religious groups, donor countries and other development partners. Data collected in the course of a formal evaluation of a specific programme can be linked with administrative data to answer secondary analysis questions. An advantage of using data from programme evaluations is that it may include outcome data such as learning achievement, social development, centre or school environment, parent satisfaction, or qualitative measures of quality. When combined with sources of administrative data, surveys and other sources of ‘non-administrative data’ can potentially provide policymakers and other stakeholders with much needed in-depth information for result-based and targeted programming.

It should be noted that the use of more than one data source provides a means of checking the accuracy of the ECD monitoring system; it allows stakeholders to examine critically the quality of the collection, processing, analysis, storing and dissemination of data, which in turn contributes to continuous improvement of the system as a whole.

Often several public datasets are available that can be used to estimate poverty and population demographics, including UN population data and demographic surveys (UNFPA 2008). Though these data may not be representative enough to set regional goals due to their small sample frames, they could be used to set national goals. The Multiple Indicator Cluster Survey (MICS) has proven particularly useful in some countries, as it aims to capture a wide range of the socio-economic conditions of populations in developing nations (Segone, Sakvarelidze and Vadnais 2009). The MICS surveys include information on sanitation, child health, and early childhood education programmes and are thus a useful tool for holistic ECD policy and programme development.

Countries must therefore evaluate their existing monitoring framework and monitoring activities and take advantage of existing sources of data. Administrative and non-administrative data sources have the potential to provide policymakers with relevant information, serve as the basis for a results-based monitoring system, and to further strengthen governments’ monitoring efforts. However, linkage

across these systems, for example by means of an individual ID number (see section 6.5), is fundamental to provide a richer picture of service usage and effectiveness.

#### Financial and human resources

The development and implementation of a national ECD monitoring system is a complex undertaking. It requires continuous investment of human and financial resources from governments and other stakeholders. Monitoring systems depend on highly trained government administrators rather than outside experts (UNESCO 2002). One of the factors in developing an ECD monitoring system is therefore the evaluation of existing human resource capacity; in other words, it is necessary to perform an analysis of training needs to identify where there is a lack of capacity in the collection, processing, analysis, storage, and dissemination of data and information. The training needs of the administrators may be identified using methods such as direct observation, interviews, information searches, focus groups and inventory methods (Härtel et al. 2007). These can form the basis for developing training programmes that aim to strengthen existing skills and support the development of new ones. As the proper use of such a system requires a broad range of experts, including IT and GIS-specialists, database managers, policy analysts, etc., the training needs identified may be costly. However, experience shows that development partners are often willing to provide some degree of financial and technical support for the implementation of training programmes.

The financial resources required to develop and run the ECD monitoring system in the longer term are another critical aspect. The operational costs of the monitoring system must be a foremost consideration when deciding to develop such a system. Governments and other stakeholders must be fully aware of the operational costs in addition to the initial capital investment, such as the purchase of computers and software, and the cost of training sessions. Future and ongoing costs arising from the expansion of the workforce also need to be estimated and projected over multiple years. The medium term expenditure framework could serve as an excellent tool for capturing the total costs of developing and operating the ECD monitoring system as part of the overall, multiple year ECD budget.

It is also important to involve all stakeholders before and during the planning stage as this may help governments to obtain much needed financial and technical long-term support for the development and operation of the monitoring system.

### 6.3 Reach of the Monitoring System

Although comprehensive early childhood policies are set by national governments, much of the responsibility for ECD programmes is shared with other stakeholders, including lower levels of government, the private sector, communities, and NGOs. Therefore, a significant challenge is to decide on the reach of the monitoring system. If national policies are intended to regulate all programmes (public and private), governments need to determine how they will be monitored. The governing organization may require that both private and public programmes should be monitored in the same way and include reporting on child demographics, programme characteristics and outcomes. This could meet with resistance if it is seen as adding costs to non-governmental programmes. However, careful monitoring is extremely important, especially when it concerns for-profit centres as there is a danger that standards of quality will be lowered in order to save money, leading to inequalities in services across public and private providers (Neuman 2007; Uwakwe 2008). Therefore, special efforts are needed to include non-public services in the monitoring system. Brazil, for example, made an effort to register all day care centres during the evaluation of its early childhood capacity (UNESCO 2002). Registering centres enabled the government to include these programmes in subsequent surveys and monitoring efforts.

In addition, communities that lack access to formal ECD programmes often start their own, informal programmes (UNESCO 2009). These are an important indication of community empowerment and result in expanded access to ECD. They can be extremely difficult to track however, because they are often unregistered and operate in remote locations. As an alternative to monitoring non-formal programmes, it may be advisable to use surveys to estimate enrolment and quality, or interview parents about children's preschool experiences upon entry into primary school.

