RESEARCH REPORT

Early childhood development in South Africa: Current and future workforce requirements

Dr Gabrielle Wills and Dr Grace Leach

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Contents

Glossary of terms

ECD programmes – The National Integrated ECD Policy defines ECD programmes as "Programmes that provide one or more forms of daily care, development, early learning opportunities and support to children from birth until the year before they enter formal school." It lists types of ECD programmes, including early learning and parent support programmes.

Early learning programmes – These are ECD programmes attended by children on a part-time or full-time basis, in a range of spaces, providing early learning and development opportunities. These include ECD centres, playgroups, day mothers, toy libraries and mobile ECD programmes.

Child-to-practitioner ratios – The number of children per practitioner in a facility. Where provincial child-to-practitioner ratios are discussed, the average number of children per practitioner is taken.

List of abbreviations and acronyms

CHWs	Community Healthcare Workers
CI	confidence interval
EC	Eastern Cape
ECCE	Early Childhood Care and Education
ECD	Early Childhood Development
ELP	early learning programme
FS	Free State
GHS	General Household Survey
GP	Gauteng Province
HR	human resource
HRD Strategy	Human Resources Development Strategy for Early Childhood Development
DBE	Department of Basic Education
DSD	Department of Social Development
KZN	KwaZulu-Natal
LURITS	Learner Unit Record Information Tracking System
LP	Limpopo
MP	Mpumalanga
MYPE	Mid-year population estimates
NQF	National Qualifications Framework
NC	Northern Cape
NDP	National Development Plan
NGOs	non-governmental organisations
NIECDP	National Integrated Early Childhood Development Policy
NW	North West
TVET	technical vocational education and training
QLFS	Quarterly Labour Force Survey
WC	Western Cape

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Executive Summary

In a journey towards reaching universal access to early childhood development (ECD) services in South Africa, the recent 2030 ECD Strategy (Department of Basic Education of the Republic of South Africa, 2023) proposes targets for enrolment in early childhood care or educational (ECCE) opportunities. The 2030 ECD strategy acknowledges that meeting expansion targets will require significant financial, infrastructural and human resource investments. Against this context, this research report provides further specificity on the human resource requirements needed to support targeted access to specifically early learning programmes (ELPs) as expressed in the 2030 ECD Strategy.

The first aim of this report is to identify the current supply of ECD practitioners under current enrolment conditions, considering the size of the existing ECD workforce and the levels of training and qualifications among the existing ECD workforce. The second objective is to identify the demand for ECD practitioners under targeted enrolment conditions in South Africa.

Early learning programmes are non-school-based ECD programmes attended by children part-time or full-time in various spaces, providing early learning and development opportunities. Undergirding any attempt to estimate current and future ECD workforce requirements is an understanding of the size of the existing ELP system. For this reason, a third objective of this report is to estimate enrolment in ELPs in South Africa, where we carefully delineate between enrolment in school versus non-school-based facilities. We define ELPs as ECD centres (pre-schools, nursery schools and educare centres which may also offer Grade R), playgroups, home-based playgroups, day mothers or 'gogos'. Specifically, ELPs, in this report, exclude schools. Our estimates of ECD practitioners and the ECD workforce in this report are based on child enrolment in ELPs, distinct from enrolment in Grade R or pre-grade R provisioning in school-based environments.

To achieve the report's aims, we use and analyse multiple data sources to shed light on enrolment and human resourcing in the sector. These sources include the 2021 ECD Census, the 2021 ECD Baseline Survey, the 2022 General Household Survey, Learner Unit Record Information Tracking System (LURITS) data and a range of population estimates. Unfortunately, the demographic totals for children in the 2022 Population Census are highly problematic, based on our analyses and drawing on findings from Moultrie and Dorrington (2024), necessitating alternate demographic analyses and alternate estimates of ELP attendance. The primary population source for this study is the Thembisa Model 4.7 Population projections.

Current ELP enrolment

Based on the Thembisa 2022 population numbers and a four-step methodology described in this report, nationally, there were roughly 2.59 million children aged 0-6 attending ELPs (defined specifically as non-school based Grade R, pre-schools, creche, educare centres, nursery schools, playgroups or day mothers/'gogos'). Expressed in proportional terms, about 32% of children aged 0-6 attend an ELP. About 253 thousand (almost 10%) of those aged 0-6 attending an ELP are cared for by day mothers or 'gogos'.

The 2.59 million children aged 0-6 attending ELPs reflect the size of the ELP system in South Africa in 2022. Although a significant number of 6-year-olds are attending ELPs, ECD policy focuses on ages 0-5.

Applying the same four-step methodology, we estimate that nationally there were about 2.41 million children aged 0-5 in ELPs in 2022.

Although only 32% of children aged 0-6 are attending an ELP (or 35% of children aged 0-5), as much as 52% of children aged 0-6 (or 45% of children aged 0-5) are in some form of education or care when enrolment in Grade R or Foundation Phase schooling is considered.

Targeted ELP enrolment

The 2030 ECD Strategy envisages target ratios for participation in education or care at 30% for children aged 0-2, 70% for children aged three, 85% for children aged four and 95% for children aged five. Although not specified in the ECD Strategy, we expect this target to be close to 100% for children aged six. The targets relate to enrolment in any education or care facility, which may be school- or non-school-based.

Assuming that of all children enrolled in any education or care, the current share in non-school-based ELPs versus school environments is ideal and will remain constant over time; we estimate the targeted enrolment numbers for children attending a non-school-based ELP. The main findings are as follows:

- Assuming a constant 2022 population over time, the current (non-school-based) ELP enrolment of 2.59 million children aged 0-6 in 2022 would need to expand by about 784,000 more children aged 0-6 to reach a target of 3.37 million children in ELPs. This requires raising the proportion of 0-6-year-olds enrolled in ELPs from 32% to 42%. With projected population growth to 2030, enrolment expansion in ELPs would have to be even greater at about 901,000 more children.
- If instead we focus on the population of children aged 0-5, targeted enrolment for children aged 0–5-year-olds is 3.19 million. Relative to the 2.4 million children aged 0-5 currently in ELPs, enrolment in ELPs must increase by between 777,000 and 894,000 to reach the 2030 ECD strategy enrolment targets. This means raising the proportion of 0-5-year-olds enrolled in ELPs from 35% to 46%.
- Most of the envisaged expansion in ELP enrolment will have to occur among children aged 0-2 (344 to 390 thousand) and 3-4 (a gap of 409 to 472 thousand).

ECD practitioner workforce: current size

Without an available census of all practitioners, estimating the current ECD practitioner workforce requires good estimates of child-to-practitioner ratios and ELP enrolment by age.

There is currently a lack of clarity on existing child-to-practitioner ratios in ELPs. Nationally, plausible child-to-practitioner ratios may range from about 12.4 to 27.4.[1] Multiplying the inverse of the child-to-practitioner ratios by the numbers of children aged 0-6 or 0-5 enrolled in ELPs, current ECD practitioner numbers range anywhere from 94,300 to 208,000 based on the enrolment of children aged 0-6 in ELPs. This range is similar at 88,000 to 194,000 if practitioner numbers are calculated based on ELP enrolment of children aged 0-5.

1 Unfortunately, both the ECD Census and Baseline surveys do not clearly delineate between teaching assistants and practitioners or teaching assistants and support staff. It is thus difficult to determine whether ratios 1 or 2, or the total teaching staff count from the ECD Census report include or exclude teaching assistants. Estimates based on ratio 3 and 4, however, would exclude teaching assistants, support staff and non-teaching managerial staff.

We acknowledge that this is a wide range. Considering that 165,000 teaching staff are identified in the 2021 ECD Census (which undercounts ELPS), 200,000 seems a reasonable estimate of the number of ECD practitioners currently in the system (based on 2022 enrolment). With additional managers and support staff attached to ELPs, this takes the size of the current ECD workforce to roughly 289,000 in the year 2022.

ECD practitioner workforce: future requirements

Under targeted ELP enrolment, based on a 2030 population of children aged 0-6, almost 268,000 ECD practitioners would be required to comply with child-to-practitioner ratios in the Children's Act. If the population of interest is children aged 0-5, the ECD practitioner requirement is slightly lower at 262,000.

Policy also stipulates that for each ECD practitioner, an assistant is required. Another 262,000 to 268,000 assistants would be needed as well. Thus, a total minimum ECD workforce of 536,000 practitioners and assistants is necessary to meet the targets in the 2030 ECD Strategy and to be compliant with child-to-practitioner ratios in the Children's Act. Relative to the current estimated ECD workforce (all staff) of 289,000, the current ECD workforce would need to increase by a factor of at least two.

The vast majority (over 80%) of the expansion in ECD practitioner requirements relates to serving children aged 0-2. These findings shape training requirements if practitioner engagements with children are to be developmentally age-appropriate. It also has significant financial implications for the system. Practitioner salary costs per child are substantially higher for younger children due to low child-to-practitioner ratios stipulated for younger children (at six for children under 18 months compared to 20 for children aged 3-4 and 30 for children aged 5-6). Servicing younger children is substantially less "profitable" for programmes. This is a significant issue confronting expansion in the sector. The structure of ECD subsidies does not account for differential costs by age (even though the subsidy is targeted per child). If accommodating younger children is not financially feasible for programmes, it may be false to assume that ELP enrolment expansion will occur through expanding subsidies but keeping them at the same level.

ECD workforce qualifications and the need for training

Attracting a pool of candidates into the ECD system is unlikely to be a problem in the context of high unemployment if wages offered exceed reservation wages (i.e. the minimum amount ECD workers would be willing to take home). However, the expansion of the ECD workforce will have to be met with commensurate expansion in training opportunities, with a strong focus on developmentally appropriate training for children aged 0-2. Data sources suggest that over half (53%) of ECD-related workers have a matric qualification. The 2021 ECD Census indicates that over a quarter of ECD facilities (27%) have no staff with NQF level 4 to 5 training, and over 80% have no staff with NQF level 6 to 9 training. Over half of facilities (52%) had no staff with skill accreditation in ECD. There are significant qualification and skills gaps to be filled.

Conclusion

Expanding the ECD sector to reach more children will positively impact job creation, predominately among women. However, where most of the envisaged expansion in ELP enrolment is for children aged 0-2 and 3-4, the higher costs of expanding access to ELPs for younger children than children aged 5-6

must be modelled and considered. If the higher cost of servicing younger children is not considered, it may be challenging to staff programmes with ECD practitioners to serve younger children.

Attracting a more qualified pool of individuals also presents a significant challenge for the sector, which currently has below-minimum-wage average salaries. Where the quality of interactions between ECD practitioners and children is the key mechanism for realising the benefits of investment in ECD, investing in training is necessary for expanding access to quality ECD programming. This will require state resources allocated to training and coordination across various stakeholders (NGOs in the ECD sector and organisations in the post-school, education and training system) to implement large-scale, geographically disbursed training to an existing and future ECD workforce.

1. Introduction

Over the past 30 years, government plans and policies in South Africa have increasingly prioritised support for early childhood development (ECD). The National Development Plan (NDP), for example, identified that "early childhood development is critical for children to reach their full potential" (National Planning Commission, 2012:297). Establishing a healthy ECD ecosystem requires multiple complementary inputs, including adequate nutrition, access to healthcare, cognitive stimulation, safety and security and responsive caregiving (UNICEF, 2017). While access to care and education is only one component of ECD, it is a key component of South Africa's envisaged response to promoting child development. The South African government has committed to providing universal access to cognitive stimulation through high-quality early learning programmes (ELPs) and Grade R in schools.

Specifically, the NDP advocates for universal access to two years of early childhood development, stating that "all children should have at least 2 years of preschool education" (National Planning Commission, 2012:69). In a journey towards reaching universal coverage, the recent 2030 ECD Strategy (Department of Basic Education, 2023) further proposes targets for enrolment coverage in ELPs for children aged 0-5. Achieving this, however, requires significant financial, infrastructural and human resource investments.

This research report contributes to furthering our understanding of the human resource requirements needed to support targeted access to ELPs as expressed in the 2030 ECD Strategy and further articulated in this report. This research report aims to determine the demand for ECD practitioners under targeted enrolment conditions in South Africa and to identify the current supply of ECD practitioners under current enrolment conditions, including their training and qualifications. The research also discusses the current levels of training among existing ECD practitioners. This contextualises the significant efforts required to upskill and prepare a workforce of ECD practitioners for a future of quality ECD programming.

Undergirding any attempt to estimate current and future ECD workforce requirements is an understanding of the size of the existing ELP system. This depends on demographic analyses, identifying how many children are aged 0-6 and then identifying how many are attending ELPs. Therefore, a third objective of this report is to estimate enrolment in ELPs in South Africa for specific age groups, where we carefully delineate between enrolment in non-school-based facilities and enrolment in schools. We define ELPs in this report as ECD centres (pre-schools, nursery schools and educare centres which may also offer Grade R), playgroups, home-based playgroups, day mothers or 'gogos'. Our estimates of ECD practitioners and the ECD workforce are based on child enrolment in ELPs, distinct from enrolment in Grade R or pre-grade R provisioning in school-based environments. Consequently, estimates of practitioner requirements will exclude Grade R practitioner requirements in school contexts.

This report follows from other research in this field, notably linking to work done by Brooks et al. (2022), which assesses the policy options for providing early childhood development programmes in South Africa.

In the next section, we survey the policy documents which provide direction for the ECD sector, specifically focusing on policies guiding enrolment, child-to-practitioner ratios, and ECD practitioner training requirements. Section three then discusses data sources. In section four, we analyse the size of the ECD sector, identifying enrolment in early learning programmes among children aged 0-6

and 0-5. In sections five and six, these enrolment estimates become the foundation for deriving ECD practitioner estimates, both current and targeted estimates. Section seven concludes with a summary of the main findings and implications for policy.

As an important caveat, although ECD-related policy focuses on children aged 0-5, government planning should not ignore the significant numbers of children aged six who also attend ELPs. Current child-to-practitioner ratios are shaped by total child enrolment in ELPs regardless of children's age, so a study of ECD practitioners should be based on total enrolment in programmes. This requires not just considering the enrolment of children aged 0-5 but also those aged 0-6. In this report, we are sensitive to this challenge in our attempts to estimate current and targeted human resourcing requirements in early learning programmes.

2. Background

2.1 Policy and strategy documents related to ECD

All South Africans have a right to a basic education as reflected in Section 29(1)(a) of the Constitution of the Republic of South Africa (Republic of South Africa, 1996). Upon this basis, the Children's Act (38 of 2005) regulates the implementation and monitoring of this right through access to early childhood development (ECD) programmes and facilities. While the Children's Act originally placed the responsibility for providing ECD programmes with the Department of Social Development (DSD), a presidential proclamation, effective 1 April 2022, now places the responsibility with the Department of Basic Education (Brooks et al., 2022).

The implementation plan for the realisation of these rights is set out both in the National Development Plan (NDP) of 2012 and the National Integrated Early Childhood Development Policy (NIECDP), which Cabinet approved in December 2015 (Republic of South Africa, 2015). While the NDP acknowledges the critical role that ECD will play in addressing inequalities and building the human capacity required for economic growth, the NIECDP sets out more specific policy priorities for ECD in South Africa.

The purpose of the NIECDP is to provide an enabling framework in which policy coordination between national, provincial, and municipal government departments can occur and to identify the critical services that must be provided. One of the essential services is the provision of age-appropriate early learning programmes (ELPs) for children under five. While infrastructure development and policy coordination are vital to expanding quality ECD services to children, this research report focuses on ECD practitioner demand requirements and key gaps that must be addressed to ensure adequately trained practitioners are available to meet the demand.

In recent years, research and strategic policy documents highlight the need for systematic planning in the roll-out of universal ECD access, including infrastructure development, policy coordination and practitioner training (Kotze, 2015; Department of Basic Education, 2018, 2023; Wills & Kika-Mistry, 2021; Brooks et al., 2022; Kika-Mistry & Wills, 2022). The most recent 2030 Strategy for ECD identifies explicitly as one of five strategic priorities in the sector: "a capable ECD workforce is well-supported and equipped" (Department of Basic Education, 2023). To support this strategic priority, work still needs to be done to understand the number of ECD practitioners required in the near- to medium-term. A needs assessment concerning the training requirements for new practitioners is also required. The gap between the available supply of appropriately trained ECD practitioners and the demand for appropriately trained ECD practitioners under universal enrolment is not yet understood. Work is also required to investigate how training and support for current ECD practitioners can be provided.

To articulate more clearly the human resourcing requirements for a quality ECD system in South Africa as expressed in the NIECDP, the Department of Basic Education released the Human Resource Development Strategy for Early Childhood Development in 2018 (hereafter "the HRD Strategy") (Department of Basic Education, 2018). The HRD Strategy provides specific policy guidance on the human resources required to provide age-appropriate support for quality ECD for all children in South Africa from conception to 5 years of age. Box 1 details the background and purpose of the HRD Strategy document, which guides the research in this report.

Box 1: Background and purpose of the Human Resources Development Strategy for Early Childhood Development

The process of establishing the HRD system is comprised of a set of contingent steps, where each subsequent step is contingent on the completion of the previous step. To illustrate; to arrive at a credible determination of the number of ECD practitioners required, the following contingent steps (or conditions) need to be in place:

1. Policy which clearly defines what the service will constitute, how it will be delivered, by whom, what proportion of beneficiaries will receive the service, roles and competencies of practitioners who will deliver the service, and the time intensity of delivering the service.
2. **Demographic analyses to determine the demand for the service.**
3. **Policy decisions on the targeting and scope of coverage.**
4. HR policies on the training, conditions of service and performance management of practitioners.
5. Budgeting and **planning to define the size of the system.**
6. Training and development of prospective practitioners.
7. HR system for the deployment, utilisation and performance management of practitioners.

The first contingent step which is required to implement the HRD Strategy is the definition of policy documents, which has been partially fulfilled in the creation of the NIECDP, the HRD Strategy and the Children's Act. The research in this document supports the realisation of step 2 and to a lesser extent steps 3 and 5 listed above in bold.

The HRD Strategy includes considerations regarding the appropriate training for Community Healthcare Workers (CHWs) and ECD practitioners. It is envisaged that pregnant women and 0–2-year-old children are primarily supported by CHWs who visit 0–2-year-old children in homes, and ECD practitioners mainly provide ELP services and support for parents for children aged 3 to 5 (Department of Basic Education, 2018:9). However, the HRD Strategy does assume that some 0-to-2-year-olds will attend an ECD programme. This HRD Strategy sets out the steps required to train the appropriate number of ECD practitioners – a critical component of providing universal access to ELPs for children. Although the scope of the HRD strategy is broader, this report focuses solely on the supply, demand, and gaps in identifying the number of ECD practitioners required while understanding their current levels of training.

The subsections below discuss the regulations for child enrolment in ECD programmes, child-to-practitioner ratios and ECD practitioner training. Having considered policy requirements, our empirical analysis in the remaining sections sheds light on the current status quo and gaps concerning ECD practitioner resourcing and training.

2.2 ECD enrolment targets in policy and strategy

The NDP and the NIECDP commit to providing two years of quality preschool education before a child starts formal schooling in South Africa (National Planning Commission, 2012:69). The NIECDP envisages that the goal by 2030 is "a full comprehensive age- and developmentally stage-appropriate quality

early childhood development programme available and accessible to all infants and young children and their caregivers" (see page 8 of the NIECDP). While parents may choose to keep children at home longer, the NIECDP states that high-quality ECD should be available and accessible for all children and caregivers.

The 2030 ECD Strategy articulates this goal as ensuring "that 3-5-year-old children in all communities have access to an ELP close to where they live as well as to widen access for 0-2-year-olds so that all parents who want to work can access childcare" (Department of Basic Education, 2023:15). The first part of this goal connects to proposals in the National Development Plan 2030 for "universal access to two years of early childhood development" (National Planning Commission, 2012:30).[2]

Since some caregivers may choose to keep children at home (as attendance is not compulsory), early learning programme access by 2030 is modelled at 70%, 85% and 95% respectively for 3-, 4- and 5-year-olds in the 2030 ECD strategy, and just 30% for 0-2-year-olds (Department of Basic Education, 2023). The same coverage targets will be applied in this report to model the demand for ECD practitioners.

