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# **National Association of Independent Schools and Non- Maintained Special Schools**

Summary of findings: Extension of the 2011 cost  
comparison methodology to a wider sample

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## **NASS CEO's Foreword**

In 2011 NASS rose to a challenge from central Government to demonstrate that placements in the Non-Maintained and Independent Special School (NMIS) sectors were not more expensive than equivalent Local Authority packages of support. We commissioned Baker Tilly to carry out a rigorous analysis of costs in 7 NASS member schools, considering the full range of services provided, rather than simply focusing on the costs of teaching. The findings of the study suggested that, on average, packages of support in day and term-time NMIS provision was cheaper than a Local Authority providing such support themselves.

The report led to lively and valuable discussions with stakeholders in both central and local government. Whilst the methodology used has withstood scrutiny, NASS recognised that we must be cautious about generalising our findings on the basis of only 7 schools. This report represents a repeat of last year's study with a much expanded cohort – this time considering over 40 schools, accounting almost half the students educated on NASS member schools.

I am delighted that last year's findings have been broadly replicated by this expanded study. We now have strong evidence that day and weekly/fortnightly boarding in NMIS offers a more cost effective route to delivering multi-agency support to young people with complex needs than equivalent Local Authority packages of support. We have also been able to endorse last year's assertion that 52 week provision for those with the most complex needs represents a relatively small additional investment for the additional nature and level of service received.

This report is best read in conjunction with NASS/Baker Tilly's report on the Social Return on Investment. Together they provide convincing evidence of not just the cost effectiveness of the NMIS but the value of placements over the course of a young person's life.

These findings are important and timely. In 2013 we will see the start of major changes for SEN provision through both School Funding and SEN policy reforms. For the first time, NMIS are likely to have the opportunity to be fully considered as a part of the "continuum of provision". However, this inclusion comes at a time when Local Authorities will be forced to make ever more savings and to be certain that placements both meet needs and represent best use of scarce funds. We believe that this report offers vital evidence for the cost effectiveness of the NMIS and offers the type of rigorous analysis of costs that purchasing Local Authorities will need to repeat with other SEN services that they commission. These reports convince us that the NMIS sector is in a strong position to rise to new challenges.

**Claire Dorer  
Chief Executive**

**[ ] October 2012**

## NASS Introductory Comments from Jim Clifford

The initial study, produced, using a robust, and properly challenging, approach, a striking result. Comparing costs like with like, NMISS sector provision was less expensive than the Local Authority Maintained equivalent.

The initial study, whilst robust, recognised the need to test the analysis against a wider sample of NASS schools. This study addresses that point, and takes the opportunity to test and refine some of the assumptions in the earlier study.

The results support the conclusions of the earlier study, whilst raising some additional points of interest around the spread of provision available. One particular area that would benefit from further study is the question of the higher costs required to deliver provision for students with high needs (for example, those with SEBD or more extreme physical disabilities) as compared to the general NMISS provision spectrum. This study shows that NMISS provision to students with higher needs includes greater staff to student ratios and higher facilities costs; a detailed, cross-discipline, look at how the meeting of educational needs and social needs interact with containment and safety considerations in such provision is, perhaps, required.

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# Definitions of Terms

The following definitions apply throughout this document, unless the context requires, otherwise:

Term	Definition
<b>DfE</b>	The Department for Education
<b>DLA</b>	Disability Living Allowance
<b>LA</b>	Local Authority
<b>NASS</b>	National Association of Independent Schools and Non-Maintained Special Schools
<b>NMIS schools</b>	Non-Maintained and Independent Special schools
<b>SEN</b>	Special Educational Needs
<b>SEND</b>	Special Educational Needs and Disability
<b>SEBD</b>	Social, Emotional and Behavioural Difficulties
<b>SLD</b>	Speech and Language Difficulties

# 1. Executive Summary and Key Findings

## Introduction

- 1.1 In October 2011, the National Association for Independent and Non-Maintained Special Schools (“NASS”) published its study<sup>A</sup> that compared the costs of providing education, care and other support services to students within the Local Authority (“LA”) Maintained sector as against a Non-Maintained or Independent Special (“NMIS”) School.
- 1.2 The finding of the October 2011 study was that delivery in the seven NMIS Schools included in the sample was at a £7k to £17k per annum lower cost than the equivalent provision in LA-Maintained schools (for day and term-time boarding).
- 1.3 For 52 week boarding provision, which is typically restricted to those students with the greatest multiplicity and complexity of needs, provision cost £48k per annum more than LA-Maintained provision. It was noted in the findings of that study that LA-Maintained provision is principally day only and part-time residential, and that the nature of the needs catered for by 52 week NMIS provision was significantly beyond the delivery capability of most LA-Maintained schools. Whilst this study seeks to reflect comparable total annual costs of education and care packages for students, the disparity in types of need between LA-Maintained and 52 week boarding NMIS School students is likely to be such that comparison between these groups may not be meaningful.

