4

Daycare Services: It's All about Quality

Daycare services (daycare) refer to services that offer childcare outside the family home for young children, particularly children who are not yet of an age to be covered by the formal school system. Many governments in Latin America and the Caribbean have subsidized or directly provided daycare.

Providing daycare generally has two objectives: enabling mothers to work and improving child development. This chapter discusses the coverage and quality of daycare services in Latin America and the Caribbean and the impacts they have had on child development.

Daycare, in Numbers

Daycare services reach more than 3.1 million children through over 114,000 providers in Latin America and the Caribbean, according to a study of 36 of the largest daycare programs in the region (Araujo, López Boo, and Puyana 2013).[1] Table 4.1 summarizes the proportion of children from birth to 3 years of age in daycare, separately for urban and rural areas, in seven countries where these data are available: Brazil, Chile, Colombia, Ecuador, Guatemala, Nicaragua, and Uruguay.[2] The data reveal dramatic increases in the use of daycare in some countries. In Brazil and Chile, the proportion of children in daycare doubled in the past decade, and in Ecuador it increased sixfold. In Brazil, Chile, Colombia, and Ecuador, between one-fifth and one-third of all children between the ages of 0 and 3 are in daycare. In Nicaragua—and especially in Guatemala—coverage is much lower. In all countries except Ecuador, the proportion of children who attend daycare is substantially larger in urban than in rural areas.

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Table 4.1 Enrollment in Center-Based Daycare Services (in %)

	2000			2010		
Country	**National**	**Rural**	**Urban**	**National**	**Rural**	**Urban**
Brazil	11.7	4.5	13.3	21.2	9.4	23.5
Chile	11.4	3.4	12.6	26.1	15.7	27.5
Colombia	—	—	—	—	13.5	34
Ecuador	3.7	2.8	4.3	23.2	23.1	23.3
Guatemala	1	0.5	2.1	1.2	0.5	2.2
Nicaragua	8	6.5	9.3	7.6	7.4	7.7
Uruguay	21.7	5.4	22.9	35.1	20.7	37.7

Note: — = not available.

Source: Authors' calculations based on Pesquisa Nacional por Amostra de Domicilios (PNAD), 2002, 2012, for Brazil; Encuesta de Caracterización Socioeconómica Nacional (CASEN), 2000, 2011, for Chile; Encuesta Longitudinal Colombiana de la Universidad de los Andes (ELCA), 2010, for Colombia; Encuesta de Condiciones de Vida (ECV), 1997–98, 2013–14, for Ecuador; Encuesta Nacional de Condiciones de Vida (ENCOVI), 2000, 2011, for Guatemala; Encuesta de Medición de Nivel de Vida (EMNV), 2001, 2009, for Nicaragua; and Encuesta Continua de Hogares (ECH), 2006, 2013, for Uruguay.

The coverage of daycare services is extensive in many countries in the region. But who uses daycare, particularly services that are publicly provided or financed? In answering this question, two considerations are particularly important: the age of children and the socioeconomic status of their families.

Child age is an important consideration for many reasons. For one, at young ages, when the immune system is developing, children are much more vulnerable to infections and disease than when they are somewhat older. This means that health and sanitation conditions and protocols are particularly critical in daycare provided to the youngest children.

Another reason that child age is an important factor is the process of child development. The strong consensus from many disciplines is that it is critical for young children to develop a strong, affectionate tie with at least one primary caregiver. In the fields of psychology and child development, this idea goes back to the pioneering work of Bowlby (1958) and Ainsworth (1969), and is often referred to as Attachment Theory. Having a strong bond with at least one adult allows children to learn to regulate their feelings, establish a sense of security as they explore their surroundings, and develop trust.

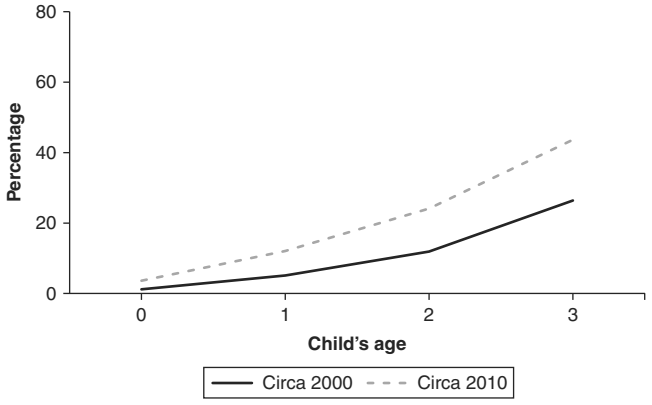
Bowlby and others argued that the first two years of a child's life (perhaps especially the period between 6 and 18 months) are particularly important for the formation of these relationships between a child and a primary caregiver. Full-time daycare of low quality can disrupt the process of attachment formation between young children and their primary caregivers.

Finally, child age is important because the cost of providing care of comparable quality is substantially higher for very young children (especially infants) than for somewhat older ones. The higher cost arises because acceptable child-to-caregiver ratios are much lower for younger children. For example, the American Academy of Pediatrics (2005) recommends a ratio of one caregiver for every three children aged 0–11 months, and a ratio of one caregiver for every eight children aged 4–5 years. Lower child-to-staff ratios are desirable for younger children because caregivers in smaller groups have more time to interact with each child. Moreover, they can help in reducing the transmission of disease and improve safety. On this count alone, the cost of providing high-quality daycare for an infant is almost triple that of a preschooler.[3]

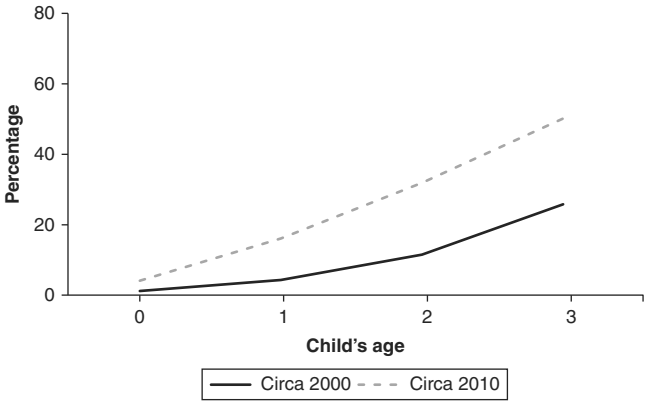
Figure 4.1 focuses on changes over time in the coverage of daycare in Brazil, Chile, Ecuador, Nicaragua, and Uruguay.[4] It shows that daycare use is substantially higher for somewhat older children.

