Early Childhood Education in England

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Introduction

- Childcare and early education is essential for parents and employers, as well as children.
- Access to childcare is particularly important for mothers and for families experiencing deprivation.
- Early childhood education and care (before 5 yrs) can close the gap in learning outcomes during school years
- Government funding 15 hours a week for all 3 and 4 year olds
 Anything additional depends on both parents being employed
- No universal funding available for children under 3 years of age



Introduction to Dataset

- Education provision in England: children under 5 years of age (2018-2024)
- Datasets
 - Children Registered (15 Hours Funding and % Eligible Kids Registered)
 - Childcare Provider (Various either State or Private)
 - Funding for Disadvantaged Children
 - Special Education Needs (SEN) for Registered Children

Details:

- Government funding for children aged 2- 4 years (approx. 1,650,000 children in 2024)
- Across 10 Regions and 158 local authorities
- Number of Children enrolled logged in January



Early Childhood Education and Childcare

A local authority is a local governing body responsible for the administration of services, including local childcare funding

All children age 3 and 4 years are offered 15 hours free childcare in England

Top up to **30 hours** funding entitlement applies to families with working parents earning under £100k

As of April 2024, 15 hours funding for **some** 2 year olds is available

Funding generally stops by reception (first year of school)

Assumptions and Limitations of Data

- No. of children eligible for 30 hours funding not available
- No breakdown of categories of private and voluntary childcare providers
- Disadvantaged dataset details only 15 funding hours
- As funding for some 2 year olds is new in 2024, analysis of 3-4 year olds was prioritised as this funding has been in place universally since 2017
- Values for percentage of eligible children enrolled: population estimates at local authority levels are subject to a greater degree of error and can exceed 100%.
 - However calculation of take-up rates are consistent over time which allows for analysis of change accurately

Research Questions

- 1. Overview of Childcare Provision in England 2018-2024
 - How many children receive 15 hours vs. 30 hours of childcare per week?
 - What is the breakdown per age?
 - What is the breakdown by provider type?
 - What proportion of eligible children are registered?
- 2. How did the pandemic affect the number of children registered in childcare?
 - Did this impact differ across regions?
 - How did this impact at local authority level?
 - Did this impact differ across ages or entitlements?
 - What was the impact of the pandemic on registration numbers per provider type?



Research Questions

- 3. How many children on the 15-hour entitlement receive additional funding?
 - What are the primary reasons children qualify for additional funding?
 - What does this reveal about educational equity in early childhood?
 - Are there noticeable regional differences?
- 4. What proportion of children are identified with Special Educational Needs (SEN)?
 - Are SEN children receiving more 30-hour entitlements or 15-hour entitlements?
 - How might entitlement type affect educational outcomes?



Preprocessing

 $\begin{array}{c} 1 \\ \hline 1 \\ \hline \end{array} \longrightarrow \begin{array}{c} 2 \\ \hline \end{array} \longrightarrow \begin{array}{c} 3 \\ \hline \end{array} \longrightarrow \begin{array}{c} 5 \\ \hline \end{array}$

Missing and Invalid Values:

Invalid values ('c', 'u', 'x', 'z') were replaced with NaN to clean the data and make it ready for aggregations and calculations.

Managing "Total" Rows:

Aggregated "Total" rows were removed or separated to avoid double counting and to ensure accurate category-level analysis.

SQL Joins:

Multiple tables were combined into a unified dataset through SQL joins, ensuring all relevant information was consolidated.