## Scope and purpose of this report

- 1.4 The aim of the 2011 study was to determine whether a methodology could be developed to compare the relative costs of delivery within the NMIS sector against the LA-Maintained sector. The intention was to complete a pilot study before undertaking a review using the same methodology across a wider sample.
- 1.5 Baker Tilly has now been engaged by NASS to support it extending the 2011 methodology to a wider group of NMIS Schools.
- 1.6 The aim of this report is to summarise the approach taken to extending the methodology across a wider group: to analyse the results of applying the 2011 methodology to it.
- 1.7 It also includes analysis of key features of the participating NMIS schools such as geographical location and types of needs catered for and an analysis of key trends identified in the results relating to these features.
- 1.8 This study is based upon the methodology set out in the 2011 study<sup>B</sup>. Whilst a summary of that methodology is provided in sections 2 and 4, this study is to be read in conjunction with the earlier report.
- 1.9 The methodology used for this study is summarised below:
  - ▶ Education budget data from section 251 returns has been used as a starting point for LA provision costs. This is presented as a cost per student.
  - ▶ Fees per student were derived from data provided by each of the 42 schools included in this study. Some 50 schools were invited to participate in the study, giving a response rate to the questionnaire used to gather data (see Appendix C) of 84%.

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<sup>A</sup> Clifford, J., Hamblin, J. and Theobald, C. (2011) National Association for Independent and Non-Maintained Special Schools: Comparative Cost Review of Non-Maintained and Independent Special Schools with Local Authority Maintained special schools, NASS/Baker Tilly, Watford/York

- ▶ Adjustments were identified in the 2011 study to increase the costs of day-only provision in either LA-Maintained or NMIS Schools. These adjustments facilitate comparison between different levels of provision by reflecting the total cost of the education and care package for a 'typical' student. Detail on the adjustments made is shown in section 4.

## Results of this analysis

1.10 The table below shows the mean adjusted costs of delivery by NMIS schools and LA-Maintained provision from the current study:

	52 Week (£)	Term time boarding (£)	Weekly/ fortnightly boarding (£)	Day only (£)	LA-Maintained (£)
Fees paid by LA	167,268	105,522	61,859	46,252	26,636
Total adjustments	-	17,379	27,480	47,459	84,432
<b>Total package cost</b>	<b>167,268</b>	<b>120,901</b>	<b>89,339</b>	<b>93,711</b>	<b>111,068</b>

1.11 The table above highlights that:

- ▶ Day-only provision costs at NMIS schools (being the closest comparator to LA-Maintained delivery, were found to cost c£18k less than the equivalent LA-M provision.
- ▶ Residential provision on a weekly/fortnightly basis was found to have a lower cost than day only provision at NMIS schools, principally due to the lower costs of care otherwise borne by the LA outside the school environment. This level of residential provision was found to cost c£22k less than LA provision.
- ▶ The cost of term-time boarding was found to be £120k, c£9k higher than the cost of equivalent LA-Maintained provision. Given the expectation that some students who require this level of boarding may have greater support needs, the additional cost premium appears to be relatively modest. It was noted that many of the schools included in the study that offer this type of provision specialise in SEBD, which are likely to require higher levels of care and support staffing.
- ▶ The cost of 52 week boarding was found to be consistent with the 2011 pilot study at £167k, representing a premium of c£56k compared to LA provision. As was noted in the previous study, schools that offer this type of provision tend to specialise in needs that require higher levels of supervision and specially adapted buildings than would be expected for shorter tenure NMIS provision or LA-Maintained schools. Feedback gathered during the pilot study was that students in this type of provision would tend to have needs that could not be met within LA-Maintained provision. Hence, it was felt in that a comparison between 52 week NMIS provision and LA-Maintained provision would not be meaningful. This suggests that there may be some need for further comparative review covering the costs of provision by type of need.

1.12 It remains, therefore, noteworthy that the differential in cost between LA-funded provision and 52 week boarding at a special school of c£56k appears to be relatively modest in light of the additional facilities provided. In some cases 52 week boarders require 24 hour supervision by trained care staff, which is included within the £167k cost shown above. The adjustments shown to LA provision costs in this study reflect a far lower level of need.