2.3 Child-to-practitioner ratios in policy

Early childhood development programmes are typically classified as partial care facilities. The norms and standards for partial care facilities are set out in Annexure B of the Children's Act of 2005. Section 2 of the document (in subsection 3) lists the national norms and standards that apply to early childhood development programmes as follows:

"(iv) the staff–to–child ratio must—

- *(aa) for children between the ages one month and 18 months be, 1:6;*
- *(bb) for children between the ages 18 months and three years be 1:12;*
- *(cc) for children between the ages three and four years be 1:20; and*
- *(dd) for children between the ages five and six years, 1:30; and*

(v) for every staff member stipulated above, there must be an assistant."

The term "staff" is not viewed in broad terms here but refers to individuals trained in, amongst other things, implementing early childhood development programmes so that these ratios can be viewed as child-to-practitioner ratios.

The Children's Act, the HRD Strategy, the NIECDP, and the recent 2030 ECD Strategy all make provision for a mixed-model approach to ECD provision instead of a purpose-built centre approach. Mixed-model provisioning of ELPs allows for purpose-built centres, playgroups, and homegroups. Playgroups and homegroups may have lower child-to-practitioner ratios if the space is too small for more children, but they should not be higher than the ratios set out in Annexure B of the Children's Act.

2 In the NIECDP, caution is applied to the term "universal access": "In the context of all ECD services 'universal access' does not and should not imply universal or full coverage of all services, as there are age-differentiated variations in demand as well as variation across different family circumstances. The widely accepted meaning that is adopted in this Policy is that Government must ensure that quality services are available to all children whose parents wish them to use such services; and that cost and other barriers such as disability should not prevent those who wish to make use of these services from doing so" (RSA 2015:23).

The modelling exercises below will use the child-to-practitioner ratios listed above to determine the number of practitioners needed to provide high coverage access to high-quality ECD programmes that have child-to-practitioner ratios compliant with the Children's Act.

2.4 ECD practitioner qualification and training requirements in policy

Clear training requirements are articulated in policy for ECD practitioners, even though this is far from realised. Annexure B of the Children's Act, Section 3, Part II, on page 8, stipulates that:

"Programmes must meet the following requirements in relation to staff:

- *(i) Staff must be trained in implementing early childhood development programmes;*
- *(ii) staff must be equipped with basic information, knowledge and skills to recognise children's serious illnesses and how to deal with those;*
- *(iii) staff must be trained in first aid;"*

The HRD Strategy further sets out the types of qualifications that meet the above requirement of being "trained in implementing early childhood development programmes" (see page 11). The HRD Strategy states that the following qualifications are appropriate. Practitioners are required to:

- *"Have a formal qualification in ECD at National Qualifications Framework (NQF) Levels 1 – 6;*
- *An appropriate ECD qualification; or*
- *A minimum of 3 years' experience in implementing ECD programmes; or*
- *Appropriate knowledge of ECD and various skills" (Department of Basic Education, 2018: 8-9).*

The HRD Strategy further requires that all ECD programme staff be screened against the Sexual Offences Register.

With the current available data, it is unfortunately not possible to evaluate the presence of these conditions for effectively equipping ECD practitioners with the skills they need. However, we report on data that can reveal the average level of qualification and training of ECD practitioner staff in section five.

3. Data sources

We analyse multiple data sources to shed light on current human resourcing in the ECD sector. Estimating the supply and demand for ECD practitioners requires identifying current child-to-practitioner ratios and estimating enrolment in ELPs, which also depends on child population estimates. Identifying the current qualification levels of ECD practitioners also requires different data sources. Table 1 summarises all the data sources considered and attaches them to various research objectives.

Table 1: Datasets or data sources used for analysis by research objective

	1. Estimating ECD practitioner supply & demand			2. ECD practitioner qualifications
Data source	**Child population estimates**	**Enrolment in ELPs**	**Current child-to-practitioner ratios**	
ECD Census 2021			X	X
ECD Baseline Survey 2021			X	X
Quarterly Labour Force Surveys				X
General Household Survey 2022		X		
Learner Unit Record Information System (LURITS 2021)		X		
Statistics South Africa Mid-year Population Estimates (MYPE)	X	X		
Thembisa 2022 (model 4.7) population estimates	X	X		
Population Census 2022	Not used due to data issues	Not used due to data issues		
UN World Population Prospects	X (for comparison)			

We describe each of these datasets in more detail below. Each has its strengths and weaknesses and must be used together to provide as full a picture of the ECD sector as possible.

3.1 2021 ECD Census

The 2021 Census of ECD programmes in South Africa is a facility-level dataset with a sample of about 42,000 registered and unregistered ECD centres in South Africa. This data provides information on child-to-practitioner ratios, ECD enrolment, and practitioner qualification and training. The data was collected between August 2021 and February 2022 and is representative at the provincial level. The unit of analysis is the ECD programme or ELP. Although this is referred to as a Census, it is well accepted that many ELPs were not captured in this ELP Census, especially since total enrolment across the 42,000 programmes is considered a significant underestimate of ELP enrolment.

3.2 ECD Baseline survey

The ECD Baseline Assessment surveyed 545 participating ELPs from the Thrive by Five Index survey and provided deeper insights into these ELPs. The Baseline Assessment survey data has information on the resources, operations, management, financing structures, infrastructure and human resources in various regions in South Africa. The sample was intended to be nationally representative but includes a higher percentage of formalised ELPs than the true national percentage.

The ECD Baseline Survey informed the questionnaire for the 2021 ECD Census, and as such, questions are highly comparable across data sources. The ECD Baseline Survey contains richer data on ELP characteristics, human resources, and the day-to-day functioning of ELPs relative to the 2021 ECD Census.

3.3 2022 Population Census and other population estimates

The 2022 Population Census of South Africa was accessed through the SuperCross website, which allows the Census data to be viewed and downloaded at the provincial and municipal levels. Unfortunately, individual-level data was not available at the time of writing. Since the 2022 Population Census missed about 31% of South Africans (Everatt, 2023), it is not a full population census. Population weights (post-enumeration survey weights) had to be created, but the post-enumeration process was insufficient to overcome the challenges introduced by a substantial undercount. We caveat up front that the demographic totals for children in the 2022 Population Census are currently highly problematic, necessitating alternate demographic analyses and alternate estimates of ECD attendance.[3]

Other data used to understand population dynamics in South Africa from 2021 to 2024 include the Thembisa Population Model[4] published by the University of Cape Town (Johnson & Dorrington, 2022), the UN World Population Prospects estimates (United Nations, 2022), and the Mid-year Population Estimates (MYPE) published by Statistics South Africa (Stats SA, 2022). These population models provide a longitudinal understanding of population dynamics and give important context for interpreting the 2022 Population Census child estimates.

3.4 Learner Unit Record Information Tracking System (LURITS)

The Learner Unit Record Tracking System (LURITS) forms part of the Electronic Management Information System (EMIS) of the Department of Basic Education. This data can be used to ascertain total enrolment by grade, age and province in ordinary schools, including both public and private schools. Anonymised LURITS data is available to the research team for this project from 2019 to 2021. Unfortunately, 2022 data was unavailable to the research team during analysis.

3.5 General Household Survey sample

The General Household Survey (GHS) is a nationally representative sample, typically between 60,000 and 75,000 people, with about 20,000 households enumerated. This survey, conducted by Statistics

3 In the data accessed, population weights are used to provide the number of people per province and municipality, but the weighting method is not reported. We identify population numbers for children aged 0-7 years old as enumerated by the Population Census, as well as the type of ECD facility attended by children aged 0-4 surveyed in the Population Census.

4 Model 4.7 is used.

South Africa, has been carried out annually since 2002. There was a halving of the sample size in 2020 and 2021 as the survey transitioned to a telephonic platform during COVID-19, with just 8,900 households in 2020 and 9,600 households interviewed in 2021 (see Table 2). However, this problem abated by 2022, although the 2022 response rate remains slightly below pre-COVID levels.

Table 2: GHS total sample size (all households or individuals), mode of data collection and response rates from 2018 to 2022

GHS sample	2018	2019	2020	2021	2022
Household Size	20 908	19 649	8 896	9 629	19 351
Individuals	71 137	68 986	34 370	35 265	66 144
Response rate	88.6%	87.2%	39.4%	40.1%	81.2%
Individuals aged <=6	9 718	9 256	4 410	4 284	8 365
mode of data collection	PAPI	CAPI	CATI*	CATI*	CAPI

Notes: *Based on the GHS 2019 sample. PAPI = paper and pen data collection, CAPI = Computer Assisted Personal Interviews. CATI = Computer Assisted Telephone Interviews. Response rates from General Household Survey Statistical Release reports for 2018 - 2021.

Historically, the GHS has been a key data source for tracking ECD enrolment, providing a helpful overview of historical trends in the demand for ECD services and access to ECD programmes.[5] The most recent GHS available when writing this report was for 2022.

The GHS question used in this report to identify educational participation for children aged 0-6 is "ECD1". Respondents are asked to indicate for each child in the household aged 0-6, "Which of the following does X currently attend?". Answer options are:

1. Grade R
2. Pre-school/nursery school/Grade 00/Grade 000
3. Creche / educare centre
4. Day mother/gogo
5. Home-based playgroup
6. School (Grade 1 or 2)
7. None
8. Do not know
9. Other

For this report, a child is considered enrolled in any form of education or care (whether in school or a non-school-based facility) if identified as being in categories one to six. For Grade R, it is not directly possible from this GHS 2022 question to distinguish if a child is in school or a non-school-based environment.[6] For this reason, LURITS numbers are used to distinguish the numbers of children aged 0-6 in school-based environments.

Since the GHS is a sample, there are limits to how far the GHS ECD estimates can be disaggregated.

5 The GHS is also designed to measure various aspects of household living conditions in South Africa, and asks questions related to several key indicators of service delivery, educational attainment, and consumption.
6 Although this issue has subsequently been resolved for the GHS 2023 with updates to the questionnaire.

Sample sizes by specific ages become very small when disaggregating to a provincial level, as seen in Table 3, resulting in large confidence intervals (the degree of precision around an average). In this report, at the provincial level, we provide ECD estimates for age groupings (e.g. 0-2, 3-4 and 5-6) rather than for specific ages to limit large confidence intervals[7]. Where estimates are obtained for just five-year-olds, the confidence intervals are large given the small sample sizes of children aged five.

Table 3: Sample sizes of young children in the GHS 2022, by province

Age	WC	EC	NC	FS	KZN	NW	GP	MP	LP	Total
0	82	145	62	70	178	82	242	97	152	**1 110**
1	83	158	56	69	226	65	233	120	168	**1 178**
2	86	171	51	60	215	84	255	124	192	**1 238**
3	93	160	58	70	225	69	283	112	172	**1 242**
4	87	169	64	74	237	84	220	118	172	**1 225**
Total 0-4	431	803	291	343	1081	384	1233	571	856	**5 993**
5	76	169	55	71	212	79	229	121	176	**1 188**
6	85	154	63	76	224	62	260	102	158	**1 184**
Total 5-6	161	323	118	147	436	141	489	223	334	**2 372**
Total 0-6	592	1126	409	490	1517	525	1722	794	1190	**8 365**

Source: GHS 2022, microdata. Own analysis.

3.6 Quarterly Labour Force Survey (QLFS) sample

The Quarterly Labour Force Survey (QLFS) is a nationally representative survey enumerated by Statistics South Africa every quarter. Approximately 20,000 households are interviewed each quarter, involving about 65,000 individuals, although the sample sizes were much smaller during COVID-19-affected years. To a limited extent, the QLFS can be used to establish a national overview of the qualifications and other characteristics of individuals working in pre-primary education or childcare. This is because South African occupational codes, classified up to the 4th level, are captured for all persons surveyed in the QLFS. The three occupation codes relevant to ECD-related work are reflected in Table 4.

Table 4: Occupational codes for ECD-related workers in the Quarterly Labour Force Survey and sample sizes

	Code	Sample sizes per quarter 2010 Q1- 2020 Q1
Pre-primary education teaching professionals	2332	0-40
Pre-primary education teaching associate professionals	3320	7-110
Child-care workers	5131	64-212
Total sample sizes of ECD-related workers per quarter		157-244

Source: QLFS microdata.

7 We have specifically chosen not to pool data across GHS years, for recent years, due to the reductions in ELP enrolment in 2020 and 2021.

In the analysis of ECD practitioner characteristics, we use QLFS data for quarters 1 and 2 in 2010, 2012, 2014 and 2016; all four quarters of QLFS data from 2018 and 2019 and quarter 1 of 2020. Since COVID-19, ECD practitioner estimates in the QLFS have diverged from previous years and are not used. Over the period 2010 to 2020, the ECD practitioner-related sample size ranges from 157 to 244 observations, comprising roughly 1% of 17,320 to 21,782 total observations in the QLFS with occupational codes (and thus employed individuals). Only national statistics, not provincial statistics, can be produced on ECD-related practitioner characteristics from the QLFS due to small sample sizes.

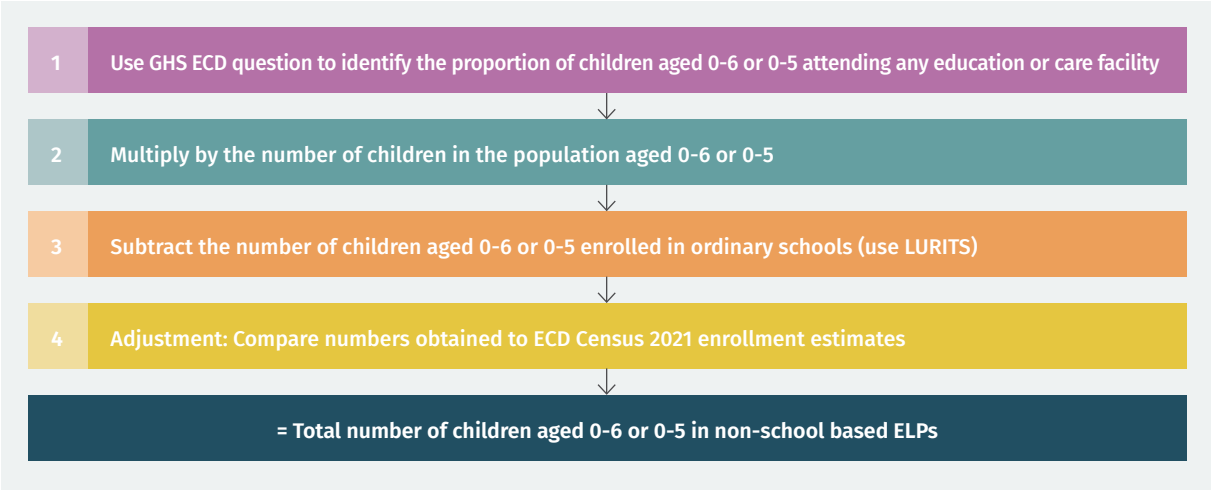
4. Identifying the size of the ECD sector

Understanding the size of the ECD sector, and specifically how current ELP enrolment compares to intentions for targeted coverage for early learning, requires knowing two things: first, the population of children in a country that are of a relevant age to attend early learning programmes; and second, the proportion of these children that are attending an early learning programme. In both cases, it is necessary to obtain estimates from surveys, or Censuses, noting that most Censuses do not reach a full population and, like surveys, are subject to measurement error. For these reasons, the "actual" number of children attending ELPs is unknown and at best we provide potential estimates of ELP enrolment. We outline the method for estimating ELP enrolment and document the various available child population estimates.

4.1 Method to establish ELP enrolment estimates

Establishing total enrolment in non-school-based early learning programmes involves four steps, as described in Figure 1.

Figure 1: Four steps to estimating the number of children enrolled in early learning programmes (ELPs)



1. First, we identify the proportion of children aged 0-6 (or 0-5) attending any form of education or care in school or non-school-based programmes using the ECD-related attendance question in the General Household Survey (GHS). This question detects participation in early learning programmes (including being in ECD centres, with childminders such as day mothers or 'gogos' and any in playgroups), or in Grade R (in an ELP or school) or school (Grade 1 or 2). We also refer to these proportions as participation ratios.
2. As a second step, we multiply these participation ratios by the number of children in the population aged 0-6 (or 0-5). We consider different population estimates to obtain upper and lower limits on numbers.

3. As a third step, after obtaining the total number of children attending any education or care facility, we subtract the total number of children aged 0-6 (or 0-5) enrolled in ordinary schools, relying on enrolment numbers in anonymised LURITS 2021 data. The remainder should reflect the number of children in non-school-based ELPs.

4. As a fourth step, the number of children aged 0-6 (or 0-5) in non-school-based ELPs is compared to the number of children aged 0-6 (or 0-5) in ELPs from the 2021 ECD Census. The 2021 ECD Census enrolment numbers of children are considered a lower bound estimate of ELP enrolment as ELP enrolment remained depressed in 2021 during COVID-19 disruptions and not all programmes were surveyed. If the calculated number of children aged 0-6 in non-school-based ELPs by province, identified in step three, is lower than the total number of children aged 0-6 enrolled by province in the ECD Census 2021, the ECD Census figure is preferred as the lower bound ELP enrolment estimate.

These four steps (i.e. drawing on multiple data sources) are required because we cannot directly identify the number of children in non-school-based ELPs from the 2022 GHS. The reason is that the GHS question on ECD until 2022 does not allow us to distinguish between Grade R enrolment in school-based and non-school-based environments.[8]

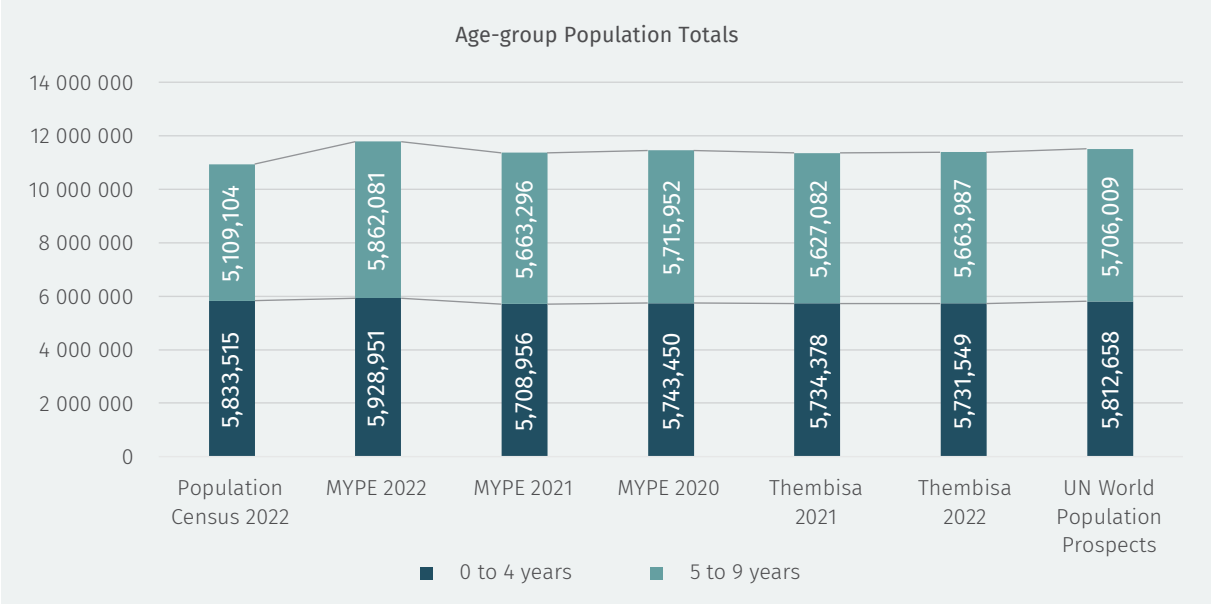
4.2 The child population of South Africa

Figure 2 shows the 0–4-year-old and 5-9-year-old age-group population totals from the Population Census, the Mid-Year Population Estimates (MYPE) 2020 to 2022 (Stats SA, 2022), the Thembisa Population Model for 2021 and 2022 (Johnson & Dorrington, 2022), and the UN World Population Prospects for South Africa in 2022 (United Nations, 2022). This figure illustrates that the population totals are comparable across datasets but that the Population Census 2022 (obtained from SuperCross) underestimates the number of children under the age of nine.