Figure 4.1 Enrollment in Center-Based Daycare Services

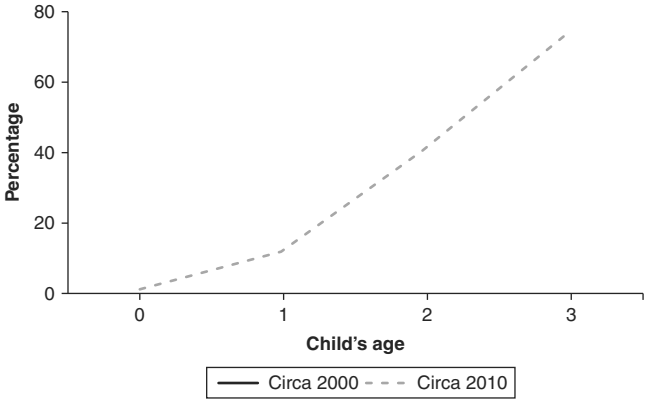
a. Brazil



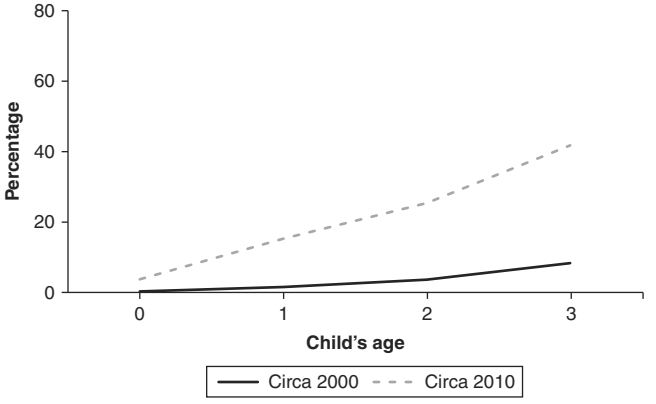
b. Chile



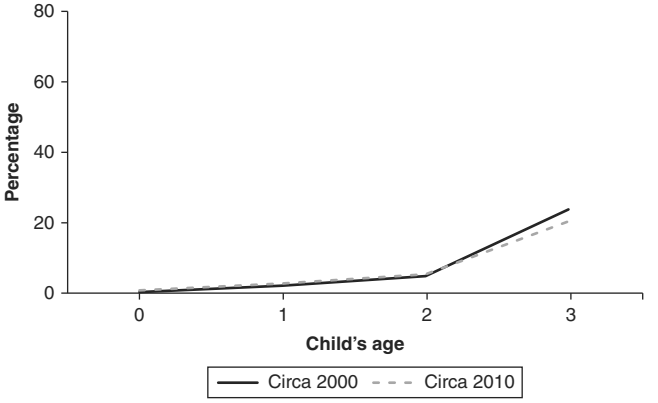
c. Colombia



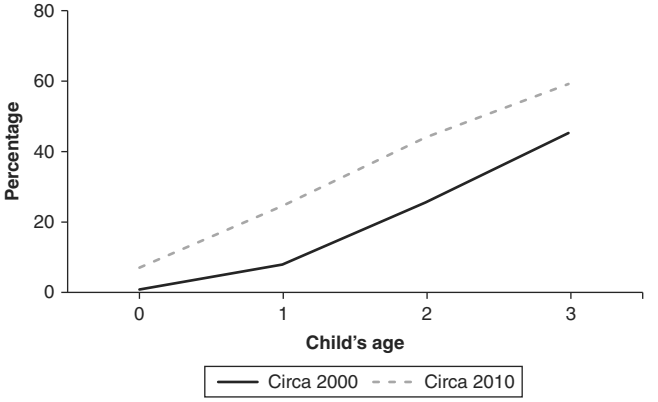
d. Ecuador



e. Nicaragua



f. Uruguay



Source: Author's calculations based on Pesquisa Nacional por Amostra de Domicilios (PNAD) 2002, 2012 for Brazil; Encuesta de Caracterización Socioeconómica Nacional (CASEN) 2000, 2011 for Chile; Encuesta Longitudinal Colombiana de la Universidad de los Andes (ELCA) 2010-Urban area; Encuesta de Condiciones de Vida (ECV) 1997–1998, 2013–2014 for Ecuador; Encuesta de Medición de Nivel de Vida (EMNV) 2001, 2009 for Nicaragua; and Encuesta Continua de Hogares (ECH) 2006, 2013 for Uruguay.

However, daycare use over the past decade has increased among both older and younger children.

The socioeconomic status of children who attend daycare is important for two reasons. One reason is that most public daycare services in the region are free or heavily subsidized. There is, therefore, a redistributive element to public daycare, and understanding who benefits from the implicit transfer is important.

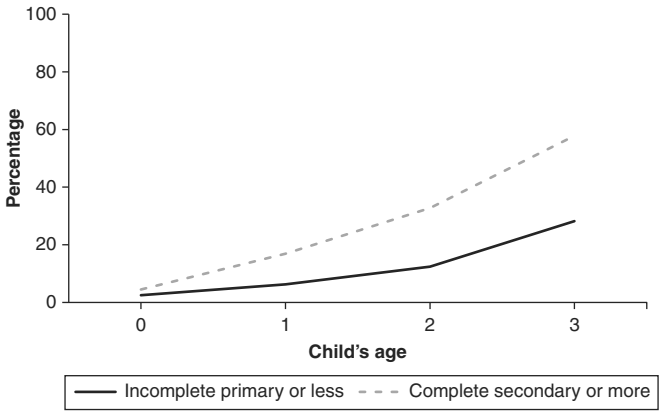
The second reason that the socioeconomic status of families is important is that the impact of daycare on child development depends on the quality of daycare *relative* to the quality of care that a child in daycare would have received if daycare had not been available or if parents had chosen not to make use of it. This is often referred to as the "counterfactual." For most children in the region, the counterfactual to daycare is care by parents, other relatives (sometimes minors) at home, or informal care by neighbors or others. Little is currently known about the quality of care in these counterfactual environments in the region.

Chapter 3 presented compelling evidence that the home environment for young children in richer households is more supportive of child development in a variety of ways. Children in wealthier households are more likely to receive nutritious foods, more likely to be read to and to receive early stimulation, and more likely to have warm, supportive parenting than those in poorer households. If the daycare provided is of high quality, moving a poor child from home care to daycare will improve her environment more than moving a rich child would.

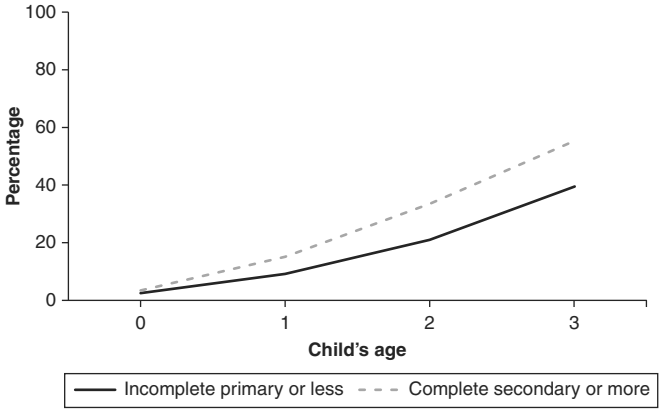
Figure 4.2 focuses on differences in daycare enrollment between mothers with "high" levels of education (complete secondary school or more) and "low" levels of education (incomplete primary school or less).[5] In all countries except Ecuador, daycare use is higher