1.13 The standard deviations in annual fees for NMIS Schools and results distribution findings are summarised below<sup>C</sup>:

- ▶ **52 week provision:** the standard deviation across the sample was c£50k. All results were within 1.6 standard deviations of the mean, with two schools greater than the mean by more than 1.5 standard

<sup>C</sup> 94% of any sample will lie within one standard deviation of the mean.

deviations. The lowest cost provision was c£86k, being broadly consistent with the adjusted cost of day-only or weekly/fortnightly boarding NMIS School provision, and therefore below the cost of LA-Maintained provision. The highest cost provision was c£230k, the premium of c£119k compared to LA-Maintained provision being driven primarily by the need at that school for specialised facilities to address the needs of students with Social, Emotional and Behavioural Difficulties (“SEBD”).

- ▶ **Term-time boarding:** the standard deviation across the sample was c£47k. All results were within 2 standard deviations of the mean, and only one school being greater than the mean by more than 1.5 standard deviations. The lowest adjusted cost of provision was c£30k, being c£81k below the adjusted cost of LA-Maintained provision: the school in question specialises in sensory impairment, and has a relatively low requirement for care and support staff. The highest adjusted cost of provision was c£181k, being £70k greater than the adjusted cost of LA-Maintained provision: the school in question specialises in provision for students with severe SEBD who require a setting with high levels of staffing and specialism.
- ▶ **Weekly/fortnightly boarding:** the standard deviation across the sample was c£23k, with all but one school being within 1.2 standard deviations of the mean, and only one school greater than the mean by more than 1 standard deviation. The highest adjusted cost of provision was £137k (fees were £120k, being 2.6 standard deviations above the mean): the school in question specialises in severe SEBD and therefore has higher care/support staffing requirements and costs associated with more specialised facilities. The lowest adjusted cost of provision was £34k, at a school that specialises in sensory impairment and has relatively low care/support staff requirements.
- ▶ **Day-only:** the standard deviation across the sample was c£15k, with all but one school being within 2 standard deviations of the mean, and with only two schools being greater than the mean by more than 1.5 standard deviations. The lowest fee cost of £10k (adjusted total cost of £57k) was 2.4 standard deviations lower than the mean: the school specialises in sensory impairment and therefore has a relatively low care and support staffing requirement. The highest adjusted cost of provision was £122k at a school that specialises in SEBD, autism and communication/learning difficulties: the school has relatively high care and support staffing requirements in order to meet the needs of students presenting challenging behaviours.

## Sensitivity analysis

- 1.14 In order to assess the extent to which a variation in delivery costs within schools may be material, we have used a fee range of plus and minus 2 standard deviations from the mean fees per student, to which the adjustments shown above (1.10 have been applied):

Sensitivity Analysis	-2 SDs fees per student adjusted as above £	+1 SDs fees per student adjusted as above £	+2 SDs fees per student adjusted as above £	LA-Maintained adjusted cost per student £
Day only	63,402	108,865	124,020	111,068
Weekly/fortnightly boarding	43,527	112,245	135,151	111,068
Term-time only boarding	29,680	169,511	216,122	111,068
52 week boarding	66,331	217,736	268,205	111,068

- 1.15 The conclusion of this analysis is that:
- ▶ The analyses based on fees per student of -2 standard deviations from the mean returned adjusted costs below that identified for LA-Maintained provision.
  - ▶ The analyses based on fees per student of +2 standard deviations from the mean returned adjusted costs above that identified for LA-Maintained provision. The findings from this study highlight that the key factor in determining costs of provision is the nature of the needs of the students that a school serves. Certain needs, such as SEBD, were more likely to result in above

average costs due to the higher staffing requirements to meet these needs effectively. As is discussed above (1.13), very few results were more than 1 standard deviation greater than the mean. The analysis based on fees per student of +1 standard deviation from the mean returned adjusted costs of delivery at day-only and weekly/fortnightly boarding NMIS provision broadly consistent with the adjusted cost of provision in LA-Maintained schools.

- 1.16 The sensitivity analysis shown above highlights that, for the majority of schools included in this study, the cost of provision by NMIS schools is below that identified for the LA-Maintained sector. NASS believes that the conclusion from the previous study in relation to term-time and 52 week boarding (i.e. that schools with costs of delivery greater than that of LA-Maintained provision tend to serve students whose needs cannot be met within the LA-Maintained sector, and so achieve delivery at a relatively modest premium) is still valid.
- 1.17 Various assumptions have been made in the course of preparing this analysis and the detailed tables of calculations shown in this report. Some relate to estimates made by the NASS working group during the 2011 pilot study in coming to the views of costs and some relate to adjustments to LA-maintained school direct costs, as derived from the education budget data.
- 1.18 In order to assess the extent to which these assumptions are material, potentially key assumptions have been identified. Each has been subject to variation within what appears to be a reasonable range, and the effect on the total valued outcomes under the study has been recast. The resulting analysis is shown at Appendix D.
- 1.19 The conclusion of this analysis is that, in the context of the non-residential and 38 week residential cost range of £94k to £120k, none of these sensitivities appears to materially change the conclusion of this study (i.e. that the costs of delivery at the NMIS schools included in this study for non-residential and weekly/fortnightly residential provision are lower than the total education and care package under LA provision and that term-time boarding at an NMIS school attracts a relatively modest premium).