Figure 3 shows the population totals for each one-year age group for 0–7-year-olds as estimated by the 2022 Population Census, the Thembisa Population Model for 2022 to 2024, the UN World Population prospects for 2022, and the MYPE data[9]. The figure shows that the number of children estimated in each one-year age group in the 2022 Population Census is inconsistent with the Thembisa Population Model projections as well as the UN Population Prospects projections. While the 2022 Population Census numbers (from SuperCross) are closer to the 2022 UN Population Prospects project estimates relative to the 2022 Thembisa Project projections, the Population Census appears to overestimate the number of 0-, 1- and 2-year-olds and underestimates the number of 5-, 6- and 7-year-olds.

8 This has subsequently changed in 2023 where two categories of Grade R are now considered: in school vs. in a pre-primary school.
9 The MYPE were converted into one-year age brackets using the Sprague Statistical Tool.

Figure 2: Comparing age-group population totals from different sources of population data for 2020 – 2022.



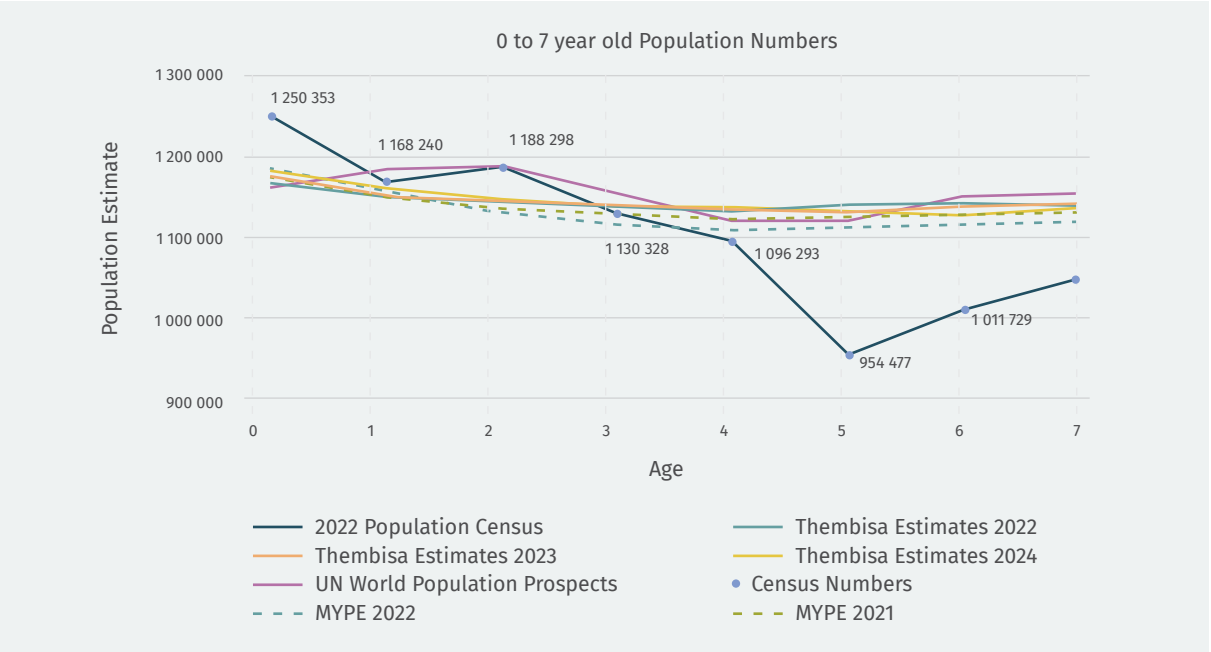
MYPE = mid-year population estimates from Statistics South Africa. Thembisa Model 4.7 estimates were used.

The very large drop-off in the estimates of 5-year-olds in the 2022 Population Census is highly improbable, suggesting either very high rates of infant mortality, which is not supported by other data (Bamford et al., 2018; Sustainable Development Solutions Network, 2023), or dramatic surges in fertility in 2020 to 2022 (again improbable). These very peculiar Population Census numbers in turn affect all estimates related to young children, including ECD attendance estimates.

The reason why the 2022 Population Census overcounts for 0-, 1- and 2-year-olds and underestimates the number of 5-, 6- and 7-year-olds is not reported in the official Census report at the time of writing.[10] The 2022 Population Census will therefore not be used, and the Thembisa Model 4.7 Population projections for 0–6-year-olds (or 0-5-year-olds) will be used as the main source of population numbers to model the estimated demand for ECD services (see Table 5). Thembisa 4.7 identifies about 8.0 million children aged 0-6 and 6.87 million children aged 0-5.

10 The discrepancy could be due to an issue with the sample weights used to estimate the number of children per province in the SuperCross website which was used to obtain the estimates in Figure 3. The discrepancies could also have been influenced by a high undercount in the Census where the post-enumeration survey process was not extensive enough to produce appropriate weights to calibrate the Census results.

Figure 3: South African child population numbers from different data sources.



Note: Thembisa Model 4.7 used.

Table 5: Population estimates of children aged 0-6 in 2022

	0. National	1. Western Cape	2. Eastern Cape	3. Northern Cape	4. Free State	5. KwaZu-lu-Natal	6. North West	7. Gauteng	8. Mpuma-langa	9. Limpopo
Thembisa 2022										
Aged 0-2	3 462 573	372 741	395 567	84 858	173 321	727 449	223 653	808 534	308 333	518 741
Aged 3-4	2 268 976	235 550	265 441	54 410	115 604	473 643	145 748	532 655	194 644	345 178
Aged 5-6	2 282 471	231 991	266 710	52 593	115 209	460 641	145 707	521 631	186 831	346 670
Aged 0-6	8 014 020	840 282	927718	191862	404 133	1 661 733	515 107	1 862 820	689 808	1 210 589
Age 5	1 139 973	114 522	131 840	26 372	57 514	229 095	72 375	259 722	93 375	173 170
Aged 0-5	6 871 522	722 813	792 847	165 641	346 439	1 430 187	441 776	1 600 911	596 351	1 037 089
MYPE 2022										
Aged 0-6	7 914 977									
Aged 0-5	6 802 800									

Notes: The Sprague tool released with the MYPE 2016 estimates was used to identify the number of children aged 5 and 6 from the total aged 5-9.

4.3 Child enrolment in ELPs in 2022

In this section, we systematically outline the process of obtaining estimates of ELP enrolment in South Africa using the four-step method outlined in Figure 1. We outline this process initially with the underlying population of interest being children aged 0-6 but then repeat this for children aged 0-5. The ELP enrolment numbers for children aged 0-6 indicate the size of the ELP sector (which determines practitioner resourcing requirements). The ELP enrolment numbers for children aged 0-5 are within the policy range of focus.

4.3.1 Participation of children aged 0-6 in any education or care

Step one: *Identify participation ratios*

On average, 52% of children aged 0-6 attended some form of education or care in school or non-school-based environments (i.e. early learning programmes, Grade R or school) in 2022 according to the GHS.[11] Of children aged 5-6, around 93% are participating in some form of education, but this estimate is lower at 59% for children aged 3-4 and just 20% for children aged 0-2. If we limit the sample of interest to children aged 0-5 years, then 45% were attending any form of education or care in school or non-school-based environments (see Table 6).

Participation ratios for children aged 0-6 are highest in the Free State (61%), the Western Cape (59%), and Limpopo (58%) but are lowest in KwaZulu-Natal (45%) and the North West (44%).

Table 6: Participation ratios in 2022: Proportion of children aged 0-2, 3-4, 5-6 or 0-6 attending any form of education or care in school or non-school based environments (i.e. Early Learning Programmes, Grade R or school)

	Participation ratios									
Aged 0-2	**National**	**WC**	**EC**	**NC**	**FS**	**KZN**	**NW**	**GP**	**MP**	**LP**
Mean	0.20	0.33	0.14	0.21	0.24	0.11	0.12	0.25	0.12	0.29
std. err.	0.01	0.04	0.02	0.05	0.04	0.02	0.02	0.02	0.02	0.03
95% Lower CI	0.18	0.25	0.11	0.11	0.16	0.08	0.07	0.21	0.08	0.23
95% Upper CI	0.22	0.40	0.18	0.31	0.32	0.15	0.16	0.29	0.16	0.34
Aged 3-4										
Mean	0.59	0.67	0.57	0.53	0.77	0.51	0.47	0.61	0.56	0.67
std. err.	0.01	0.04	0.04	0.06	0.04	0.03	0.04	0.03	0.04	0.03
95% Lower CI	0.56	0.58	0.50	0.42	0.69	0.44	0.39	0.56	0.47	0.61
95% Upper CI	0.62	0.75	0.64	0.65	0.85	0.57	0.56	0.67	0.64	0.74
Aged 5-6										
Mean	0.93	0.92	0.94	0.87	0.93	0.89	0.93	0.93	0.96	0.97
std. err.	0.01	0.02	0.01	0.04	0.02	0.02	0.03	0.02	0.01	0.01
95% Lower CI	0.91	0.88	0.91	0.79	0.89	0.85	0.88	0.90	0.93	0.95
95% Upper CI	0.94	0.97	0.97	0.95	0.98	0.93	0.98	0.96	0.98	0.99
Aged 0-6										
Mean	0.52	0.59	0.49	0.49	0.61	0.45	0.44	0.55	0.49	0.58
Std. err.	0.01	0.02	0.02	0.03	0.02	0.01	0.02	0.01	0.02	0.02
Lower 95% CI	0.50	0.54	0.46	0.44	0.56	0.42	0.39	0.52	0.45	0.55
Upper 95% CI	0.53	0.63	0.52	0.55	0.66	0.48	0.48	0.58	0.52	0.61
Aged 0-5										
Mean	0.45	0.52	0.41	0.42	0.54	0.38	0.37	0.49	0.41	0.52
Std. err.	0.01	0.03	0.02	0.04	0.03	0.02	0.02	0.02	0.02	0.02

(continues on next page)

11 Drawing on question ECD1 "Which of the following does X currently attend" from the GHS 2022 questionnaire.

	Participation ratios									
Lower 95% CI	0.43	0.47	0.38	0.33	0.48	0.34	0.32	0.45	0.36	0.48
Upper 95% CI	0.47	0.58	0.45	0.50	0.61	0.42	0.42	0.52	0.46	0.57

Source: Micro-data from GHS 2022 ECD module question. Std. err. = standard error. The 95% confidence interval is a reminder that there can be a wide range around an average when samples are used to obtain estimates.

Step two: *Numbers participating in any education or care*

Multiplying the proportions in Table 6 by population estimates of children, we obtain the number of children aged 0-2, 3-4, 5-6 and 0-6 attending any form of education or care in school or non-school-based environments (i.e. any early learning programme, Grade R or school).

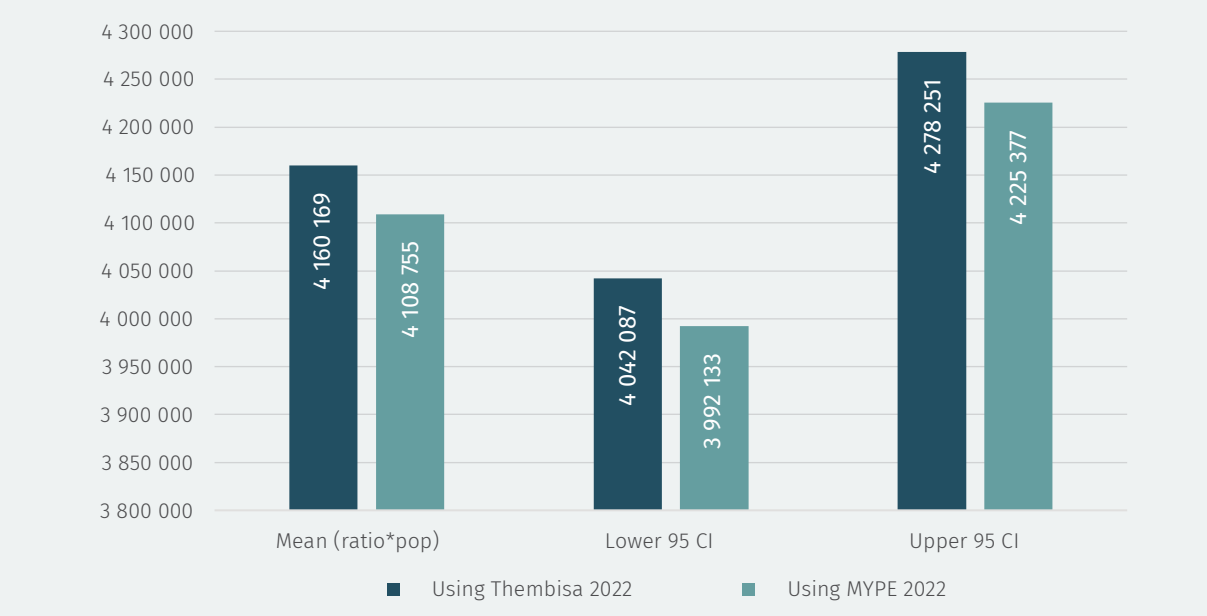
The number of children aged 0-6 attending school or non-school-based education or care environments is around 4.15 million if the Thembisa 2022 or 2022 Mid-Year Population Estimates are used. Considering the 95% confidence intervals associated with the GHS participation ratios, the number of children nationally aged 0-6 attending any school or non-school-based education or care environment ranges between 3.99 million and 4.28 million (see Figure 4).

Table 7: Number of children aged 0-2, 3-4, 5-6 or 0-6 attending any form of education or care in school or non-school-based environments (any early learning programme, Grade R or school), 2022

	Numbers = Participation ratios X Population numbers									
Aged 0-2	**National**	**WC**	**EC**	**NC**	**FS**	**KZN**	**NW**	**GP**	**MP**	**LP**
Mean	695497	121459	56336	18076	41505	83014	25877	204905	36103	148201
95% Lower CI	635159	94550	41992	9685	27708	59553	14929	172205	23505	119509
95% Upper CI	755835	148368	70681	26466	55302	106476	36825	237604	48700	176892
Aged 3-4										
Mean	1339570	157022	151261	28984	88816	239383	69098	327033	108177	232683
95% Lower CI	1281674	137751	132123	22766	79552	208579	56851	298137	91618	211643
95% Upper CI	1405778	173630	171214	34027	97745	262770	81322	348563	119729	254820
Aged 5-6										
Mean	2115819	213693	250107	45833	107659	408692	135475	483941	178529	336797
95% Lower CI	2084967	203079	242299	41560	102963	391148	128231	466967	173099	330203
95% Upper CI	2146672	224306	257914	50107	112355	426236	142720	500915	183959	343391
Total 0-6	**4150886**	**492174**	**457704**	**92893**	**237980**	**731090**	**230450**	**1015879**	**322809**	**717681**

Source: Micro-data from GHS 2022 ECD module question, multiplied by Thembisa 2022 population estimates.
CI = confidence interval.

Figure 4: National number of children aged 0-6 attending any form of education or care in school or non-school based environments (any early learning programme, Grade R or school); national participation ratios (GHS) applied to different population estimates of children aged 0-6, 2022



Source: Micro-data from GHS 2022 ECD module question, multiplied by Thembisa 2022 (Model 4.7) or 2022 MYPE from Statistics South Africa. The Sprague tool released with 2016 MYPE estimates was used to identify children aged 5 and 6 from the MYPE population of children aged 5-9 to add to the estimate of children aged 0-4. CI = confidence interval.

4.3.2 Enrolment of children aged 0-6 in non-school-based ELPs

Step three: *Subtract enrolments of children in ordinary schools*

To obtain estimates of the number of children aged 0-6 attending ELPs (i.e. non-school-based), we subtract the total number of children aged 0-6 in ordinary schools (as per 2021 LURITS data) in Table 8 from the estimates in Table 7. In 2021, 1.62 million children aged 0-6 were enrolled in ordinary schools.[12] Of the 3.9 to 4.1 million children aged 0-6 in some form of education or care environment (ELP, grade R or school), roughly 39% were in school-based environments.

Table 8: Number of children aged 0-2, 3-4, 5-6 and 0-6 in ordinary schools, anonymised LURITS 2021

LURITS 2021	National	WC	EC	NC	FS	KZN	NW	GP	MP	LP
aged 0-2	984	2	55	39	108	154	11	521	39	55
aged 3-4	29169	1731	7511	444	2341	6264	1394	6210	1182	2092
aged 5-6	1591781	124021	217833	32170	75933	366073	100799	292847	134956	247149
Total aged 0-6	**1621934**	**125754**	**225399**	**32653**	**78382**	**372491**	**102204**	**299578**	**136177**	**249296**
Aged 5	646388	36656	92008	10617	28441	162853	41324	103948	56358	114183
Aged 6	945393	87365	125825	21553	47492	203220	59475	188899	78598	132966

Notes: LURITS enrolment totals for each age group by province are quite stable for 2019, 2020 and 2021.

12 LURITS data for 2022 was not available to the authors at the time of writing this report. It is expected, however, that the 2021 and 2022 estimates are not going to be substantively different to fundamentally effect the overall estimates of ELP enrolment.

Box 2: How we have dealt with attendance at day mothers or 'gogos' in estimating ELP enrolment

There is considerable variation in how different studies treat attendance at a day mother or 'gogo'. Some studies exclude attendance at these types of childminders because of the informal nature of some of these services and the lower (or no) fees charged. In this report, we have included attendance at day mothers, gogo or childminders. One of the main reasons for this is that it is not clear that the answer options on the ECD question in the GHS are perceived as distinct categories. There is a lack of clarity on these delineations across programme types. Can one really distinguish between a very small creche or home-based play group or the services of a day mother? Nevertheless, we do consider how many children are likely to be attending these types of services. As can be seen below, about 3.16% of children aged 0-6 are attending a day mother/gogo. That equates to about 253,000 children or almost ten per cent of the total percentage (32%) of children aged 0-6 that are enrolled in an ELP. The confidence intervals tend to be quite wide on this day-mother estimate so that between 208,000 and 298,000 children aged 0-6 could be cared for by day mothers or 'gogos' during the day.

Participation ratios in 2022: Percentage of children aged 0-2, 3-4, 5-6 or 0-6 attending any form of education or care in school or non-school-based environments (i.e. early learning programmes, Grade R or school) by type of facility attended

	Age 0-2 (%)	Age 3-4 (%)	Age 5-6 (%)	Age 0-6 (%)
Grade R	0.27	5.06	40.39	12.92
	(0.09)	(0.52)	(1.19)	(0.42)
Preschool / nursery	2.34	9.91	8.12	6.19
Grade 00/ Grade 000	(0.35)	(0.80)	(0.69)	(0.36)
Creche / educare centre	11.65	41.07	12.22	20.48
	(0.64)	(1.27)	(0.80)	(0.58)
Day mother / gogo	5.53	2.27	0.49	3.16
	(0.56)	(0.35)	(0.17)	(0.29)
Home-based playgroup	0.18	0.14	0.04	0.13
	(0.09)	(0.09)	(0.04)	(0.06)
School (Grade 1 or 2)	0.11	0.55	31.44	9.02
	(0.05)	(0.15)	(1.10)	(0.34)
Other	2.00	0.99	0.32	1.23
	(0.38)	(0.23)	(0.11)	(0.22)
Not enrolled (None)	77.89	39.95	6.98	46.84
	(0.95)	(1.30)	(0.67)	(0.76)
Don't know	0.03	0.05	0.00	0.03
	(0.03)	(0.05)	(0.00)	(0.02)
Missing	0.03	0.05	0.00	0.03
	(0.03)	(0.05)	(0.00)	(0.02)
Total	100%	100%	100%	100%

Source: GHS, 2022. Weighted. Own calculations. Standard errors are in parentheses.