Figure 4.2 Enrollment in Center-Based Daycare Services, by Mother's Education

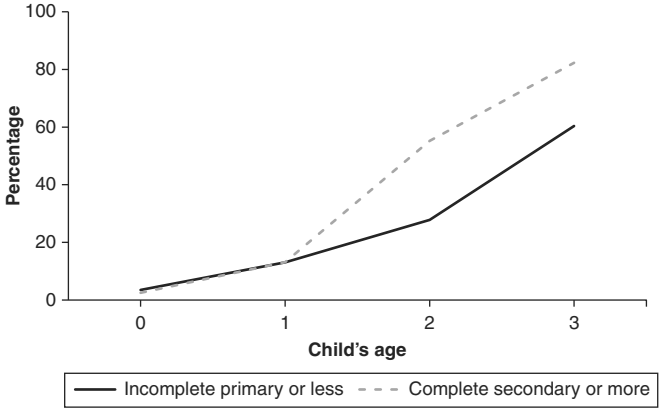
a. Brazil



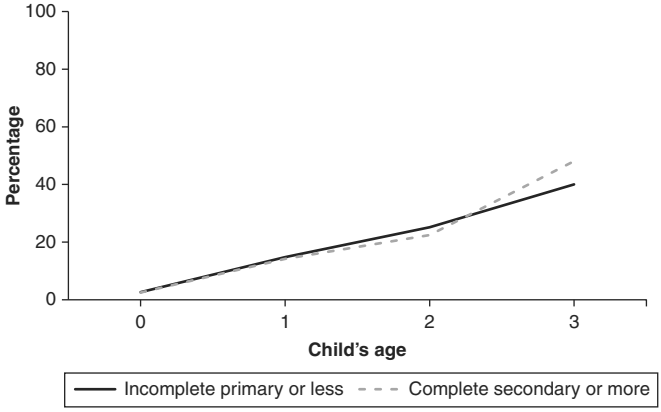
b. Chile



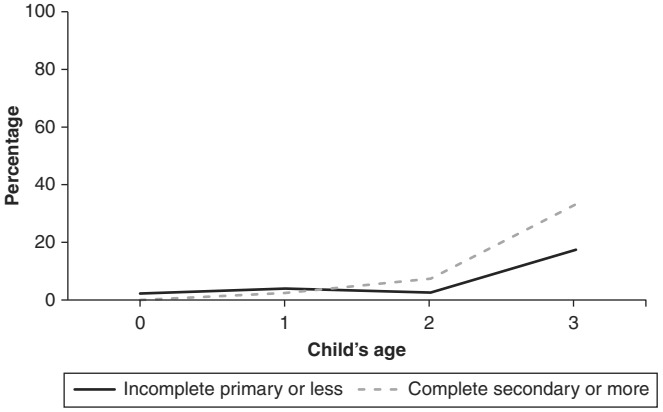
c. Colombia



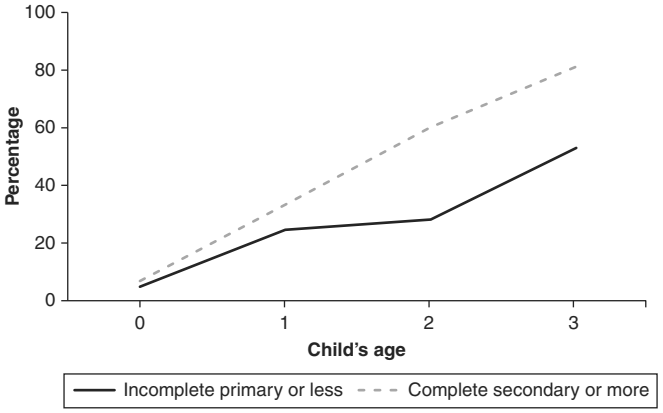
d. Ecuador



e. Nicaragua



f. Uruguay



Source: Author's calculations based on Pesquisa Nacional por Amostra de Domicilios (PNAD) 2002, 2012 for Brazil; Encuesta de Caracterización Socioeconómica Nacional (CASEN) 2000, 2011 for Chile; Encuesta Longitudinal Colombiana de la Universidad de los Andes (ELCA) 2010-Urban area; Encuesta de Condiciones de Vida (ECV) 1997–1998, 2013–2014 for Ecuador; Encuesta de Medición de Nivel de Vida (EMNV) 2001, 2009 for Nicaragua; and Encuesta Continua de Hogares (ECH) 2006, 2013 for Uruguay.

among women with higher education levels. In Brazil, Colombia, and Uruguay, these differences are large. At 3 years of age, the likelihood that children will use daycare services is at least 20 percentage points higher for children of high-education mothers than for children of low-education mothers.

The household survey data for most countries does not distinguish the type of daycare that is used, including whether it is public or private. Fortunately, there are exceptions. In Chile, Colombia, and Ecuador, respondents are asked not only whether their children are attending daycare, but also the type of provider.

Table 4.2 summarizes these findings separately for children of high-education and low-education mothers, limiting the sample to children in daycare. High-education mothers are much more likely to use private services than low-education mothers in all three countries.[6] However, even among children of high-education mothers, most are in public daycare. (For example, in Chile in 2011, among women who use daycare, 96 percent of low-education women and 72 percent of high-education women use public daycare.)[7] In Chile and Ecuador, where these values are available for more than one point in time, the biggest expansion in daycare in the past decade has been in the public sector.

Table 4.2 Use of Public and Private Daycare, by Maternal Education

Country	Year	Type of daycare service	Public (%)	Private (%)
Chile	2000	Incomplete primary or less	73.8	26.2
		Complete secondary or more	24.1	75.9
		Total	39.3	60.7
	2011	Incomplete primary or less	96.4	3.6
		Complete secondary or more	71.5	28.5
		Total	77.1	22.9
Ecuador	1997–98	Incomplete primary or less	81.8	18.2
		Complete secondary or more	44.3	55.7
		Total	65.8	34.2
	2013–14	Incomplete primary or less	91.5	8.5
		Complete secondary or more	63.3	36.9
		Total	86.8	13.2
Colombia	2010	Incomplete primary or less	100	0
		Complete secondary or more	67.2	32.8
		Total	74.3	25.7

Source: Author's calculations based on Pesquisa Nacional por Amostra de Domicilios (PNAD), 2002, 2012, for Brazil; Encuesta de Caracterización Socioeconómica Nacional (CASEN), 2000, 2011, for Chile; Encuesta Longitudinal Colombiana de la Universidad de los Andes (ELCA), 2010, Urban area; Encuesta de Condiciones de Vida (ECV), 1997–98, 2013–14, for Ecuador; Encuesta de Medición de Nivel de Vida (EMNV), 2001, 2009, for Nicaragua; and Encuesta Continua de Hogares (ECH), 2006, 2013, for Uruguay.

In sum, the use of daycare services, particularly public daycare, has increased dramatically in some countries in the region. Daycare use is higher among high-education than among low-education mothers. It is also higher among older children than among younger children, but has increased for children of all ages, including for infants and young toddlers.

A Not-So-Pretty Picture of Daycare Services

The provision of daycare in Latin America and the Caribbean can be broadly mapped into one of two models of operation: community and institutional.

The community model relies heavily on the community for space and labor. Caregivers are community mothers, and care is provided in their homes or in a community building that has been made available for this purpose. The scale is small: each provider (a mother or a group of mothers) generally serves no more than 30 children. Children are often in a single mixed-age group that can include infants, toddlers, and preschoolers. The program pays the community mother a subsidy per child to cover the costs of food and to remunerate her. However, the community mother is not formally employed by the program. Formally or informally, parents might be asked to pay a fee for the service. Traditionally, community models require little of their caregivers in terms of qualifications such as schooling and pre-service training. Caregivers have few if any opportunities for professional development. Community models often depend on a government agency responsible for children and families or a ministry of social development. Examples of this type of model can be found in Guatemala and Colombia (Hogares Comunitarios), Peru (Cuna Más, formerly Wawa-Wasi), and Nicaragua (PAININ).