### 6.4 Organization of the ECD Monitoring System

Given the large number of potential sources of early childhood data, the organization of monitoring systems is particularly important. The governance structure of the ECD sector(s) is key in this. The general trend for governance in developing countries has been towards greater decentralization and increased local control (McCarthy 2000). In ECD, however, a decentralized model can lead to fragmented and redundant services as well as difficult transitions from one service to another (Aidoo 2008; Neuman 2007). A more cohesive approach is to coordinate services across agencies and appoint a single ministry or governing body to take the leading role. Although it can be difficult to decide which ministry will lead, it is crucial that the leader be given the power to make decisions, set policies, and hold other organizations accountable (Choi 2003).

#### Box 2. Monitoring and Evaluation in Chile (Mackay 2007)

Chile has a well-developed monitoring and evaluation system overseen by a strong central agency, the Ministry of Finance. It has six components. (1) Prior to receiving approval, new programmes are submitted to a cost-benefit analysis by the planning ministry. (2) Sectors collect data on about 1,550 indicators related to implementation, government products and services, and outcomes. (3) Ministries and agencies prepare comprehensive annual reports describing use of funds and performance. (4) Programmes are periodically reviewed to clarify goals and performance. (5) Full-scale impact evaluations are conducted using rigorous research methods. (6) Spending reviews are used to analyse all government spending in a particular sector to identify inefficiency.

The organization of the monitoring system should follow the governance structure of a country's ECD policies (McCarthy 2000). This implies that the lead organization in a coordinated system will set data collection policies and priorities in consultation with collaborating ministries and other stakeholders. Responsibility for data collection, compilation and reporting will be in the hands of local agents. As already discussed, a successful monitoring system requires the use of common indicators across service providers. Once a country starts to build monitoring capacity beyond existing data sources, a careful process of choosing important, broadly relevant indicators must be undertaken, initiated by the lead organization (Bennett 2008).

A key decision in setting up a monitoring system is determining 'ownership'. The ownership of a data system refers to the level of control and responsibility that each stakeholder has in producing, processing, and using information (Loshin 2001). Several different models of ownership are possible. For example, data may be left in the hands of each collaborating agency and compiled in response to specific information needs (Chamberlayne et al. 1998). Alternatively, all data could be regularly compiled into a central database. Levels of ownership will most likely correspond to the governance structure, with the greatest degree of ownership in the hands of the lead organization. Central ownership has several advantages to decentralized ownership, including the ability to efficiently use linked data to address secondary policy and research questions (Loshin 2001).

However, ownership of a data system can be sensitive for several reasons. First, the highest levels of ownership carry a great deal of responsibility. The

database owner, whether it be a ministry (or ministries), a committee, or a single person, is responsible for maintaining data quality, granting access to the system, compiling reports, and providing technical support to end users (Loshin 2001). If the lead organization is inefficient or too controlling, it can slow down the flow of information to stakeholders and limit the utility of the system.

Second, the owner of the system must be perceived as being reasonably independent of the services being monitored (Leviton and Hughes 1981). A governing body that is too closely linked to programmes may come under pressure to play down negative findings. To prevent this occurring, ministries may choose to appoint a panel of stakeholders to oversee the system and review findings prior to release.

Finally, it is important to leave a degree of ownership in the hands of stakeholders. Data collection, cleaning and sharing are often conducted at the service-delivery level. If stakeholders at this level do not feel committed to the monitoring system, data quality can suffer (Loshin 2001). To encourage a sense of ownership at all levels, stakeholders should be made aware of the importance and utility of the information being collected and understand its direct relevance to the work that they do.

### **6.5 Identifying and Tracking the Early Childhood Population**

As discussed earlier, ECD programmes include inputs from multiple ministries and agencies, ranging from health services at the start of life into the primary education system. Within this period, mothers and children may participate in a range of programmes addressing nutrition, parenting, welfare, childcare, and early education. A major challenge, therefore, is the problem of following individual children through the network of services that they access. For monitoring to reach its full potential, it is important to plan the system in a way that facilitates data linkage.

To track children through multiple programmes, each programme should collect identifying information that can be used to link records across service providers. Typically, such information includes the child's first and last name, date of birth, place of birth, and the mother's first and last name (Rotich et al. 2003). In areas where first names, last names, and even the names of towns can overlap, it may further be necessary to ensure that each child has, in addition, a unique identification number that is used by all providers. This number would be similar to the social security number or the insurance identification (ID) number used in many countries.