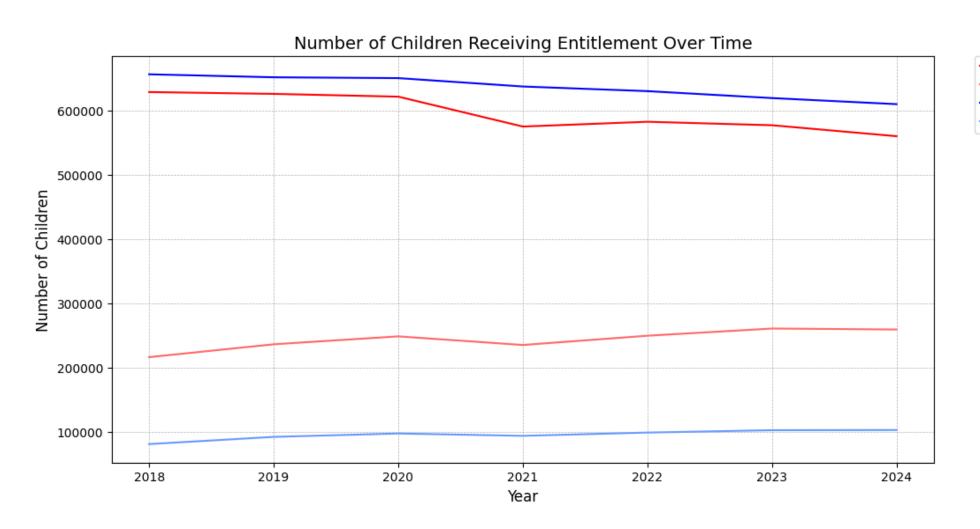
Derived Columns:

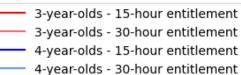
New columns (e.g., percentages) were calculated from the raw data.

Mapping and Regional Adjustments:

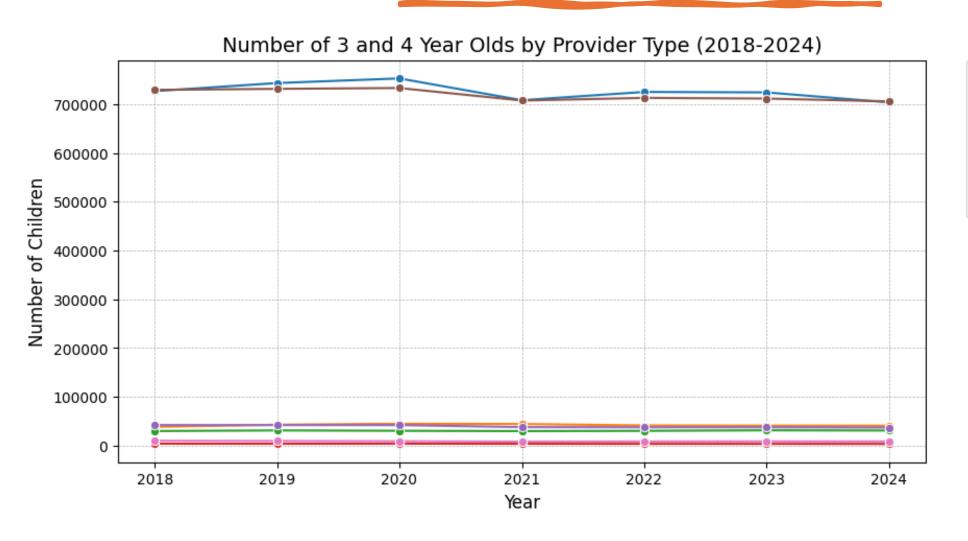
Dataset regions were aligned with GeoJSON boundaries, and inner and outer London were combined to match the regional structure of the GeoJSON file.