The institutional model operates through larger centers that have been exclusively built (or adapted) for the purpose of daycare. Given the larger size of the centers, children are frequently grouped into classrooms by age. Provision might be carried out directly by the program or subcontracted to third parties. Caregivers are generally required to have a technical or vocational degree in early childhood education. They have an employment relationship with the program and receive employment benefits. Under this model, parents might

also be asked to pay a fee. Institutional models are more common in the Southern Cone (Argentina, Chile, and Uruguay) and in Mexico. Given that institutional daycare models rely on educators, they often have a formal link with (or depend on) ministries of education.

The community modality of daycare became very popular in many countries in the region in the 1980s. However, in the past decade, countries like Colombia and Peru have significantly reformed their community daycare services. For example, Colombia offers in-service training to professionalize caregivers (community mothers), and passed a reform to ensure they would have a formal contract and receive a minimum wage and employment benefits. Peru is phasing out the service provided in private homes. Instead, it is moving all children and caregivers to community spaces that have been adapted and equipped for this purpose. Colombia, Ecuador, and Peru are investing substantially in infrastructure to expand the coverage of institutional services.

The impact of attending daycare on child development depends critically on its quality. But what is high-quality daycare? Love, Schochet, and Meckstroth (1996, cited in Blau and Currie 2006) describe it in the following way:

> (In high-quality care) caregivers encourage children to be actively engaged in a variety of activities; have frequent, positive interactions with children that include smiling, touching, holding, and speaking at children's eye level; promptly respond to children's questions or requests; and encourage children to talk about their experience, feelings, and ideas. Caregivers in high-quality settings also listen attentively, ask open-ended questions and extend children's actions and verbalizations with more complex ideas or materials, interact with children individually and in small groups instead of exclusively with the group as a whole, use positive guidance techniques, and encourage appropriate independence.

As this description suggests, many elements determine the quality of daycare. In practice, however, a distinction is often made between the structural and process dimensions of quality.

Structural dimensions of quality refer to the presence (or absence) of resources that can facilitate the interactions that should take place in a learning environment. They include aspects related to infrastructure (space, lighting, furniture, and equipment); elements related to health, sanitation, and safety (health protocols, emergency procedures); the characteristics of educators and caregivers (their

pre-service and in-service training, experience, salaries); and the characteristics of the group of children under their responsibility (size, age range, caregiver-to-child ratios).

Process dimensions of quality refer to the elements of daycare that directly impact a child's day-to-day experience, learning, and development. They focus on the implementation of the curriculum (if one is available) and, in particular, on the frequency, types, and quality of interactions between children and their caregivers, between children and their peers, and between caregivers and parents.

Different approaches have been taken to measuring quality in prekindergarten and daycare, both in developed and in developing countries. One approach focuses on measuring a set of "minimum standards" that providers should meet. For example, in the United States, the National Institute for Early Education Research (NIEER) has proposed a National Quality Standards Checklist (Barnett and others 2003, 2004). This checklist focuses on structural quality, including the qualifications that teachers and caregivers have; whether they receive in-service training; class sizes and the child-to-caregiver ratio; whether there are screening and referral services; and whether meals are provided.

Alternatively, quality can be measured by direct observation at the daycare center. One family of instruments widely used for this purpose includes the Infant and Toddlers Environment Rating Scale (ITERS-R) (Harms, Cryer, and Clifford 1990); the Early Childhood Environment Rating Scale (ECERS-R) (Harms and Clifford 1980; Harms, Clifford, and Cryer 1998); and the Family Child Care Environment Rating Scale (FCCERS-R) (Harms and Clifford 1989).[8] ITERS focuses on center-based care for infants and toddlers (0–29 months old). ECERS focuses on center-based care for preschoolers (30–59 months old). FCCERS focuses on infants, toddlers, and preschoolers (0–59 months) in family childcare contexts. The instruments assess seven aspects or dimensions of care: space and furnishing, personal care routines, listening and talking, activities, interactions, program structure, and parents and staff. Scores are assigned to each dimension. They range from 1 to 7, with a score of 1 being inadequate quality, 3 being minimal quality, 5 being good quality, and 7 being excellent quality.

Another instrument is the Classroom Assessment Scoring System (CLASS) (Pianta, La Paro, and Hamre 2008a; La Paro, Hamre, and Pianta 2012; Hamre and others 2014), which measures one key aspect of process quality: the nature of the interactions between children and their teachers or caregivers (see Box 4.1). Scoring is on a 1–7 scale, with scores of 1–2 reflecting poor quality, 3–5 reflecting medium quality, and 6–7 reflecting high quality. For infants and toddlers, the CLASS measures the quality of interactions in two domains: Emotional and Behavioral Support, and Engaged Support for Learning.

Other tools, such as the Knowledge of Infant Development Inventory (KIDI) (MacPhee 1981), focus on caregivers' factual knowledge of child rearing practices, child development processes,

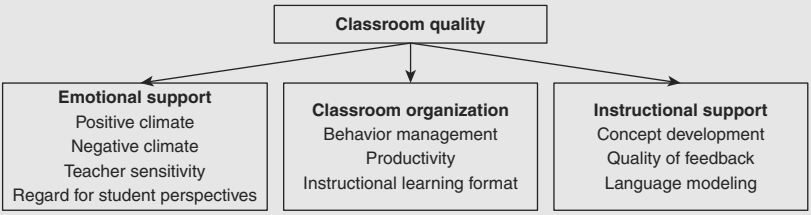
Box 4.1 The Classroom Assessment Scoring System

The Classroom Assessment Scoring System (CLASS) observation tool was developed by researchers at the University of Virginia to evaluate the quality of teacher-student interactions that predict child academic and social outcomes in daycare, preschool, and primary school classrooms. The CLASS measure provides a validated and reliable common metric to describe how teachers use the materials they have available to them and how they interact with their students (Pianta, La Paro, and Hamre 2008a).

The CLASS addresses the fact that as children grow and develop, the complexity and nature of their interactions with caregivers and teachers also change. There are age-appropriate versions of the instrument for infant, toddler, preschool, and kindergarten through third grade (K-3) classrooms. While the CLASS for toddlers and infants describes two broad domains of effective teacher-student interactions (Emotional and Behavior Support and Engaged Support for Learning), the CLASS for preschool and K-3 separates interactions into three domains (Emotional Support, Classroom Organization, and Instructional Support).

Each domain contains a number of dimensions that focus on a particular aspect of effective teacher-student interactions important to academic and social success. As an example common to all age versions of the instrument, Positive Climate is one of the dimensions found within the Emotional and Behavior Support or Emotional Support domains,

Figure B4.1 The Classroom Assessment Scoring System, Preschool and K-3



depending on the version of the instrument. Positive Climate is defined as the "the emotional connection between teachers and students and among students and the warmth, respect, and enjoyment communicated by verbal and nonverbal interactions" (Pianta, La Paro, and Hamre 2008a, p. 23). "Physical proximity," "peer assistance," "social conversation," "smiling," "verbal affection," "eye contact," "respectful language," and "evidence of cooperation and sharing" are the kinds of indicators that CLASS observers take into account when scoring a classroom under the Positive Climate dimension. Figure B4.1 depicts the domains and dimensions found in the CLASS preschool and K-3 versions.