Step four: *Upward adjustments using the 2021 ECD Census numbers*

The number of children identified as enrolled in the ECD 2021 Census is likely to provide a lower bound estimate of ELP enrolment. It provides a useful check of the validity of the calculated ELP enrolment numbers. In just one province, namely KwaZulu-Natal (KZN), the number of children aged 5-6 identified as being in ELPs, using the three-step method above, is lower (at 42,000) than the number of 5-6-year-olds enrolled in KZN ELPs in the 2021 ECD Census (at 55,550). We use the ECD Census 2021 numbers for 5-6-year-olds for KZN instead. After this adjustment, we obtain our final estimates of ELP enrolment.

Table 9: Total number of children aged 5-6 enrolled in the ECD Census 2021

	National	WC	EC	NC	FS	KZN	NW	GP	MP	LP
Total enrolled aged 5-6	377 635	36 608	27 024	8 291	19 588	55 550	21 142	80 313	25 411	36 448

Data Source: ECD Census 2021. Notes: Totals are obtained for children who are in non-school-based ELPs.

The estimates we obtained on the number of children aged 0-6 attending non-school-based ELPs in 2022 are shown in Table 10 and graphically represented in Figures 5 and 6.

Table 10: Number of children aged 0-6 attending an ELP using the four-step method, 2022

	National	WC	EC	NC	FS	KZN	NW	GP	MP	LP
Aged 0-2										
Mean	694 513	121 457	56 281	18 037	41 397	82 860	25 866	204 384	36 064	148 146
95% Lower CI	634 175	94 548	41 937	9 646	27 600	59 399	14 918	171 684	23 466	119 454
95% Upper CI	754 851	148 366	70 626	26 427	55 194	106 322	36 814	237 083	48 661	176 837
Aged 3-4										
Mean	1 310 401	155 291	143 750	28 540	86 475	233 119	67 704	320 823	106 995	230 591
95% Lower CI	1 252 505	136 020	124 612	22 322	77 211	202 315	55 457	291 927	90 436	209 551
95% Upper CI	1 376 609	171 899	163 703	33 583	95 404	256 506	79 928	342 353	118 547	252 728
Aged 5-6										
Mean	581 877	89 672	32 274	13 663	31 726	55 550	34 676	191 094	43 573	89 648
95% Lower CI	487 770	79 058	24 466	9 390	27 030	25 075	27 432	174 120	38 143	83 054
95% Upper CI	650 122	100 285	40 081	17 937	36 422	60 163	41 921	208 068	49 003	96 242
TOTAL aged 0-6	**2 586 791**	**366 420**	**232 305**	**60 240**	**159 598**	**371 530**	**128 246**	**716 301**	**186 632**	**468 385**
Provincial shares	1.000	0.142	0.090	0.023	0.062	0.144	0.050	0.277	0.072	0.181

Source: Micro-data from GHS 2022 ECD module question, multiplied by Thembisa 2022 population estimates. ELPs may include centres (preschool, nursery or educare centres which may also offer Grade R), day mothers/gogos and playgroups.

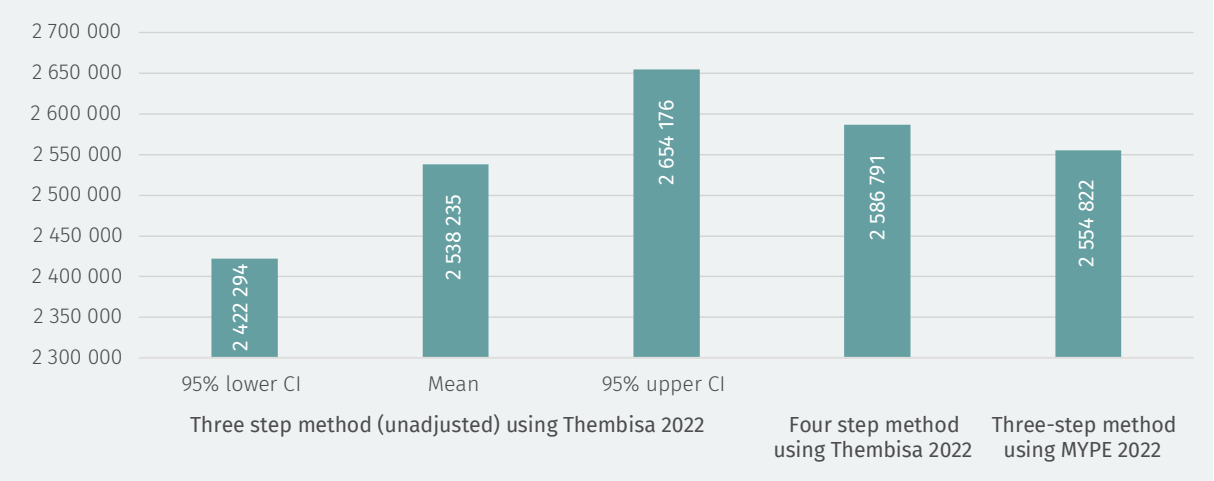
We find that about 2.59 million children aged 0-6 attended non-school-based ELPs nationally. To clarify, ELPs may include centres, day mothers, playgroups or attendance in Grade R at an ELP. However, cognisant of the range of population estimates available and the confidence intervals

associated with sample averages, this number could lie anywhere between 2.42 million and 2.65 million children, as seen in Figure 5. Since very few children older than 6 years attend ELPs, these estimates closely reflect the size of the ELP sector in South Africa and form the basis for understanding the current supply of ECD practitioners in the country.

Attendance at day mothers or 'gogos' is included in these ELP enrolment estimates. As reflected in Box 2, about 3.16% of children aged 0-6 attend a day mother or gogo. That equates to about 253,000 children or almost 10% of the total percentage (32%) of children aged 0-6 enrolled in an ELP.

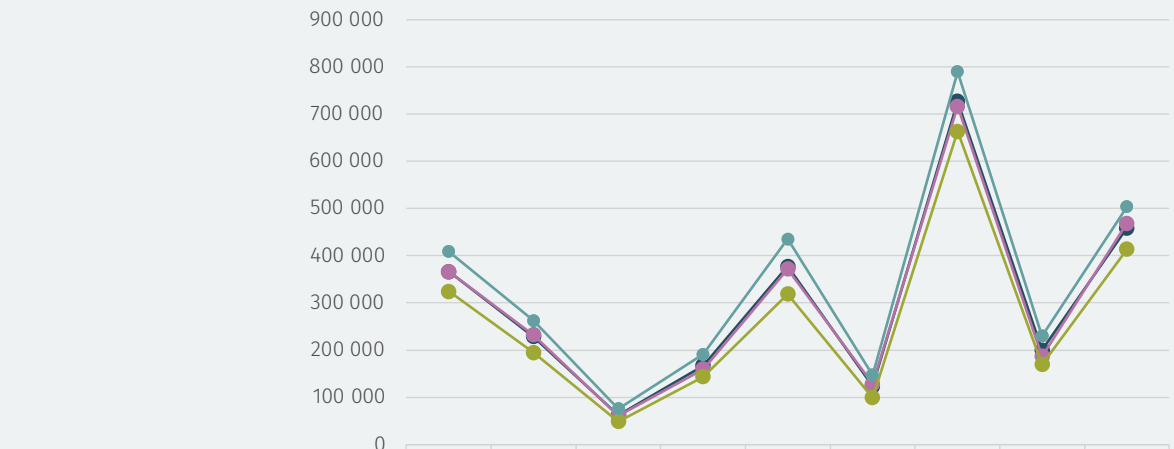
The provincial numbers of children attending non-school-based ELPs are illustrated in Figure 6. Absolute ELP enrolment is by far the highest in Gauteng province, with nearly 720,000 children attending ELPs. Expressed as a share of all children aged 0-6 enrolled in ELPs, almost 28% are in Gauteng (see Figure 7).

Figure 5: National estimates of the number of children aged 0-6 attending an ELP (i.e. non-school-based), 2022



Notes: ELPs may include centres (preschool, nursery or educare centres which may also offer Grade R), day mothers/gogos and playgroups.

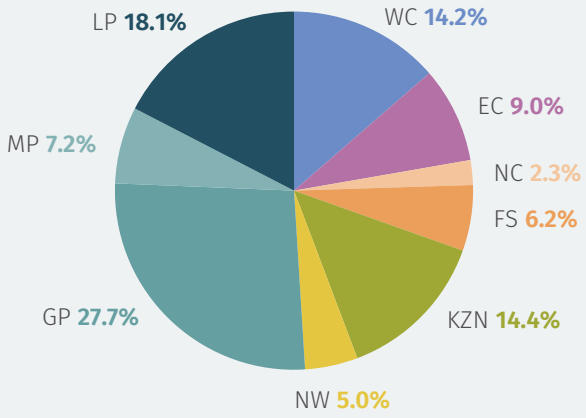
Figure 6: Provincial numbers of children aged 0-6 attending an ELP (i.e. non-school-based), 2022



	WC	EC	NC	FS	KZN	NW	GP	MP	LP
3 Step - Unadjusted upwards (mean)	366 490	228 660	62 265	167 294	377 079	123 279	726 743	199 601	458 696
4 steps - adjusted upwards using ECD Census 2021	366 420	232 305	60 240	159 598	371 530	128 246	716 301	186 632	468 385
3 Step - unadjusted (lower 95%)	324 399	194 628	48 670	143 336	318 784	99 092	663 451	169 341	413 894
3 step - unadjusted (upper 95%)	408 581	262 692	75 861	191 253	435 374	147 465	790 035	229 861	503 499

Notes: ELPs may include centres (preschool, nursery or educare centres which may also offer Grade R), day mothers/gogos and playgroups.

Figure 7: Provincial shares of the total number of children aged 0-6 attending an ELP, 2022



Notes: Shares are based on the mean estimates in Table 10.

Proportion of children aged 0-6 in ELPs

Expressing the enrolment numbers in Table 10 as a proportion of the total population of children of specific ages, we generate Table 11. Roughly 32% of all children aged 0-6 were in an ELP in 2022. These estimates are 20% for children aged 0-2, 58% for children aged 3-4 and 25% for children aged 5-6.[13] However, it is noted that when accounting for enrolment in Grade R or the foundation phase in schools, the proportion of 5-6-year-olds enrolled is as high as 93%.

13 Compared to the proportion of children nationally aged 5-6 identified as being in "pre-school" in the Quarterly Labour Force Survey, 25% is in line with the lower and upper bound confidence intervals of 26% and 28% from the QLFS.

For provincial populations of children aged 0-6, ELP enrolment ratios are highest in the Western Cape (44%), Free State (39%), Limpopo (39%) and Gauteng (38%) but are lowest in KwaZulu-Natal (22%). We note that when looking at the QLFS, the identified proportions of children aged 0-6 enrolled in ELPs in the Eastern Cape and KwaZulu-Natal may be underestimated.

Table 11: Proportion of children aged 0-6 attending an ELP (i.e. non-school-based) based on the four-step method, 2022

	National	WC	EC	NC	FS	KZN	NW	GP	MP	LP
Aged 0-2										
Mean	0.20	0.33	0.14	0.21	0.24	0.11	0.12	0.25	0.12	0.29
95% Lower CI	0.18	0.25	0.11	0.11	0.16	0.08	0.07	0.21	0.08	0.23
95% Upper CI	0.22	0.40	0.18	0.31	0.32	0.15	0.16	0.29	0.16	0.34
Aged 3-4										
Mean	0.58	0.66	0.54	0.52	0.75	0.49	0.46	0.60	0.55	0.67
95% Lower CI	0.55	0.58	0.47	0.41	0.67	0.43	0.38	0.55	0.46	0.61
95% Upper CI	0.61	0.73	0.62	0.62	0.83	0.54	0.55	0.64	0.61	0.73
Aged 5-6										
Mean	0.25	0.39	0.12	0.26	0.28	0.12	0.24	0.37	0.23	0.26
95% Lower CI	0.21	0.34	0.09	0.18	0.23	0.05	0.19	0.33	0.20	0.24
95% Upper CI	0.28	0.43	0.15	0.34	0.32	0.13	0.29	0.40	0.26	0.28
Aged 0-6	**0.32**	**0.44**	**0.25**	**0.31**	**0.39**	**0.22**	**0.25**	**0.38**	**0.27**	**0.39**

Notes: ELPs may include centres (preschool, nursery or educare centres which may also offer Grade R), day mothers/gogos and playgroups.

4.4 Enrolment of children aged 0-5 in non-school-based ELPs

Although a significant number of 6-year-olds are attending ELPs, ECD policy focuses on children aged 0-5. Applying the same four-step process, we also estimate ELP enrolment among children aged 0-5.

The estimated total number of children aged 0-5 in ELPs is reflected in Table 12. Nationally, there are roughly 2.41 million children aged 0-5 in ELPs, representing about 35% of all children aged 0-5. Comparatively, about 3.05 million or 45% of children aged 0-5 are enrolled in non-school-based or school-based education or care, as seen in Table 6.

Proportions attending an ELP by age group are 20% of 0-2-year-olds, 58% of 3-4-year-olds and about 36% of 5-year-olds (although there is a wide confidence interval of 31-40% on that estimate).

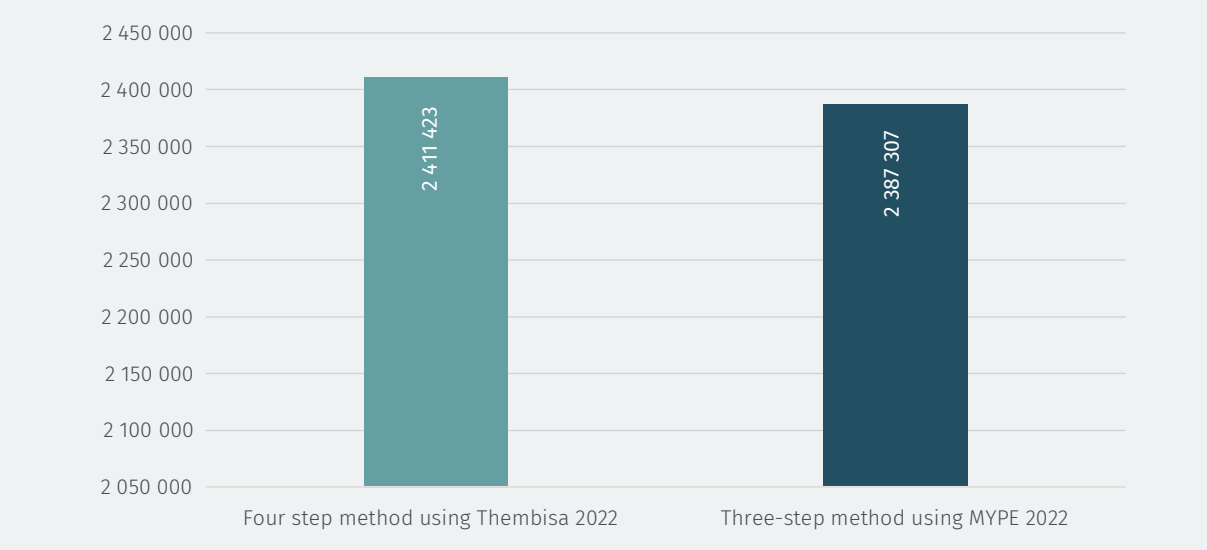
Enrolment in ELPs as a proportion of the provincial population of children aged 0-5 is highest in the Western Cape (47%), Free State (43%), Gauteng (41%) and Limpopo (41%), and lowest in KwaZulu-Natal (25%).

Table 12: Number and proportion of children aged 0-5 attending an ELP using the four-step method, 2022

Numbers	National	WC	EC	NC	FS	KZN	NW	GP	MP	LP
Aged 0-2										
Mean	694513	121457	56281	18037	41397	82860	25866	204384	36064	148146
95% Lower CI	634175	94548	41937	9646	27600	59399	14918	171684	23466	119454
95% Upper CI	754851	148366	70626	26427	55194	106322	36814	237083	48661	176837
Aged 3-4										
Mean	1310401	155291	143750	28540	86475	233119	67704	320823	106995	230591
95% Lower CI	1252505	136020	124612	22322	77211	202315	55457	291927	90436	209551
95% Upper CI	1376609	171899	163703	33583	95404	256506	79928	342353	118547	252728
Aged 5										
Mean	406509	59933	25318	10683	22614	46654	24800	134275	31054	51178
95% Lower CI	357734	49580	23620	7155	17941	46654	19496	121536	26377	45374
95% Upper CI	460563	70286	32147	14358	27287	46654	30103	147014	35731	56982
Total aged 0-5	**2411423**	**336681**	**225349**	**57260**	**150486**	**362634**	**118369**	**659482**	**174113**	**429915**
Proportions	**National**	**WC**	**EC**	**NC**	**FS**	**KZN**	**NW**	**GP**	**MP**	**LP**
Aged 0-2										
Mean	0.20	0.33	0.14	0.21	0.24	0.11	0.12	0.25	0.12	0.29
95% Lower CI	0.18	0.25	0.11	0.11	0.16	0.08	0.07	0.21	0.08	0.23
95% Upper CI	0.22	0.40	0.18	0.31	0.32	0.15	0.16	0.29	0.16	0.34
Aged 3-4										
Mean	0.58	0.66	0.54	0.52	0.75	0.49	0.46	0.60	0.55	0.67
95% Lower CI	0.55	0.58	0.47	0.41	0.67	0.43	0.38	0.55	0.46	0.61
95% Upper CI	0.60	0.74	0.61	0.64	0.83	0.56	0.55	0.66	0.63	0.73
Aged 5										
Mean	0.36	0.52	0.19	0.41	0.39	0.20	0.34	0.52	0.33	0.30
95% Lower CI	0.31	0.43	0.18	0.27	0.31	0.20	0.27	0.47	0.28	0.26
95% Upper CI	0.40	0.61	0.24	0.54	0.47	0.20	0.42	0.57	0.38	0.33
Total aged 0-5	**0.35**	**0.47**	**0.28**	**0.35**	**0.43**	**0.25**	**0.27**	**0.41**	**0.29**	**0.41**

Notes: ELPs may include centres (preschool, nursery or educare centres which may also offer Grade R), day mothers/gogos and playgroups.

Figure 8: National estimates of the numbers of children aged 0-5 attending an ELP (i.e. non-school-based), 2022



Notes: ELPs may include centres (preschool, nursery or educare centres which may also offer Grade R), day mothers/'gogos' and playgroups.

4.5 Size of the gap to meet the ELP enrolment targets in the 2030 ECD strategy

The 2030 ECD Strategy envisages target ratios for participation in any education or care (school or non-school-based) for children aged 0-5 as described in Table 13, with a target of 30% for children aged 0-2, 70% for children aged three, 85% for children aged four, and 95% for children aged five. While not specified in the Strategy, we expect this target to be close to 100% for children aged six. Assuming that of all children enrolled in any education or care, the current share in non-school-based ELPs rather than school environments is ideal (as seen in Table A1 in the appendix) and will remain constant over time, then we can estimate targeted ELP enrollment numbers for children aged 0-6.