Overview – Age and Entitlement



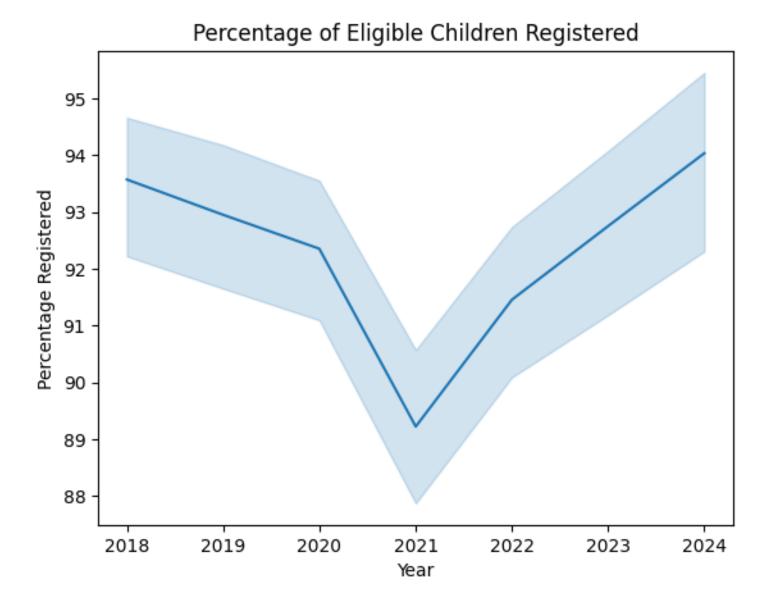


Overview – Provider Type

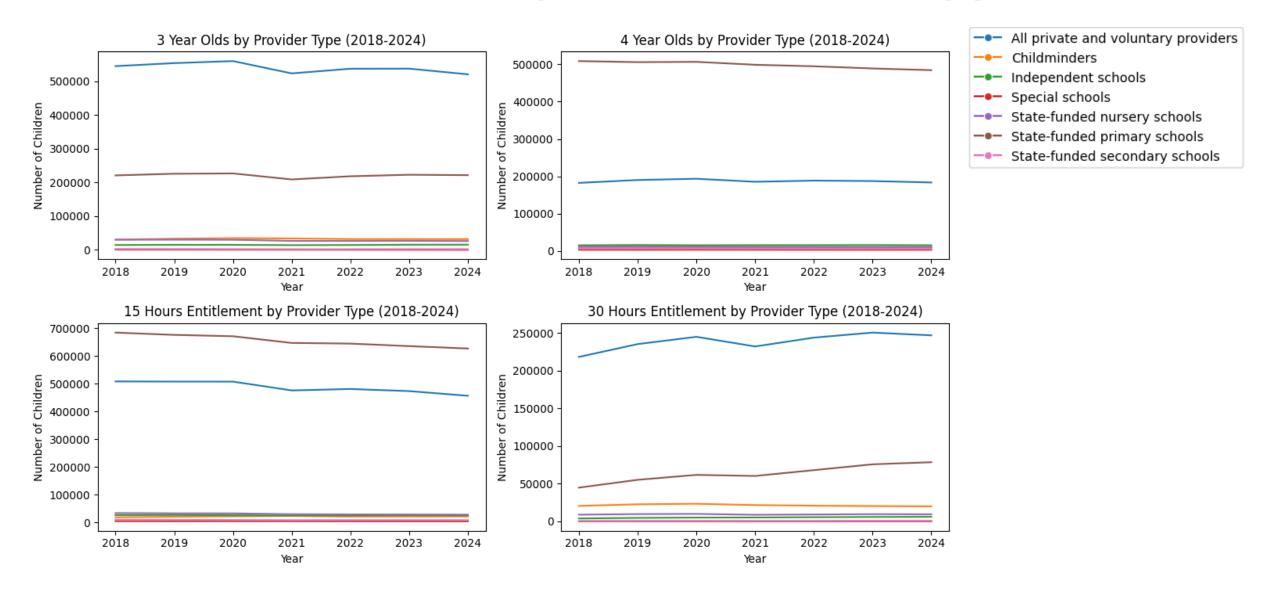


- All private and voluntary providersChildminders
- Independent schools
- --- Special schools
- State-funded nursery schools
 - State-funded primary schools
 - State-funded secondary schools

