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Compliance, cost and user fees in the Early Childhood Care and Education Sector in South Africa

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Abstract

There are significant lifelong impacts of quality early childhood care and education (ECCE) interventions on children's health, development, education and future life prospects, but the costs of these services are often cited as a barrier to attending ECCE programmes. With limited state funding for ECCE in South Africa, the financial burden often falls on parents or caregivers, where costs are passed on to users in the form of fees charged. Using the 2013/14 Early Childhood Development Audit, this paper generates metrics of compliance with norms and standards in the Children's Act (Act 38 of 2005), explores variations in compliance across provinces and by registration status, and investigates patterns in user fees charged. It then explores how operational costs align with higher standards of programming, defined in terms of compliance with norms and standards. The paper then considers whether access to subsidies is passed on as fee reductions to parents or caregivers. The main findings include the following. First, a low proportion of ECCE programmes including fully registered programmes are compliant with norms and standards for partial care facilities and early childhood development programmes. Differences in compliance by registration status are not large enough to justify some programmes receiving subsidies over others. The mismatch between compliance and *de jure* registration status, with significant variation across provinces, also points to the 'illegality' of programmes operating under current legislation. Second, a significant positive association is observed between unit costs and programme compliance suggesting that more spending fetches higher standards of ECCE programming. Third, subsidies enable higher levels of spending for better programming. Without access to subsidies, programmes may pass on costs as higher fees to households. Fourth, ECCE programmes servicing poorer households bear the triple burden of trying to get government subsidies, providing exemptions and charging lower fees.

1. Introduction

The most rapid development takes place during the earliest years of a child's life. Four critical areas of development in the early years include cognitive development, linguistic development, socio-emotional development, and physical well-being and growth (Naudea, et al., 2011; Vegas & Santibáñez, 2010). Slight positive or negative deviations in any of these key development areas have implications for children's well-being, school readiness, and later success in life. Poor and disadvantaged children around the world are less likely to reach key developmental milestones in these four areas because of the multiple deprivations and risk factors they face. Risk factors include a lack of access to basic water and sanitation infrastructure, quality health services, adequate nutrition, and quality childcare and early learning services (Grantham-McGregor, et al., 2007). These multiple risk factors can result in poor physical, cognitive, and socio emotional development, placing children on a lower achievement trajectory throughout life (Naudea, 2009) and adversely impacting a country's social and economic development over time. Interventions to support children in the early years can reduce these opportunity gaps and improve a child's potential for success later in life.

There are significant lifelong impacts of quality early childhood care and education (ECCE) interventions for children's health, development, education, and future life prospects (Heckman & Masterov, 2007; Engle, et al., 2011). ECCE has the potential to harness children's natural ability and enthusiasm to learn, and foster cognitive and socio-emotional skills, motivation and executive function (Duncan & Magnuson, 2013; Rao, et al., 2014). A strong foundation forms the basis for a virtuous cycle of skills acquisition and productivity throughout life (Cunha & Heckman, 2007). The benefits associated with ECCE are, however, 'conditional' on the quality of programming. Expanding access to ECCE services without paying attention to improving quality can have long-lasting detrimental effects on child development (OECD, 2011).

Despite the potential benefits of ECCE for child development, the high cost of services is often cited as a barrier to ECCE access, especially for children from low-income families (Devercelli & Beaton-Day, 2020). The high costs of provisioning tend to be influenced by the low ratios of children to staff, especially for younger children – staff costs; providing food; and high start-up costs driven by unrealistic licensing requirements (Devercelli & Beaton-Day, 2020). Studies undertaken in Mozambique, Liberia and Kenya revealed that the use of childcare services was constrained by the high costs associated with it (Bhatkal, 2014; Lokshin, et al., 2000). Further, childcare costs tend to account for a high proportion of household income. For example, in Nairobi, Kenya, parents spend an average of 12% of their household income on childcare (Bidwell & Watine, 2014). The cost of childcare services is also a barrier in high-income countries with 30 out of 33 European Union countries citing costs as the main barrier to accessing childcare services (European Commission, 2018).

In South Africa, a household's ability to afford fees is a major determinant of whether children access ECCE services (Ilifa Labantwana et al., 2019; Wills & Kika-Mistry, 2022). Devercelli and Beaton-Day (2020) highlight that despite the high costs of childcare being a barrier, the large proportion of families willing to pay for childcare indicates the strong demand for these services. However, even low-cost services tend to be unaffordable for those in the poorest income categories. Without governments allocating adequate funding to childcare, the financial burden to cover these costs often falls on families (Devercelli & Beaton-Day, 2020). This is the case in South Africa, where a market approach to ECCE provisioning is followed (Bastos & Cristia, 2012), with a large share of private providers in the sector charging fees. Wills and Kika-Mistry (2021) show that over 80% of children aged 0 to 5 attending ECCE programmes before the COVID-19 pandemic were being charged fees.

ECCE providers in South Africa consist of two broad categories - registered and unregistered operators, with only registered operators being able to qualify for a daily per-child, means-tested,

operational subsidy¹ from the state.² For a child to qualify for the subsidy, ECCE providers need to demonstrate that the child meets the requirements of an income means test whereby the joint income of the child's household members is less than a certain threshold.³ The subsidy becomes an enabler for poorer households to access ECCE services where the subsidy is passed onto users in the form of lower fees.

Yet, in order to access subsidies, ECCE operators are required to jump through several hurdles to get registered. In principle, registration should support higher quality programming. Quality standards (or minimum conditions) are usually established to enable programme registration, accreditation or certification. In South Africa, the norms and standards for Partial Care Facilities and Early Childhood Development Programmes set out in the Children's Act (Act 38 of 2005) are accompanied by the General Regulations regarding the Children's Act (2010) that provides specific requirements for each of the stipulated norms and standards. While establishing norms and standards is a straightforward process, the challenge lies in ensuring that they are affordable for programmes to meet (Bendini & Devercelli, 2022). This underscores the dilemma that registration presents. While registration enables access to state funding for private providers, thus addressing a major barrier to ECCE access, it can simultaneously raise the costs of services (and potentially the fees charged) as programmes incur costs to meet norms and standards. There are, therefore, trade-offs in managing costs, user fees and encouraging ECCE access, while also considering the important goal of ensuring programmes offer adequate standards of programming.

Biersteker et al. (2016), for instance, found that fees charged and centre management capacity are predictors of care and quality⁴ learning environments in South Africa. In Oklahoma, per-child costs are higher for 'higher-rated' programmes, which reflects resource usage by providers with higher quality ratings (Karoly & Walsh, 2020). The Assessing the Implementation and Costs of High-Quality Early Care and Education (ICHQ) project created cost measures that delve deeper into costs and resources used to explain variations in quality early care and education. The study found that the cost per childcare hour was on average, higher in centres with high quality and improvement system ratings compared to those with low ratings (Neelan & Coronangan, 2022). This is in line with previous studies showing associations between higher costs and higher quality provisioning (Caronongan, et al., 2016).

Given the need to manage costs, user fees and encourage access while considering the equally important goal of ensuring programmes offer minimum standards of programming, this paper has three overarching aims. The first is to examine patterns in costs of ECCE programming and how this aligns with higher standards of ECCE provisioning. Examining patterns in cost and standards of provisioning can identify inequalities in provisioning, where poorer children may not be accessing quality ECCE services due to parent/caregiver inability to afford more expensive programmes (Myers, 2008). Using the Early Childhood Development (ECD) Audit of 2013/14, we attempt to identify patterns of operating costs among ECCE programmes reaching a reasonable standard of compliance with indicators of 'structural' quality (distinguished from wider indicators of 'process' quality). 'Structural quality' refers to inputs such as aspects of the physical environment, for example, infrastructure; group characteristics such as child practitioner ratios; and practitioner variables such as years of experience and qualifications. While the norms and standards contained in the Children's Act (Act 38 of 2005) include indicators of 'process' quality, which reflects a child's learning experience, particularly, interactions with teachers, peers and materials in the ECCE setting (Slot, 2018), the 2013/14 ECD Audit data only measures structural quality indicators, hence the focus of this paper. Our estimates of costs are limited to self-reported direct or operating costs incurred by programmes as we cannot observe

1 The per-child per-day means tested operational subsidy was increased to R17 per child per day in 2021 but remained stagnant at R15 for years despite inflation. Although means-testing is linked to the child, subsidies are directed at providers.

2 In some provinces, up to three types of registration processes (including Partial Care Registration, Early Childhood Development Programme registration and registration as a Non-Profit Organisation) need to be fulfilled for ECCE programmes to qualify for the Department of Social Development subsidy (Department of Basic Education subsidy from 1 April 2022).

3 A 2011 study which looked at government funding for early childhood development across three provinces found that the criteria for eligibility for the subsidy varied across provinces (Giese, et al., 2011).

4 To measure quality, they used the Early Childhood Environmental Rating Scale – Revised (ECERS-R) and the Infant-Toddler Environmental Rating Scale – Revised (ITERS-R) which align with local licensing requirements.

imputed and overhead costs from the available data. Despite the challenges of identifying exact unit costs or measures of quality that extend beyond structural quality, we aim to identify if higher unit operating costs are associated with higher standards of ECCE provisioning.

A second and related aim of this paper is to explore variation and patterns in programme registration status by whether norms and standards related to structural quality are met. As a third aim, the paper explores the structure of user fees in the system and the implications for programme providers. We answer questions such as how much is charged by programmes, how programme fees are structured and whether people pay the fees charged. We later consider whether access to state subsidies disrupts the positive relationship expected between operating costs and user fees, and whether subsidies are passed on as fee reductions to parents.

The next section outlines the data and approach used. Section 3 examines user fee structures and implications for ECCE programme providers. Section 4 looks at how programme costs vary depending on the extent to which programmes meet the norms and standards related to structural quality as set out in the Children's Act. Section 5 then examines how access to subsidies for a given level of operating costs may be passed on to users in the form of reductions in fees. Section 6 provides a brief discussion and section 7 concludes.

2. Method and Data

The analysis in this paper primarily draws on the 2013/14 Early Childhood Development (ECD)⁵ Audit data. Although the existing data from this survey is quite dated, it contains the most recent account of cost information. The 2021 Census by the Department of Basic Education does not contain data on costs and the Baseline Assessment accompanying the Thrive by Five Index (Giese, et al., 2022) – to measure the quality of outcomes and early childhood development services - was not publicly available at the time of writing this paper.

2.1. 2013/14 ECD Audit

The Department of Social Development (DSD)⁶ commissioned a national audit of registered ECCE programmes in 2013 (Economic Policy Research Institute, 2014). This was further expanded to include unregistered and conditionally registered centres, but it is well understood that unregistered centres were significantly underrepresented in the final audit. Data collection occurred at the end of 2013 and extended into 2014. Although a total of 19 971 ECCE programmes were visited, only 17 846 programmes were audited. The Audit captures information about the income and expenditure of ECCE programmes, as well as other financial information such as the DSD subsidy receipt and user fees charged for attending. A limitation of the ECD Audit lies in the self-reporting by practitioners/owners. Responses provided on costs incurred such as food or salaries, for example, might not be a true reflection of what is spent in practice. Further, there may be biases with regard to compliance-related questions, particularly those related to meeting norms and standards for registration. Self-reported responses did not always have to be supported by showing evidence of implementation or availability.

5 While this paper focuses on early childhood care and education (ECCE), we acknowledge that this is a subcomponent of early childhood development (ECD) as envisaged in policy which focuses on young children's holistic development across a range of domains. In South Africa, the terms ECCE and ECD are used interchangeably, although they are not the same thing.

6 The responsibility for early childhood development was transferred from the Department of Social Development to the Department of Basic Education on 1 April, 2022.

2.2. Sample size

A key starting point in identifying a sample of analysis from the 2013/14 ECD Audit is a programme's registration status.⁷ Three categories of registration status include: fully registered, conditionally registered, or unregistered. There are also reports of programmes with incomplete registration, with the attached reasoning being either that the programme is closed, access was denied, or the programme was not found. Programmes with incomplete registration were excluded from our analysis sample.