#### **Box 3. A Rural Health Centre in Kenya (Rotich et al. 2003)**

In Kenya, a rural health centre created patient ID numbers as part of a computerized record system. The IDs allowed healthcare workers to link patients' records across multiple visits, enabling them to keep track of tests, diagnoses, and treatments. The system reduced the amount of time that staff interacted with patients, the amount of time that patients spent with doctors, and the amount of time that patients spent waiting to be seen. Additionally, staff used the system to identify a cluster of disease in one village and were able to send outreach staff to address the problem. Overall, the use of unique IDs and the electronic record system were a cost-efficient way to streamline and track service provision.

Data linkage across agencies can be performed using an algorithm that matches records based on multiple data (Chamberlayne et al. 1998). Using an algorithm increases the likelihood that two records will be correctly matched even if some information has been entered incorrectly or if agencies providing data collect slightly different information. When using an algorithm for linkage is not possible, the use of an identification number can streamline the linkage process by ensuring that there is an additional, fully unique, element of information collected by all service providers. Unique identifiers have been successfully used to track patients through complex networks of public services, such as health care (Chamberlayne et al. 1998) and mental health services (Dalrymple et al. 1994). Furthermore, the use of unique identifiers to link records, as part of an electronic record system, has been shown to reduce the costs of service provision by limiting the amount of time that staff spend on collecting redundant information from clients (Rotich et al. 2003).

To ensure confidentiality, the ID should not include any potentially identifying information (e.g. initials, year of birth). Once data linkage has been established, the ID can then be used to store sensitive data separately from information that could be used to individually identify children and families, such as names and addresses. This is an important aspect of maintaining the confidentiality of administrative records, discussed further below (Chamberlayne et al. 1998). To get the maximum benefit from the identifier, it is also important that service providers set up data auditing systems to ensure that IDs are entered correctly.

#### **Role of vital statistics systems**

Vital statistics systems, including birth and death registration, provide countries with fundamental information about their populations. This information

includes rates of population growth, poverty, mortality and causes of death which are critical to the effective planning of public services (UNICEF 2002). These systems are important on their own but become even more powerful when linked to other sources of administrative data on early childhood. When using information from birth registries, policy makers have a powerful tool for determining who accesses public services, whether services increase life expectancy, and whether risk factors present at birth are associated with children's developmental outcomes. The best option for a unique identifier within an ECD monitoring system is most likely to be a number that is assigned at birth. Providing a unique identifier at birth ensures that birth records can be easily linked to other data sources.

Registration at birth will include infants in the national monitoring system and can therefore be used to set the stage for the integration of information across agencies. However, although birth registration is widely recognised as a fundamental human right, many developing countries lack comprehensive registries: every year as many as 50 million newborn remain unregistered (Setel et al. 2007; UNICEF 2005).

While many strategies can be used to increase registration, three in particular may be helpful:

- Increase awareness among birth attendants, infant health workers and parents about the importance of birth registration for public service planning (AbouZahr et al. 2007).
- Remove all fees for registering a child, even if births are registered late (UNICEF 2005). Charging a fee represents a significant barrier to access for the poorest families, who may, as a result, be under-represented in national statistics.
- Consider making registration a prerequisite for access to other public services. Accessing health and care services can serve as an entry point into the monitoring system (AbouZahr et al. 2007). However, if a birth registration document is necessary to access services, early childhood service providers must be able to register children onsite, free of charge or of any other barrier; this would ensure that lack of birth registration does not lead to lack of access to services.

Clearly, in order to link data across providers, unique identifying information is necessary. Within complex systems such as those required to monitor ECD policies and programmes, a unique ID can serve to link data and has been successfully used in similar public health contexts in the developed world as well as, on a smaller scale, in developing nations (Rotich et al. 2003). An ECD monitoring system will provide the greatest benefit if IDs are assigned as early as possible, preferably at birth, and free of charge or any other barriers.

## 6.6 Confidentiality

For a centrally-managed monitoring system, the lead organization will ultimately decide how information can be shared and used. In the case of ECD this raises serious concerns about confidentiality. Citizens may be justifiably concerned about who will have access to the data, how it will be used, and whether personal information can be traced back to individuals. Though international bodies such as the United Nations recognize privacy as a fundamental human right and many developed nations explicitly include the right to privacy in their constitutions, laws regarding data protection may be inadequate in developing nations and the history of case law which exists in developed nations may be lacking (Ncube 2004).