Table 13: ECD Strategy 2030 coverage targets for ECCE access

	Targeted participation in any education or care environment
Age 0 to 2	30%
Age 3	70%
Age 4	85%
Age 5	95%
Age 6 (added)	100%

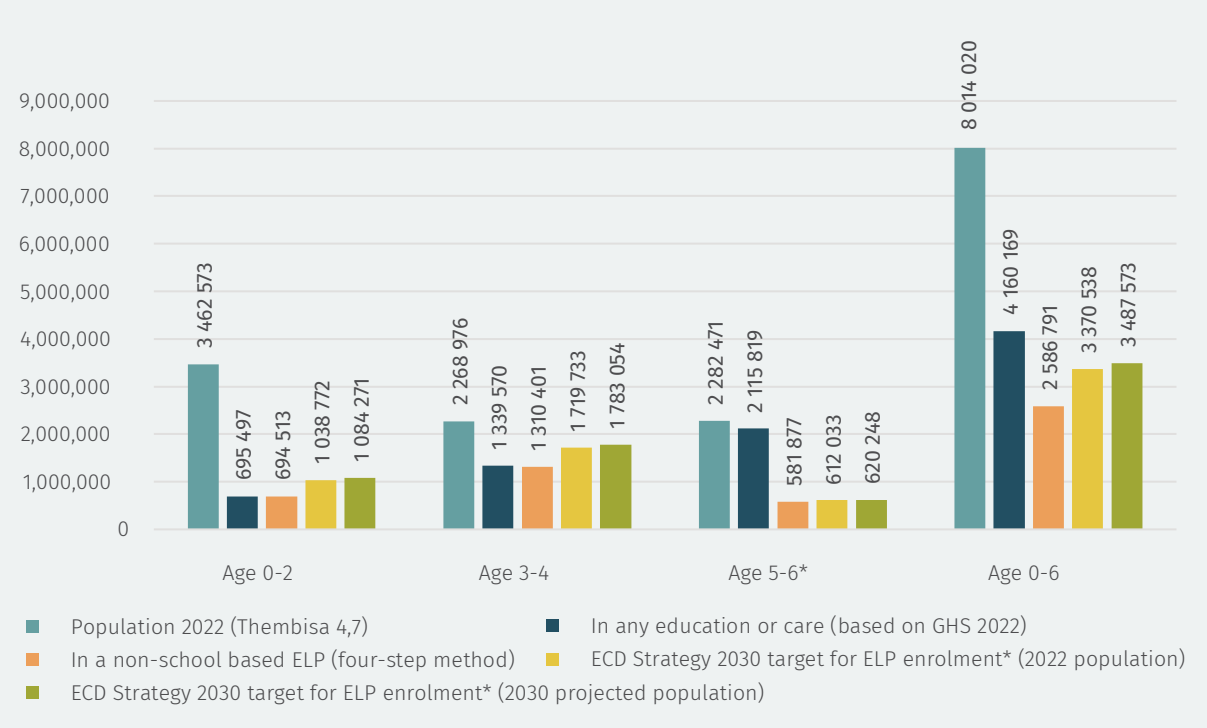
4.5.1 Gaps towards meeting targeted ELP enrolment among children aged 0-6

Based on 2022 Thembisa (model 4.7) population estimates, Figure 9 displays targeted enrolment for children aged 0-6 in ELPs and juxtaposes this against the population of children aged 0-6, the numbers of children aged 0-6 participating in any form of education or care, and in non-school-based ELPs.

Assuming a constant 2022 population over time, the current ELP enrolment of 2.59 million children aged 0-6 would need to expand by about 784,000 more children aged 0-6 to reach a target of 3.37 million children aged 0-6 in ELPs. This means raising the proportion of 0-6-year-olds enrolled in ELPs from 32% to 42%. With some projected population growth to 2030, enrolment expansion in ELPs would have to be even greater at about 901,000 more children.

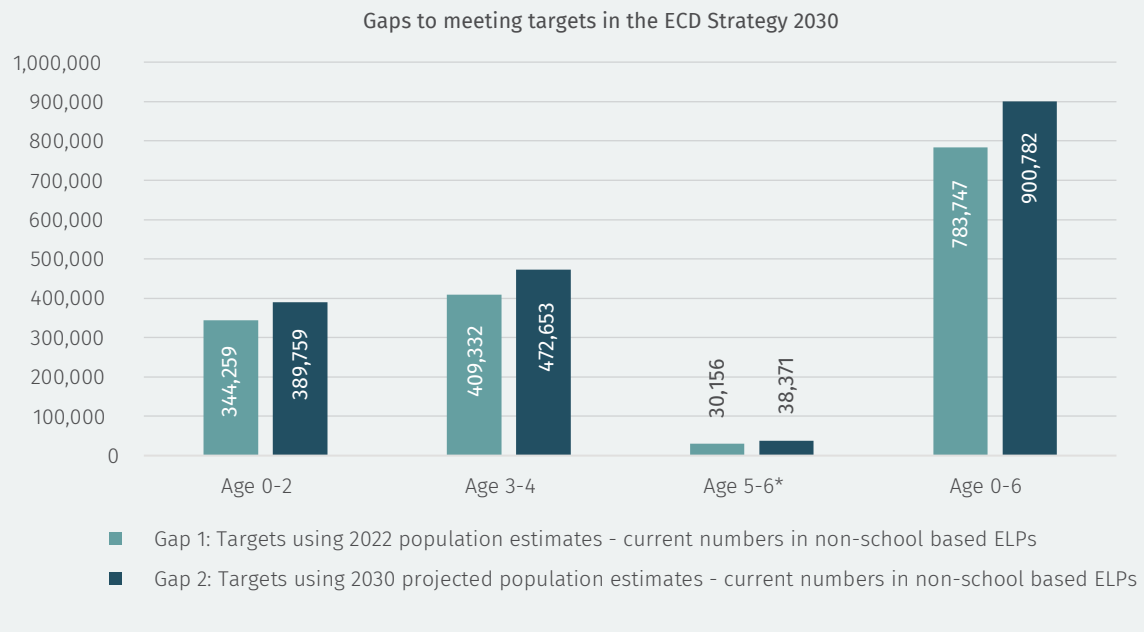
The largest gaps relative to envisaged targets for ELP enrolment are for children aged 0-2 (a gap of 344,000 children) and children aged 3-4 (a gap of 409,000 children) if a constant 2022 population is assumed. Targets for 5- and 6-year-olds have almost been met, as seen in the very small gaps between targeted and current enrolment for this age group (see Figure 10).

Figure 9: Numbers of children aged 0-6 in the i) population, ii) in any education or care, iii) in non-school based ELPs vs. the ECD 2030 strategy targets for ELP enrolment



Notes: ELPs may include centres (preschool, nursery or educare centres which may also offer Grade R), day mothers/gogos and playgroups. Estimates based on Thembisa (4,7) 2022 estimates.

Figure 10: ELP enrolment gaps for children aged 0-6 to meet targets in the ECD Strategy 2030



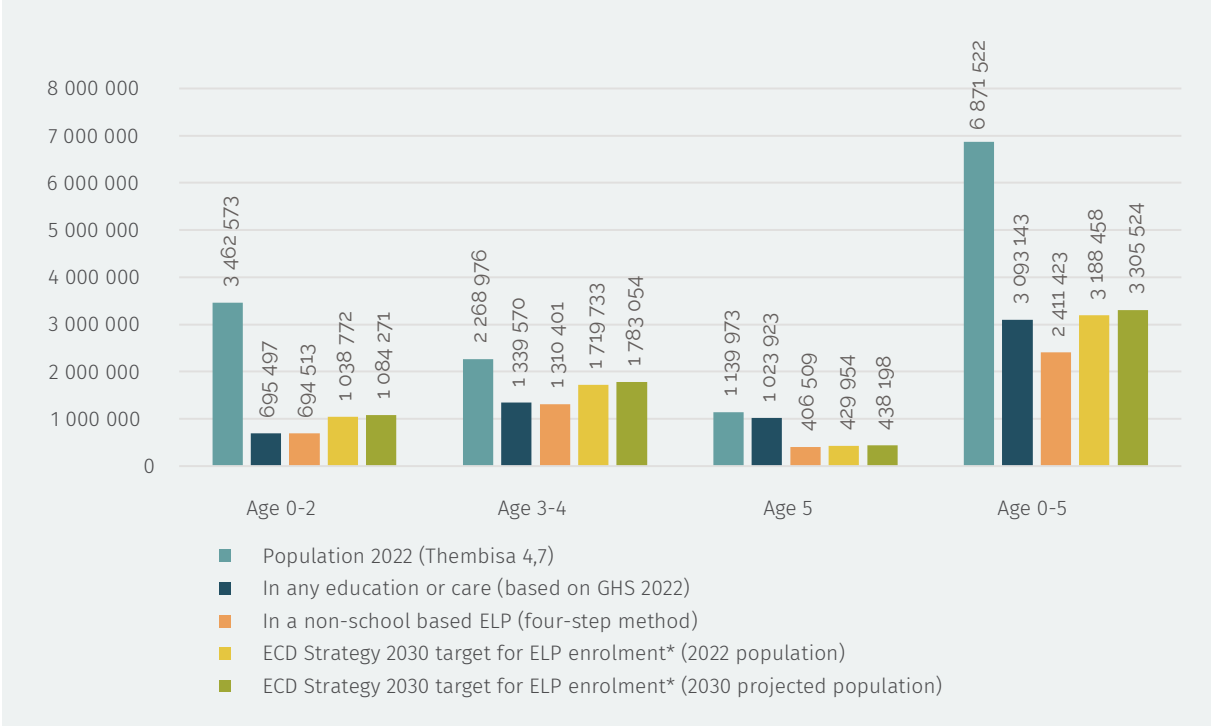
4.5.2 Gaps towards meeting targeted ELP enrolment for children aged 0-5

We repeat the process in section 4.6 but instead use the underlying population of children aged 0-5 rather than 0-6. We do this to align with policy planning processes concerned with ELP access for children aged 0-5.

Applying the 2030 ELP Strategy targets to 2022 population numbers of children aged 0-5, we estimate that targeted enrolment for 0-5-year-olds is 3.19 million, as seen in Figure 11. This means raising the proportion of children aged 0-5 in ELPS from 35% to 46%.

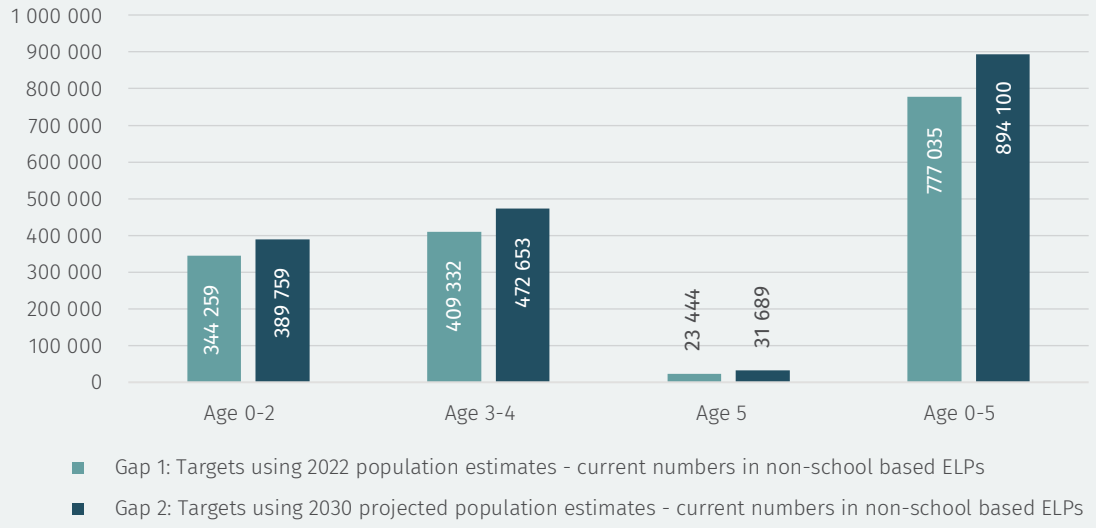
If we use population projections to 2030 for children aged 0-5, targeted enrolment at ELPs would be 3.3 million. Relative to the 2.41 million children aged 0-5 in ELPs, enrolment in ELPs will need to increase between 777,000 and 894,000 to reach the 2030 ECD strategy targets, as seen in Figure 12.

Figure 11: Numbers of children aged 0-5 in the i) population, ii) in any education or care, iii) in non-school based ELPs vs. the ECD 2030 strategy targets for ELP enrolment



Notes: ELPs may include centres (preschool, nursery or educare centres which may also offer Grade R), day mothers/gogos and playgroups. Estimates are based on Thembisa (4,7) 2022 estimates.

Figure 12: ELP enrolment gaps for children aged 0-5 to meet targets in the ECD Strategy 2030



5. Current ECD practitioner workforce and qualifications

Having identified the size of the ECD system and an estimate of the number of children enrolled in ELPs, we now move to derive an estimate of the current ECD practitioner workforce.

5.1 Method for estimating the current number of ECD practitioners in the ECD sector

The current ECD workforce can be estimated by multiplying ELP enrolment by the inverse of child-to-practitioner ratios. In the 2021 ECD Census, the ECD workforce comprises practitioners, assistant practitioners, managerial staff and support staff. At times, in addition to practitioners, assistant practitioners and managerial staff may be involved in teaching. The different categories of employees in the ECD workforce are discussed below.

Our ELP enrolment estimate is the number of children aged 0-6 attending non-school-based ELPs, as identified in section 4. Specifically, we use the numbers in Table 10, which show the number of children aged 0-2, 3-4 and 5-6 who attended a non-school-based ELP in 2022.

We multiply the number of children attending a non-school-based ELP programme in each province by the inverse of the provincial average of the child-to-practitioner ratios in Table 14 (discussed in the next section).

5.2 Current child-to-practitioner ratios

Two primary data sources are used to identify national and provincial child-to-practitioner ratios: the 2021 ECD Census and the 2021 ECD Baseline Audit (DataDrive & Department of Basic Education, 2021). Multiple variables in each dataset could be used to describe child-to-practitioner ratios and confirm varying ratios by province. The Baseline Audit contains five different variables that provide information about the class size or the number of children who typically attend a class. The 2021 ECD Census records the number of children enrolled and the number of practitioners, support staff and managers. These variables can be used to calculate the average number of children per practitioner. We highlight four child-to-practitioner ratios derived from this data, with both national and provincial averages shown in Table 14.

Table 14: Comparing child-to-practitioner ratios in different datasets

Ratio	Definition	SA	WC	EC	NC	FS	KZN	NW	GP	MP	LP
1	2021 ECD Census: children to practitioners (managers included, no support staff)	12,4	9,6	17,8	11,5	11,9	13,7	11,4	9,5	12,3	13,6
2	2021 ECD Census children to practitioners (no managers or support staff included)	18,3	13,83	25,15	16,53	16,31	21,09	17,67	14,12	18,39	21,12
3	Baseline Audit: 2021 class size	23,6	21,1	31,4	20,9	23,4	25,6	22,5	20,7	24,1	23,8
4	Baseline Audit: Pre-Covid class size	27,4	24,9	35,9	22,0	26,2	27,0	30,5	26,1	26,5	29,0

Notes: Ratios 1 and 2 are from the 2021 ECD Census. Ratios 3 and 4 are from the Baseline Audit.

Ratio 1 is calculated by dividing the number of children enrolled by the number of practitioners, including managers in the number of practitioners but excluding support staff (cleaning staff, security staff, etc.). This provides a 12.4 child-to-practitioner ratio nationally, with a low of 9.6 in the Western Cape to 17.8 in the Eastern Cape. Ratio 2 is calculated from the 2021 ECD Census by dividing the total number of children enrolled by the number of practitioners, excluding managers and support staff, and averages 18.3 nationally. Ratio 3 shows the national and provincial average class enrolment in 2021 at 23.6, while ratio 4 shows the average class enrolment before the COVID-19 pandemic at 27.4 children.[14] Assuming one practitioner to a classroom, these class sizes (ratios 3 and 4) reflect the child-to-practitioner ratios.

Ratios 1, 2, 3 and 4 are all used in calculating the 2022 ECD practitioner workforce and allow us to estimate a range for the number of practitioners currently working in each province. Due to data limitations, we cannot estimate average child-to-practitioner ratios by child age group. This is a significant shortcoming of the analysis (and South African data). However, child-to-practitioner ratios are higher in many provinces than the Children's Act recommended.

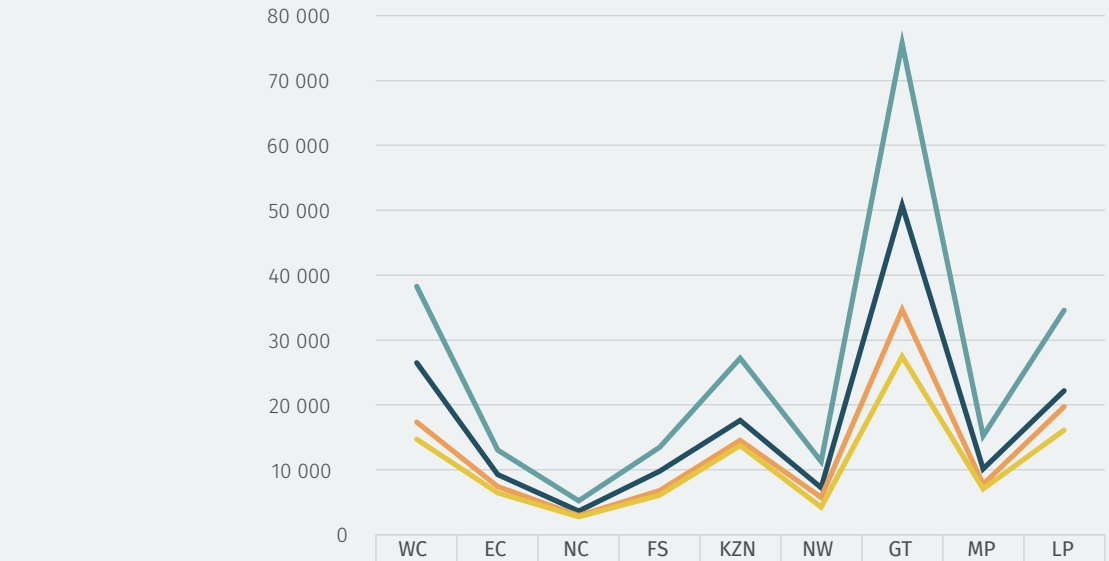
5.3 Provincial estimates of the ECD workforce

Acknowledging that multiple data sources provide varied child-to-practitioner ratios, we identify four sets of current ECD practitioner workforce estimates based on child-to-practitioner ratios in Table 14. In a sense, ratios 1 and 4 provide upper and lower limits for each province's current ECD practitioner workforce, as seen in Figure 13. We assume that the number of practitioners will fall within this range.

In line with the largest ELP enrolment in Gauteng, the largest share of the current estimated ECD practitioner workforce is also in Gauteng province. In 2022, there were almost 76,000 ECD practitioners (based on ratio 1) in Gauteng and around 5,000 in the Northern Cape.

14 It is noted that the Baseline Audit tends to be biased towards fully registered programmes which tend to have higher enrolment, and higher child-to-practitioner ratios than unregistered programmes. In this regard, the proxies for child-to-practitioner ratios from the Baseline Audit may be inflated relative to the 2021 ECD Census which reflects a higher (and more realistic) share of unregistered programmes.