While the focus of the analysis is on compliance with norms and standards, patterns of costs and user fees, we also consider whether programmes in the sample report receiving other sources of income, such as the Department of Social Development (DSD) subsidy, donor funding, or through fundraising. The sample, therefore, focuses on programmes that report receiving any income, report any expenditure and with known registration status (i.e., being fully registered, conditionally registered or unregistered). The ECCE programme reports on receiving "any" income if the reported monthly income from fees, subsidies, fundraising, donations, 'lotto'⁸ or other income sources is greater than zero. Similarly, a programme reports having "any" expenditure if reported costs are for salaries, rent, child-practitioner support materials, lighting, heating and cooking, transport costs, maintenance of infrastructure and garden services, or other costs. The final sample under consideration for the analysis as seen in Table 1 includes 15,857 ECCE programmes (89% of the original sample of audited programmes).

Table 1: ECD Audit 2013/14 sample

Registration funding status	Centres in Audit (N)	Centres reporting any income and any expenditure (N)	Proportion of centres reporting on any income or expenditure (%)
Fully registered	8 032	7 169	89%
Conditionally registered	1 922	1 771	92%
Unregistered	7 892	6 917	88%
Total	17 846	15 857	89%

Source: ECD Audit 2013/14, own calculations.

2.3. Definitions

Tackling the proposed research aims presented in section 1 requires identifying measures of user fees, unit costs of ECCE programming and indicators of compliance with norms and standards regarding registration reflected in South Africa's Children's Act. Estimates of user fees are straightforward to obtain and are easily accessible from the 2013/14 ECD Audit data. Self-reported data on user fees charged is likely to be quite accurate. Identifying indicators of unit costs and compliance, however, is more complex.

Cost estimation approaches vary by use and the information used in calculations. Myers (2008) identifies three approaches to estimating the costs of pre-schooling and other early childhood development programmes as follows:

- a. Estimating programme costs using official budgets and expenditure records. These estimates often do not account for costs not included in government or specific programme budgets, such as budgets from other relevant departments, and contributions from parents and local communities. Expenditure records may also include capital expenditure when it is incurred, instead of the costs being spread over time.

⁷ This is also the variable with the least missing data in the 2013/14 Audit.

⁸ South Africa has a national lottery which sometimes offers funding to non-profit organisations.

- b. Estimating actual programme costs, which involves visiting a sample of sites where a programme is being implemented to identify costs through questionnaires, interviews, observations and examining account records.
- c. Building a cost simulation model based on a range of assumptions about programme components and their costs. This approach was adopted by Desmond et al. (2019) to estimate the costs and benefits of prioritising one of four key interventions in the National Integrated Early Childhood Development Policy (2015) in South Africa⁹ (Desmond, et al., 2019).

Based on the available data, a variation of the second approach is adopted in this paper, using reported expenses incurred monthly by ECCE programmes surveyed in the 2013/14 ECD Audit to estimate cost patterns. ECCE costs are broadly divided into three categories: (i) overhead costs (upper-level management in government, and design, start-up and evaluation costs); (ii) direct costs (rent, infrastructure maintenance and construction, salaries, training, food and supplements, uniforms, cash transfers, equipment, direct administration and monitoring); and (iii) imputed costs (volunteer time and opportunity costs of buildings used) (Gustafsson-Wright, et al., 2017). The 2013/14 ECD Audit data only reports monthly expenses related to direct or operational costs; imputed and overhead costs are not accounted for. The 'direct' or operating costs of providing ECCE services, derived from monthly expenditure in the 2013/14 Audit, are comprised of expenditure for salaries/stipends, food, rent, child-practitioner support materials, lighting, heating and cooking, transport costs, maintenance of infrastructure and garden services, and other costs. On average, about 51% of direct or operating costs for the sample under consideration are made up of practitioner salaries and stipends, and approximately 31% is spent on food (Table 2).

Table 2: Proportion of monthly direct or operating costs by expense category (fully, conditionally and unregistered programmes)

Monthly expense category	Mean	Median	SD	N
Salaries	51.03	50.00	20.49	14 684
Food	30.74	29.88	19.42	13 638
Lighting and heating	6.33	3.97	9.26	15 571
Child/teacher materials	6.17	2.72	10.48	15 195
Transport	5.24	2.79	8.61	15 173
Infrastructure Maintenance	4.40	1.59	8.81	14 936
Rent	3.96	0.00	9.01	14 839
Other	1.98	0.00	6.03	10 543

Source: 2013/14 ECD Audit, own calculations. Notes: (i) Sample (N = 15 857)

An important caveat is that the estimated costs in this analysis are not a comprehensive reflection of total ECCE programme costs. Further work is required to look at overhead costs as well as imputed costs. Estimated costs are reported in the original 2013/14 price values throughout the analysis. The reason is that it is not easy to inflate educational spending values using simple methods such as Consumer Price Index (CPI) adjustments. Salaries, a large cost component, may not rise in line with inflation over time. Similarly, it is not clear whether user fees increase in line with inflation.

The 2013/14 ECD Audit data includes variables that can be used to ascertain some level of compliance with norms and standards. This is done by matching variables in the Audit data to a list of norms and

⁹ This includes interventions to improve pregnancy outcomes, home visits for at-risk mothers for children under the age of 2 years, community-based play groups for mothers and children, and centre-based early childhood development services.

standards that should be met by early childhood development programmes and partial care facilities, as specified in the Children's Act (Act 38 of 2005). This metric of compliance contributes toward our understanding of the 'structural' quality (as described in the introduction) of ECCE programmes. To reiterate, for the purpose of this study, our reference to programme 'quality' is limited to whether ECCE programmes meet norms and standards for early childhood development programmes and partial care facilities as set out in the Children's Act, particularly as it relates to indicators of structural quality.

2.4. Method

In tackling each research aim, we predominantly rely on descriptive methods while some non-parametric regressions and simple regression modelling add more specificity to the analysis of the 2013/14 ECD Audit. Throughout the analysis, we are sensitive about how and when we include 'wealthier' programmes in analysis samples. In South African education, wealthier parts of the system often operate in different ways, exhibiting patterns that are less relevant to understanding how to address educational access and quality challenges faced in poorer contexts. For example, wealthier ECCE programmes could either have more finances to meet the norms and standards required for registration or may simply be disincentivised to register their programmes. The incentive to register may be low if the income received is high enough to cover costs, or if there are few children enrolled that would meet the requirements for the means-tested subsidy. The registration processes are also administratively burdensome and resource-intensive, which may deter these programmes from applying for registration.

We identify wealthier programmes using the highest fee charged per programme across age groups. (Figure A1 in the Appendix presents the distribution of the highest fee charged for both subsidised and unsubsidised programmes.) We identify wealthier programmes as those charging more than R500 per child per month. A caveat of using the highest fee charged is that while most programmes (97%) report being operational at least 5 days a week, we do not know how many days children in different age groups attend – some could only be for 2 – 3 days a week. We also do not have a clear sense of the number of hours children spend at an ECCE programme across different age groups and what the associated variations in fees paid are. This has implications for unit cost calculations.

3. User fee structures and implications for programme providers

Charging fees for the use of ECCE services are prevalent in the South African ECCE sector. Affordability significantly impacts whether children access ECCE services (Wills and Kika-Mistry, 2022). However, these 'average' characteristics of the sector mask considerable variation in how much is charged, whether users in fact pay the fees they should and what this means for ECCE programme viability. For this reason, we examine user fees a little further using the 2013/14 ECD Audit data.

In South Africa, ECCE programmes are known to accommodate different age groups of young children, but the costs of provisioning may vary by the age of the child. We can examine what this means for variation in user fees charged using 2013/14 ECD Audit data. Monthly fees charged to parents/caregivers are reported for different age groups, i.e., birth up to and including 18 months, 19 months up to and including 36 months, 37 months up to and including 48 months (4 years), 49 months up to 60 months (5 years) and 61 months and older (5 years and older). Child-practitioner ratios required for younger children are typically lower. One would, therefore, expect the distribution of fees charged to parents/caregivers for children participating in ECCE programmes to be higher for younger children and decrease as children get older. This is largely observed in Table 3, showing the average fees charged to parents/caregivers for children across different age groups including and excluding wealthier programmes

charging more than R500 per child per month. The average fees (in 2013/14 prices), including wealthier programmes, range from R121 per month (for children aged 5 years or older) to R218 per child per month (for children between the ages of 19 to 36 months). While the average fees charged for children between the ages of 0 to 18 months is slightly lower for all programmes, the pattern of higher fees being charged for younger age groups is observed at the median (50th percentile). The average fees charged when excluding wealthier programmes are lower compared to when programmes charging more than R500 are included in the sample, with substantial differences observed.

Table 3: Monthly fees charged by ECCE programmes across different age groups, 2013/14 Rands

	Including programmes charging more than R500						Excluding programmes charging more than R500		
	Mean	SE	p25	p50	p75	N	Mean	SE	N
Fees charged (0-18 months)	198.5	2.3	20	140	250	15 262	132.3	0.9	13 478
Fees charged (19-36 months)	218.2	2.6	60	120	208	15 555	128.1	0.8	13 697
Fees charged (3-4 years)	216.5	2.7	60	110	200	15 638	120.9	0.8	13 761
Fees charged (4-5 years)	189.5	2.5	45	100	200	15 339	107.3	0.8	13 492
Fees (More than 5 years)	121.2	2.1	0	20	130	14 503	66.9	0.8	12 774

Source: ECD Audit 2013/14, own calculations. Notes: (i) Nominal 2013/14 prices, (ii) Sample: Including programmes charging more than R500 (N = 15 857), excluding programmes charging more than R500 (N = 13 892), (iii) The fees charged are what is reported by the programme, (iv) Fees capped at the 99th percentile.

Overall, higher fees are charged for younger children, particularly those between the ages of 0 months to 4 years. The lower average fee for children over 5 years could be attributed to state subsidisation for Grade R or the need to compete with free Grade R provisioning in many public schools. To a limited extent, Grade R in ECCE programmes is funded by Provincial Departments of Education through transfers and subsidies, and how these are administered, in terms of allocations and qualifying requirements, are different from the Department of Social Development subsidy.¹⁰

Even where user fees are charged, some children may be exempted from paying. This may be due to household income constraints, the goodwill of ECCE operators, or because subsidies are received for the child. To what extent does this occur and are there patterns to fee exemptions? These questions are explored in Figure 1 which shows the proportion of children exempt from paying fees across the range of fees charged to parents by whether or not any child at a programme receives the DSD subsidy. The fee categories here are established based on the highest fee charged per programme across age groups. Three main patterns are reflected in the figure:

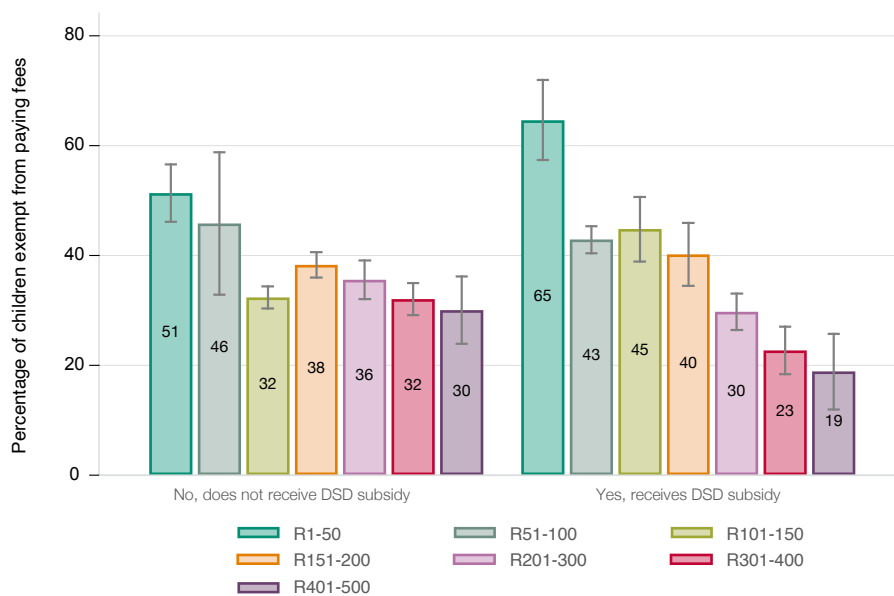
- a. Overall, the higher the fee amounts charged, the lower the proportion of children exempt from paying fees.
- b. Access to subsidies particularly encourages the provision of fee exemptions where fees charged are less than R100 per month. For instance, in unsubsidised programmes, 51% of children in programmes where the highest fee charged is between R1-R50 are exempt from paying fees. This is much higher at 65% for children in subsidised programmes. In lower fee segments, this implies that subsidies are passed onto users in the form of fee exemptions. From fees of R200 upwards,

¹⁰ Another possibility for the variation in fees by age within a programme is that fees are reported by the head of the programme or person interviewed and may be subject to inconsistent reporting across age groups.

however, unsubsidised programmes are somewhat more likely than subsidised programmes to offer exemptions.