Generally speaking, privacy laws do not exclude the collection and use of data for administrative and planning purposes, as long as intended for the public good. Privacy laws presuppose that the use of administrative data does not require any contact between participants and researchers and will not have any direct consequences for participants (Regidor 2003). Direct data collection for research purposes falls under a different set of guidelines and typically requires participants' informed consent. Additionally, if stakeholders intend to link evaluation data to the monitoring system for secondary analyses, local laws and ethical standards should be carefully considered. Secondary analyses may involve questions that were not included in the consent process and the relevant laws concerning this may vary considerably by country.

Since privacy laws are set at the national level, ultimate responsibility lies with the highest level of government. A set of standards which can serve as a basis for policy must be developed at the national level. The lead organization for monitoring ECD services will then set specific privacy standards. To ensure that conflicts do not arise, it is critical that stakeholders agree in advance on a data-sharing system which complies with the highest ethical standards; the lead ministry or agency is then responsible for ensuring that protocols are followed.

One method of maintaining confidentiality is to store all identifying information separately from that concerning children's personal characteristics and service usage. Files containing identifying information should be password protected and stored on computers that are not connected to networks or the internet (Kelman, Bass and Holman 2002). When producing data files for specific projects and reports, data can be further de-identified by assigning "dummy" ID numbers to each case, rather than providing users with the true ID numbers (Kelman et al. 2002). In addition, data owners should guarantee that all information made available for public release will be in aggregate form, and that

aggregation will be done at a high enough level to ensure that information is not individually identifying.

Confidentiality is an important issue and where this is lacking, use of the monitoring system could be inadvisable. Politically sensitive information, such as ethnicity or membership of a minority group, should not be recorded. As public data systems could be open to abuse, confidentiality and trust in government should be taken into consideration when designing a monitoring system (Setel et al 2007).

## 6.7 Utilization

Monitoring and evaluation are only effective if utilisation of the data and analyses can be ensured, yet this is also one of the biggest challenges of monitoring (Bamberger 2008). Monitoring systems are maintained or abandoned according to user demand; if the monitoring system is under-used, it is unlikely to be sustained. If stakeholders recognize the value of the system, can access the information they need, and see that information is used to improve services, the system is more likely to be maintained (Mackay 2007).

Appropriate utilization can take many forms. The most direct and instrumental use of the data provided is to guide decision-making (Leviton and Hughes 1980). Examples of this could be the decision to expand outreach to underrepresented families or to fund specific programmes. Information which emerges from a monitoring system may also be used to influence people's attitudes or change how decisions are made (Bamberger 2008; Leviton and Hughes 1981).

To ensure that stakeholders buy in to the monitoring system, it is important to promote utilization at all levels – by individual users, communities, ministries, and international organizations. When planning or expanding the system, stakeholders should think carefully about the intended uses of information.

These may include:

- Providing feedback to families about the importance of health behaviours and early education for the development of the child;
- Sharing information vertically so that agencies can plan services to meet needs;
- Performing needs assessments to identify areas of high risk or lack of access;
- Programme planning, monitoring and improvement (determining targets, measuring results, and adjusting delivery to streamline services);
- Policy formulation and improvement (tracking progress towards development goals, determining the effect of a new policy);
- Research in the public interest (identifying local factors that affect child outcomes, identifying variables related to service usage).

### **Box 4. Dissemination and Utilization of the MICS3 (Segone, Sakvarelidze and Vadnais 2009).**

Special efforts have been made to ensure widespread dissemination of the third Multiple Indicators Cluster Survey (MICS3), a survey of socio-economic indicators in over 100 countries. Countries have been encouraged to create their own dissemination plans, which have included executive summaries, fact sheets, monthly calendars, videos, and provincial reports. Additionally, datasets have been made publicly available to encourage further analysis. Data from MICS3 has been used to produce multiple reports and to inform public policy, such as an initiative to improve children's nutrition in Serbia.

The usefulness of a monitoring system can be undermined by two factors. The first is misuse of data. Monitoring can be politically sensitive, as the results can affect funding, political power and prestige. Stakeholders who stand to gain or lose according to results may attempt to influence the monitoring process or its findings. Withholding information in order to delay important decisions, interfering with data collection, or deliberately misrepresenting findings are all examples of misuse of the system (Christie and Alkin 1999). The most serious form of misuse is when confidentiality is breached.

The second problem for a monitoring system is under-utilization. Under-utilization refers to the failure to use monitoring results to influence policy or programming decisions. This generally occurs when data do not address stakeholders' information needs, information is provided too late to affect policy, or data quality is poor (Bamberger 2008). Strong policies of oversight and accountability are necessary to avoid misuse and under-utilization. Several strategies have been recommended.