Figure 13: Estimates of provincial ECD practitioner numbers in 2022 (based on 2022 ELP enrolment of children aged 0-6)



	WC	EC	NC	FS	KZN	NW	GT	MP	LP
Ratio 1: 2021 ECD CENSUS: children to practitioners (managers included, no support staff)	38,274	13,045	5,226	13,438	27,152	11,270	75,770	15,185	34,553
Ratio 2: 2021 ECD CENSUS: children to practitioners (no managers or support staff included)	26,487	9,236	3,645	9,786	17,618	7,257	50,730	10,149	22,172
Ratio 3: BASELINE: Class size	17,332	7,410	2,881	6,812	14,494	5,690	34,625	7,740	19,707
Ratio 4: BASELINE: Pre-Covid class size	14,728	6,475	2,740	6,099	13,758	4,210	27,426	7,049	16,127

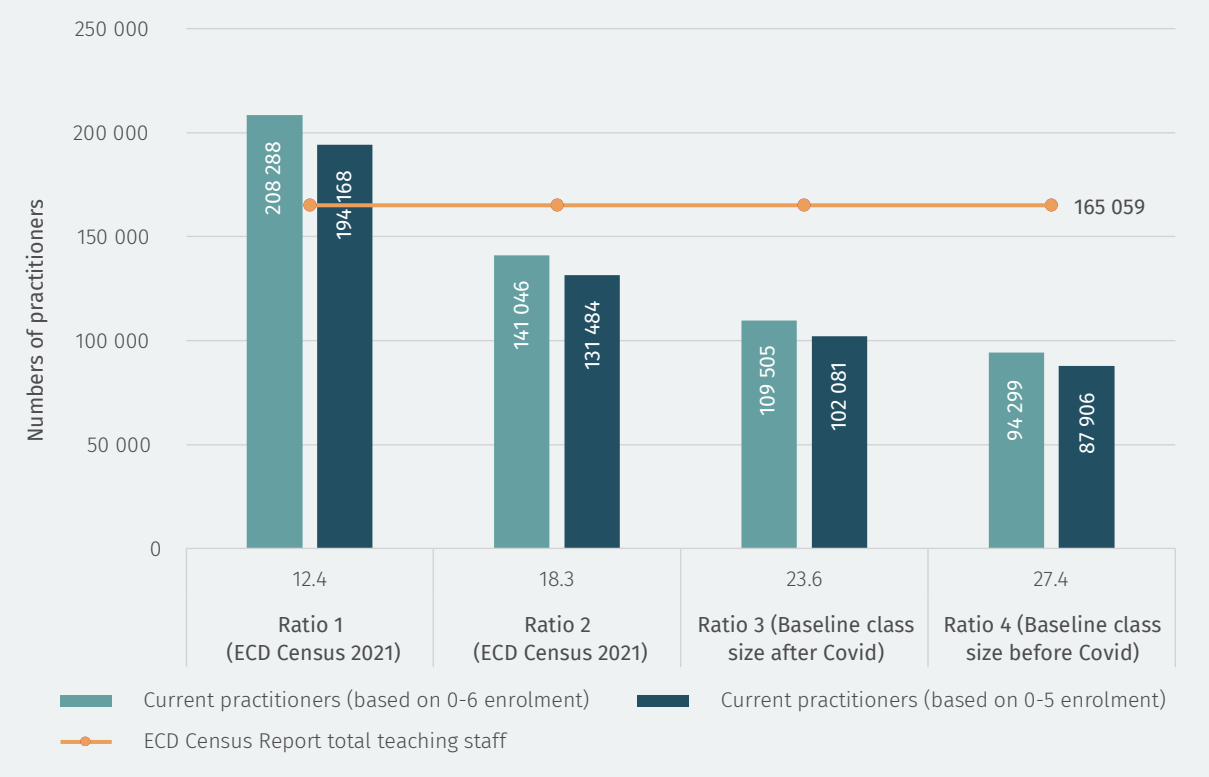
Notes: Numbers are shown for the average estimates,

5.4 National estimates of the ECD workforce

Using four child-to-practitioner ratios, Figure 14 presents the potential national estimates of the current ECD practitioner workforce. Based on the enrolment of children aged 0-6 in ELPs, current practitioner numbers range from 94,300 to 208,300. This range is similar at 88,000 to 194,000 if practitioner numbers are calculated with the ELP enrolment of children aged 0-5. As a reference point, the orange line shows the total teaching staff number at 165,000 recorded in the ECD Census 2021 (this teaching staff number leaves out support staff but includes ECD practitioners, Grade R educators in ELPs and managers who also function as ECD practitioners). If we view 165,000 as a lower possible estimate of practitioner numbers, then 200,000 is likely a reasonable estimate of the number of ECD practitioners in the system, although this number may include some teaching assistants.

Unfortunately, neither the ECD Census nor Baseline surveys clearly delineate between teaching assistants and practitioners or teaching assistants and support staff. It is thus difficult to determine whether ratios 1 or 2 or the total teaching staff count from the ECD Census report include or exclude teaching assistants. However, estimates based on ratios 3 and 4 would exclude teaching assistants, support staff and non-teaching managerial staff.

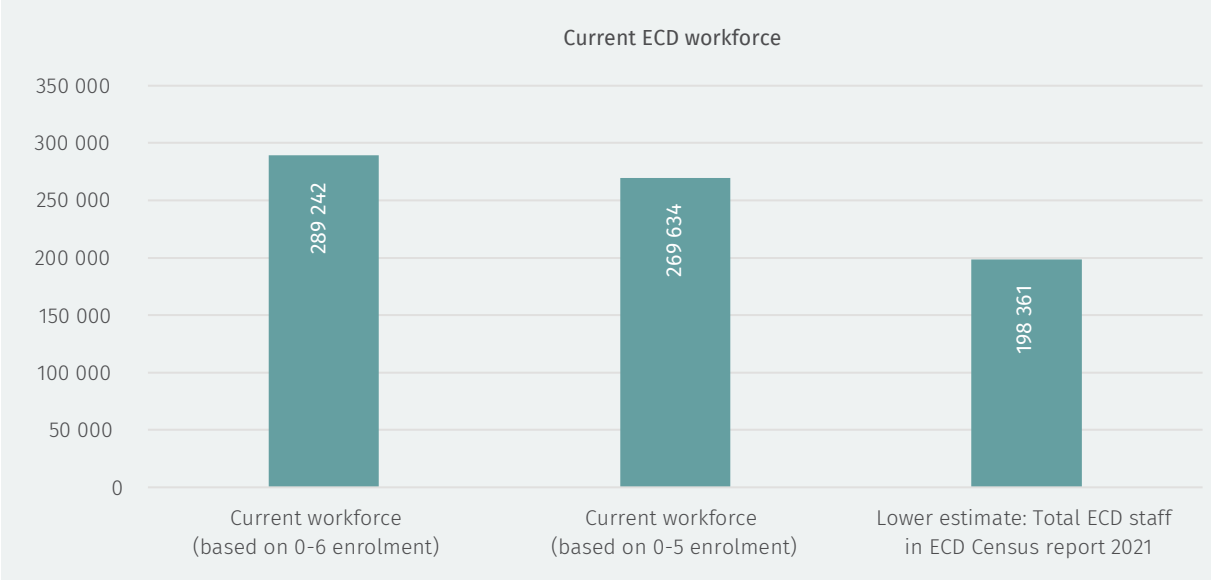
Figure 14: Number of ECD practitioners in South Africa based on 2022 ELP attendance estimates (using different child-to-practitioner ratios)



Notes: Ratio 1 is calculated as total_enrolled / (Count_staff_all - count_support_staff). Ratio 1 assumes that managerial staff teach. Ratio 2 is calculated as total_enrolled / (Count_staff_all - count_support_staff - count_managerial_staff) and assumes that managerial staff do not teach. *Total teaching staff of 165,059 from the ECD Census Report leaves out support staff and considers only ECD practitioners, Grade R educators and managers who also function as ECD practitioners (basically excluding support and "pure" managerial staff),

To estimate the total ECD workforce (not just practitioners), we also calculated the ratio of all children enrolled to all staff in the ECD Census – nationally, this estimate is 8.9. Multiplying the inverse of this ratio by all children aged 0-6 enrolled in ELPs equates to 289,000 (see Figure 15). This provides an estimate of the total ECD-related workforce in South Africa (based on 2022 ELP enrolment), including practitioners, assistants, managers and other support staff.

Figure 15: Estimates of the current ECD workforce (including practitioners, assistants, managers and other support staff) in 2022



5.5 Current ECD practitioner qualifications

South Africa's ECD workforce is currently undertrained and has low qualification levels, particularly compared to primary school teachers. Figure 16 shows practitioners' training and qualification levels as seen in the 2013 ECD Audit drawing on analysis by Kotze (2015). In 2013/14, 45% of ECD practitioners did not have a Grade 12 qualification (i.e. matric), and 49% of assistant practitioners had no qualifications above a Grade 12 certificate. About 74% of ECD practitioners had no specialisation at all. Assistant practitioners had lower qualifications than practitioners, but principals/matrons tended to have more education and training than practitioners. The lower levels of training and education among assistant practitioners are noteworthy. While it is encouraging that there are more adults in a facility than only the practitioners, they have inadequate levels of training.

Figure 16: ECD practitioner qualifications and specialisations in the 2013/4 ECD Audit

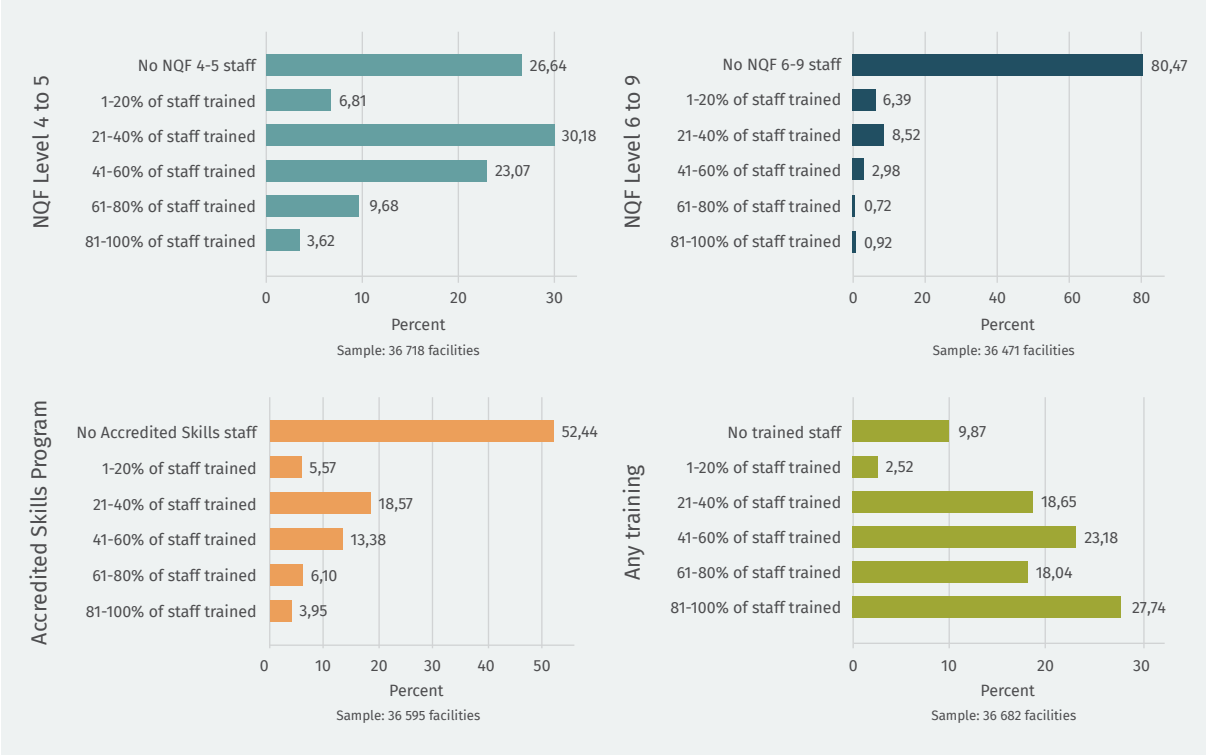
Qualifications			
	Assistant practitioner	**Practitioner**	**Principal / Matron**
<Grade 12	49%	45%	36%
Grade 12	39%	42%	43%
ABET 1-4	6%	7%	9%
Post-matric diploma	2%	2%	5%
Degree	0%	1%	2%
Other	4%	3%	5%
Total	**100%**	**100%**	**100%**
Specialisations			
None	88%	74%	55%
Certificate	11%	23%	35%
Diploma	1%	3%	9%
Degree	0%	0%	1%
Total	**100%**	**100%**	**100%**

Source: Table 3 from Kotze (2015). The author notes that the sample is not necessarily representative as it is based on the 2013/14 ECD Audit. Principal / Matron includes individuals reported as being supervisors of a centre.

The 2021 ECD Census records the number of staff with different levels of education and training. While we cannot estimate the exact proportion of practitioners with a specific level of education and training from this facility-level data, we can calculate the proportion of trained practitioners in a facility. Figure 17 below shows the average proportion of practitioners with different training levels. Four levels of training are recorded: (a) NQF level 4 – 5, (b) NQF level 6 – 9, (c) Accredited Skills programme, and (d) any training. Appendix Table A2 provides a summary of what the NQF-level qualifications refer to.

About 27.7% of facilities have between 80-100% of their staff who have received at least some education or training related to ECD. In comparison, 9.8% of facilities have no staff who have received any education or training related to ECD. Over a quarter of ECD facilities (27%) have no staff with NQF level 4 to 5 training, and over 80% have no staff with NQF level 6 to 9 training. Over half of facilities (52%) had no staff with skill accreditation in ECD.

Figure 17: Average percentage range of practitioners in a facility with different levels of education and training, 2021 ECD Census



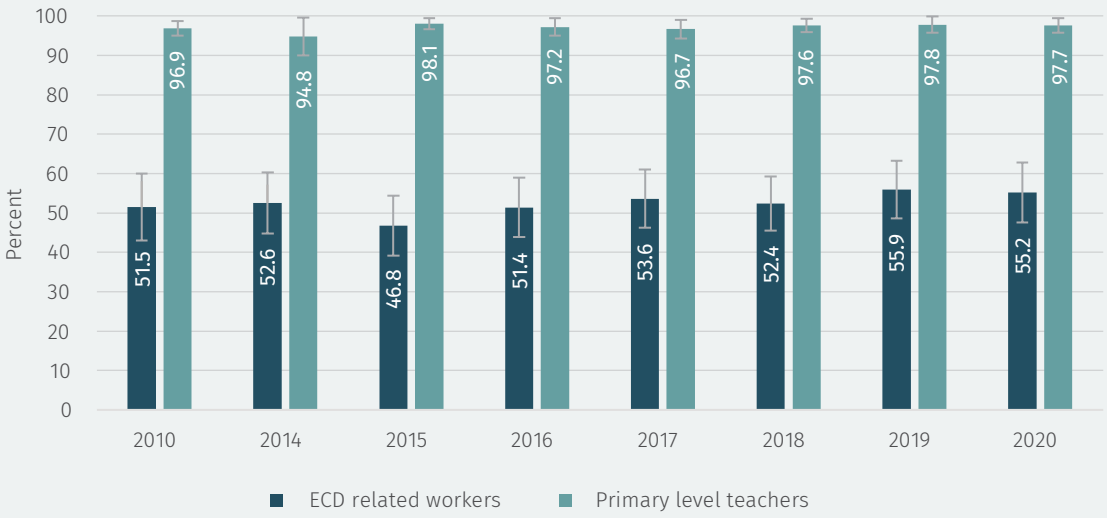
Source: 2021 ECD Census, own calculations.

The Quarterly Labour Force Survey (QLFS) can also be used to examine ECD-related workers' qualifications and training levels. Using the QLFS sample, we identify that just over half (53%) of ECD-related workers have a completed secondary (i.e. matric or grade 12 National Senior Certificate) education. This estimate is obtained by averaging quarter 1 of each year from 2010 to 2020. In each year from 2010 to 2020, this estimate remains very stable, as seen in Figure 18[15]. In other words, about 47% of ECD-related workers have not completed grade 12. This is quite consistent with findings in the

15 Comparable estimates are obtained if quarter 2 is used rather than quarter 1. From quarter 2 of 2020 to quarter 2 of 2023, the percentage of ECD-related workers with a completed secondary jumps to 72%. The jump in the estimates seems implausible, especially given how stable the estimates were for a decade prior.

2013/4 ECD Audit. More recently, from 2018 to 2019 (averaging across all 4 quarters), a slightly higher percentage of ECD-related workers have completed secondary education at 56%.

Figure 18: Percent of ECD related workers vs. primary level teachers with a completed secondary education, Quarterly Labour Force Survey (QLFS)



Source: QLFS, quarter 1, own calculations. Weighted.

Figure 19 further compares the highest education levels obtained by ECD-related workers relative to primary school teachers. The comparative level of education across primary school teachers and ECD-related workers is vastly different. While 89% of primary school teachers have a tertiary qualification, only 16% of ECD-related workers have this level of education.

The tables and figures presented in this sub-section show that, on average, ECD-related workers have low levels of education and training. Furthermore, few ECD-related workers are in any form of school or training to upskill. Just 7% of ECD-related workers indicated that they were attending an educational institution in 2019. The key challenges for training ECD practitioners, as identified in the HRD Strategy, remain pertinent today.

Box 3: Available data in recent years to identify the characteristics, and qualifications and training of ECD-related workers or practitioners

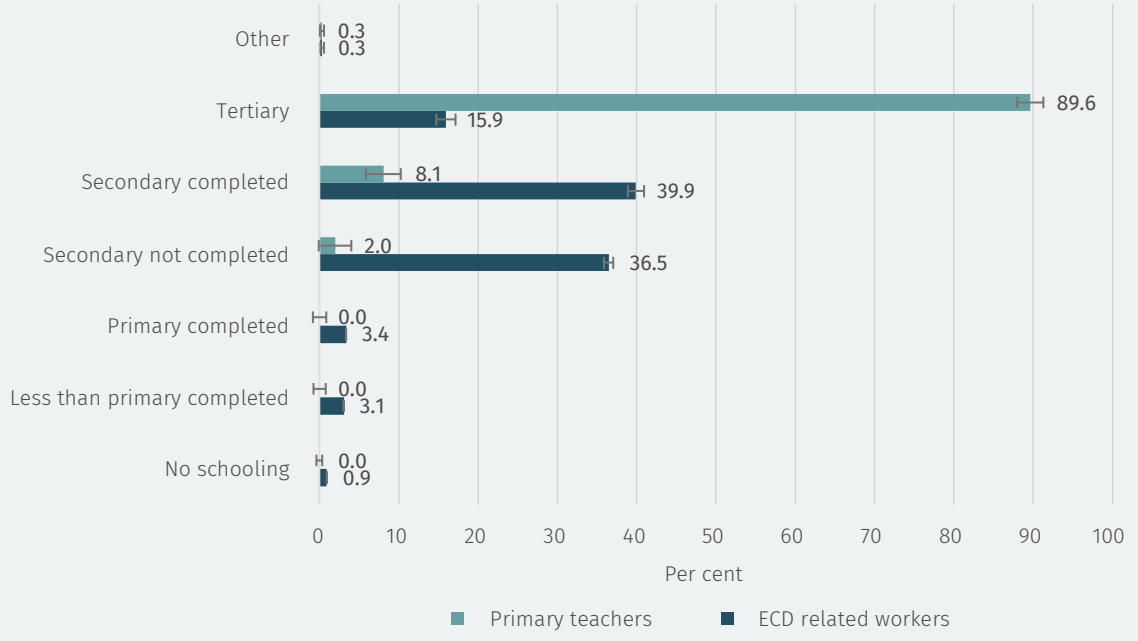
To a limited extent, the Quarterly Labour Force Survey (QLFS) can be used to establish a national overview of the qualifications and other characteristics of individuals working in pre-primary education or childcare. The small samples of ECD-related workers identified provide a reason for caution in interpreting the statistics, as confidence intervals are large. Nevertheless, without reliable Population Census data, the QLFS offers one of the only nationally representative data sources to gather a national view of ECD-related workers.

(continues on next page)

We identify statistics on ECD-related workers that are quite stable over the period 2010 to 2020 quarter 1 in the QLFS. By contrast from quarter 1 of 2021 to quarter 2 of 2023, there are unusually large changes in the characteristics of individuals coded as ECD-related workers relative to previous years of QLFS data. In addition to large changes in the qualification levels of those coded as ECD-related workers, there is a significant shift in the gender composition of this group. On the one hand, this raises concerns about the integrity of occupational codes captured from 2021 onwards in the QLFS data. On the other hand, one cannot rule out that the composition of ECD practitioners was fundamentally altered through the shocks to the ECD sector during the pandemic. Without other data sources against which to verify these changes, this analysis focuses on a pre-pandemic period from 2010 to quarter 1 of 2020.