- c. Exemptions are very common and high in prevalence for children in fee charging programmes, ranging from 19-65% across fee categories. Exemptions range from 30-51% even where government funding is not received, implying goodwill on the part of ECCE operators or that they have little bargaining power, relinquishing a portion of fees that parents do not pay. This is an important finding, nuancing that the majority of ECCE users are charged fees - roughly 80% of children attending ECCE services as per the 2017/18 General Household Survey (Wills & Kika-Mistry, 2021). Fees may be charged, but it is not necessarily the case that all users pay. This has implications for the financial viability of ECCE operations. We consider in more detail the financial implications for programmes offering exemptions and parents defaulting on payments.

Figure 1: Percentage of children exempt from paying fees across different fee categories by whether children are in subsidised or unsubsidised programmes, among all fee-charging programmes

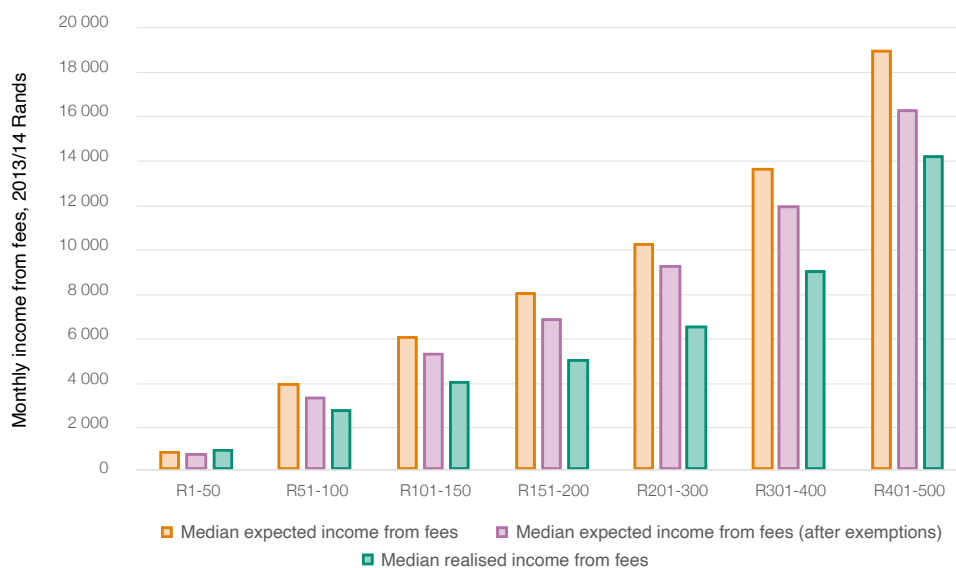


Source: ECD Audit 2013/14, own calculations. Notes: (i) Nominal 2013/14 prices, (ii) Wealthier programmes charging more than R500 excluded from the sample, (iii) Estimates for 6 326 subsidised programmes and 7 566 unsubsidised programmes

We examine how actual realised monthly income from fees compares to the expected income that programmes could receive if fees were paid by all enrolled or those who are not exempt. Potential monthly income is calculated by multiplying the highest monthly fee charged per programme by the number of children enrolled, including and excluding children whose parents/caregivers are exempt from paying fees. This is compared to realised reported monthly fee amounts based on reported income received from fees. We unpack whether users are more likely to default on fee payments in subsidised or unsubsidised programmes or at higher levels of fees charged (Figure 2 and Figure 3).

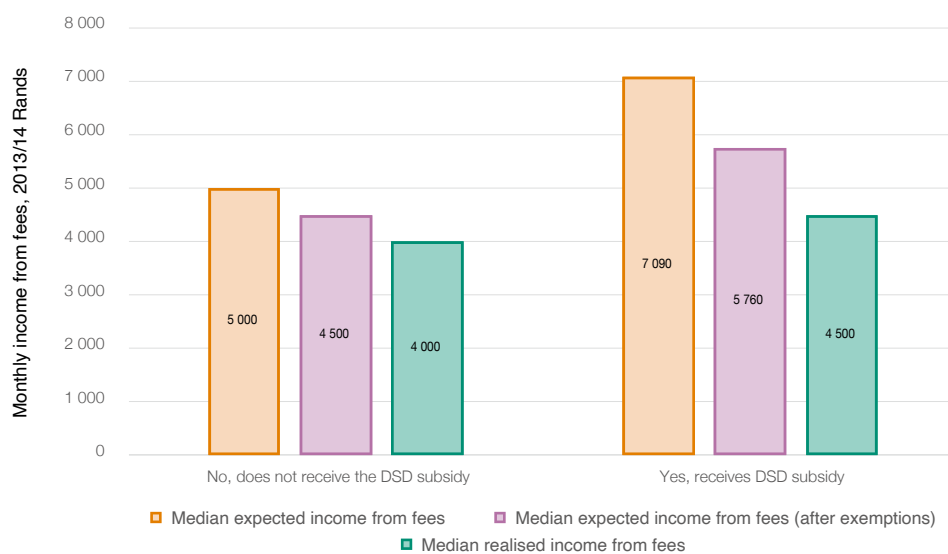
Most programmes, excluding wealthier programmes charging more than R500 per month, experience problems of users not paying ECCE fees. Overall, realised monthly programme income from fees is considerably less than the potential monthly income that programmes should be receiving from fees charged. This is seen in Figure 2 and Figure 3, with users particularly likely to default on fee payments in programmes charging more than R50 per child per month and in both subsidised and unsubsidised programmes.

Figure 2: Median expected and realised monthly income from monthly fees charged by fee categories, 2013/14 Rands



Source: ECD Audit 2013/14, own calculations. Notes: (i) Nominal 2013/14 prices, (ii) Expected income from fees calculated by multiplying the highest fee charged by the number of children enrolled, (iii) Sample: all programmes reporting an income from fees and charging less than R500 per month (N = 9 941)

Figure 3: Median expected and realised monthly income from highest fees charged by subsidy receipt, 2013/14 Rands



Source: ECD Audit 2013/14, own calculations. Notes: (i) Nominal 2013/14 prices, (ii) Expected income from fees calculated by multiplying the highest fee charged by the number of children enrolled. Similar patterns hold if the lowest fee charged is used, (iii) Sample: all programmes reporting an income from fees and charging less than R500 per month (N = 9 941)

4. Costing ECCE programmes complying with norms and standards

Evidence points towards increasing costs being associated with ECCE programmes of higher quality standards. In principle, registered ECCE programmes are expected to be more compliant with norms and standards. One would anticipate that these programmes would incur higher costs, enabling them to meet specified norms and standards. Understanding patterns in costs and compliance to norms and standards enables us to identify where poorer children may not be accessing quality ECCE programmes due to fee constraints resulting from higher costs.

To investigate such patterns, this section first seeks to explore variations and patterns in programme registration status by whether norms and standards related to structural quality are met. It sets out the norms and standards related to partial care facilities and early childhood development programmes from the Children's Act. These are matched against variables in the 2013/14 ECD Audit to establish metrics of compliance. The section goes on to examine patterns in ECCE programming costs and how these align with greater levels of compliance.

4.1. Compliance with norms and standards as an indication of structural quality in ECCE programmes

According to the Children's Act (Act 38 of 2005), early childhood development refers to "the process of emotional, cognitive, sensory, spiritual, moral, physical, social and communication development of children from birth to school-going-age" (section 91). In terms of the provision of early childhood development services, the Act further states that "An early childhood development programme must be provided by a partial care facility that provides partial care services for any children up to school-going age; and a child and youth care centre which has in its care any children up to school-going-age" (section 93). Partial care, according to the Act is when "a person, whether for or without reward, takes care of more than six children on behalf of their parents or caregivers during specific hours of the day or night, or for a temporary period, by agreement between the parents or caregivers and the providers of the service..." (section 76). Beyond early learning services, partial care facilities also include after-school care, private hostels and temporary respite centres. However, the majority of partial care facilities in South Africa are for children aged 0 to 6 years in the form of creches, educare centres, early childhood development centres and pre-primary schools (Ilifa Labantwana, 2020). In this instance, an ECCE programme may be required to comply with both the norms and standards set out for partial care facilities (Chapter 5), which sets out more of the 'infrastructure' requirements and the norms and standards for early childhood development programmes in the Children's Act (Chapter 6) which focuses more on the child development and learning aspects.

The norms and standards set out in the Children's Act are accompanied by the *General Regulations regarding the Children's Act (2010)* which provide specific requirements for meeting each of the norms and standards. Section 79 of the Children's Act sets out the norms and standards for a partial care facility. This includes: (1) a safe environment for children, (2) proper care for sick children or children that become ill, (3) adequate space and ventilation, (4) safe drinking water, (5) hygienic and adequate toilet facilities, (6) safe storage of anything that may be harmful to children, (7) access to refuse disposal services or other adequate means of disposal of refuse generated at the facility, (8) a hygienic area for the preparation of food for children, (9) measures for the separation of children at different age groups, (10) drawing up of an action plan for emergencies, and (11) drawing up of policies and procedures regarding health care at facilities.

The norms and standards for Early Childhood Development programmes set out in Section 94 of the Children's Act are focused more on the developmental and learning opportunities for young children. This includes: (1) the provision of appropriate development opportunities, (2) programmes aimed at helping children realise their full potential, (3) caring for children in a constructive manner and providing support and security, (4) ensuring the development of positive social behaviour, (5) respect for and nurturing of the culture, spirit, dignity, individuality, language and development of each child, and (6) meeting the emotional, cognitive, sensory, spiritual, moral, physical, social and communication development needs of children. These norms and standards point towards the presence of a structured learning programme, the availability of teaching and learning materials at ECCE programmes, appropriate staff qualifications and acceptable staff-to-child ratios. We note that in some instances, there is a duplication in terms of norms and standards set out for partial care facilities and early childhood development programmes. To become registered, ECCE programmes are also required to meet norms and standards set by local government – including municipal bylaws such as land zoning requirements, and environmental health and safety standards that may vary across provinces and municipalities. Separate municipal bylaws were not considered in our analysis.

The prescribed national norms and standards have cost implications for ECCE programmes, with some requirements being more costly than others. While we recognise that this presents challenges for ECCE programmes to become registered, the costs of specific elements and associated variations will not be dealt with in detail in our analysis. To understand patterns of direct or operational costs of ECCE programme provisioning associated with a reasonable standard, we examine the extent to which programmes are compliant with prescribed norms and standards. Variables from the 2013/14 ECD Audit data were identified that match the norms and standards for partial care facilities and early childhood development programmes. A total of 39 variables were identified that match the norms and standards specified in the Children's Act. Table A1 in the Appendix maps out the norms and standards against the variables in the Audit data. The variables identified in the Audit data are largely reflective of structural quality. The table further reports the proportion of ECCE programmes, by registration status, that are meeting each of the norms and standards. We assume that as more of the prescribed norms and standards are met, we are more likely to obtain a better metric of the costs of ECCE programmes meeting indicators of structural quality. A caveat is that the municipal bylaws, especially the land zoning requirements and environmental health and safety requirements that need to be met, are not considered in this list of norms and standards and several of them may be more costly to attain compared to some of the norms and standards in the Children's Act.

Table 4 shows 39 'items' in a norms and standards list that could be measured in the 2013/14 ECD Audit data. It lists the items ranked by the proportion of ECCE programmes (charging less than R500 per child per month) meeting that item-specific requirement. These proportions are likely to be much higher if wealthier programmes are included in the sample. The ranking is from the highest to the lowest proportion of all programmes meeting that specific legal requirement, with rankings also provided for each registration category. Three important results emerge from Table 4.

First, there is considerable variation across the items as to whether they are met. In some cases, specific legal requirements are very seldom met by the majority of programmes, even those that are fully registered. The least attained items include staff having an ECD specialisation, availability of adequate teaching and learning materials, separate areas to clean babies, programmes having medication management policies, having a flush toilet, practitioners receiving first aid training and having a first aid kit at the programme, having a fire extinguisher on-site and an evacuation plan, and is located less than 2km away from a clinic.