## Conclusion

- 1.20 The findings of this study broadly support those of the October 2011 pilot study, in that the best comparator for LA-Maintained provision, being day only provision at NMIS schools, remains at a lower cost than LA provision.
- 1.21 Of particular note is the adjusted cost of weekly/fortnightly boarding, which has been added to this study. The analysis of adjusted costs for this type of provision indicates a lower cost than day-only NMIS provision and LA-Maintained provision. This suggests that it may be more cost-effective, in some cases, to utilise boarding facilities at NMIS schools than day-only provision at either NMIS or LA-Maintained schools.
- 1.22 Term-time and 52 week boarding provision at NMIS schools attract a premium compared to LA-Maintained provision of £9k to £56k respectively. At this level of provision, NMIS schools are offering a level of support that NASS believes exceeds that on offer at LA-Maintained schools for a group of students whose needs would be expected to exceed the capability and infrastructure of LA provision. On this basis, NASS believes that the premium attached to these types of provision is relatively modest when compared to the additional services delivered. This is supported by the average ratio service delivery staff per student for NMIS schools that provide term time or 52 week boarding of 2.2 to 1, compared to an implied ratio of 0.75 service deliver staff per student based on the national median cost data set<sup>D</sup>. It is also highlighted by the average depreciation charge, which reflects the costs of facilities at these schools, of c£7,700 per student (c£2,100 greater than the average across all NMIS schools included in this study),

<sup>D</sup> Per the s.251 returns, the national median includes c£8k for teacher costs and c£6k for learning support staff. This is assumed to equate to, broadly 25% of the total employment costs of a teacher and 50% of the total employment costs of a Learning Support Assistant (i.e. 0.75 staff per student in total).

compared to an average cost of premises and ICT resources for LA-Maintained provision of £1,437 per student. Further study might be undertaken to highlight the comparative costs of provision for specific types of need including, for example, the relative costs of provision for students with SEBD compared to those with severe disabilities.

- 1.23 No adjustments have been made in the analysis shown in this study to reflect the differing levels of student need within different provision types. The closest comparison shown in this study appears to be the day-only NMIS provision compared to LA-Maintained provision. Such analysis highlights that provision by NMIS schools compares favourably with LA-Maintained schools and, for the majority (59%) of students captured by this study, is delivered at a lower cost.

## 2. Introduction

### Overview of the 2011 Study

- 2.1 In October 2011, the National Association for Independent and Non-Maintained Special Schools (“NASS”) published its study that compared the costs of providing education, care and other support services to students within the Local Authority (“LA”) Maintained sector as against a Non-Maintained or Independent Special (“NMIS”) School.
- 2.2 The finding of the October 2011 study was that delivery in the seven NMIS Schools included in the sample was at a £7k to £17k per annum lower cost than the equivalent package of support in LA-Maintained schools (for day and term-time boarding).
- 2.3 For 52 week boarding provision, which is typically restricted to those students with the greatest multiplicity and complexity of needs, provision cost £48k per annum more than LA-Maintained provision. It was noted in the findings of that study that LA-Maintained provision is principally day only, and that the nature of the needs catered for by 52 week NMIS provision was beyond the capability of most LA-Maintained day schools.
- 2.4 The aim of the 2011 study was to determine whether a methodology could be developed to compare the relative costs of delivery within the NMIS sector against the LA-Maintained sector. The intention was to complete a pilot study before undertaking a review using the same methodology across a wider sample.
- 2.5 In line with the basic premise of the 2011 report, the methodology applied in this study uses as a starting point the legal and ethical right of the child to receive an education and care package appropriate to delivering education that, as a minimum, meets the requirements set out in their Special Educational Needs (“SEN”) statement. At the time of the 2011 study, central Government policy was observed to be shifting towards seeking to deliver positive outcomes for children with SEN and Disability (“SEND”) going beyond those minimum requirements. To reflect that drive, the methodology developed in 2011 seeks to evaluate the cost of delivering an effective education and care package to students within both LA-Maintained and NMIS Schools.
- 2.6 The 2011 study used Department for Education (“DfE”) data (section 251 returns), which gave a national median cost of SEND education delivery of £27k per pupil. The data was analysed to identify aspects of the wider education and care package that were absent from the education budget, being borne by another LA team or a central Government department. The use of budget figures in this study was intended to reflect two key factors:
  - ▶ The schools participating in the study were producing financial information relating to the 2011 academic year, hence the period to which data relate were matched; and
  - ▶ Actual spend for the prior year was expected by NASS to be stated prior to funding cuts and other changes that followed the implementation of the Coalition Government’s Comprehensive Spending Review. NASS believed that the budget data for 2011 was more likely to present an accurate reflection of the position within LA-Maintained Schools.
- 2.7 In order to facilitate comparison, the methodology makes adjustments for:
  - ▶ *Therapy costs*: for many students, physio-, occupational and speech and language therapies are a fundamental aspect of facilitating educational engagement. In LA-Maintained provision, these costs may be expected to be borne by health and social care teams, and as such were not included within the education budget data used.
  - ▶ *Incremental welfare benefit costs for the family*: families of children in day-only provision may be entitled to the care component of Disability Living Allowance (“DLA”), which is not paid to students to the extent they are resident at an NMIS school. DLA is means-tested, with payments ranging from £2k