For children of all ages, CLASS scores measure the extent to which that dimension is characteristic of the classroom. Scores range from 1 (minimally observed) to 7 (frequently observed). (Scores for the Negative Climate dimension are reversed.) Observation can begin with the start of the school day, or at any predetermined time arranged with the teacher. Classroom observations are completed by highly trained and certified observers and are done over four or more 20-minute cycles. The CLASS has also been approved and validated for use with videotaped classroom observations.

The CLASS has also emerged as a powerful professional development tool, helping teachers identify and model the types of interactions known to improve children's emotional and cognitive development.

and infant norms of behavior. Specifically, on the KIDI, respondents are read 58 statements about children, and are asked to choose between "agree," "disagree," and "not sure."

What is the quality of daycare in Latin America and the Caribbean? A useful starting point to answering this question is an in-depth study of quality in a nationally representative sample of 400 public daycare centers of the Centros Infantiles del Buen

Vivir (CIBV) program in Ecuador (Araujo and others 2015). CIBV subcontracts daycare services to communities, local governments, and grassroots organizations. The services are targeted to children 0–3 years of age, although in practice a large proportion of users are older than 3. Unlike most childcare services in Latin America, this program operates in both urban and rural areas. Caregivers are required to have a secondary school degree, but in practice compliance with this requirement is far from perfect. They are hired by the organization that acts as provider and are paid the minimum wage. Fifty percent of centers surveyed reported charging parents a fee, although this is not permitted by the program guidelines. All centers are required to have a professional in the role of center coordinator, with tertiary-level credentials. When the data for the study were collected in 2012, the CIBV program operated through 3,800 centers, serving 118,000 children.

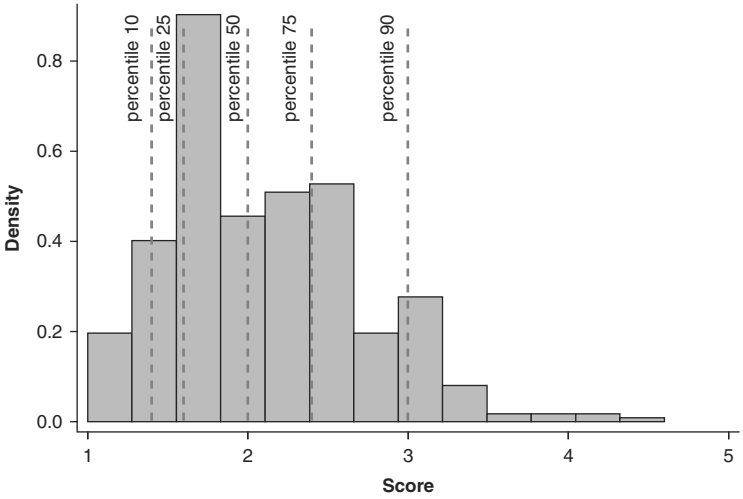
The CIBV data reveal that caregivers have very little knowledge of child development. The average caregiver answered 31 of the 58 questions on the KIDI correctly. Simple random guessing would have resulted in 29 correct responses, which gives an indication of how low these caregivers scored.

More comprehensive measures also paint a discouraging picture of quality in CIBV centers. Figure 4.3 focuses on the ITERS. Because policymakers in the region (and elsewhere) frequently pay more attention to the physical infrastructure of a center than to other dimensions of quality, two panels are presented in the figure. Panel a focuses on one dimension of the ITERS—space and furnishings—which is a measure of the physical infrastructure of the center. Panel b presents the average on the other six dimensions of the scale, which are a combination of indicators of "process" and "structural" quality. The median center in Ecuador has a score of approximately 2 on space and furnishings, and a score of 1.5 on the composite of the other dimensions; both are in the "inadequate quality" range. Even the best-performing centers have very low levels of quality. A center at the ninetieth percentile has a score of 3 on space and furnishings (minimal quality), and a score of 2 on the composite of the other dimensions (inadequate quality).

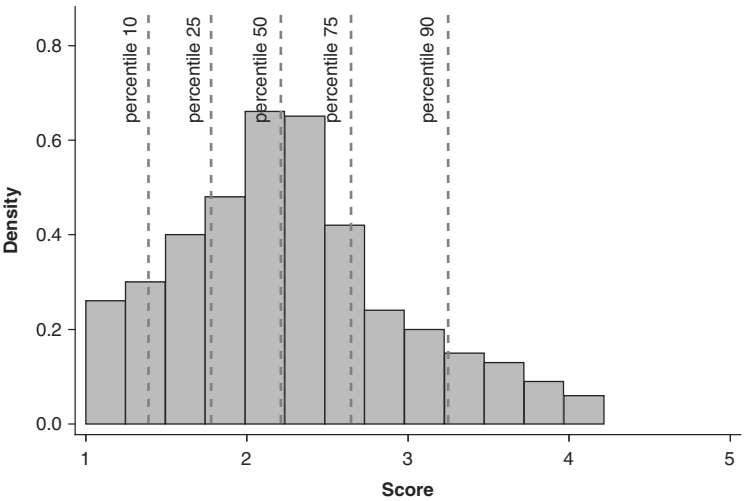
Figure 4.4 presents comparable results for the CLASS. On the Emotional and Behavioral subscale, which is important for children's

Figure 4.3 The Infant and Toddlers Environment Rating Scale Measures of Daycare Quality, Ecuador

a. Space and Furnishing



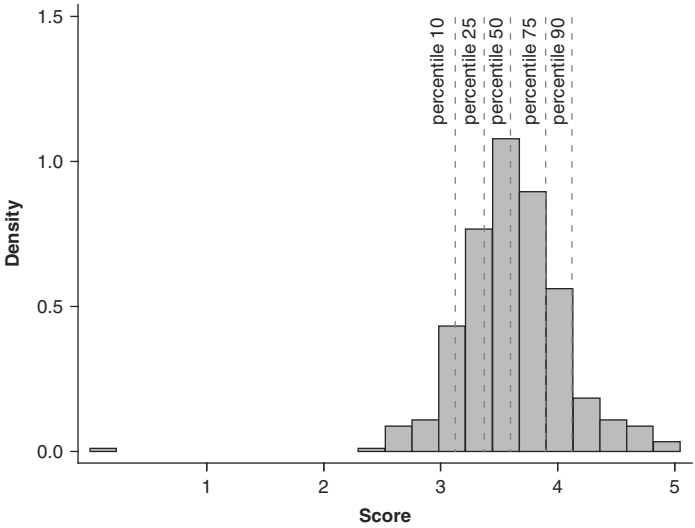
b. Other Dimensions of Quality



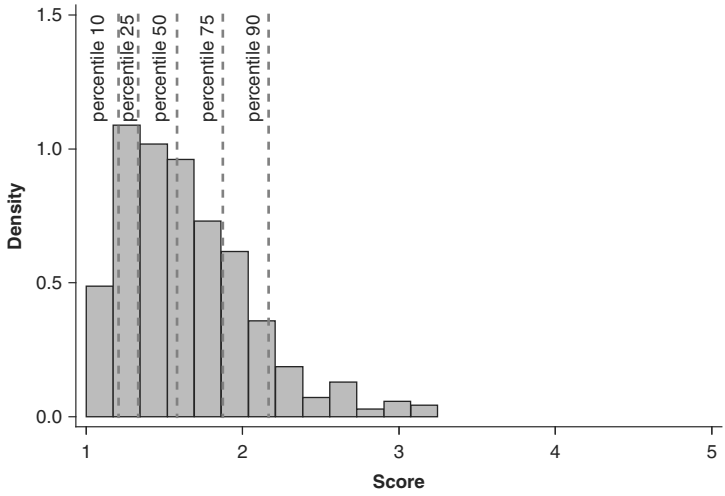
Source: Araujo and others (2015).