Practitioner details are also captured in the 2021 ECD Census, although these may still be skewed in representativity if larger more established programmes are more likely to be reflected and given that the ECD Census was conducted in a pandemic period when human resourcing may have been disrupted.

Figure 19: Education levels of ECD-related workers vs. primary-level teachers identified in the QLFS, 2018-2019 (all quarters)



Data Source: QLFS, 2018-2019 (all quarters). 95% confidence interval is shown. Weighted and stratified. Each series adds up to 100%. N ECD-related workers = 1846, N primary teachers = 2823.

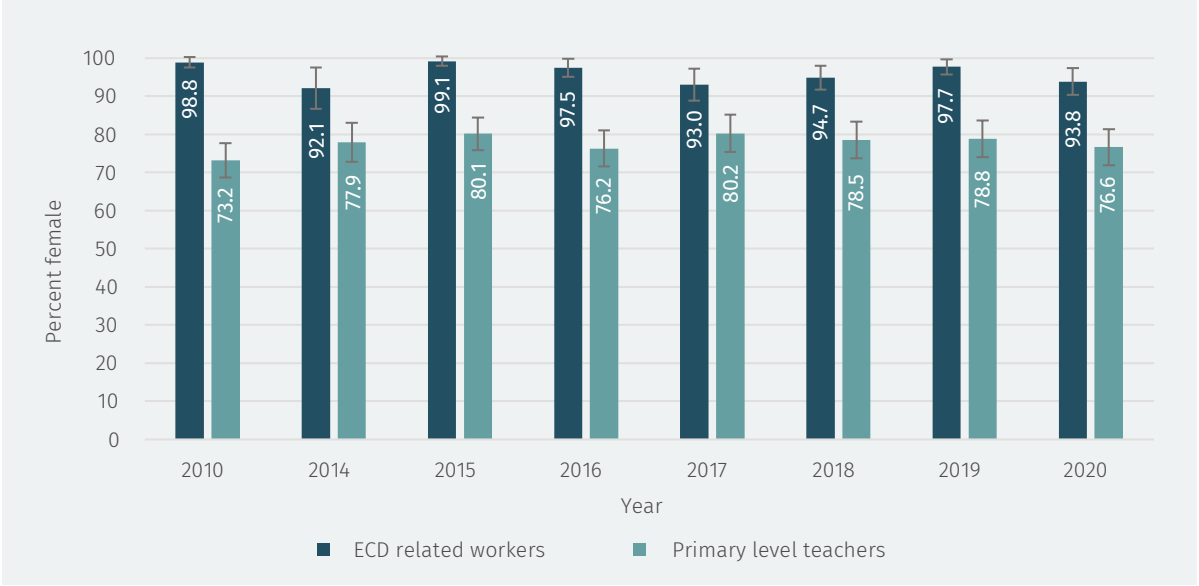
5.6 Other characteristics of ECD-related workers

The QLFS can also be used to get an impression of the current ECD-related workforce's demographic characteristics, household characteristics, and working conditions.

5.6.1 Gender and age

The ECD workforce in South Africa is highly feminised, more so than the school sector. Averaging across QLFS quarter 1 data from 2010 to 2020, 96% of ECD-related workers in the QLFS were women. By contrast, about 77% of primary teachers (professionals or associate professionals) in the QLFS are women,[16] which corresponds very closely to the percentage (78%) of female primary school educators in 2021 public payroll data (Wills & Böhmer, 2023). The high feminisation of the ECD sector is confirmed in the 2021 ECD Census, which records 93% of all ECD staff as female (including managers, practitioners and support staff). By international comparison, it is not uncommon for the vast majority of an ECD workforce to be female (IOM & NRC, 2012).

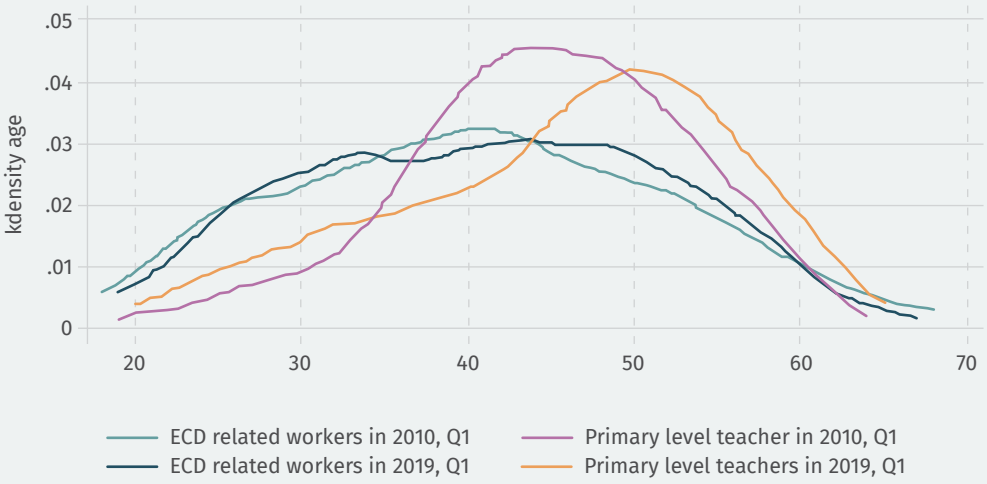
Figure 20: Percent of ECD-related workers vs. primary teachers that are female (2010 to 2020), QLFS



ECD-related workers in 2019 were on average about 39.6 years of age, compared to primary-level teachers in the QLFS, who on average were 44 years of age. ECD-related workers on average are younger. But the ages of ECD-related workers are more widely and evenly distributed as seen in Figure 21. Whereas there has been an ageing of the primary-level teacher workforce from 2010 to 2019, this same trend is not observed for ECD-related workers.

16 Averaged across quarter 1 of 2010 to 2020.

Figure 21: Age distribution of ECD-related workers and primary level teachers, QLFS (2010 and 2019)



Source: QLFS, own graph. Kernel density of age.

5.7 Home and work characteristics

In fitting with the precarious nature of ECD work, almost half of ECD-related workers (48.9%) in 2019 were identified as being in the informal economy compared to just 1% of primary teachers. The informal nature of work for half of ECD-related workers does not equate to limited working hours. Only 3% of ECD-related workers were identified as being underemployed[17] in the QLFS compared to less than 1% of teachers. ECD-related workers worked on average 40.5 hours per week which is statistically significantly more than the 37 hours worked on average by primary level teachers. The extent of variation in hours worked is much higher among ECD-related workers than primary-level teachers as seen in Figure 22.

As expected, union membership among ECD-related workers is uncommon. Just 8% report being a union member compared to three-quarters of primary-level teachers. Compared to primary-level teachers, ECD-related workers live in households with more children aged 0-6 but have slightly more other individuals in the household who are employed.

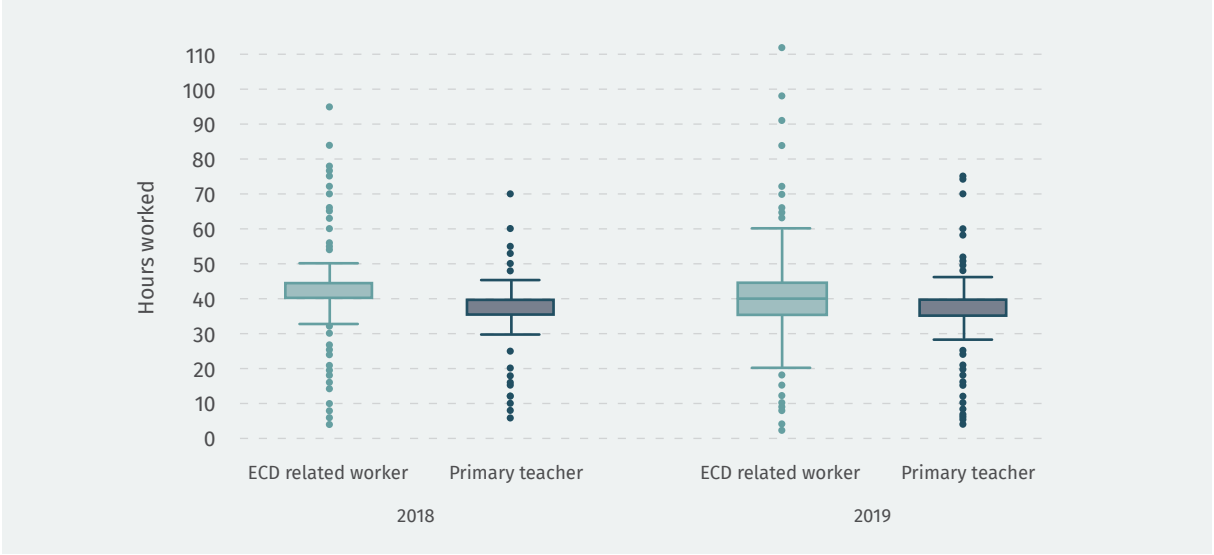
17 Persons in underemployment (time-related) are employed persons who were willing and available to work additional hours, whose total number of hours worked during the reference period was below 35 hours per week.

Table 15: ECD workers vs primary-level teacher characteristics, QLFS, 2019

	ECD-related workers				Primary-level teachers			
		95% CI				95% CI		
	Mean	Lower	Upper	N	Mean	Lower	Upper	N
Age	39.6	38.8	40.4	904	44.1	43.5	44.7	1435
Is female (%)	96.4	95.0	97.7	904	78.9	76.6	81.3	1435
Completed secondary education (%)	57.4	53.8	61.0	904	98.0	97.1	98.9	1435
Attending an educational institution (%)	7.2	5.3	9.1	904	7.7	6.2	9.3	1435
Number of other employed individuals in the household	0.9	0.9	1.0	904	0.8	0.7	0.8	1435
Number of children aged 0-6 in household	0.7	0.6	0.7	904	0.4	0.4	0.5	1435
Underemployed (%)	3.1	1.9	4.3	904	0.8	0.3	1.3	1435
Informally employed (%)	48.9	45.2	52.5	904	1.4	0.7	2.2	1435
Is a trade union member (%)	8.1	5.9	10.3	768	75.8	73.2	78.4	1420
Hours worked per week	40.5	39.7	41.3	904	37.1	36.8	37.4	1435

Data Source: QLFS, own calculations. Average across quarters 1-4. Weighted and survey design accounted for.

Figure 22: Box and whisker plot of the distribution of hours worked by ECD-related workers and primary teachers in 2018 and 2019, QLFS



Source: QLFS quarters 1-4 of 2018 and 2019, weighted

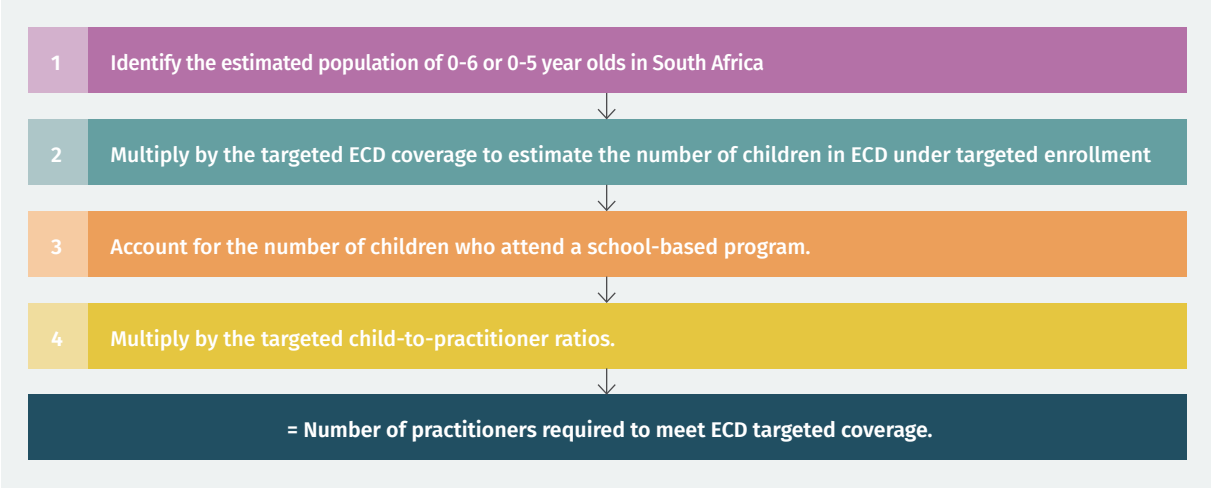
Notes: The bottom of the box shows the 25th percentile, the centre line of the box shows the median and the upper line of the box shows the 75th percentile.

6. Estimating the number of practitioners required to meet the regulations in the Children's Act

6.1 Method to establish required numbers of practitioners.

Through a four-step process, we establish the number of practitioners that will be required to expand the ECD sector to reach the enrolment targets in the 2023 ECD Strategy and child-to-practitioner ratios as stipulated in the Children's Act. This is explained in Figure 23.

Figure 23: Four steps to estimating the number of practitioners required to meet ECD targeted enrolment with regulation-compliant child-to-practitioner ratios



1. First, we identify the Thembisa Model 4.7 child population estimates for 2022.
2. Second, we multiply these by the targeted enrolment coverage proportion.
3. Third, we account for the number of children that will attend an ELP in a school-based programme, as the ECD sector does not need to accommodate these children. We assume that the expansion in ECD enrolment will occur proportionally (as it has done so historically) between schools and ELPs in the ECD sector.
4. Fourth, we multiply the targeted ELP enrolment by the targeted child-to-practitioner ratios outlined in the Children's Act.

These four steps are used to calculate the number of practitioners that will be needed to expand the ECD sector to the targeted enrolment of children with child-to-practitioner ratios that meet the regulations in the Children's Act.

6.2 Estimating the required ECD practitioner workforce

6.2.1 Steps 1 to 3: Identifying targeted enrolment in ELPs

We use the Thembisa Model 4.7 child population estimates, as set out in Table 5 in section 4.2. We multiply these figures by the targeted enrolment percentages for children aged 0-2, 3, 4, 5 and 6, which are 30%, 70%, 80%, 95%, and then assumed as 100%, as set out in Table 13 but adjusting for the share of children that are in schools versus ELPs. The product of this step is the estimate of the number of children that will attend an ELP under targeted enrolment in both school and non-school-based programmes. To account for the number of children who will be accommodated in schools (grade R, pre-grade R or early grades) rather than ELPs, we assume that the current shares of children in schools relative to ELPs is ideal and will remain constant (see Appendix Table A1 for these shares).

We present the estimated number of children expected to attend an ECD programme in a non-school-based programme under targeted enrolment in Table 16. Under targeted enrolment, based on 2022 population estimates (and acknowledging that there are 6-year-olds attending ELPs), 3.37 million children aged 0-6 would need to be accommodated under targeted enrolment in ELPs. Under targeted enrolment, based on 2022 population estimates of 0-5-year-olds, 3.19 million children aged 0-5 would need to be accommodated in ELPs.

Table 16: Number of children aged 0–6 and 0-5 who will need to attend non-school-based ELP programmes to achieve targeted enrolment, based on 2022 population estimates

Number of children 0-6 in ELPs under targeted enrolment										
Age	**National**	**WC**	**EC**	**NC**	**FS**	**KZN**	**NW**	**GP**	**MP**	**LP**
0 to 2	1 038 772	111 822	118 670	25 457	51 996	218 235	67 096	242 560	92 500	155 622
3 to 4	1 719 733	180 343	195 405	41 491	87 240	356 910	110 585	404 589	149 224	264 914
5 to 6	612 033	94 947	33 566	15 286	33 103	61 054	36 369	200 849	44 460	89 972
Total 0-6	3 370 538	387 113	347 641	82 234	172 340	636 198	214 050	847 999	286 183	510 508
Number of children aged 0-5 in ELPS under targeted enrolment										
Age	**National**	**WC**	**EC**	**NC**	**FS**	**KZN**	**NW**	**GP**	**MP**	**LP**
0 to 2	1 038 772	111 822	118 670	25 457	51 996	218 235	67 096	242 560	92 500	155 622
3 to 4	1 719 733	180 343	195 405	41 491	87 240	356 910	110 585	404 589	149 224	264 914
5	429 954	67 507	27 027	12 566	24 201	51 541	25 787	139 073	31 514	50 915
Total 0-5	3 188 458	359 673	341 102	79 514	163 438	626 685	203 468	786 223	273 237	471 452

6.2.2 Step 4: Required number of ECD practitioners under targeted ELP enrolment and compliance with child-to-practitioner ratios in the Children's Act

As a final step, we multiply the inverse of the child-to-practitioner ratios set out in the Children's Act, as presented in Table 17, by the total number of children targeted for enrolment in ELPs. This generates the number of practitioners, in Table 18, that would be required to realise the child-to-practitioner ratios in the Children's Act under targeted enrolment based on the 2022 population of children aged 0-6 or 0-5.

Table 17: Child-to-practitioners stipulated in the Children's Act by child age group.

Number of children per practitioner:	
0- 18 months	6
18 months to 2 years	12
3 to 4 years	20
5 to 6 years	30

Table 18: Number of practitioners needed to meet targeted enrolment in 2022 with child-to-practitioner ratios in the Children's Act

Number of ECD practitioners (based on targeted enrolment of children aged 0-6)										
Age	**National**	**WC**	**EC**	**NC**	**FS**	**KZN**	**NW**	**GP**	**MP**	**LP**
0 to 2	151 488	16 307	17 306	3 713	7 583	31 826	9 785	35 373	13 490	22 695
3 to 4	85 987	9 017	9 770	2 075	4 362	17 845	5 529	20 229	7 461	13 246
5 to 6	20 401	3 165	1 119	510	1 103	2 035	1 212	6 695	1 482	2 999
Total	257 875	28 490	28 195	6 297	13 048	51 707	16 526	62 298	22 433	38 940
Number of ECD practitioners (based on targeted enrolment of children aged 0-5)										
0 to 2	151 488	16 307	17 306	3 713	7 583	31 826	9 785	35 373	13 490	22 695
3 to 4	85 987	9 017	9 770	2 075	4 362	17 845	5 529	20 229	7 461	13 246
Age 5	14 332	2 250	901	419	807	1 718	860	4 636	1 050	1 697
Total	**251 806**	**27 575**	**27 977**	**6 206**	**12 752**	**51 389**	**16 174**	**60 239**	**22 001**	**37 638**

Under targeted ELP enrolment, based on a 2022 population of children aged 0-6, almost 258,000 ECD practitioners would be required to comply with child-to-practitioner ratios in the policy. If the population of interest is children aged 0-5, the ECD practitioner requirement is slightly lower at 252,000. However, policy also stipulates that for each ECD practitioner, an assistant is required, in which case another 252,000 to 258,000 assistants would also be needed. Thus, a workforce of 504,000 to 516,000 practitioners and assistants is required.

We also calculate the number of practitioners needed to reach the child-to-practitioner ratios in the Children's Act with targeted enrolment in ECD programmes but based on the projected 2030 child population (at a national level only). We follow the same steps listed above but use the projected child population estimates for 2030 from the Thembisa Model 4.7 population projections. Based on 2030 population projections, a minimum ECD workforce of 536,000 persons is required, with 268,000 practitioners and 268,000 assistants.

Relative to the current total estimated ECD workforce (all staff) of 289,000, the current ECD workforce would need to increase by around a factor of at least 1.8 to 2 to meet the ELP enrolment targets in the 2030 ECD Strategy and to be compliant with child-practitioner-ratios in the Children's Act.