to £13k. An adjustment for additional costs to the family of £8k was identified based on a New Philanthropy Capital research study, which falls within the range of DLA payments, to which a family may be entitled.

- ▶ *Short breaks:* the entitlement to and cost of short breaks for students is dependent upon the multiplicity and complexity of their needs. The Action Research group involved in the 2011 study set out examples of short breaks ranging from £6k to £25k per annum. By reference to the comparatively high levels of need of students in the group, it was felt that many would be entitled to breaks at the upper end of the cost range. However, for prudence to reflect that not all NMIS students will be so entitled, an adjustment of £7k was used.
- ▶ *Travel costs:* to the extent that a child boards at an NMIS school, costs of travel to and from school are avoided. Typically, LA-Maintained provision involves day schools to which students are transported by taxi. In addition to the Taxi fare, each student must be chaperoned. Hence, the cost of transportation borne by the LA includes the taxi journey and wages for chaperones. Based on costings provided by the Action Research group, the 2011 study used a travel cost adjustment of £20k per annum.
- ▶ *Depreciation on school facilities:* LA-Maintained schools do not bear depreciation costs, which would be included at a higher level in the LA accounts (expected to be within a premises/estates function). NMIS schools bear depreciation costs on buildings and improvements made to them. Similar charges will be made on LA-Maintained facilities. The adjustment for this is based upon the average depreciation charge borne by the sample of NMIS schools used.

2.8 The 2011 study provides further detail on these adjustments. It also highlights certain adjustments that were not made to LA-Maintained cost data due to a lack of robust evidence with which they could be quantified. It also sets out the approach to adjusting the costs of NMIS provision of less than 52 weeks boarding to account for costs borne outside school by LA health and social care and other budgets to the extent students are resident at home.

## Scope, Research Methodology and Purpose of this Report

2.9 Baker Tilly has been engaged by NASS to support it extending the 2011 methodology to a wider group of NMIS Schools.

2.10 The study was undertaken between 26 April 2012 and 30 September 2012. A sample of 42 schools, representing 19% of NASS' membership (see Appendix **Error! Reference source not found.** for a list of participating schools), completed a questionnaire (see Appendix **Error! Reference source not found.**) that included:

- ▶ Details of the location and profile of the school including the types of need catered for and any particular specialisms;
- ▶ The type of provision offered split by day only, weekly or fortnightly boarding, term time (c38 week) boarding or 52 week boarding;
- ▶ Some of the schools were able to provide information on student age and backgrounds including the number of previous placements and the number referred to the NMIS school by a tribunal; and
- ▶ The cost comparison matrix used for the 2011 study.

2.11 The data submitted by the participant schools was analysed and adjusted following the 2011 study methodology, and a sample of ten schools was selected for testing/validation of responses. The sample was selected by taking a selection of the highest and lowest adjusted cost schools and that closest to the average for each type of provision (i.e. day only, weekly or fortnightly boarding, term-time boarding or 52 week boarding). Appendix **Error! Reference source not found.** shows further detail on the methodology for selecting the test sample, the work completed during testing and the results of the testing phase. The validation of data focused on:

- ▶ Confirming that the cost and income data submitted agreed to statutory or management accounts for the last 12 month accounting period ending 2011/12. Copies of these records were obtained for the purpose of vouching the totals shown;
- ▶ The request in the questionnaire for a calculation of fees per student broken down by tenure. Schools selected for testing were asked to provide the basis for their response. Typically schools had either

calculated an average cost per student based on the breakdown of fee income by student tenure. Some schools lacked visibility on income by tenure and so used the standard fee rates for students of each tenure that were applicable for the accounting period used;