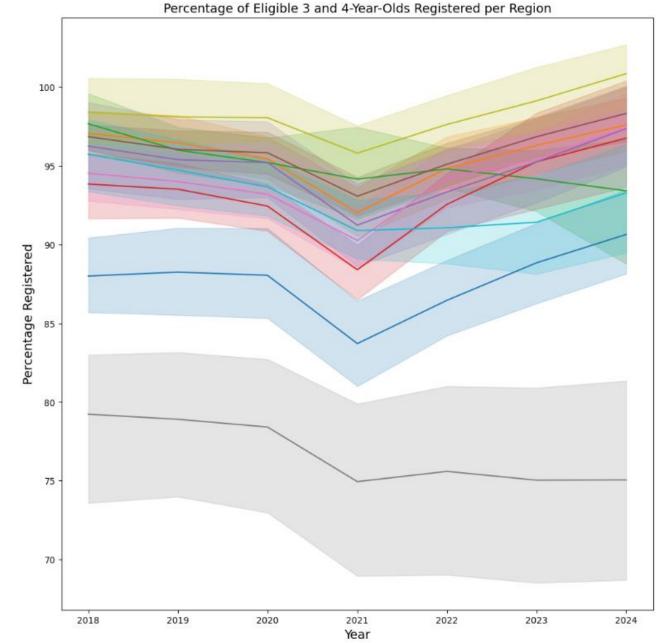
Overview -Eligible Children Registered



Pandemic Analysis – Provider Type



Pandemic Analysis -Regional





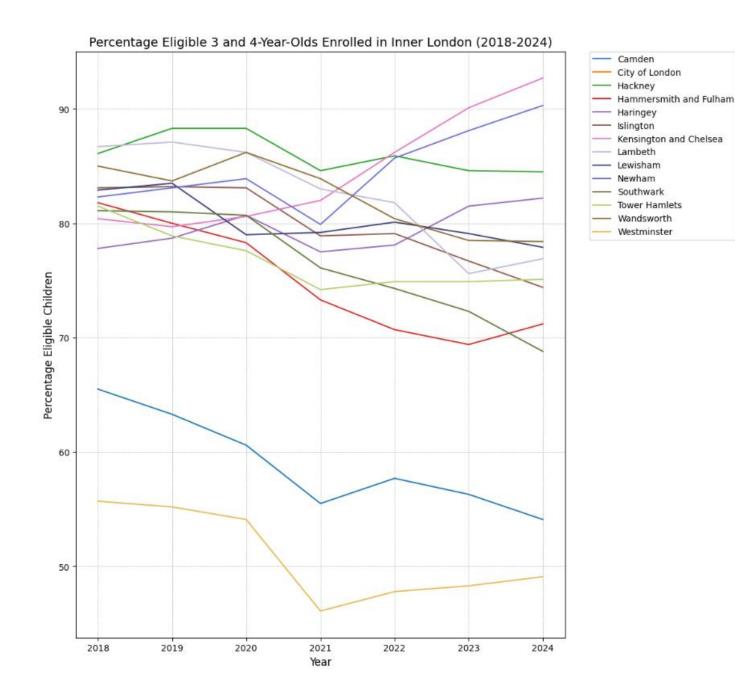
Pandemic Analysis-**Local Authority**

LA with Lowest % Eligible Children Registered (2020)

	la_name	region_name	percentage_eligible_children
1509	Westminster	Inner London	54.1
1388	Camden	Inner London	60.6
1380	Brent	Outer London	73.3
1499	Tower Hamlets	Inner London	77.6
1415	Hammersmith and Fulham	Inner London	78.3

LA with Lowest % Eligible Children Registered (2021)

	_		, ,
	la_name	region_name	percentage_eligible_children
1660	Westminster	Inner London	46.1
1539	Camden	Inner London	55.5
1531	Brent	Outer London	71.3
1566	Hammersmith and Fulham	Inner London	73.3
1650	Tower Hamlets	Inner London	74.2
1650	Tower Hamlets	Inner London	74.2