Figure 4.4 The Classroom Assessment Scoring System Measures of Daycare Quality, Ecuador

a. Emotional and Behavioral Support



b. Engaged Support for Learning



Source: Araujo and others (2015).

socioemotional development, most centers fall into the mid-range of quality. On the Engaged Support for Learning subscale, which is important for cognitive and language development, virtually all of the centers have poor quality. Centers with lower structural quality in Ecuador generally have worse process quality (see Box 4.2).

Box 4.2 Structural and Process Quality of Daycare in Ecuador

Recent research from the United States suggests that structural measures of quality, including those measured in checklists like those proposed by the National Institute for Early Education Research (NIERR), are only weakly correlated with process quality and child development outcomes (Mashburn and others 2008). However, given the much lower levels of structural quality of daycare observed in Latin America and the Caribbean, it is not clear whether this result carries over to the region. One way of analyzing this is by seeing whether, on average, measures of structural quality are correlated with scores on the Infant and Toddlers Environment Rating Scale (ITERS) and the Classroom Assessment Scoring System (CLASS).

In Ecuador, the Centros Infantiles del Buen Vivir (CIBV) program guidelines require caregivers to be secondary school graduates. In practice, just over two-thirds (68 percent) of all caregivers meet this criterion. The CIBV also requires maximum ratios of 8 children per adult (for children younger than 24 months of age) to 12 children per adult (for children 24 months and older). In practice, there appears to be considerable variation in child-caregiver ratios. At the 10th percentile of the distribution, there are 6 children per adult, at the median there are 9, and at the 90th percentile there are 12 children per adult. (Children of different ages are frequently in the same classroom, so it is not easy to determine whether the program is complying with its own guidelines.) There is also considerable variation in the experience of caregivers, from 0 years at the 25th percentile (i.e., caregivers for whom this is the first year working with children) to 2 years at the median, and to 8 years at the 90th percentile.

Table B4.1 reports conditional associations between quality, as measured by the ITERS or the CLASS, and caregiver education, experience, and child-adult ratios in the CIBV program in Ecuador. It is important to keep in mind that these values may not have a causal interpretation; other reasons may explain why classrooms with fewer children per caregiver and caregivers with more experience and education have better quality (as measured by the ITERS and the CLASS).

Table B4.1 ITERS, CLASS, and Characteristics of Teachers and Daycare Centers in Ecuador

	ITERS				CLASS			
Caregiver has completed secondary school	0.26*			0.30**	0.26**			0.29**
	(0.13)			(0.13)	(0.11)			(0.11)
Caregiver has 3+ years of experience		0.02		0.09		0.10		0.14
		(0.12)		(0.12)		(0.12)		(0.12)
Child-adult ratio			−0.05**	−0.05**			0.01	−0.00
			(0.02)	(0.02)			(0.03)	(0.03)
R-squared	0.016	0.000	0.018	0.040	0.014	0.002	0.000	0.018

Notes: All regressions include canton fixed effects. N is 403 daycare centers. Robust standard errors corrected for clustering at the canton center in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

ITERS = Infant and Toddlers Environment Rating Scale; CLASS = Classroom Assessment Scoring System.

Source: Authors' calculations based on the data in Araujo and others (2015).

The table shows that some, but not all, measures of structural quality are associated with better scores on the ITERS and CLASS. ITERS and CLASS scores are between 0.26 and 0.30 standard deviations higher in classrooms in which the caregiver has a secondary school degree than in those where the caregiver does not. ITERS scores (but not CLASS scores) are also better in classrooms where there are fewer children per caregiver. For every additional child per caregiver, the ITERS score goes down by 0.05 standard deviations. In other words, halving the number of children per caregiver from 12 to 6 is associated with an improvement in scores of 0.30 standard deviations. On the other hand, having a caregiver with more experience does not predict quality, as measured by the ITERS or the CLASS.

The analysis of the CIBV program in Ecuador suggests that the quality of daycare services is very low. But is Ecuador unusual relative to other countries in the region? Apparently not. The largest public daycare program in Peru, Cuna Más, and public daycare provided by the Crecer Bien Para Vivir Bien program in Potosí and Chuquisaca, Bolivia, are also of very low quality. Table 4.3 reports the median and the score of the classroom at the 90th percentile of the distribution of quality in the two programs. On the ITERS, the median center

Table 4.3 Quality of Daycare Services in Bolivia and Peru

	Bolivia, CBPVB		Peru, Cuna Más	
	Median	90th percentile	Median	90th percentile
ITERS				
Total	*1.3*	*1.8*	*3.6*	*4.8*
Space and furnishing	1.2	1.8	3.4	4.8
Personal care routines	1.1	1.2	3.2	5.5
Listening and talking	1.3	3	3.3	5.3
Activities	1.2	1.7	2.9	3.8
Interaction	1.4	2.8	5	6.8
Program structure	1.1	1.3	4	6
Parents and staff	1.3	2.2	2.8	3.6
CLASS				
Total	—	—	*3.1*	*3.6*
Emotional and behavioral support	—	—	*3.9*	*4.4*
Positive climate	—	—	3.4	4.1
Negative climate	—	—	6.9	7
Teacher sensitivity	—	—	3.3	4
Regard for child perspectives	—	—	3.1	3.8
Engaged support for learning	—	—	*1.8*	*2.3*
Behavior guidance	—	—	3	3.5
Facilitation of learning and development	—	—	2.5	3
Quality of feedback	—	—	1.3	1.8
Language modeling	—	—	1.5	2.1
KIDI				
Caregiver	—	—	23	26
Educator–coordinator	—	—	26	30
Observations	100		602	

Notes: ITERS = Infant and Toddlers Environment Rating Scale; CLASS = Classroom Assessment Scoring System, KIDI = Knowledge of Infant Development Inventory. — = not available.

Source: Bolivia data from the baseline survey of the impact evaluation of the Crecer Bien para Vivir Bien (CBPVB); Peru data from the baseline survey of the impact evaluation of Cuna Más 2013 (Servicio de Cuidado Diurno). Both studies were conducted by Inter-American Development Bank staff.

in the Bolivian sample had a score of 1.3, and a center at the 90th percentile of quality had a score of 1.8 (inadequate quality). In Peru, the median center had a score of 3.6 (minimal quality) and a center at the 90th percentile of quality had a score of 4.8 (good quality). The CLASS scores for Peru are also discouraging, in particular on the

Engaged Support for Learning dimension. Even the best-performing centers in the sample had a score of 2.3 (poor quality) on this measure, showing that children are not provided with an environment conducive to promoting their cognition and school readiness skills.