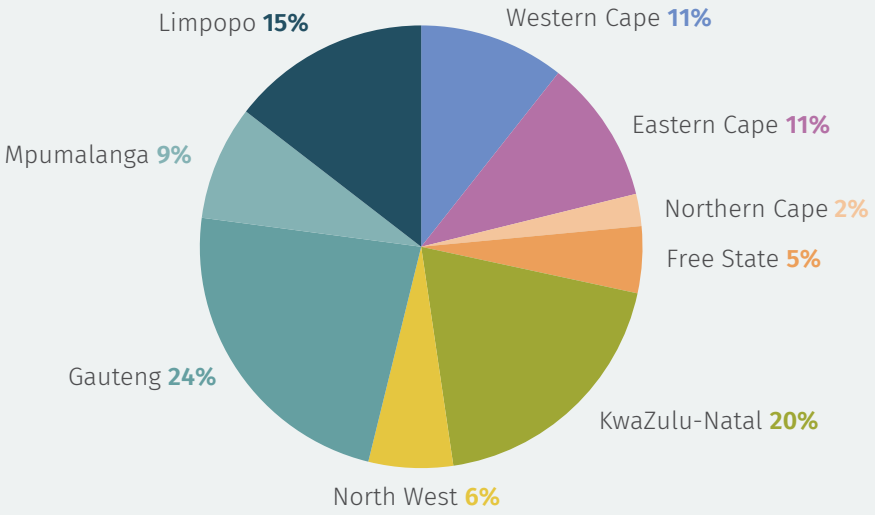
Table 19 summarises our estimates of: i) current ECD practitioners (rows A and B), ii) the number of practitioners that would be needed to reach compliance with The Children's Act child-to-practitioner ratios at the current number of children enrolled (row C), iii) the number of practitioners that would be needed to be compliant with the Children's Act child-to-practitioner ratios at targeted enrolment for the 2022 population of children 0-6 (row D), and iv) the number of practitioners that would be needed to be compliant with the Children's Act child-to-practitioner ratios at targeted enrolment for the 2030 projected population of children aged 0-6 (row E). The table assumes that the underlying population of interest is children aged 0-6.

Table 19: Summary of ECD practitioner and assistant numbers: current vs requirements (based on current and targeted ELP enrolment of children aged 0-6), national totals

	Practitioners				Assistants			
	Age 0 - 2	Age 3 - 4	Age 5 - 6	Total 0 - 6	Age 0 - 2	Age 3 - 4	Age 5 - 6	Total 0 - 6
A. Estimates of current ECD practitioners - Ratio 1, baseline (practitioners and managers)	55 922	105 513	46 853	208 288				
B. Estimates of current ECD practitioners - Ratio 3, baseline (practitioners only)	29 400	55 472	24 632	109 505				
C. Number required at current 2022 ELP enrolment but with compliant C/P ratios	101 283	65 520	19 396	186 199	101 283	65 520	19 396	186 199
D. Number required for targeted ELP enrolment with compliant C/P ratios - 2022 population	151 488	85 987	20 401	257 875	151 488	85 987	20 401	257 875
E. Number required for targeted ELP enrolment with compliant C/P ratios - 2030 projection	158 123	89 153	20 675	267 951	158 123	89 153	20 675	267 951

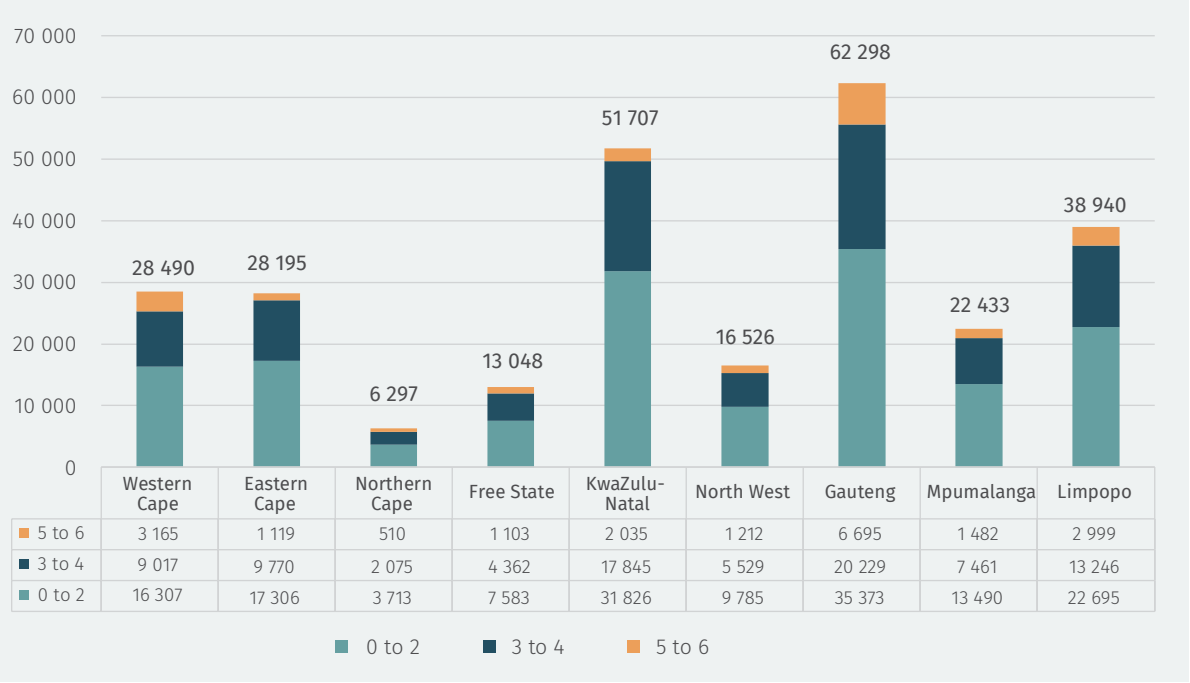
Figure 24 shows the provincial shares of the total number of practitioners required to meet targeted enrolment for the 2022 population of children aged 0-6, with compliant child-to-practitioner ratios. The largest share of practitioners required is in Gauteng (21%), followed by KwaZulu-Natal (17%). This reflects the fact that these three provinces have large child populations.

Figure 24: Provincial shares of the total number of ECD practitioners needed to meet ELP enrolment targets (based on the 2022 population of children aged 0-6)



The Children's Act stipulates that for every practitioner, there must also be an assistant in the classroom. As mentioned, we have not reported the gap because there is limited data on the number of ECD assistants currently working. Nationally, over 250,000 ECD assistants are required to meet the Children's Act and HRD Strategy targets. In Figure 25, we show the total number of ECD Assistant practitioners per province that would be needed to ensure there was an assistant for each practitioner in the classroom, as set out by the child-to-practitioner regulations in the Children's Act.

Figure 25: Total number of ECD Assistants required to meet The Children's Act regulations



	Western Cape	Eastern Cape	Northern Cape	Free State	KwaZulu-Natal	North West	Gauteng	Mpumalanga	Limpopo
5 to 6	3 165	1 119	510	1 103	2 035	1 212	6 695	1 482	2 999
3 to 4	9 017	9 770	2 075	4 362	17 845	5 529	20 229	7 461	13 246
0 to 2	16 307	17 306	3 713	7 583	31 826	9 785	35 373	13 490	22 695

6.3 Estimating the gap between the required and current ECD practitioner workforce

As a final step, we identify the additional practitioners needed to reach targeted ECD enrolment at compliant child-to-practitioner ratios. In other words, we represent the gap between the number of practitioners currently working and the number that would be needed.

6.3.1 Gaps to compliance with child-to-practitioner ratios in the Children's Act at current ELP enrolment

The extent to which ECD practitioner gaps need to be filled is highly sensitive to the current assumed child-to-practitioner ratio. If we assume that ratio 1 holds (12.4 children per practitioner nationally), then at the current 2022 ELP enrolment of children aged 0-6, the existing number of ECD practitioners is sufficient for the system's needs to be compliant with child-to-practitioner ratios in the Children's Act.

Although the current supply is sufficient (using ratio 1), there are gaps in some provinces. Practitioners would need to be redistributed across provinces and programmes so that there is compliance on average with regulated child-to-practitioner ratios and in every ELP. Some practitioners teaching 3-4- and 5–6-year-olds would also need to be redistributed to care for children aged 0-2. ECD teaching assistants would also certainly need to be hired. If, however, we assume that ratio 3 holds (at 23.6

children per practitioner), then the existing overall number of practitioners is insufficient for the system's needs to be compliant with child-to-practitioner ratios in the Children's Act at the current 2022 ELP enrolment of children aged 0-6. About 77,000 more ECD practitioners would be needed (see Table 20). Additionally, ECD teaching assistants would certainly need to be hired.

Table 20: Summary of ECD practitioner gaps: Gaps to reach compliant ratios and practitioner requirements for ELP enrolment targets (based on current and targeted ELP enrolment of children aged 0-6)

	Age 0 - 2	Age 3 - 4	Age 5 - 6	Total 0 - 6
Gap to compliant C/P ratios (upper limit C-B): Numbers needed to be compliant at current 2022 0-6 ELP enrolment in 2022	71 883	10 048	-5 236	76 694
Gap to compliant C/P ratios (lower limit C-A): Numbers needed to be compliant at the current 2022 0-6 ELP enrolment	45 361	-39 993	-27 457	-22 089
Gap to reach targeted ELP enrolment (based on 2022 population of children 0-6) with compliant ratios (upper limit D-B)	122 087	30 514	-4 231	148 371
Gap to reach targeted ELP enrolment (based on 2022 population of children 0-6) with compliant ratios (lower limit D-B)	95 565	-19 527	-26 452	49 587
Gap to reach 2030 targeted ELP enrolment (0-6 child population) with compliant ratios (lower limit E-A)	102 201	-16 361	-26 178	59 662
Gap to reach 2030 targeted ELP enrolment (0-6 child population) with compliant ratios (upper limit E-B)	128 723	33 680	-3 957	158 446

*Notes: Thembisa population (4.7) estimates are the underlying child population estimates. Upper limit gaps are based on using child-to-practitioner ratio 3. Lower limit gaps are based on using child-to-practitioner ratio 1. For letters A-E, refer to table 19.

Table 20 also shows the number of practitioners needed nationally to meet the targets set out in the 2030 ECD strategy at compliant child-to-practitioner ratios. Between 60,000 (lower limit) and 158,000 (upper limit) additional ECD practitioners would need to be attracted into the system if the targeted number of children aged 0-6 were to enrol in ELPs in 2030. Large numbers of assistants would also be needed, although it is impossible to assess the gap between current and future assistant requirements as we do not have an estimate of current ECD assistants.

Due to both the 0-2 enrolment gap being large relative to envisaged targets and low child-to-practitioner ratios stipulated for children aged 0-2, most (over 80%) of the gaps to be filled in terms of ECD practitioners and assistants are for children aged 0-2. This has implications for the focus of training the Department of Basic Education offers to upskill practitioners. Furthermore, the broader system must consider the economic impact of the bulk of expansion in ECD practitioners targeted at the 0-2 age group.

7. Summary

This report has aimed to improve our understanding of the human resource requirements needed to support targeted access to ELPs as expressed in the 2030 ECD Strategy. After analysing multiple available datasets on ECD in South Africa, this report established estimates of ELP enrolment in 2022 and targeted ELP enrolment. This, in turn, formed the basis for estimating the current available stock of ECD practitioners in South Africa and future ECD practitioner requirements under targeted ELP enrolment and in compliance with regulated child-to-practitioner ratios.

To summarise the main findings of the enrolment analysis:

- Nationally, about 2.59 million children aged 0-6 attend non-school-based ELPs. This provides an estimate of the size of the ELP sector. In proportional terms, about 32% of all children aged 0-6 attend an ELP; however, up to 52% of children aged 0-6 were in any education or care (school-based or ELPs).
- Although a significant number of 6-year-olds are attending ELPs, ECD policy focuses on ages 0-5. Applying the same four-step methodology, nationally, there were about 2.41 million children aged 0-5 in ELPs, representing about 35% of all children aged 0-5. Since some 5-year-olds are in schools, a higher proportion, at 45%, of children aged 0-5 were in some form of education or care in 2022.
- Assuming a constant 2022 population over time, the ELP enrolment of 2.59 million children aged 0-6 in 2022 would need to expand by about 784,000 more children aged 0-6 to reach a target of 3.37 million children aged 0-6 in ELPs. This means raising the proportion of 0-6-year-olds enrolled in ELPs from 32% to 42%. With projected population growth to 2030, enrolment expansion in ELPs would have to be even greater at about 901,000 more children.
- If instead we use the underlying population of children aged 0-5, we estimate that targeted enrolment for 0–5-year-olds is 3.19 million. Relative to the 2.4 million children aged 0-5 in ELPs, enrolment in ELPs will need to increase between 777,000 and 894,000 to reach the 2030 ECD strategy enrolment targets. This means raising the proportion of 0-6-year-olds enrolled in ELPs from 35% to 46%.

Most of the envisaged increase in enrolment will need to occur among children aged 0-2 (a gap of 344-389 thousand) and children aged 3-4 (409-472 thousand). Targets for enrolment of 5- or 6-year-olds have already largely been met.

To summarise the main findings of the practitioner analysis:

- Identifying an estimate of the number of ECD practitioners currently in the system (as of 2022) is complicated by the large range of possible existing child-to-practitioner ratios in schools. Nationally, child-to-practitioner ratios range from 12.4 to 27.4.[18] Multiplying the inverse of the child-to-practitioner ratios by the numbers of children aged 0-6 enrolled in ELPs, current ECD

18 Unfortunately, both the ECD Census and Baseline surveys do not clearly delineate between teaching assistants and practitioners or teaching assistants and support staff. It is thus difficult to determine whether ratios 1 or 2, or the total teaching staff count from the ECD Census report include or exclude teaching assistants. Estimates based on ratio 3 and 4, however, would exclude teaching assistants, support staff and non-teaching managerial staff.

practitioner numbers range from 94,300 to 208,000 based on the enrolment of children aged 0-6 in ELPs. This range is similar at 88,000 to 194,000 if practitioner numbers are calculated with ELP enrolment of children aged 0-5. With 165,000 teaching staff identified in the 2021 ECD Census, 200,000 seems a reasonable estimate of ECD practitioners currently in the system (based on 2022 enrolment). With additional managers and support staff attached to ELPs, the estimated size of the current ECD workforce will be about 289,000 in 2022.

- Under targeted ELP enrolment, based on a 2022 population of children aged 0-6, almost 258,000 ECD practitioners would be required to be compliant with child-to-practitioner ratios in regulation. If the population of interest is children 0-5, the ECD practitioner requirement is slightly lower at 252,000. However, policy also stipulates that for each ECD practitioner, an assistant is required. Another 252,000 to 258,000 assistants would be needed as well.

- An ECD workforce of 504,000 to 516,000 practitioners and assistants is required to meet the targets in the 2030 ECD Strategy and to be compliant with child-practitioner-ratios in the Children's Act. Based on 2030 Population estimates, a minimum ECD workforce of 536,000—practitioners (268,000) and assistants (268,000)—is needed. Relative to the current estimated ECD workforce (all staff) of 289,000, the current ECD workforce would need to increase by a factor of at least 1.8 to 2.

- Most (over 80%) of the gap in ECD practitioner requirements to meet ECD Strategy 2030 targets relates to serving children aged 0-2. This is an important finding that shapes training requirements if practitioner engagements with children are to be developmentally age-appropriate. It also has significant financial implications for ELPs and the sector.

8. Policy implications

The fact that the envisaged expansion of ELP enrolment predominates for younger children aged 0-2 and 3-4 has fundamentally important implications for the financing of programmes. The costs of accommodating younger children are considerably higher, with much lower child-to-practitioner ratios stipulated in policy for younger children. Practitioner salary costs per child are therefore substantially higher for younger children, so younger children are far less "profitable" for programmes. This is a significant issue confronting expansion in the sector. The structure of ECD subsidies does not account for differential costs by age with a consistent subsidy amount by age (even though the subsidy is targeted per child). If accommodating younger children is not financially feasible for programmes, it may be false to assume that ELP enrolment expansion will occur through expanding subsidies but keeping them at the same level.

In monitoring progress against the 2030 ECD Strategy targets, it will therefore be necessary to track age-related expansion in terms of enrolment and ECD practitioner and assistant numbers. This will require improvements to South African ECD-related data-gathering efforts, adding age-sensitive questions on enrolment, the ages of children taught by practitioners and assistants, and age-related fees in ELPs.

Notwithstanding concerns about the costs of expansion, expanding the ECD sector to reach more children will have positive impacts on job creation, particularly for females, given the highly feminised nature of the ECD workforce. In the context of high levels of unemployment, attracting people into these roles is unlikely to be a challenge. However, a significant hurdle to overcome is attracting a better-qualified pool of individuals to the sector. Data sources suggest that over half (53%) of ECD-related workers have a matric qualification. Despite low qualification levels, few ECD-related workers are in any form of school or training: just 7% of ECD-related workers indicated attending an educational institution in 2019. Significant resources and attention will need to be given to upskilling and training existing and future ECD practitioners.

The HRD Strategy sets out specific challenges that have contributed to the existence of under-trained ECD practitioners in many ELPs, including limited training providers and complex funding arrangements for institutions that train and supply ECD practitioners.[19] An additional challenge is that given the low earnings of ECD workers, estimated between R1,400 and R2,000 in 2013/14 (Kotze, 2015), attracting a more educated pool of applicants into this sector is difficult.

Given ongoing financial constraints in the sector and trade-offs in spending on quality enhancements versus enrolment expansion, attracting a more qualified ECD practitioner pool is also unlikely. With regulatory constraints around the proportion of ECD subsidies that ELPs can allocate to salaries or wages, expecting to attract a more qualified pool of applicants or expecting practitioners to spend their own money on upskilling is unlikely.

Where the quality of interactions between ECD practitioners and children is the key mechanism for realising the benefits of investment in ECD, investing in training is necessary for expanding access to quality ECD programming. Addressing the skills gaps will require state resources allocated to training

19 The HRD Strategy also sets out several recommended actions to improve the level of training for ECD practitioners. See page 25 of the Strategy document.

and coordination across various stakeholders (NGOs in the ECD sector and organisations in the post-school education and training system) to implement large-scale, geographically disbursed training to an existing and future ECD workforce.

The ECD sector also remains suitable for steering job creation and training programmes linked to the Presidential Employment Stimulus or Expanded Public Works Programme. Expanding the capacity of existing TVET (technical vocational education and training) or other colleges to deliver ECD-related training and qualifications will also be necessary, given the extent of the ECD workforce expansion requirements.

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Appendix

Table A 1: Share of children enrolled in any education or care that are in ELPs rather than school-based environments, by age category.

	National	WC	EC	NC	FS	KZN	NW	GP	MP	LP
Aged 3-4	0.978	0.989	0.950	0.985	0.974	0.974	0.980	0.981	0.989	0.991
Age 5	0.397	0.620	0.216	0.502	0.443	0.237	0.375	0.564	0.355	0.309
Aged 5-6	0.275	0.420	0.129	0.298	0.295	0.136	0.256	0.395	0.244	0.266

Calculation is the result of a four-step process to identify ELP enrolment.

Table A 2: Description of NQF level equivalence to grades or higher education qualifications

NQF level	Description
NQF Level 1	Is achieved once students complete Grade 9
NQF Level 2	Is achieved once students complete Grade 10 or N1 in a National Qualification Course, or NATED course
NQF Level 3	Is achieved once students complete Grade 11 or N2
NQF Level 4	Is achieved once students complete Grade 12 or N3
NQF Level 5	Is achieved once students complete a Higher Certificate, Advanced National Vocational Certificate or an N4-6 National Qualifications
NQF Level 6	Is achieved once students complete a National Diploma or an Advanced Certificate
NQF Level 7	Is achieved once students complete a Bachelor's Degree, Advanced Diploma, Post Graduate Certificate, or a Bachelor's of Technology
NQF Level 8	Is achieved once students complete an Honours Degree, Post Graduate Diploma, or Professional Qualification
NQF Level 9	Is achieved once students complete a Master's Degree
NQF Level 10	Is achieved once students complete a Doctor's Degree

Source: https://elroiacademy.co.za/nqf-levels/