Camden City of London

Hackney

Islington

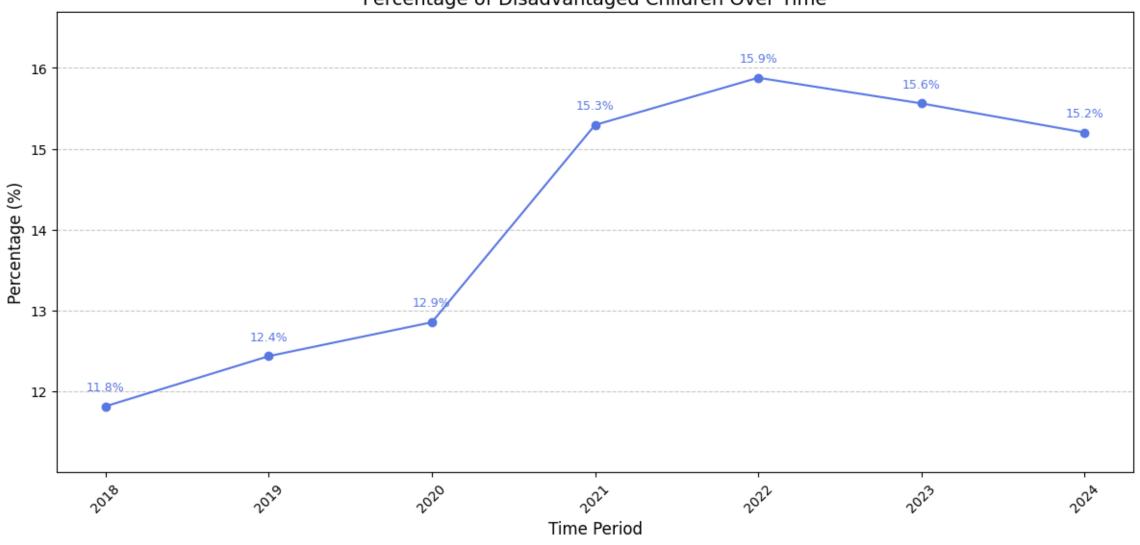
Lambeth Lewisham Newham Southwark Tower Hamlets

Wandsworth

Westminster

Kensington and Chelsea

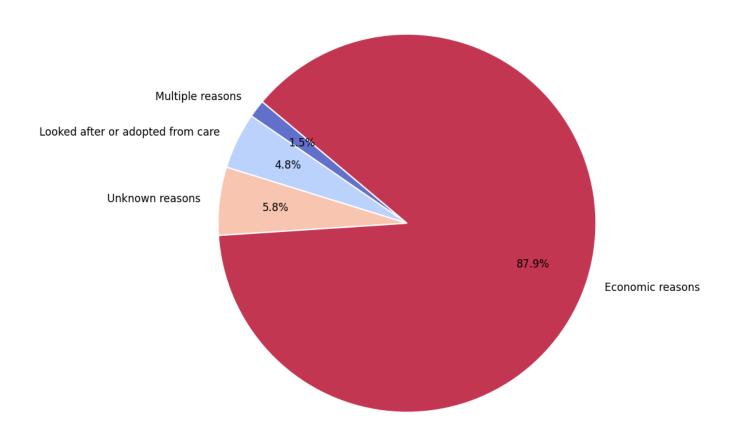
Percentage of Disadvantaged Children Over Time



Additional Funding: Early Years Pupil Premium (EYPP)

- What is it? Additional government funding for nurseries and schools to support disadvantaged 3- and 4-year-olds.
- **Purpose:** Improve educational outcomes for children with fewer opportunities.
- Who benefits? Children from low-income families or in/adopted from local authority care.

Breakdown of Reasons for Disadvantaged Status



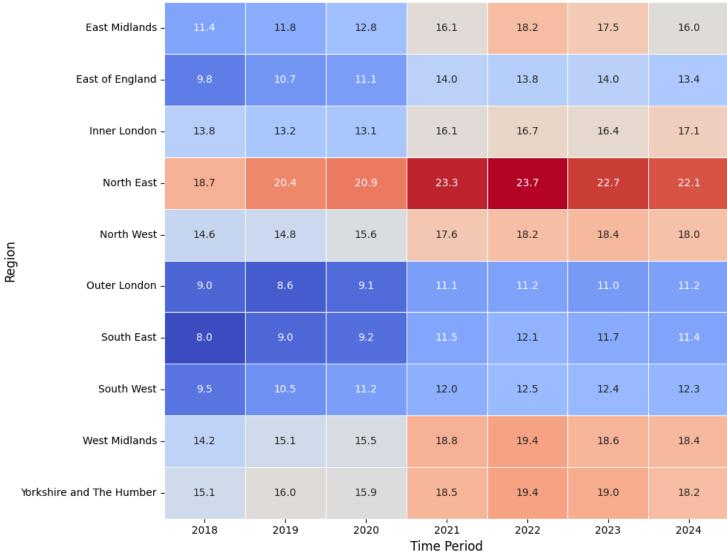
Percentage of Disadvantaged Children by Region (2018-2024)

