



National Audit Office

Department for Education

Delivering the free entitlement to
education for three- and four-year-olds

Detailed Methodology

FEBRUARY 2012

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1 This appendix outlines the methods we used in the course of our examination.

Study scope

2 Our report examines whether the Department for Education is achieving value for money in delivering the free entitlement to education for three- and four-year-olds. The report does not cover reception classes, which are not funded as part of the free entitlement. We examined whether the Department is achieving its objectives for the entitlement, whether funding arrangements support the Department's objectives, and whether information is well used to improve value for money (see Figure 1 in the main report for the criteria we used). Our fieldwork took place between June and September 2011.

Methodology

3 The main methods used during the course of this study were:

- review of policy documents, evaluations and academic literature;
- analysis of existing datasets, including analyses of take-up, funding, quality and outcomes;
- a census of local authorities;
- information mapping;
- visits to local authorities;
- semi-structured interviews with stakeholders; and
- feedback from an expert reference group.

Review of policy documents, evaluations and academic literature

4 We reviewed a range of published and unpublished documents written by the Department, academics and other organisations covering early education and the delivery of the entitlement, to develop our understanding of the key issues and of the work that has already been carried out in assessing delivery of the entitlement.

5 Key documents reviewed included:

- published reports by the Department, including its policy statements, statistical first releases, impact assessments and statutory guidance;
- published reports about findings from the Effective Provision of Pre-School Education (EPPE) Project,¹ and other national and international research examining the impact of and access to early education;²
- unpublished documents written by policy teams within the Department;
- Ofsted reports; and
- published documents by other bodies reporting on or carrying out research into early education and childcare markets.³

Analysis of existing datasets

6 We obtained and evaluated a range of published and unpublished datasets from the Department, Ofsted and the Office for National Statistics. Our purpose was to understand the delivery, funding and impact of the free entitlement to early education for three- and four-year-olds.

7 Key datasets obtained and evaluated included:

- the Department's section 251 returns covering local authority funding of the entitlement under the Early Years Single Funding Formula (EYSFF) by 71 pathfinder local authorities in 2010-11 and all local authorities in 2011-12;
- the Department's Schools Census and Early Years Census for 2010 and 2011;
- the Department's Childcare and Early Years Parents survey for 2008 and 2009;
- the Department's survey of providers for 2010;
- National Statistics on the Early Years Foundation Stage profile results, covered in the Department's statistical first releases on *Early Years Foundation Stage Profile Results in England*;
- National Statistics on take-up of the entitlement covered in the Department's statistical first releases on early years *Provision for children under five years of age in England*;

1 *The Effective Provision of Pre-School Education Final Report. A Longitudinal study funded by the DfES 1997–2004 and Final Report from the Primary Phase: Pre-school, School and Family Influences on Children's Development during Key Stage Two (Age 7-11).*

2 For example, *Towards Universal Early Years Provision: analysis of take up by disadvantaged families from recent annual childcare surveys*, Speight et al (2010).

3 For example Laing & Buisson, *Children's Nurseries UK Market Report 2011*.

- Ofsted inspections covering early years providers, collected between September 2008 and March 2011 (reflecting the introduction of the Early Years Foundation Stage in September 2008); and
- measures used by the Department, including for example the Income Deprivation Affecting Children Index (IDACI) and the Index of Multiple Deprivation (IMD).

In addition, we analysed 30 Childcare Sufficiency Assessments published by local authorities against criteria set out in the Department's guidance and good practice.

Analyses of take-up, funding, quality and outcomes

8 We conducted seven categories of secondary data analysis:

i) Analyses of take-up of the free entitlement

9 We collated national-level data on take-up of the entitlement from the Department's statistical first releases. These data allowed us to present the total number of funded hours of free early education for three- and four- year-olds between 2003 and 2011 (Figure 6). These data also showed the percentage of the eligible population of three- and four-year-old children that benefited from some free early education between 2008 and 2011 (paragraph 2.3).

10 We analysed the Department's unpublished detailed local authority-level data on take-up rates of the free entitlement. Take-up data were based on the January 2011 Early Years Census, with population data taken from the mid-2010 population estimates prepared by the Office for National Statistics.

11 The dataset included the number of three- and four-year-old children accessing the free entitlement. In addition, the data included the number of children accessing the entitlement as a percentage of the estimated eligible population in each local authority. These data allowed us to examine variation between local authorities in the percentage of the eligible population of three- and four-year-olds taking up the entitlement (paragraph 2.4). This dataset also enabled us to determine the overall number of children accessing the entitlement (Figure 5). In the NAO's own census of local authorities we also asked local authorities to report their estimate of take-up of children accessing free entitlement places, which we compared to the Department's estimates (paragraph 2.4).

ii) Analyses of the type and quality of entitlement provision

12 We used two sources of data at provider level to allow us to focus our analyses on just those providers offering the free entitlement:

- Ofsted inspection judgements for maintained schools and private, voluntary and independent providers for the period September 2008 – March 2011. (From September 2008, early years providers were inspected by Ofsted under the Early Years Foundation Stage. Inspection outcomes up to and including March 2011 gave us the best indication of quality at the end of the 2010-11 financial year.)
- The Department's Early Years Census for January 2010 and January 2011 and the Schools Census for three-year-olds for January 2010 and January 2011.