- ▶ The number of therapy hours reported by each school as delivered by them. Some had recorded this data in detail and were able to provide an average based on the number of hours of each type of therapy delivered per student. For some that were unable to calculate an average, the typical approach was to estimate the utilisation rate for therapists employed by the school (i.e. the amount of time they spent on directly client-related work on a weekly basis) and then derive an average number of therapy hours delivered per student. Therapy hours was identified as a key assumption in the 2011 study and has been subject to similar sensitivity analysis in this study (see Appendix D); and
- ▶ Comment by the schools on whether they knew of any aspect of their provision or the nature of any specialisms that they would expect to distort their results compared to the average.

2.12 Following the testing phase, no errors, omissions or anomalies were identified in the sample, which represented c25% of the respondents to the questionnaires. Conclusions from the testing phase are summarised in Appendix B. It is particularly noteworthy that the schools with the lowest adjusted costs served sensory impairment needs and those with the highest adjusted costs served behavioural needs. No clear connection was found between urban and rural provision, with the highest and lowest results for all provision types being in rural settings. [Comment from NASS to be added, if desired.]

## **Reliance on work by participating NASS members**

2.13 Where possible, responses from participating NMIS schools have been validated based on independent data or data extracted from their management information systems. Nevertheless, the participating NMIS schools are responsible for the responses to the questionnaire used in this report.

## **Aim of this report**

2.14 The aim of this report is to provide an update to the 2011 report and to summarise the findings from the extension of the methodology developed in the previous study to a larger sample. It is to be read in conjunction with the 2011 study, which sets out in detail the methodology developed for adjusting costs of provision by NMIS and LA-Maintained schools to facilitate comparison.

2.15 The following sections of this report cover:

- ▶ Section 3: An overview of the characteristics of the participating schools;
- ▶ Section 4: Updated cost adjustments
- ▶ Section 5: Summary of findings
- ▶ Section 6: Conclusion

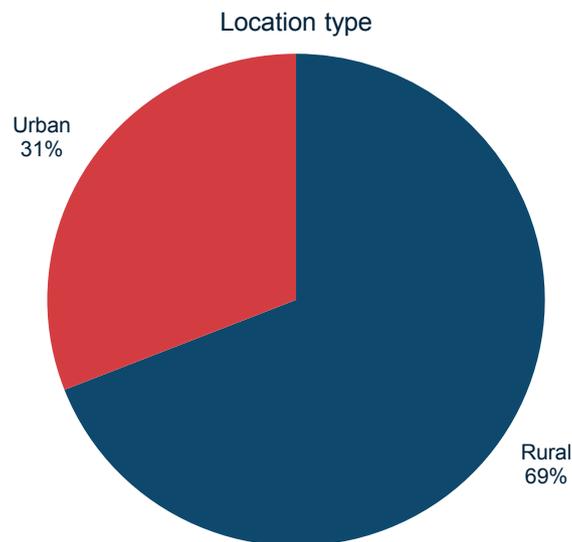
# 3. Overview of the sample schools

## Introduction

- 3.1 In order to determine the extent to which the sample of schools that took part in this study is representative of the wider population, the questionnaire used (see Appendix **Error! Reference source not found.**) allowed space to consider issues including:
  - ▶ Whether the school is located in an urban or rural area;
  - ▶ The age profile of students;
  - ▶ The type of provision (day only, weekly or fortnightly boarding, term-time boarding or 52 week boarding); and
  - ▶ The types of need served.
- 3.2 This section sets out the key findings of our analysis of these features of the participating NMIS schools.
- 3.3 The 42 schools included in this extended sample represent 19% of NASS' Membership of 220 members, and deliver education to 2,478 students, representing 41% of the c6,000 students educated by NASS members.
- 3.4 The mean school size among the sample used was 56 pupils. The largest school in the sample has 215 students, whilst the smallest has 13 students. NASS believes that this study includes a representative sample of school by reference to pupil numbers.