Some of the infrastructure requirements such as having an outside gate, operating in a formally built structure, being able to prepare food separately and away from children, and having an outside fence that is at least 1.8 meters high are less likely to be met by unregistered programmes compared to conditionally or fully registered programmes. Further, the likelihood of an unregistered programme providing any meal or snack is lower for unregistered programmes, as also discussed in (Wills, 2021). The proportion of programmes having a structured learning programme is also a lot lower for unregistered programmes compared to those that are either fully or conditionally registered.

Staff-to-child ratios are known to be an important cost driver. In regulations, this staff-to-child ratio is 1:20 or less. Interestingly, a relatively high proportion of unregistered (88%), fully registered (79%) and conditionally registered (78%) ECCE programmes meet this requirement. The high proportion of unregistered programmes meeting this requirement points towards the possibility of a non-random/purposeful selection of unregistered ECCE programmes.¹¹ Staff-to-child ratios are required to be lower for younger children (1:12 for children aged 18 months to 3 years and 1:6 for children from birth to 18 months), but the data does not report on the number of staff dedicated to children of a specific age group.

¹¹ The sample selection process, by excluding non-responding centres, may result in this.

Table 4: Percentage of fully, conditionally and unregistered programmes meeting specific norms and standards (ranked from highest to lowest) from 2013/14 ECD Audit (only programmes charging less than R500 per month included in calculations)

No.	Variables from the ECD Audit	Total (N = 13 892)	Full (N = 6 353)	Conditional (N = 1 690)	Unregistered (N = 5 849)
1	Centre does not have dangerous obstacles that prevent children from playing	92.7	92.8	90.8	93.0
2	ECD programme provides meals or snacks	89.3	94.2	92.7	82.9
3	ECD programme has outside gate	84.9	89.2	87.0	79.7
4	The staff to child ratio is 1:20 or less	82.8	79.2	78.2	88.1
5	ECD programme operates in a formally built structure	81.7	85.3	84.2	77.2
6	Food is prepared separately and away from children	81.7	86.9	86.4	74.8
7	Evidence of list of emergency contact details of parents	81.6	84.8	88.4	76.3
8	ECD programme keeps contact with local clinic	81.4	86.4	81.4	76.0
9	ECD programme has outside fence 1.8m high	80.5	85.6	83.0	74.2
10	ECD programme has tap water on-site	79.6	80.3	70.8	81.4
11	Report cards issued to parents/ caregivers	78.1	85.4	77.3	70.4
12	Adequate ventilation in classroom	76.6	80.4	71.5	73.9
13	Evidence of a structured learning programme	76.1	83.9	83.3	65.4
14	Evidence of feedback from parent/ teacher meetings	71.4	74.5	76.9	66.1
15	ECD programme has first aid kit with adequate supplies	69.9	80.0	77.0	56.7
16	Refrigeration facilities for perishable food	68.2	79.0	66.6	57.0
17	Displayed list of contact details of emergency services	68.0	73.7	77.6	59.0
18	Immunisation records are up-to-date	66.7	72.4	67.4	60.4
19	ECD programme has washable walls	60.3	66.9	60.8	52.9
20	ECD programme does not need urgent maintenance	59.5	60.2	59.1	58.9
21	At least 1 fire extinguisher on site	57.2	69.2	63.6	42.2

22	ECD programme has an accident/ injury file	56.8	66.8	69.9	42.2
23	ECD programme has a flush toilet	56.4	60.7	34.9	57.9
24	Practitioners received first aid training	48.0	56.6	44.4	39.8
25	Nearest clinic from ECD programme is less than 2km away	46.0	45.5	45.1	46.8
26	ECD programme has a separate area to clean babies	45.2	50.1	47.7	39.1
27	Centre has an evacuation plan	37.2	45.2	38.9	28.1
28	ECD programme has enough art materials	34.7	42.6	37.7	25.1
29	ECD programme has enough furniture	34.2	42.6	34.3	24.9
30	Evidence of record of medication to be taken	33.1	37.9	35.8	27.1
31	ECD programme has enough educational materials	33.1	40.9	33.7	24.4
32	ECD programme has enough puzzles	30.4	38.8	29.0	21.6
33	Evidence that ECD programme has a medication management policy	30.0	34.7	33.9	23.9
34	Evidence of children being trained on how to evacuate	29.4	36.1	30.6	21.7
35	ECD programme has enough construction materials	26.0	33.7	24.4	18.0
36	ECD programme has enough fantasy materials	25.7	33.0	26.1	17.5
37	ECD programme has enough outdoor materials	24.9	32.8	25.3	16.1
38	ECD programme has enough music materials	23.3	30.2	22.2	16.0
39	Staff have an ECD specialisation (certificate, diploma or degree)	17.6	18.4	16.3	17.1
Average requirements met by ECD programme (out of 39) – excluding programmes charging more than R500 per month		22.0	24.1	22.4	19.5
Average requirements met by ECD programme (out of 39) – including programmes charging more than R500 per month		22.7	24.6	22.6	20.7

Source: 2013/14 ECD Audit, own calculations. Note: Wealthier programmes charging more than R500 are excluded from the sample (N = 13 892).

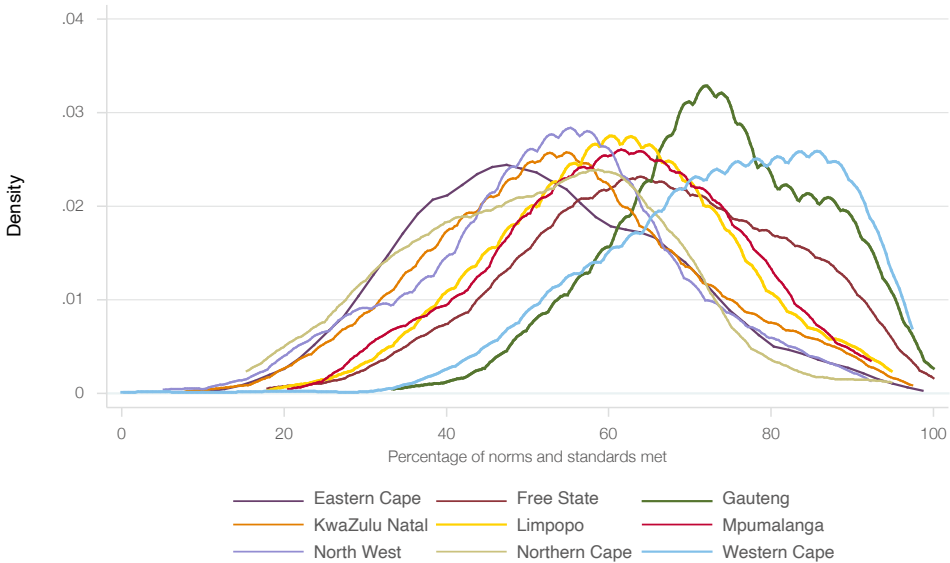
A second major observation of Table 4 is that many programmes are being registered despite meeting only some or just a few of the norms and standards. On average, ECCE programmes (charging less than R500 per month) meet about 56% (or 22 out of 39) of the norms and standards for partial care

facilities and early childhood development programmes. While fully registered programmes on average are more compliant (24 out of 39), there is not a very large gap in the average requirements being met across fully, conditionally and unregistered programmes.¹² Overall, strong similarities are observed in the proportion of fully registered and conditionally registered ECCE programmes meeting these requirements across registration status types (24 and 22 requirements respectively). Unregistered programmes meet slightly fewer legal requirements with an average of 20 being met. But the key point is that despite being fully registered, a significant proportion of those programmes are struggling to attain certain norms and standards.

How is it that there is such a gap between meeting norms and standards and obtaining “full registration” status? One possible explanation is the blurred boundaries introduced through the ‘conditional’ registration status - which aims to support poorer programmes along a developmental pathway to full registration status. The Children’s Act allows for programmes that do not meet all the prescribed norms and standards to obtain conditional registration. However, the Act does not spell out the circumstances under which conditional registration may be granted, and whether conditionally registered programmes can apply for the DSD subsidy. The lack of clarity around this may have resulted in varied applications of this provision across provinces in the context of ‘full’ registration.

A second explanation (and third key observation) is that provinces tend to use different frameworks with different requirements to assess both partial care and early childhood development programme registration, resulting in registration not being applied consistently across the country. There may also be differences in the extent to which provincial resources¹³ and non-governmental efforts are being allocated to support programmes in meeting legal requirements set out in the Children’s Act. Figure 4 represents the distribution of fully registered ECCE programmes meeting the legal requirements/norms and standards for structural quality by province. The Western Cape and Gauteng distributions lie significantly further to the right. This means that registered programmes in these higher functioning provinces (even after excluding wealthier programmes charging more than R500 per month) exhibit a higher level of compliance with norms and standards. Limpopo is an interesting case. Despite being one of the poorest provinces with low per-capita income, compliance with norms and standards among fully registered programmes in Limpopo is better than in some other provinces.

Figure 4: Percentage of norms and standards (legal requirements for registration) met. Distribution for fully registered ECCE programmes by province



Source: ECD Audit 2013/14, own calculations. Notes: (i) Figure shows kernel density weights. (ii) Wealthier programmes charging more than R500 excluded from the sample (N = 13 892)

12 If one includes wealthier programmes in the sample, ECCE programmes meet about 59% (or 23 out of 39) of the norms and standards, with fully registered programmes meeting 64%, conditionally registered 59% and unregistered programmes meeting 54% of norms and standards.
 13 Another possible interpretation is that ECCE programmes were more likely to provide compliant responses for the 2013/14 ECD Audit.

The inconsistency in the application of registration frameworks across provinces is augmented by the lack of standardised tools used by social workers across districts and provinces to assess the registration status of an ECCE programme. Some provinces require dual registration processes for partial care and early childhood development programmes and the checklists of requirements to be met are not always consistent across the two registration types (Ilifa Labantwana, 2020).

The introduction of the Early Childhood Development Registration Framework (2019) developed by the Department of Social Development, together with civil society and the Department of Health, provides some guidance in standardising registration requirements. It creates a developmental path for an ECCE programme to enter the system and progress through different levels of compliance. However, ECCE providers still struggle to meet the infrastructure requirements for the minimum or 'bronze'¹⁴ level of compliance.

The Early Childhood Development (ECD) Conditional Grant, which has an infrastructure component, was introduced in 2017/18 to support programmes that need to meet infrastructure requirements for registration. There are, however, reports of under performance of this component of the grant.¹⁵ Providing and maintaining the infrastructure of ECCE facilities falls within the mandate of municipalities. However, most municipalities interpret their roles as one of compliance, with a very limited number of municipalities prioritising ECCE infrastructure in their Infrastructure Development Plans (IDPs) and allocating funding for this particular purpose. In addition, the infrastructure component of the ECD conditional grant and the registration framework do not work together and so financing from the conditional grant is not effectively allocated to programmes requiring infrastructure improvements to increase their level of registration compliance.

4.2. Finding an appropriate metric to cost ECCE provisioning compliant with norms and standards

In order to cost ECCE programmes meeting higher standards of provisioning, one approach is to identify what costs are associated with programmes meeting all 39 norms and standards (which are proxies for reaching a level of 'structural' quality). However, programmes with full compliance do not provide a large enough sample for the required analysis of costs and income from user fees and subsidies. As we observed, the full available sample of fully registered programmes is not a useful quality benchmark, because as we have already seen in Table 4, they do not necessarily meet all the legal requirements. In fact, only 7 ECCE programmes (0.05% of the sample under consideration) meet 100% of the (39) identified requirements.

We have had to be more lenient with what we consider a suitable level of compliance. We observe that fully registered programmes are more likely to comply with around three quarters (30 of 39) of the norms and standards, and conditionally registered programmes are more likely to comply with around half of the norms and standards. This is shown in Figure 5 which provides a distribution of the percentage of norms and standards met by programmes, disaggregated by programme registration status. Observing this graph, fully registered programmes meeting three quarters of the norms and standards (30 of 39 criteria) is established as our benchmark for programming of some reasonable standard, even if just attaining a level of structural quality. About 16% of the sample under consideration (2 195 out of 13 892 programmes) meet at least three quarters of the norms and standards. This provides a large enough sample¹⁶ for the upcoming analysis.