First, the monitoring system should be considered a public resource and reports should be freely available. Information can then be used by citizen groups to encourage policy-makers to make necessary changes and adapt or introduce programmes (Gordillo and Andersson 2004).

Second, it is essential to maintain open communication with stakeholders (Bamberger 2008). Stakeholders should be asked to provide their input about the meaning of indicators and how results should be used for decision-making. As part of this process, a system should be established allowing stakeholders to review and comment upon findings before they are made public.

Third, the lead organization should work with stakeholders to develop a follow-up action plan, including specific actions to be taken, clarification of

individual responsibilities, and methods for ensuring compliance (Bamberger 2008). A carefully developed plan to encourage use and prevent misuse of the monitoring system is essential to ensure data is used properly and effectively.

Several other considerations should also be taken into account. First, how will information be disseminated? Wide distribution to stakeholders is essential, but the form and content of the information will vary depending on the audience. Information should be relevant, useful and easy to understand (Morris, Fitzgibbon and Freeman 1987). In the case of ECD, stakeholders include primary caregivers, programme staff, programme administrators, ministry staff, and politicians, representing a wide range of information needs. Lack of literacy and other language barriers could further complicate communication efforts.

Finally, how can stakeholders get their questions answered? Although monitoring reports will include basic statistics, ministries or agencies may want to use archival data to answer more complex questions, for example if there is a relationship between child risk exposure and outcomes in a given programme. A specific mechanism should be in place to respond to these advanced information needs, including determining who pays for the analyses and how usage is approved. Setting up university partnerships could be instrumental to this form of utilization.

## Conclusions

The development and use of a comprehensive monitoring system is an essential element of good governance of ECD. Such a system provides policy makers and administrators with the much-needed information for making evidence-based decisions and allows them to continuously improve their planning and monitoring efforts. As outlined in this review there is much to gain from developing such a system, but it is nonetheless a challenging undertaking. In order to help stakeholders overcome these challenges, a number of practical issues that are important to consider when developing a comprehensive ECD monitoring system have been discussed.

A priority is to decide what to monitor through the selection of a limited number of valid and measurable indicators that are closely aligned to policy and programme goals. Further, the capacity of the government system should be thoroughly assessed. This includes:

- the identification and evaluation of existing administrative and other data sources. These data sources, and particularly administrative data, are an essential building block for developing a monitoring system. They have the potential to provide policymakers with relevant information, serve as the basis for a results-based monitoring system, and thus

further strengthen governments' monitoring and evaluation efforts. Additionally, linkage across systems will ultimately provide a richer picture of service usage and effectiveness;

- a training needs analysis of the administrators who will operate the monitoring system. This will strengthen their skills and prepare them for their future duties;
- consideration of the medium- to long-term costs of operating a monitoring system in relation to the projected available funds, in order to ensure the sustainability of the system.

As regards the organization of the monitoring system, evidence shows that this should follow the governance structure of the ECD sector(s). For a coordinated system, this implies that the lead organization will set data collection priorities in consultation with collaborating ministries, development partners and other stakeholders. Further, identifying information should be included for linking data across providers. The establishment of an ID, preferably assigned at birth and free of charge and any other barriers has proven to be successful in serving this purpose.

The lead organization should also ensure that confidentiality is safe-guarded by developing specific standards for all stages in the monitoring process, in consultation with all stakeholders involved. Lastly, to ensure that stakeholders buy into the monitoring system, it is important to promote utilization at all levels – by individual users, communities, ministries and international organizations.

This paper has argued for the development of a holistic, comprehensive ECD monitoring system that covers multiple facets, i.e. education, health, social protection and the social and economic context in which the child is born, of all ECD interventions (public and private) in a country. This is essential for ensuring that all children can reap the benefits that ECD programmes can provide. Despite the potential challenges of developing and using such a system, it remains a worthy goal, as the benefits to stakeholders, including citizens, policy makers, administrators and development partners are considerable. How such a system can be used to continuously improve the planning and monitoring ability of policy makers and administrators, has not yet been fully explored, however. This issue is therefore a critical area for further research and peer learning in the field of ECD.

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<sup>1</sup> The definitions of early childhood vary across nations and cultures. In General Comment No. 7 to the Convention on the Rights to the Child, the Committee proposes as an appropriate working definition of early childhood the period below the age of 8 years.

<sup>2</sup> Committee on the Rights of the Child (2005) General Comment no.7, art. 39.

<sup>3</sup> See for example Holvoet and Renard (2007).

<sup>4</sup> Abnormalities of physiological development.

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