## Geographical location

- 3.5 The chart below shows the split of location (urban or rural) of the sample:

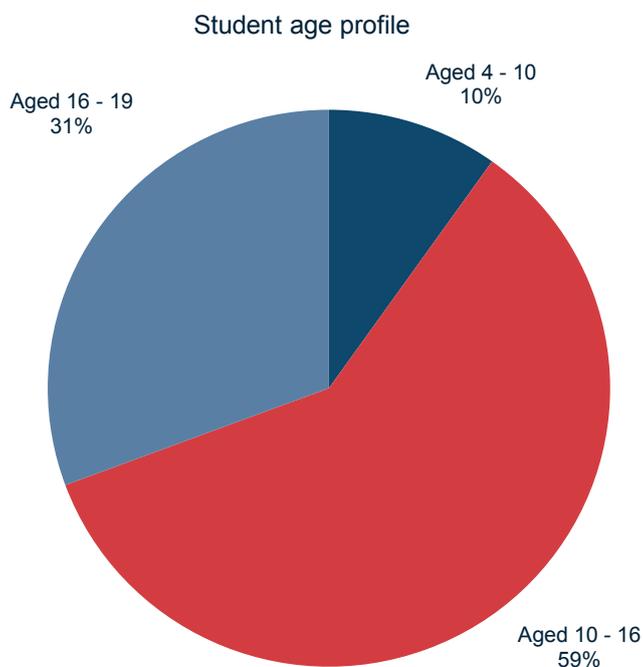


- 3.6 The chart above highlights that, of the 33 schools who responded to the questions, 69% of respondents are based in a rural location with 31% based in urban locations.
- 3.7 The bias of the sample towards rural locations is to be expected, given that many schools were established as a result of Victorian philanthropy or require a site and facilities of a size that would be more readily available in a rural environment than an urban one. The location of the school may influence some cost adjustments applied, particularly the depreciation charge on facilities. For many schools, the

depreciation charge in a rural location may be expected to be lower than an urban equivalent. Typically, LA-Maintained provision is expected to be located in or near to an urban area, and as such the depreciation adjustment applied to LA costs may be understated as a result.

## Age profile of students and size of schools

3.8 The chart below shows the average breakdown of students observed in this study by age group:

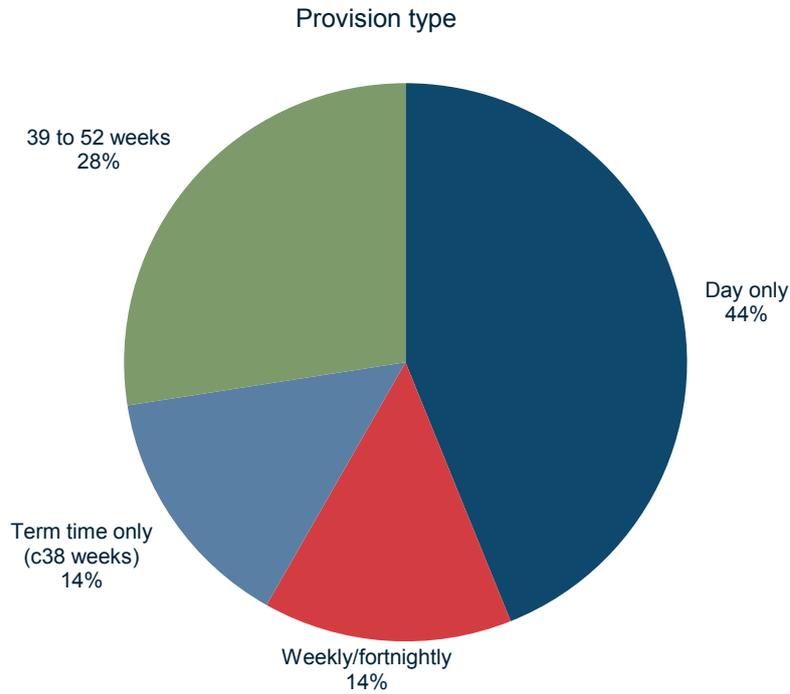


3.9 The chart above highlights that provision in the sample used in this study is principally focused on students aged 10 to 19 (broadly consistent with Key Stages 3, 4 and 5), with 90% of the students represented being in this age range.

3.10 The purpose of this study is to focus on comparison of LA-Maintained provision at secondary age with NMIS provision to these age groups. NASS believes that the sample of students represented in this study offers an effective comparator with LA provision.

## Type of provision

3.11 The chart below shows the breakdown of students by type of provision:



3.12 The chart above highlights that the majority (58%) of students represented in the sample of schools used on this study are day only or weekly/fortnightly boarders. This fits with the expectation that longer tenures of boarding provision would be reserved for the minority of students with higher multiplicity and complexity of needs.