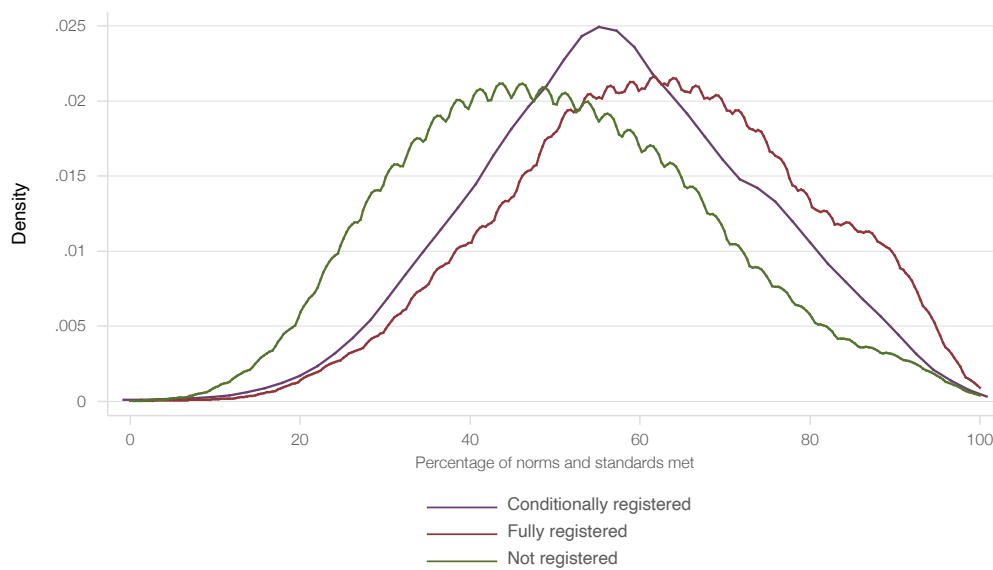
Before we interrogate the costs of these more compliant programmes, we identify their characteristics in the next section.

14 Bronze (minimum compliance), silver (improved compliance) and gold (full compliance)

15 This includes delays in supply chain management processes for the appointment of contractors, limited providers for the maintenance of ECCE programmes, and delays in concluding Service Level Agreements between Provincial Departments of Social Development and ECCE providers (National Council of Provinces, 2018).

16 Only 2.5% meet at least 90% of norms and standards, 6% meet 85% and 10% meet 80%

Figure 5: Percentage of norms and standards (legal requirements for registration) met. Distributions for fully, conditionally and unregistered programmes.



Source: ECD Audit 2013/14. Notes: (i) Figure shows Kernel density weights. (ii) Wealthier programmes charging more than R500 are excluded from the sample (N = 13 892).

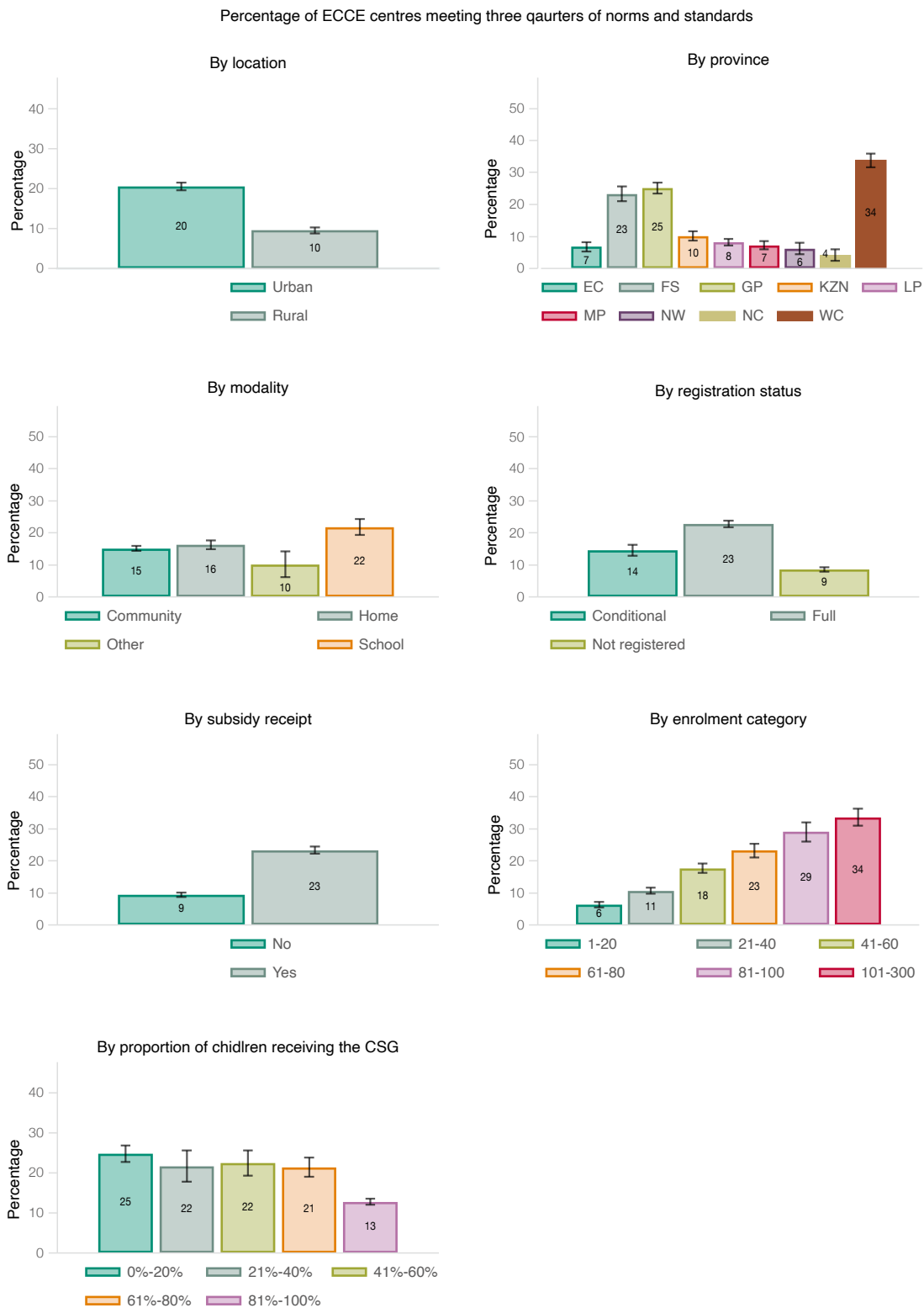
The characteristics of more compliant programmes, meeting a level of structural quality

What are the characteristics of programmes that are more likely to be compliant with the structural requirements for partial care facilities and early childhood development programmes? The bivariate association between programme characteristics and whether an ECCE programme meets at least three quarters of these requirements is illustrated in Figure 6 below. ECCE programmes are more likely to be compliant if they are located in urban areas, are located in the Western Cape, Gauteng and Free State provinces (agreeing with earlier Figure 4), are school-based programmes compared to being home or community-based or have higher enrolment rates but with smaller proportions of children in the programme receiving the Child Support Grant.

A startling observation (as above) is the low percentage – at just 23% - of fully registered programmes that meet three quarters of the norms and standards. It is evident that there is a mismatch between the norms and standards set out in the Children’s Act (Act 38 of 2005) and the *de jure* registration requirements for ECCE programmes and partial care facilities, with significant variations observed across provinces. The low proportion of fully registered programmes meeting the legal requirements adds to the ‘illegality’ of ECCE programme operations under current legislation. In addition, the differences observed across provinces for fully registered programmes, and across types of registration, raise questions about what reasonable norms and standards would be and whether there is room to be more lenient to accelerate registration.

Considered together, the evidence so far brings into question why programmes that are not registered or conditionally registered are not fully registered. It also calls into question whether the norms and standards set out in the Children’s Act present strong grounds for delineation by registration status.

Figure 6: Percentage of ECCE programmes that are compliant (meeting at least three quarters of norms and standards) by different characteristics



Source: ECD Audit 2013/14. Note: Wealthier programmes charging more than R500 excluded from the sample (N = 2 195).

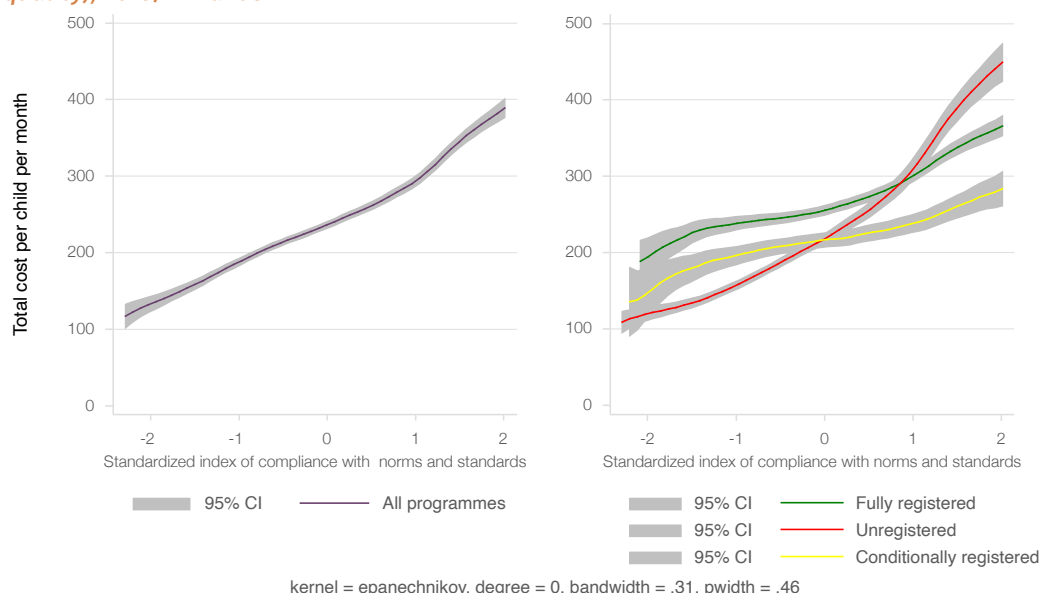
4.3. Estimating patterns of costs associated with more compliant programmes meeting a level of 'structural' quality

It is clear from the literature that higher costs are associated with higher standards of ECCE programming. To what extent does this relationship hold in the South African context? Specifically, to what extent do higher levels of compliance with norms and standards translate into higher unit costs?

In order to determine how costs are associated with an increase in compliance with norms and standards, we construct a standardised index¹⁷ based on the 39 identified norms and standards from the 2013/14 ECD Audit. The index proxies for the level of 'structural' quality at the programme. Figure 7 presents a local polynomial¹⁸ regression of total costs per child per month on this standardised index for ECCE programme standards. This is shown for all programmes and by registration status with 95% confidence bands in grey. The figure illustrates how the monthly costs per child increase as ECCE programme standards improve. It is indeed the case that the monthly costs per child increase with higher compliance with norms and standards.

Interestingly, fully registered programmes at lower levels of compliance incur higher costs to meet a given level of norms and standards, compared to unregistered programmes. At all levels of compliance, fully registered programmes face higher unit costs than conditionally registered programmes. This implies that there are other costs associated with full registration status (for example, costs of maintaining registration status), or that they face a different set of cost obligations compared to unregistered programmes due to unobserved differences in the quality of programming they provide. The higher costs of programming in fully registered programmes are also shown in a different way in Figure 8 – a distribution of estimated costs per child per month by registration status for compliant programmes (defined as meeting three quarters (30 of 39) of norms and standards). Among compliant programmes, a higher cost distribution is observed for fully registered compared to conditionally registered or unregistered programmes.