In Colombia, the ITERS, ECERS, and FCCERS have also been used to measure the quality of care provided by the Hogares Infantiles and Centros de Desarrollo Infantil (the institutional modalities of public daycare), and the Hogares Comunitarios (the community modality of daycare) (Bernal 2014). In all three programs, the quality of the care is very low, ranging from 1.7 to 2.1 for the institutional modality of daycare, to 2.3 for the community modality. In Chile, a study of 63 daycares in the province of Concepción found that the average score on the ITERS was 3.2, in the range of minimal quality (Herrera and others 2005). Moreover, 68 percent of all the daycares had quality in the 1–2 (inadequate) range. Finally, a study of daycare (crèches) in Brazil measured the quality of care in six cities: Belém, Campo Grande, Florianópolis, Fortaleza, Rio de Janeiro, and Teresina (Verdisco and Pérez Alfaro 2010). The study used the ECERS but, because initial piloting suggested that the overall scores would be very low, the scores were redefined on a 1–10 (rather than 1–7) scale, with 1–3 being classified as "inadequate," 3–5 classified as "basic," 5–7 classified as "adequate," 7–8.5 as "good," and 8.5–10 as "excellent" quality. On this amended 10-point scale, the average care provided in the seven cities in the sample ranged from 2.2 ("inadequate") to 3.9 ("basic").

In sum, the quality of daycare in many countries in the region, as measured by direct observation of centers, is very low. This is the case in countries that primarily provide daycare through the community modality (like Colombia and Peru), those that use the institutional modality (like Brazil and Chile), and those where the service is a mixture of both modalities (like Ecuador).

The Impact of Daycare on Child Development: No Small Matter

The literature on the effects of daycare on child development in developed countries is large. There is convincing evidence from

the United States that providing intensive, high-quality daycare to children from very disadvantaged backgrounds can have dramatic effects on their development and life chances. However, the strongest evidence comes from small pilot programs rather than from at-scale programs.

One program in the United States that has been very carefully evaluated is the Abecederian Program. Abecederian provided eight hours of very high-quality daycare, year-round, from birth through 5 years of age, implementing a structured curriculum that emphasized language, emotional regulation, and cognitive skills, and low child-to-caregiver ratios. All participants were socioeconomically disadvantaged: on average, only one of every four households had both parents living in it. Most mothers were high school dropouts and had an average IQ of 85. A careful evaluation, based on random assignment to a "treatment" and "control" group was built into the Abecederian program.

At age 4, children who received the Abecederian intervention had cognitive scores that were 0.74 standard deviations higher than those in the control group. As children aged, program effects on cognition faded out. Nevertheless, at age 15, those who had received the intervention in early childhood continued to outperform those who had been randomly assigned to the control group by 0.37 standard deviations on cognition, and by a similar amount on standardized tests of reading and math achievement (Campbell and others 2002). At age 21, beneficiaries were 23 percentage points more likely to be attending a 4-year college (Barnett and Masse 2007). In their mid-thirties, children who had received the Abecederian intervention had significantly lower risk factors for cardiovascular disease (e.g., they had lower blood pressure) than those who had been randomly assigned to the control group (Campbell and others 2014).

Most of the studies on the effects of daycare in at-scale programs in high-income countries (including Canada, Denmark, and the United States) find that daycare has positive effects on child cognitive development for children from disadvantaged backgrounds. Many studies, however, also report negative effects of daycare attendance on socioemotional development and child behavior, particularly full-time daycare for young children.[9]

What about the evidence from Latin America and the Caribbean? Within the region, credible evaluations of the impacts of daycare on child outcomes are scarce. Two papers evaluate the impact of community-based care in Bolivia (a program known as Proyecto Integral de Desarrollo Infantil, PIDI) (Behrman, Cheng, and Todd 2004) and in Colombia (the Hogares Comunitarios program) (Bernal and Fernández 2013).[10] At the time they were evaluated, both programs provided full-time daycare and food to children in the home of a community mother. The community mothers who served as caregivers received minimal training, and each was responsible for about 15 children. The annual cost of the program per child was estimated to be $516 in Bolivia and $430 in Colombia.

Both evaluations suggest that daycare had a positive, if modest, effect on child development: about 0.2 standard deviations. The impacts are driven by positive effects among somewhat older children (roughly 4 years of age or older). Among younger children, the program effects are generally not significant, and in some cases they are wrong-signed (indicating that the program led to worse outcomes).

In Ecuador, the Fondo de Desarrollo Infantil (FODI) subsidized daycare provided by approved nonprofit or community organizations.[11] All organizations seeking to receive a subsidy from FODI were required to prepare a proposal. FODI scored and ranked all proposals using a formula and funded those that were most highly ranked until the budget of the program for that year was exhausted. If funded, the organization received $488 per child from FODI and was expected to provide full-time daycare (52 weeks per year, 5 days per week, 8 hours per day) using a curriculum developed by the program.

Rosero and Oosterbeek (2011) estimate that FODI had no effect on child motor and social development. However, the effects of the program on cognitive and language development are negative and statistically significant (about 0.3 standard deviations, on average), implying that children who attended FODI were substantially worse off than those who did not attend. Mothers of children who attended daycare were also less likely to provide responsive parenting.

Two studies evaluate reforms to the Hogares Comunitarios program in Colombia. The first (Bernal forthcoming) evaluates an effort to provide substantial in-service training and a degree in child

development to the community mothers who were acting as caregivers. It involved almost 2,500 hours of instruction (compared to the 40 hours of training that the community mothers had previously had as a prerequisite to being declared eligible as caregivers). Topics covered included child health, nutrition and development, developmental milestones, and appropriate educational and stimulation practices at different ages. Training appears to have improved the quality of daycare, as measured by the FCCERS, and had a positive impact on some measures of child cognitive development.

The second study (Bernal and others 2014a) evaluates a key aspect of the reform of daycare services in Colombia. Beginning in 2007, the government began a program of constructing large centers serving between 150 and 300 children each. The size of these new centers permitted children to be grouped by age, as is recommended in the child development literature. Initially, the reform contemplated hiring a professional educator for every 25 children, and hiring the community mothers as assistants. In practice, however, many of the community mothers simply became caregivers in the new centers. In addition, each center included three professional staff specialized in health and nutrition, socioemotional support, and pedagogical support, respectively. Specialized staff was also employed for cooking and cleaning (tasks that had previously been carried out by the community mother). Construction of each center cost $1 million, on average. Relative to the community service it replaced, the cost of the service in these large centers more than tripled, to $1,500 per child per year (excluding the initial investment in infrastructure).

A convincing evaluation was built to estimate the impact of replacing community daycare with daycare provided in the new centers. The evaluation showed very disappointing results. Some measures of structural quality improved (most obviously, the quality of the infrastructure). However, process quality, as measured by the FCCERS, ITERS, and ECERS scales, was no better in the new centers than in the Hogares Comunitarios. Indeed, on a number of dimensions, including routines and activities, the relationship between caregivers and children, and the relationship between caregivers and parents, the new centers had lower quality than the Hogares Comunitarios.