13 Duplicate provider entries in both Ofsted and the Department's datasets were removed, with the most recent entry being kept. The Census datasets were used to identify the number and types of providers delivering the free entitlement in the financial year 2010-11, based on the categories used by the Department. Using provider-level identifiers, Ofsted judgements provided in the Ofsted dataset were matched to providers listed in the Early Years Census and Schools Census. There are differences between provider-level data held by Ofsted and the Department and the categorisations used by each. Due to the length of the inspection cycle, some providers have not been inspected between September 2008 and March 2011 so did not appear in the Ofsted dataset. We were able to match data for over 19,000 providers that appeared in both datasets. This covered two thirds of providers in the Department's Census data. Ofsted provided additional data on independent schools (used in Figure 5).

14 Ofsted make a number of judgements at each inspection and produce an overall inspection outcome. We analysed the correlations between the individual Ofsted inspection judgements and the overall inspection outcome at the provider level. Since the correlations between the individual judgements and the overall outcome were very high (> .9), we elected to use only the overall outcome in subsequent analyses.

15 By matching the overall inspection outcomes to lists of free entitlement providers provided by the Department, we were able to determine the proportion of free entitlement providers rated good or outstanding for each local authority during the specified time period, and to examine differences in quality of provision between maintained nursery schools, nursery classes in primary schools and non-maintained providers (private, voluntary and independent providers) (Figure 5). In addition, we compared outcomes for inspections undertaken in 2008-09 and 2010-11 for maintained and non-maintained providers (paragraphs 12, 2.8).

16 We examined quality at Lower Super Output Area (LSOA – populations of approximately 1,500 people) level to gain a better understanding of how the quality of provision is related to the level of deprivation of the provider location. We grouped LSOAs into deciles according to the Index of Multiple Deprivation (IMD) and compared the proportion of free entitlement providers rated good or outstanding for each decile (Figure 7).

iii) Analyses of entitlement funding

17 Local authority-level funding data on the free entitlement were collated from authorities' section 251 returns to the Department. We used these data to determine the percentage of the Dedicated Schools Grant (DSG) directed at funding the free entitlement for pathfinder local authorities in 2010-11 (Figure 8). Data from section 251 returns for 2010-11 and 2011-12 also allowed us to examine the numbers of base rates specified by the Early Years Single Funding Formula (EYSFF) for those authorities that had been pathfinder authorities in 2010-11 (Figure 10) and the percentage of entitlement funding that is allocated through base rates (Figure 11) in both 2010-11 and 2011-12. We also analysed a sample of 24 pathfinder authorities to identify how supplements were recorded and constructed.

18 For each 2010-11 EYSFF pathfinder, a figure for average hourly funding of the entitlement was constructed by dividing EYSFF total funding (including base rates, supplements and lump sum payments) by total entitlement hours, as specified in the 2010-11 section 251 returns (Figure 5).

19 We compared our own analyses above with those conducted by the Department on 2010-11 and 2011-12 returns. We also identified where there were gaps, inconsistencies or errors in how the returns had been completed by local authorities (paragraph 4.7).

20 We assessed the proportion of providers of the free entitlement that were maintained or non-maintained providers for each local authority.

iv) Combined analysis of quality and funding

21 Combining data on the quality and funding of free entitlement provision allowed us to examine differences between EYSFF pathfinder authorities in terms of the funding offered per hour, and the proportion of free entitlement providers judged good or outstanding by Ofsted. We plotted the funding and provision quality of each local authority on a scatterplot (Figure 13). Figure 13 reflects data from 63 out of 71 pathfinder local authorities. For eight local authorities, the section 251 returns did not include sufficient data to allow calculation of average funding per hour for the entitlement.

v) Analyses of Early Years Foundation Stage (EYFS) profiles

22 We took national-level data on EYFS profiles from the Department's statistical first releases. We compared overall results in 2005-06 with those in 2010-11 and compared results by local authority. These data also allowed us to examine the narrowing of the gap in profile results between the bottom 20 per cent of achievers and the rest, over the time period 2007-11 (paragraph 2.12).

vi) Regression and correlation analyses

23 We conducted regression analyses to examine the relationships between funding per hour, quality (percentage of good or outstanding providers) and other local authority-level variables. We collated various data at local authority level including demographic statistics measuring deprivation (IDACI), median wages, and the number of three- and four-year-olds benefiting from some free early education. We constructed two multiple linear regression models:

- The outcome variable was average hourly funding of the entitlement. The explanatory variables were: (1) proportion of LSOAs rated in the top 10 per cent of IDACI, (2) number of children benefiting from some free early education, (3) proportion of providers inspected by Ofsted between September 2008 and March 2011 judged good or outstanding, (4) median wages, and (5) proportion of DSG allocated to maintained schools.
- The outcome variable was proportion of providers inspected by Ofsted between September 2008 and March 2011 judged good or outstanding. The explanatory variables were: (1) proportion of LSOAs rated in the top 10 per cent of IDACI, (2) number of children benefiting from some free early education, (3) average hourly funding of the entitlement, (4) median wages and (5) proportion of DSG allocated to maintained schools.