Figure 7: Estimated monthly costs per child and an index of compliance with norms and standards ('structural' quality), 2013/14 Rands

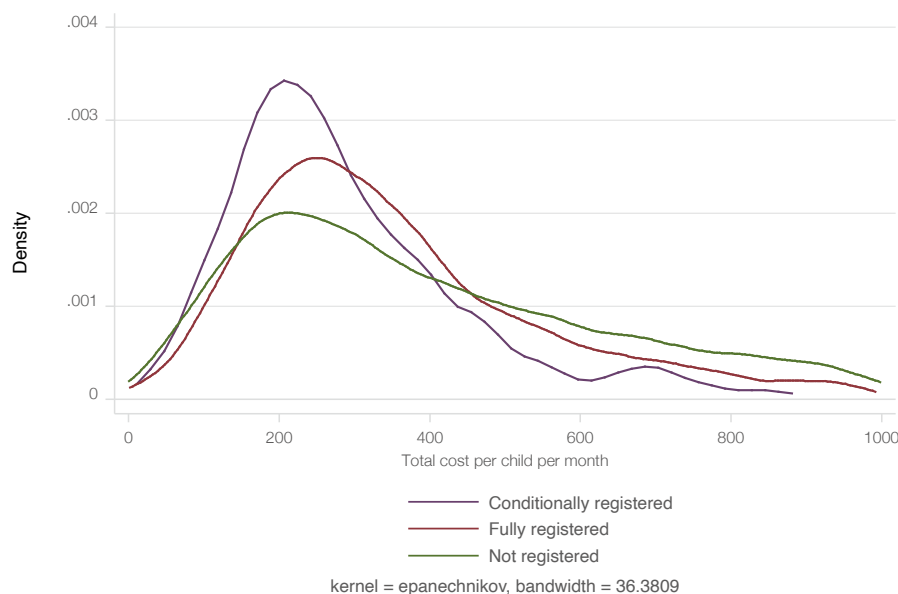


Source: 2013/14 Audit, own calculations. Note: (i) Sample: all programmes (N = 14 722), fully registered (N = 6 667), unregistered (N = 6 368), conditionally registered (N = 1 687), (ii) Total costs capped at the 99th percentile.

¹⁷ Generated using Principal Component Analysis (PCA).

¹⁸ Kernel-weighted.

Figure 8: Distribution of total costs per child per month for compliant programmes (programmes meeting at least three quarters of norms and standards) by registration status



Source: 2013/14 Audit, own calculations. Note: (i) Sample: all programmes (N = 2 050), registered (N = 1 356), conditionally registered (N = 237) and unregistered (N = 457).

So far, it appears that higher costs fetch higher standards of programming. If we assume that programmes meeting three quarters of the norms and standards are meeting some standard of quality, what direct or operating unit costs are associated with higher standards of programming?

Table 5 presents the estimated costs associated with programmes charging less than R500 per month¹⁹ and meeting three quarters of norms and standards in 2013/14 prices. We focus on the lower end of the user fee spectrum to better target policy interventions for improved access and quality. Estimates shown include monthly costs per programme, the monthly cost per child and the per child, per day unit costs. Both medians and means are shown, where outlier values can cause significant deviations.

In 2013/14, the estimated monthly cost per programme was less than R16 151 for more than half of programmes, with an average monthly total cost of R20 311 or an average monthly cost per child of R330. For half of programmes, the unit cost per child per day²⁰ was less than R12.65 (median). Table A2 in the Appendix further illustrates these costs for programmes meeting 80%, 85% and 90% of norms and standards as a measure of higher programme standards as it relates to structural quality. We observe that total monthly costs or estimated unit costs increase slightly (albeit not statistically significantly) as a greater proportion of the norms and standards are met.

¹⁹ Including wealthier programmes in the sample may distort the cost estimates given the relationship between user fees charged and the programme operating costs.

²⁰ To calculate unit costs, we first calculated the total monthly expenditure per child using the total monthly expenditure per programme divided by the number of children enrolled. We use the number of days a programme is open per week to establish the number of days operational per month, restricting the number of days a programme is operational per year to 264 (22 days per month). Total monthly expenditure per child is then divided by the total number of days a programme is operational per month to establish the unit cost.

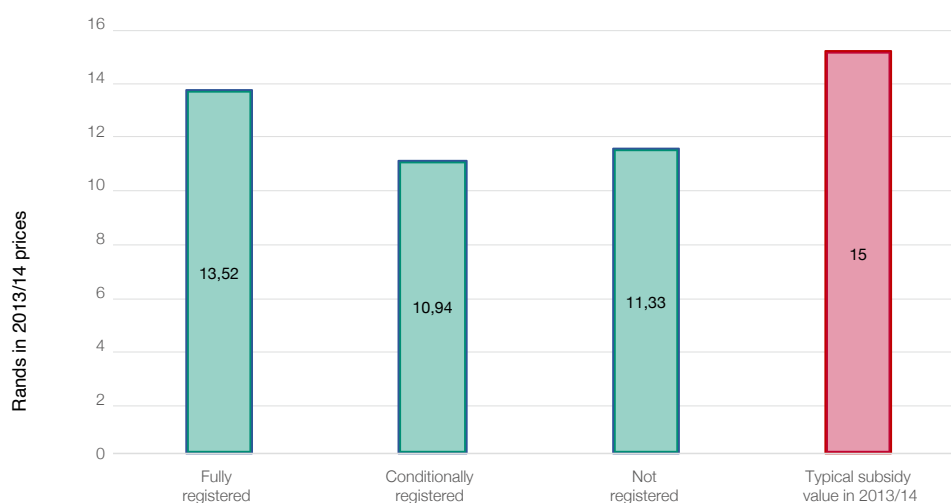
Table 5: Estimated costs associated with compliant programmes (meeting at least three quarters of norms and standards), 2013/14 Rands

	Median	Mean	Lower 95% CI	Upper 95% CI	N
Monthly cost per centre	16 151.00	20 311.24	19 649.18	20 973.30	2 119
Monthly cost per child	273.23	329.58	319.97	339.19	2 119
Unit cost - per child per day	12.65	15.26	14.82	15.70	2 119
Fully registered	13.52	15.68	15.18	16.18	1 403
Conditionally registered	10.94	12.87	12.00	13.75	243
Not registered	11.33	14.54	13.45	15.63	473

Source: 2013/14 ECD Audit, own calculations. Notes: (i) To calculate the per unit per day costs we assume that on average there are 22 working days per month or 264 working days per year. This was used as a restriction if the number of days operational per year exceeded 264, (ii) Wealthier programmes charging more than R500 are excluded from the sample, (iii) Costs are restricted to the 95th percentile.

The estimated unit costs at ECCE programmes (charging less than R500 per month) registered with the Department of Social Development (DSD) are higher than those that are not registered or conditionally registered for a given level of compliance. For instance, among ECCE programmes meeting three quarters of the norms and standards (i.e., 30 of 39 identified norms and standards in the 2013/14 ECD Audit) the unit cost at the 50th percentile was R13.52 for fully registered centres, R10.94 for conditionally registered programmes and R11.33 for unregistered programmes. By comparison, the DSD subsidy at the time was roughly R15 per child per day (see Figure 9). Importantly, this does not imply that the subsidy was more than enough to cover the costs of quality programming. The reason is that only operational costs are gathered through the ECD 2013/14 Audit (capital costs are not considered). Anecdotal evidence points to the costs of provisioning by ECCE programmes being approximately R20.01²¹ per child per day in 2013/14. Furthermore, it is clear that decent salaries or wages are not paid to ECCE practitioners, with the median monthly salary of around R1 300 in 2013/14. This is less than the national minimum wage of R3 500 per month in 2022 which translates to approximately R2 230 in 2013 prices.

Figure 9: Median per child per day unit ‘operational’ costs of compliant programmes (meeting at least three quarters of requirements) vs. subsidy value in 2013/14 prices



Source: ECD Audit 2013/14, own calculations. Notes: (i) Wealthier programmes charging more than R500 are excluded from the sample, (ii) Estimates for 1 403 fully registered, 243 conditionally registered and 473 unregistered programmes.

21 Estimates point to the total per child per day cost of approximately R31.40 in 2022. This was deflated using headline CPI values for June 2022 (104.2) and June 2013 (66.4). Index (December 2021=100).

Assuming that fully registered programmes are more likely to meet indicators of structural quality that are not observed in the norms and standards or detected in the ECD Audit, they could provide a better benchmark against which to identify the true unit costs of programmes meeting structural quality standards. To what extent do their costs vary by programme characteristics? To explore this, we then ran a regression estimating the unit costs of fully registered programmes meeting three quarters of the norms and standards, controlling for variables including location (urban/rural) and province. We expected that differences between higher and lower unit costs might relate to location and provincial wealth differences (Table A3 in the Appendix). We observe statistically significant differences in the unit costs of 'compliant', fully registered programmes across urban and rural locations, with higher unit costs observed in rural areas. This difference is observed after controlling for enrolment and the modality of delivery. The estimation also points to possible economies of scale in ECCE provisioning, with unit costs declining in programmes with higher enrolment. The estimated unit costs for home-based provisioning are also significantly lower compared to community-based ECCE provisioning. Higher unit costs are observed in Gauteng relative to other provinces.

4.4. Limitations of the unit cost analysis

Although we identify some unit costs that may be associated with more compliant or structural quality programming, this analysis is limited for various reasons. The actual estimated unit costs are likely to be underestimated.

The estimated costs provided above do not account for the costs of capital, where capital expenditure costs should be spread over several years. It also does not include the possible repayment of loans, or whether decent salaries/stipends are paid by these programmes. While practitioner salaries account for about 50% of total operating costs, many providers report not being able to pay decent wages (BRIDGE et al. 2020). This is problematic given that studies consistently point to the importance of investing in practitioners to achieve child development outcomes (Wolf, et al., 2018; Slot, et al., 2015). In addition, insecure funding flows from parental fees and subsidy payments that often fluctuate based on child attendance further exacerbate the insecure wage position of ECCE providers (BRIDGE et al., 2020). Salaries are also self-reported in the 2013/14 ECD Audit data and are likely to be underreported and subject to reporting bias. Expenditure items such as food and teaching and learning materials may not be market-based if they are donated or provided through an external agency. The reported expenses, used as a proxy for estimated costs are, therefore, an underestimate of actual programme costs.

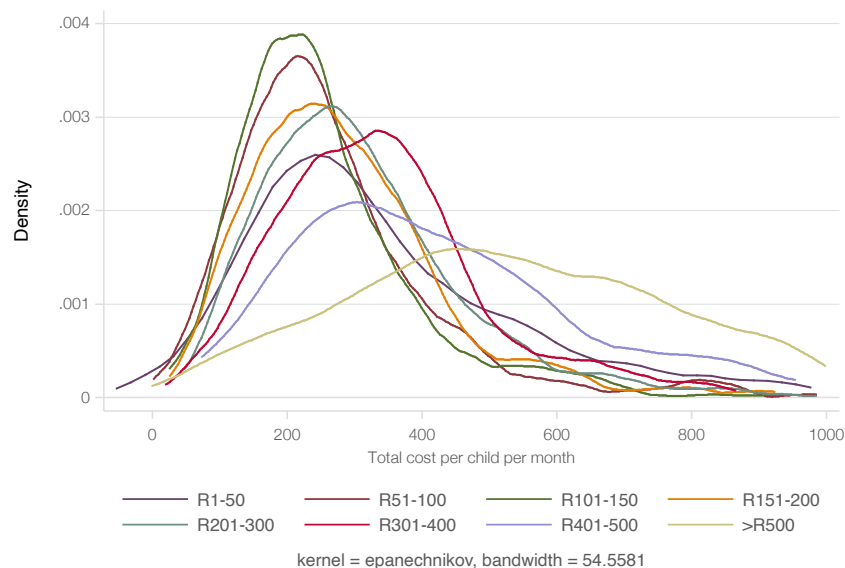
In general, comparing costs across ECCE programmes is challenging for several reasons. Programme design varies in terms of structures and systems, programme components across sectors and interventions, programme inputs, programme beneficiaries and implementation periods (Gustafsson-Wright, et al., 2017). Myers (2008) further cautions that although unit costs provide some indication of the level and costs of input, they should not be directly or too closely compared across countries, systems and programmes and should be treated as broadly indicative. This is due to the differences in beneficiaries (including the age of children served), inputs, contexts, hours of operation, and contributions made by families, volunteers, and private organisations (Myers, 2008).

5. Do subsidies mitigate the passing on of higher costs to households?

The National Integrated Early Childhood Development Policy (2015) acknowledges that fees may be charged by ECCE providers and does not preclude subsidised programmes from charging fees. However, according to the policy, providers may only charge for services that are not fully funded by the government or additional services, such as additional hours of care. This does not necessarily

happen in practice. A positive relationship is expected between the unit costs of ECCE programming and user fees. For example, we find that among compliant programmes (meeting three quarters of the norms and standards), higher cost distributions are seen for programmes charging higher fees (Figure 9).