- 22

- 20

- 12

- 10



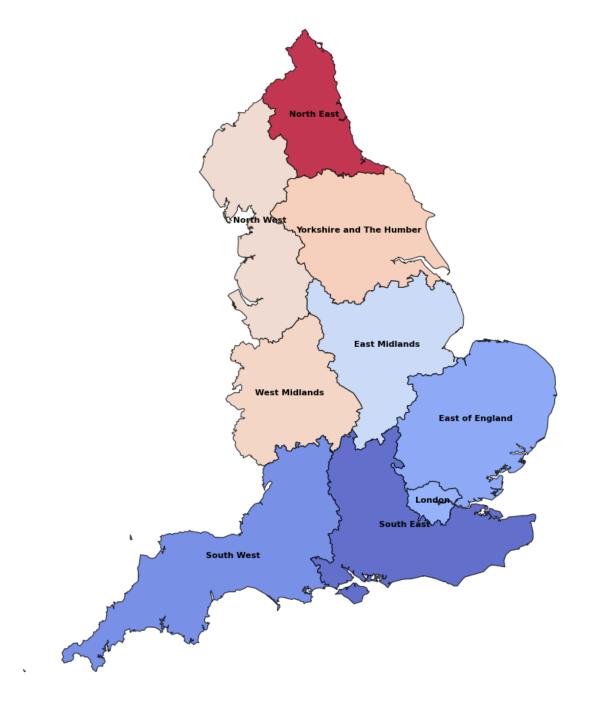
Regional Disparities in Disadvantaged Children

North-South Divide:

 Higher percentages of disadvantaged children in northern regions compared to the south.

Economic Link:

• Over 87% of disadvantage is due to economic factors, aligning with northern economic challenges.



- 20

- 18

16

- 14

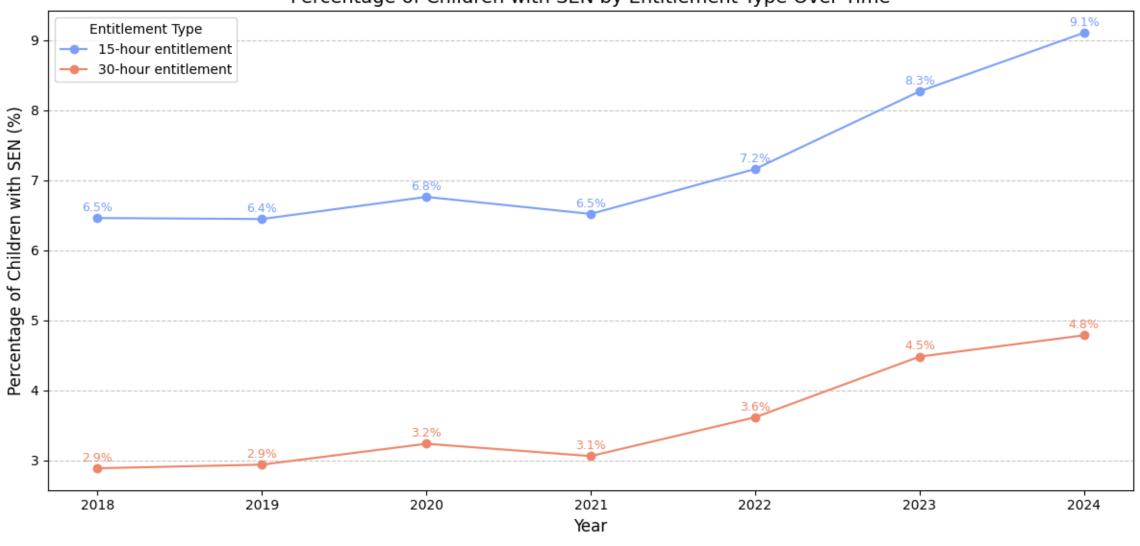
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Special Educational Needs (SEN)

- What is SEN? Support for children with learning difficulties, physical disabilities, or behavioral challenges that impact their ability to learn.
- Examples: Autism, dyslexia, speech delays, ADHD, or physical disabilities.
- Types of Support:
 - **SEN Support:** Help provided within schools, like specialized teaching or equipment.
 - **EHC Plans:** Formal plans for children with complex needs, combining education, health, and social care.



Percentage of Children with SEN by Entitlement Type Over Time







Questions?