24 In the first regression model, the explanatory variables accounted for 19.7 per cent of the variance in the outcome variable. This means that over 80 per cent of the variation in our measure of funding per hour was not accounted for by our measures of deprivation, number of children, provision quality, proportion of funding allocated to the maintained sector, and median wages. The second regression model was not statistically significant ($p = 0.989$), and variables accounted for a negligible proportion of variance in the outcome variable. This means that the variation in our measure of provision quality was not significantly related to funding per hour, deprivation, number of children, proportion of funding allocated to the maintained sector, and median wages.

25 We analysed the correlations between a range of variables at local authority level. A correlation $> .3$ was considered a weak relationship and $> .7$ was a strong relationship. The variables used were:

- proportion of providers rated good or outstanding by Ofsted;
- average hourly funding rate as calculated from the authority's section 251 return;
- proportion of the Dedicated Schools Grant spent on the entitlement;
- take-up rates calculated by the Department;
- Early Years Foundation Stage profile results;
- median wages calculated by the Office for National Statistics in 2010;
- proportion of Lower Super Output Areas (LSOAs) within the authority in the most deprived 10 per cent of all LSOAs according to IDACI; and
- proportion of LSOAs within the authority in the most deprived 10 per cent of all LSOAs according to IMD.

vii) Statistical neighbours analysis

26 We also used the Department's Children's Services Statistical Neighbour Benchmarking Tool to identify local authorities that were statistically similar and comparable. We compared pathfinder local authorities to their statistical neighbours. To be included in these analyses, complete financial data were required, as were at least three 'Extremely Close' or 'Very Close' statistical neighbours amongst the pathfinders. This resulted in a sample of 48 pathfinder local authorities, each of which had at least three extremely close or very close statistical neighbours.

27 By examining local authorities and their statistical neighbours, we compared the variables i) funding per hour and ii) percentage of providers judged good or outstanding, between authorities that are known to have similar characteristics.

Census of local authorities.

28 We sent 152 local authorities an online questionnaire to gather evidence about whether they have particular types of information available to them to support the implementation and delivery of the entitlement, and what use is made of this information. Our questionnaire covered information on funding and costs; implementation and delivery; quality and outcomes; take-up; and knowledge sharing. We achieved a 76 per cent response rate (115 local authorities), with responses from over half of authorities in each of the nine regions in England.

Information mapping

29 With the Department, we analysed information relating to the delivery of the entitlement, covering responsibilities and accountabilities for delivery, funding flows, reporting of financial and other information. We cross-checked these information flows with other sources and used these to inform our assessment in Part Four of the report, taking account of the Committee of Public Accounts report *Accountability for Public Money*.⁴

Visits to local authorities

30 We visited 14 local authorities during June to August 2011 to gain an in-depth understanding of authorities’:

- funding arrangements for the entitlement;
- relationship with providers and management of the market;
- costs of delivering the entitlement;
- approach to quality of provision;
- approach to achieving take-up of the entitlement;
- measurement of outcomes and impact of the entitlement; and
- evaluation of value for money.

31 We aimed to include in our visits local authorities which were reasonably representative of the population, by selection of a stratified sample, taking into account their size, spend, overall Ofsted quality ratings, mix of provider types (extent of maintained and non-maintained), and geographical spread across England.

Semi-structured interviews with stakeholders

32 We conducted semi-structured interviews with the Department and stakeholders to gain an in-depth understanding of the delivery of the entitlement, to gain access to and understanding of datasets, and to triangulate with quantitative data evaluation and analysis. Stakeholders we interviewed included Ofsted, the National Childminding Association (NCMA), The Daycare Trust, the Pre-School Learning Alliance, Montessori Schools Association, National Day Nurseries Association (NDNA), Children’s Workforce Development Council (CWDC), Bright Horizons, Early Education, Busy Bees, the EPPE Study team, and the National Children’s Bureau (NCB).

⁴ HC Committee of Public Accounts. Twenty-eighth report of Session 2010-11, HC 740, 5 April 2011.

Expert Reference Group

33 We engaged with the Early Education Co-Production Group to provide feedback, comment and context on our overall findings. More about the group is at <http://www.education.gov.uk/childrenandyoungpeople/earlylearningandchildcare/delivery/b0075913/early-education-co-production-group>.