Figure 10: Distribution of total costs per child per month for compliant programmes (meeting at least three quarters of norms and standards) by monthly fee charged

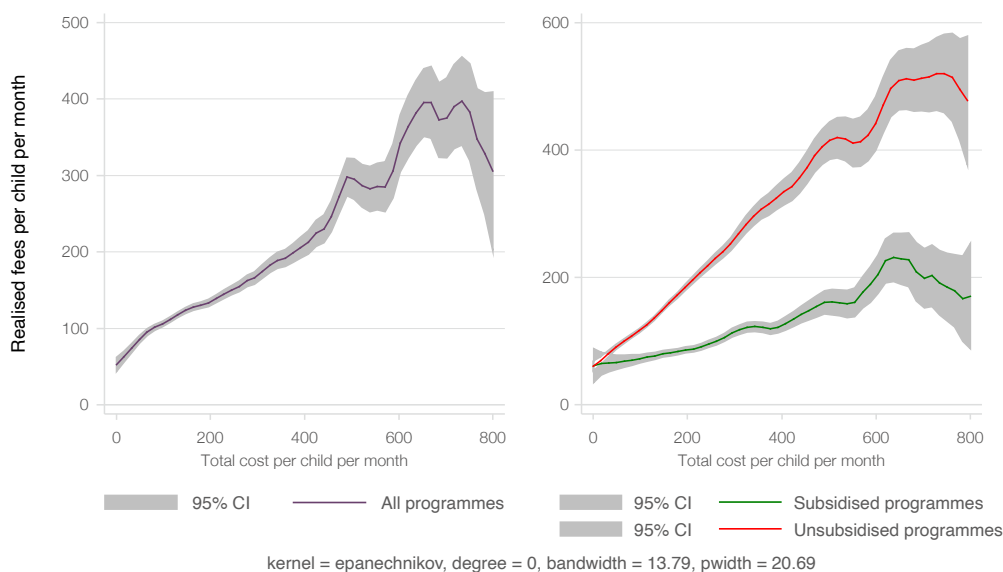


Source: 2013/14 ECD Audit, own calculations. Note: (i) Monthly fee is the highest fee charged by the programme, (ii) Sample (N = 2 810)

However, can government subsidies help reduce the passing on of higher costs to households in the form of higher user fees? This appears to be true as seen in Figure 11 showing the realised fees per child (per month) on the y-axis and per child unit costs (per month) on the x-axis. The line for subsidised programmes lies well below the line for unsubsidised programmes at all levels of fees charged, with a flatter slope observed for subsidised programmes. This implies that subsidies are important in mitigating costs being passed on to parents/caregivers in the form of higher user fees. Of course, it is possible that unsubsidised programmes are systematically different from subsidised programmes, so that other characteristics are driving the pattern observed in Figure 11.

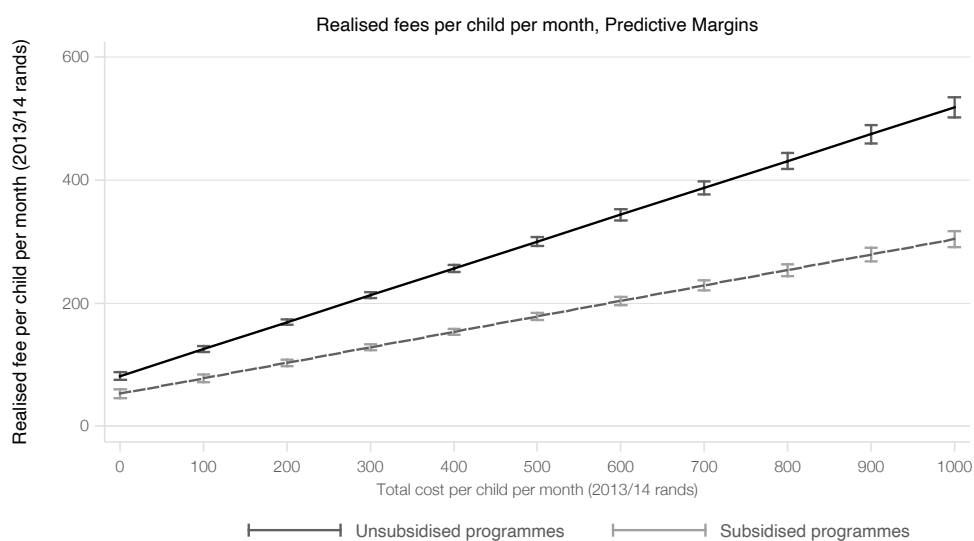
For this reason, we complement the analysis in Figure 11 with a multivariate regression analysis. Wealthier programmes charging more than R500 per child per month are excluded from the analysis. The key control variable of interest is subsidy receipt. We also control for monthly costs per child. In Figure 11, we observe that the slopes are varied when looking at the relationship between realised monthly income per child and total costs per child per month across subsidised and unsubsidised programmes. For this reason, we include an interaction effect between the continuous total cost variable and the Department of Social Development (DSD) subsidy receipt in the multivariate regression. Even after controlling for other programme characteristics, including urban location, province, and the percentage of enrolled children receiving the child support grant, we still find that subsidised programmes are less likely to pass on higher costs as higher user fees. The coefficient for the interaction effect between subsidy receipt and total costs per child per month represents the difference in slope between programmes receiving the DSD subsidy and those that are not. The interaction term is statistically significant and negative. Thus, the gradient of the fee-cost relationship is flatter in subsidised programmes. We observe that for a given level of costs per child per month, the user fees paid are lower in subsidised programmes compared to unsubsidised programmes. These multivariate estimation results of the fee-cost relationship are represented in Figure 12.

Figure 11: Realised fees per child per month vs. total direct or operational costs per child per month. 2013/14 Rands



Source: 2013/14 ECD Audit. own calculations. Note: (i) Larger confidence bands are observed for total costs above R600 due to smaller sample sizes, (ii) Sample: All programmes (N = 14 152). subsidised programmes (N = 6 084). unsubsidised programmes (N = 8 068), (iii) Realised fees and total costs capped at the 99th percentile.

Figure 12: Margins plot of average realised fee per child per month. 2013/14 Rands



Source: ECD Audit 2013/14, own calculations. Notes: (i) Sample (N=11 988), (ii) Programmes charging more than R500 per month excluded, (iii) Fees and costs are capped at the 99th percentile, (iv) In addition to cost and subsidy receipt, the regression controls for: urban, province and percentage of children enrolled getting the CSG.

6. Discussion

Reiterating the key dilemma presented in the introduction, potential trade-offs exist in meeting the twin goals of encouraging early childhood care and education (ECCE) access, especially among the poor, while also improving the standards of ECCE programming. Raising quality standards, for example, through registration, can have cost implications for programme operations. To what extent does this counteract the benefits of subsidies to registered programmes, aimed at improving the affordability of services, if higher costs of registration are passed on to users as higher fees are charged for services? We aimed to examine whether this is in fact a dilemma in the context of South Africa, contributing to discussions on ECCE financing.

The starting point for the paper was digging into registration status and exploring variations in programme registration by whether norms and standards are met. Compliance with registration norms and standards was established by matching 39 indicators (related to structural quality) available in the 2013/14 ECD Audit to norms and standards specified in the Children's Act (Act 38 of 2005) for partial care facilities and early childhood development programmes. We then tried to link compliance to cost measures and considered how this relates to user fees charged. Various findings emerged from the analysis.

First, a low proportion of ECCE programmes, including fully registered programmes, are compliant with the norms and standards established for partial care facilities and ECCE programmes. Just 7 of over 15 000 programmes identified met all 39 criteria. Many of the norms and standards are simply out of reach for many programmes, even fully registered programmes. Although, fully registered programmes are more compliant (meeting an average of 62% or 24 of 39 criteria) than conditionally (59%) or unregistered programmes (51%). Differences in compliance by registration status are not large enough to justify some programmes receiving subsidies over others. This points to a clear mismatch between the identified norms and standards and *de jure* registration requirements, with significant variation across provinces, which could be attributed to the varied application of registration requirements.

Although weakly implemented as a process, registration appears to be positively linked to higher costs of programming (and in turn higher standards of programming). The paper investigated the costs associated with higher standards of ECCE programming. A clear and important finding is that a significant positive association exists between monthly unit costs and higher programme standards. Higher unit costs are also associated with programmes being fully registered compared to unregistered or conditionally registered. Although we find that registration is associated with higher operating costs (and in turn high standards of provisioning), the subsidy still appears to mitigate the impact of higher costs being passed on to users. In the absence of subsidies, ECCE programmes are considerably more likely to pass on costs as higher fees to households. Thus, despite the additional costs that registration presents, subsidies remain important in encouraging ECCE access by making programmes more affordable for users.

It is important to qualify though, that it is still common for even unsubsidised ECCE programmes to offer exemptions from paying fees. Although, we find that subsidy access further supports the provision of fee exemptions in poorer contexts. In this regard, ECCE programmes servicing poorer households bear the triple burden of trying to get government subsidies through registration, providing exemptions and charging lower fees.

In trying to identify the actual unit costs associated with higher standards of programming, our findings were limited. We could not observe imputed and overhead costs from the available data. In 2013/14, median unit costs (per child per day) of just R13.52 are identified in fully registered programmes (programmes charging less than R500 per month) meeting at least three quarters of legal requirements. The subsidy amount at the time was R15 per child per day. This does not imply that the subsidy was more than enough to cover the direct costs of quality programming, but rather that actual programming costs in the ECD Audit are underestimated. Only operational costs are gathered through the 2013/14 ECD Audit (capital costs and loan repayments are not considered), and not overhead and imputed costs. Estimates of the costs of provisioning by ECCE programmes were approximately R20.01 per child per day in 2013/14. The unit cost estimates of programmes meeting higher standards of programming also did not account for whether decent salaries or wages are paid to ECCE practitioners, and were only pegged to indicators of the 'structural' quality of programming (rather than also considering 'process' quality elements).

There are some important policy considerations that emerge from the paper's findings. As a start, serious attention needs to be given to standardising the implementation of registration frameworks across provinces and districts, specifically, as it relates to conditional registration. Part of this process involves simplifying compliance requirements for ECCE programmes to become fully registered. The norms

and standards should be reviewed by the government in collaboration with non-profit organisations providing ECCE oversight or support. This should take place in conjunction with developing a clearer view of the costs of meeting norms and standards. Some of the norms and standards are virtually out of reach for most programmes, even fully registered programmes. We also show that there are additional costs that may be associated with full registration for a given level of programme quality. For this reason, a portion of the subsidy may need to be allocated toward maintaining the registration status of fully registered programmes. Additional financing should be provided to support programmes that are not meeting the required norms and standards for registration.

It remains important for the government to track unit costs at ECCE programmes so that subsidies can be appropriately set. Accordingly, there is a clear need for better cost and income data linked to the quality of ECCE provisioning, including both structural and process quality. Standardised and accurate costing data is critical for making a case for ECCE investment through more precise cost-benefit and cost-effectiveness analysis. It is also imperative to make more informed and better investments to enable funders and programme managers to align actual and expected expenditures, monitor the use of funds, facilitate sensitivity analyses of cost-quality trade-offs, and facilitate investments in more cost-effective interventions (Gustafsson-Wright, et al., 2017). Improved and more routine data collection on quality provisioning is also needed. This should include both structural and process quality. The Thrive by Five Index and accompanying Baseline Assessment is a step in the right direction, but mechanisms need to be put in place to ensure that these surveys are institutionalised, and that data is routinely collected.

7. Conclusion

As a final remark, it is necessary to expand access to means-tested subsidies for children in ECCE programmes. While ECCE registration is currently a cumbersome process, with irregularities in its implementation, we have shown that it is linked to higher standards of programming. Furthermore, being able to access subsidies is very important in addressing barriers to ECCE access, namely household inability to afford fees. We provide clear evidence that subsidies encourage fee exemptions for the poorest and appear to mitigate programmes passing on higher costs (for higher programme standards) to users in the form of higher fees. In moving forward, collaboration between the Department of Basic Education and the non-profit sector is vital in supporting poorer programmes on a journey towards full registration, and in turn qualifying for subsidies.