Most disappointingly (but perhaps not surprisingly, given the fact that process quality did not improve), children in the large centers did not experience any consistent improvements in nutrition, cognitive development, or socioemotional development, relative to those who stayed in the Hogares Comunitarios.[12]

In sum, there are only a handful of evaluations of the impact of daycare services on child development in Latin America and the Caribbean. All these evaluations have some methodological limitations, and none of them meets the gold standard of a randomized trial with high levels of compliance.[13] Nevertheless, the main message from these evaluations is clear: full-time daycare in the region is generally of low quality and does not consistently improve child development, especially among the youngest children.

Sketching Out Policy

More young children now attend publicly provided or subsidized daycare (public daycare) in Latin America and the Caribbean than ever before. The primary goal of publicly provided daycare in many countries in the region was to facilitate the entry of women into the labor force. To some extent, daycare has accomplished this goal, although the magnitude of the impact depends on the extent to which public daycare crowds out private daycare that was already available.[14]

From the point of view of child development, the critical issue is whether the daycare that is provided is of a higher quality than the counterfactual care that children would have received if public daycare were not available. Little is known about this counterfactual. However, the most salient characteristic of the public daycare that is currently available in the region is its very low quality. It seems unlikely that daycare of such low quality would improve child outcomes. The results from a handful of impact evaluations of programs in the region confirm that the benefits of this daycare for children are uncertain at best.

Some developed countries provide generous support for daycare. In these countries, a large proportion of children aged 0–2 years are in formal care, including in Denmark (63 percent), Iceland (56 percent),

Norway (42 percent), and Sweden (45 percent). However, in these countries, daycare is of high quality: daycare workers almost invariably have a postsecondary degree in early childhood education and are highly trained (Ruhm 2011). Other developed countries provide only minimal support for daycare. Instead, these countries rely on a combination of tax breaks or subsidies for families with young children and generous mandated parental leave benefits. In these countries, the proportion of children aged 0–2 years who are in formal daycare is generally very low, including in Austria (11 percent), Germany (14 percent), and Switzerland (less than 10 percent) (Ruhm 2011). In some countries in Latin America and the Caribbean, in particular those where the size of the informal sector is relatively small, mandating paid parental leave, or increasing the length of time that is covered, may make sense (see Box 4.3).

Box 4.3 Mandated Parental Leave

Many developed countries support families with young children by mandating paid leave for parents. Most studies using data from a variety of countries have found that paid parental leave reduces child mortality and morbidity (Ruhm 2000; Tanaka 2005). Some studies also find that expansion in parental leave improves child development. For example, an increase in paid and unpaid maternal leave entitlements in Norway in the late 1970s is estimated to have led to a 2 percentage point decline in high school dropout rates and a 5 percent increase in wages at age 30 (Carneiro, Løken, and Salvanes 2015). However, estimates for leave expansions in Germany (Dustmann and Schönberg 2012) and Canada (Baker and Milligan 2010) do not find significant effects.[15]

Whether policies of mandated leave are feasible and desirable in Latin America and the Caribbean is a difficult question because of the large proportion of workers (more than 50 percent in most countries) in the informal sector, where such mandated leave could not be enforced.[16] Funding is also a concern because mandated benefits are not cheap—in the Nordic countries (Denmark, Iceland, Norway, Sweden), the costs average between 0.5 and 0.8 percent of GDP (Ruhm 2011)—and because mandated leave could affect the choice between formal and informal work, depending on how it is financed.[17]

In practice, many countries in Latin America and the Caribbean are likely to continue to provide or subsidize daycare in the foreseeable future. But major changes are necessary if daycare is to be beneficial (or at least not harmful) for the children who use it. In thinking about these changes, it is useful to distinguish between daycare in rural and urban areas.

In rural areas, population densities are low and qualified educators are scarce. It is not clear what a cost-effective daycare service of reasonable quality looks like in this context. If the service in rural areas continues to be primarily of the community modality, giving community mothers in-service training, coaching, and better supervision may hold some promise.

In urban areas, population density is high, and the differences in child development between children in rich and poor households are large. In this setting, priority should be given to the most disadvantaged children. These may be children from very poor households, or children who are at particularly high risk (e.g., in families with domestic violence, child abuse, or drug use). For these children, the alternative to daycare—the counterfactual—is an environment that is not supportive of child development. They are most likely to benefit from high-quality daycare services. Credible evaluations of model programs like the Abecederian in the United States show that high-quality daycare targeted at very disadvantaged children has the potential to transform their lives.

High-quality care is child focused. Child-to-caregiver ratios are low, as is staff turnover. As a result, caregivers know the children in their care well, and can establish close, emotionally stable relationships with them. Caregivers are professionals, use rich language, and provide learning opportunities that are cognitively stimulating. In practice, very few children in Latin America and the Caribbean receive daycare services with these characteristics.

High-quality care is not cheap. The average annual cost of the Abecederian program was approximately $18,000 per child (in 2013 dollars). In Colombia, the aeioTU program, which seeks to provide high-quality care to poor children, costs $1,870 per child per year, roughly four times the cost of the basic daycare that is provided in many of the large-scale programs in the region (in particular those

that operate with a community modality). Substantially improving the quality of care means that, at a given budget, daycare could only be provided to a much smaller number of children in the region than is currently the case.

If high-quality public daycare services are primarily targeted to the poor, more families will turn to other forms of care. This raises the question whether private, not-for-profit, or informal providers of daycare should be accredited, regulated, and a minimum standard of care enforced. There is no simple answer to this question. Accreditation is a way of providing parents with (limited) information about the quality of care. This is useful because it is hard for parents to accurately assess quality—daycare, like hospital care, car repair, and a variety of other services, is an "experience good," with substantial information asymmetries between providers and consumers. However, accreditation and minimum standards are no panacea. In some countries in Latin America and the Caribbean, the capacity of the public sector to accurately assess, monitor, and enforce quality standards are an issue. Moreover, standards will raise average prices of formal daycare and push low-quality providers out of the market, leaving poor households with fewer choices. Some poor households will not be able to afford the higher-quality, regulated care and will turn to the completely unregulated market (e.g., care by a neighbor or family member). In some cases, this quality will be of even lower quality than the formal care it has replaced, so that children could be made worse off by the regulation (Hotz and Xiao 2011).

The biggest challenge for countries in the region is finding the right balance between quality and coverage in public daycare. In many countries in the region, the participation of women in the labor market is low. Helping women enter the labor force is an important goal for governments for a variety of reasons. It will increase economic growth and may reduce disparities between men and women. Daycare may encourage some women who would not otherwise have been employed to work. However, low-quality care will not benefit children, and may actually harm them. The benefits from the increased employment of women may, therefore, come at the expense of child development. The costs, in terms of more behavioral

problems among children, worse schooling outcomes, and, eventually, worse mental health and lower productivity in adulthood, may be substantial.

For a given budget, there is a potential trade-off between daycare programs that offer extensive coverage, substantial effects on female labor supply, but few benefits for children, and those that have limited coverage, modest effects on female labor supply, but substantial benefits for the children who use the service. The surge in the supply of public daycare in the region in the past decade and the very low quality of these services suggest that governments need to focus much more on improving the quality of daycare than they have done to date.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