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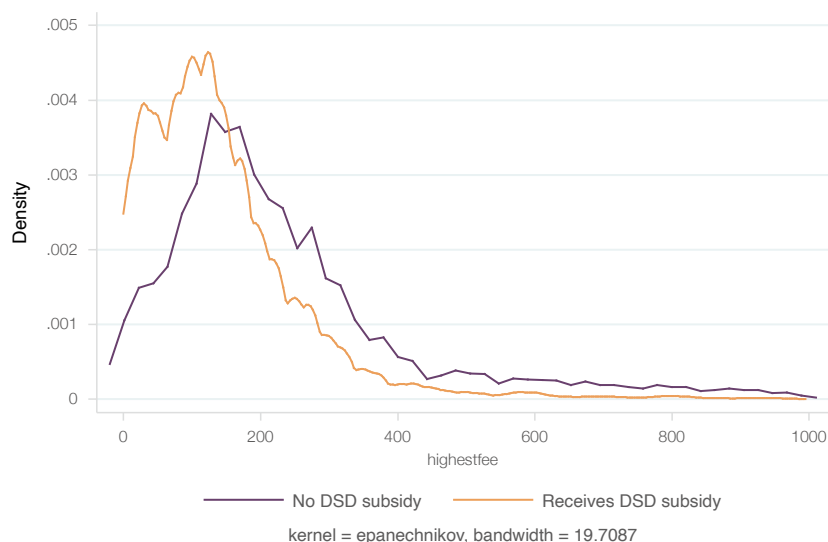
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APPENDIX

Figure A1: Distribution of highest fee charged by subsidy receipt



Source: ECD Audit 2013/14. Note: Sample (N = 15 857)

Table A1: Norms and standards in Children's Act against variables from 2013/14 Audit – by registration status

No.	Norms and Standards	Variables from the ECD Audit	Registration status			
			Total (N = 13 892)	Full (N = 6 353)	Conditional (N = 1 690)	Not registered (N = 5 849)
1	Children must experience safety and feel cared for whilst at partial care facility	ECD programme has outside fence 1.8m high	80.5	85.6	83.0	74.2
2		ECD programme has outside gate	84.9	89.2	87.0	79.7
3	Premises inside and outside must be safe, clean and well maintained	ECD programme does not need urgent maintenance	59.5	60.2	59.1	58.9
4	The structure must be safe and weatherproof	ECD programme operates in a formally built structure	81.7	85.3	84.2	77.2
5	Floors must be covered in washable and easy to clean material that is suitable for children to play and sleep on and walls must be safe and easy to clean	ECD programme has washable walls	60.3	66.9	60.8	52.9
6	Staff must have the ability to identify children who are ill and be able to refer them for appropriate health services	Nearest clinic from ECD programme is less than 2km away	46.0	45.5	45.1	46.8
7		ECD programme keeps contact with local clinic	81.4	86.4	81.4	76.0

No.	Norms and Standards	Variables from the ECD Audit	Registration status			
			Total (N = 13 892)	Full (N = 6 353)	Conditional (N = 1 690)	Not registered (N = 5 849)
8	<p>Policies and procedures relating to the health care of children whilst at the partial care facility must be in place. Such policies and procedures must cover the following:</p> <ul style="list-style-type: none"> - Criteria for identifying ill children - Safe keeping of all medication at a partial care facility - Procedures for dealing with children who are ill - Guidelines for preventing the spread of diseases at the partial care facility 	Evidence that ECD programme has a medication management policy	30.0	34.7	33.9	23.9
9		Immunisation records are up-to-date	66.7	72.4	67.4	60.4
10	<p>The following medical records must be kept:</p> <ul style="list-style-type: none"> - Up-to-date records of each child's medical history - Records of each child's immunisation programme and Vitamin A schedule - Records of health incidents and accidents occurring at facility 	ECD programme has an accident/injury file	56.8	66.8	69.9	42.2
11		Evidence of record of medication to be taken	33.1	37.9	35.8	27.1
12	Every partial care facility must have a first-aid kit	ECD programme has first aid kit with adequate supplies	69.9	80.0	77.0	56.7
13	<p>The drawing up of policies and procedures regarding health care at the partial care facility. Policies must:</p> <p>e) Provide for the training of staff in first aid</p>	Practitioners received first aid training	48.0	56.6	44.4	39.8
14	The partial care facility must have adequate ventilation and sufficient light	Adequate ventilation in classroom	76.6	80.4	71.5	73.9
15	Safe and clean drinking water must always be available	ECD programme has tap water on-site	79.6	80.3	70.8	81.4

No.	Norms and Standards	Variables from the ECD Audit	Registration status			
			Total (N = 13 892)	Full (N = 6 353)	Conditional (N = 1 690)	Not registered (N = 5 849)
16	Partial care facilities catering for toddlers must have potties, toilets and washbasins; For children between the ages of 3 and 6 years - Where sewage systems are available, there must be one toilet and one hand washing basin for every 20 children; For children 6 years and older, there must be Hygienic and safe toilets and one toilet and one hand washing basin for every 20 children	ECD programme has a flush toilet	56.4	60.7	34.9	57.9
17	For children up to the age of 3 years: There must be a clearly demarcated nappy changing area with a surface that can be easily cleaned. This area must be situated away from the food preparation area	ECD programme has a separate area to clean babies	45.2	50.1	47.7	39.1
18	All reasonable precautions must be taken to protect children and staff from the risk of fire, accidents or other hazards	Centre does not have dangerous obstacles that prevent children from playing	92.7	92.8	90.8	93.0
19	There must be a separate, clean and safe area for the preparation of food as well as for cleaning up after food preparation	Food is prepared separately and away from children	81.7	86.9	86.4	74.8
20	There must be cooling facilities for storage of perishable foods	Refrigeration facilities for perishable food	68.2	79.0	66.6	57.0
21	Reasonable precautions to protect children from risk of fire, accidents and other hazards must be taken	At least 1 fire extinguisher on site	57.2	69.2	63.6	42.2
22	Emergency plans must include evacuation procedures	Centre has an evacuation plan	37.2	45.2	38.9	28.1
23	Children must be made aware of emergency procedures	Evidence of children being trained on how to evacuate	29.4	36.1	30.6	21.7
24	Emergency procedures with relevant contact details must be visibly displayed	Evidence of list of emergency contact details of parents	81.6	84.8	88.4	76.3
25		Displayed list of contact details of emergency services	68.0	73.7	77.6	59.0

No.	Norms and Standards	Variables from the ECD Audit	Registration status			
			Total (N = 13 892)	Full (N = 6 353)	Conditional (N = 1 690)	Not registered (N = 5 849)
26	The provision of appropriate development opportunities. Programmes must be: appropriate to the developmental stages of children	Evidence of a structured learning programme	76.1	83.9	83.3	65.4
27	Programmes aimed at helping children to realise their potential must promote children's rights to rest, leisure and play through the provision of a stimulating environment	ECD programme has enough art materials	34.7	42.6	37.7	25.1
28		ECD programme has enough music materials	23.3	30.2	22.2	16.0
29		ECD programme has enough educational materials	33.1	40.9	33.7	24.4
30		ECD programme has enough construction materials	26.0	33.7	24.4	18.0
31		ECD programme has enough puzzles	30.4	38.8	29.0	21.6
32		ECD programme has enough fantasy materials	25.7	33.0	26.1	17.5
33		ECD programme has enough outdoor materials	24.9	32.8	25.3	16.1
34		ECD programme has enough furniture	34.2	42.6	34.3	24.9
35		Caring for children in a constructive manner and providing support and security. Programmes must adhere to following conditions: Programmes must adhere to policies, procedures and guidelines related to health, safety and nutrition practices: These must relate to: At least one meal per day must be provided	ECD programme provides meals or snacks	89.3	94.2	92.7
36	Staff must be trained in implementing ECD programmes	Staff have an ECD specialisation (certificate, diploma or degree)	17.6	18.4	16.3	17.1

No.	Norms and Standards	Variables from the ECD Audit	Registration status			
			Total (N = 13 892)	Full (N = 6 353)	Conditional (N = 1 690)	Not registered (N = 5 849)
37	The staff to child ratio: a. 1 month to 18 months (1:6) b. 18 months to 3 years (1:12) c. 3 and 4 years (1:20) d. 5 and 6 years (1:20)	The staff to child ratio is 1:20 or less	82.8	79.2	78.2	88.1
38	Ensuring development of positive social behaviour - (b) Activities must include parents and care-givers in the development of positive social behaviour in children.	Evidence of feedback from parent/teacher meetings	71.4	74.5	76.9	66.1
39		Report cards issued to parents/caregivers	78.1	85.4	77.3	70.4
Average requirements met by ECCE programme (out of 39)			22.0	24.1	22.4	19.5

Table A2: Estimated costs associated with meeting 80%, 85% and 90% of the norms and standards. 2013/14 Rands

Costs associated with meeting 80% of norms and standards (31 of the 39 norms and standards)					
	Median	Mean	Lower 95% CI	Upper 95% CI	N
Monthly cost per centre	17 300.00	21 553.05	20 705.37	22 400.73	1 373
Monthly cost per child	287.50	340.13	328.07	352.19	1 373
Unit cost - per child per day	13.29	15.77	15.21	16.33	1 373
Fully registered	13.87	16.14	15.52	16.77	946
Conditionally registered	11.43	13.77	12.27	15.27	141
Not registered	12.19	14.92	13.56	16.27	286
Costs associated with meeting 85% of norms and standards (33 of the 39 norms and standards)					
	Median	Mean	Lower 95% CI	Upper 95% CI	N
Monthly cost per centre	19 100.00	23 153.87	21 991.97	24 315.76	809
Monthly cost per child	297.96	356.80	339.79	373.81	809
Unit cost - per child per day	13.79	16.53	15.74	17.31	809
Fully registered	14.38	16.61	15.77	17.44	573
Conditionally registered	11.50	15.32	12.58	18.06	70
Not registered	12.38	16.11	14.12	18.11	166

Costs associated with meeting 90% of norms and standards (35 of the 39 norms and standards)					
	Median	Mean	Lower 95% CI	Upper 95% CI	N
Monthly cost per centre	19 369.50	23 663.82	21 797.51	25 530.13	330
Monthly cost per child	300.73	347.26	321.62	372.90	330
Unit cost - per child per day	13.96	16.10	14.92	17.28	330
Fully registered	14.38	16.28	14.89	17.67	230
Conditionally registered	13.78	16.11	11.95	20.28	27
Not registered	12.35	15.33	12.72	17.95	73

Source: 2013/14 ECD Audit., own calculations. Notes: (i) To calculate the monthly costs we assume that on average there are 22 working days per month or 264 working days per year. This was used as a restriction if the number of days operational per year exceeded 264, (ii) Wealthier programmes charging more than R500 are excluded from the sample, (iii) Costs higher than the 95th percentile restricted to the 95th percentile.

Table A3: Regression of unit costs per child per day of fully registered programmes meeting three quarters of norms and standards

Variables	Regression 1	Regression 2	Regression 3
	Basic Regression	Control for number of children enrolled	Control for modality of delivery
Urban			
Rural	16.75** (6.655)	15.26** (6.523)	15.00** (6.557)
Eastern Cape			
Free State	-5.108 (13.53)	3.820 (13.53)	3.230 (13.51)
Gauteng	13.15 (13.16)	18.58 (12.95)	24.68* (13.10)
KwaZulu Natal	-13.43 (13.87)	-5.898 (13.77)	-6.746 (13.76)
Limpopo	-18.94 (14.07)	-9.299 (13.92)	-11.37 (13.93)
Mpumalanga	-11.09 (15.33)	-1.521 (15.22)	-2.905 (15.20)
North West	-9.281 (17.67)	-3.236 (17.40)	-4.373 (17.37)

Northern Cape	-5.681	-2.180	-0.883
	(28.90)	(28.45)	(28.49)
Western Cape	3.532	6.530	7.049
	(12.85)	(12.66)	(12.64)
1-20 children enrolled			
21-40 children enrolled		-61.03***	-61.36***
		(9.657)	(9.693)
41-60 children enrolled		-65.52***	-68.81***
		(9.322)	(9.364)
61-80 children enrolled		-65.33***	-69.54***
		(9.652)	(9.720)
81-100 children enrolled		-65.17***	-70.76***
		(10.11)	(10.24)
101-300 children enrolled		-67.27***	-72.95***
		(9.391)	(9.537)
Community-based			
Home-based			-20.95***
			(6.946)
Other			-31.98
			(26.27)
School-based			-6.055
			(7.568)
Constant	16.10	70.92***	77.66***
	(12.37)	(14.13)	(14.29)
Observations	1.259	1.258	1.256
R-squared	0.012	0.058	0.065

Source: 2013/14 ECD Audit. Notes: (i) Wealthier programmes charging more than R500 excluded from the sample. Standard errors in parentheses. *** p<0.01. ** p<0.05. * p<0.1



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