## Types of need

3.13 Based on the descriptions of student needs provided by participating schools, their areas of focus may be broadly summarised:

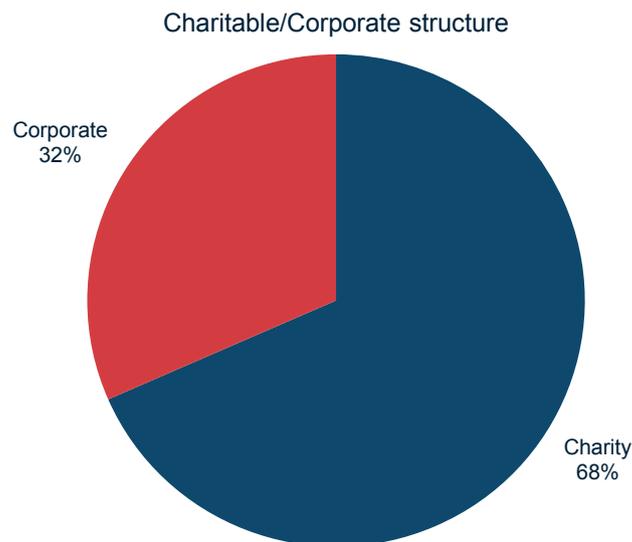
Type of need	Number of schools
Asperger's/Autism	17
Sensory Impairment	3
Social, Emotional and Behavioural Difficulties	12
Speech and Language Difficulties	2
Broader range of need/no single specialism	6
<b>Profound Multiple Learning Disabilities</b>	2
<b>Total participating NMIS schools</b>	<b>42</b>

3.14 The analysis above is based upon the school's description which, in most cases, indicates a particular area of focus. Alongside that focus, many schools will deal with multiple issues, for example a school that has autism/Asperger syndrome as a particular focus may also address Social, Emotional and Behavioural Difficulties ("SEBD") and Speech and Language Difficulties ("SLD") amongst other needs.

3.15 Hence, the analysis above is intended to give an indication of the spread of needs upon which the participating schools focus in particular.

## Corporate or charitable structure

3.16 The chart below shows the split of participating schools between charitable and corporate status:



3.17 The majority (68%) of participating schools are registered charities. NASS believes this to be a good representation of its membership.

3.18 The key cost implication for those schools that have a corporate structure is that they will pay Corporation Tax (to the extent that they are profitable). Further, NMIS schools suffer VAT which LA-Maintained schools are able to reclaim. In both cases, the tax implications of the structure of NMIS schools are likely to result in increased costs compared to LA-Maintained schools.

## Catchment areas

3.19 The questionnaire asked participating schools to indicate the number of Local Authorities from which they accept students. Not all responses included this information. Of the 23 who were able to provide a number the range was between 6 and 31 LAs (16 on average). Some others indicated a broader regional area or indicated that they accept students from across the UK.

3.20 These responses indicate that NMIS schools accept students from a diverse and large catchment area. This may be expected due to the need for specialist provision for certain types of need. As may be seen above, relatively few NMIS schools specialise, for example, in Sensory Impairment and so those that do may be expected to draw students from a large area.

## Key findings from school profiles

3.21 Our analysis of responses to questions around the profile of schools involved in this study indicates that:

- ▶ The number of students represented by the schools included in this study accounts for c42% of the population of students at NMIS schools;
- ▶ The geographical locations of participating schools are believed by NASS to be broadly representative of the wider population of its members;

- ▶ The age profile of the schools represented falls principally within the age range covered by LA-Maintained provision against which the comparison in this study is to be made;
- ▶ The profile of types of provision (day only, weekly or fortnightly boarding, term-time only boarding or 52 week boarding) fits with NASS' expectations of the profile that would apply to the wider population;
- ▶ The types of need catered for are believed by NASS to be representative of the profile for the wider population; and
- ▶ The profile of corporate and charitable structures is believed by NASS to be a reasonable representation of its wider membership base.

3.22 On the basis of the above analysis, NASS therefore believes it to be reasonable to conclude that the sample selected is a reasonable representative sample for the wider NASS membership, and therefore offers a valid basis from which broader conclusions may be drawn on the comparative costs of delivery by NMIS schools as against LA-Maintained schools.

## 4. Updated cost adjustments

### Introduction

- 4.1 Certain of the adjustments included in the 2011 report were based on data provided by the Action Research group that participated in the pilot study. These were:
- ▶ Costs of therapeutic provision; and
  - ▶ Depreciation charge on facilities.
- 4.2 These costs are updated in this study based on data from the wider sample obtained in the course of our research. This section summarises the basis for updates shown in this study.

### Costs of therapeutic intervention

- 4.3 The 2011 pilot study included average therapy hours as follows:

Therapy	Average hours per student per week
Occupational therapy	3.3
Physiotherapy	6.0
Speech and Language therapy	3.2
Other	0.2
<b>Total therapy hours per student per week</b>	<b>12.7</b>

- 4.4 During this wider study, we asked participating schools to provide data in these categories, but also for psychological interventions. It was found that a number of schools in the group employ psychologists as well as therapists in order to meet more intensive needs of students, particularly those with SEBD needs.
- 4.5 Clearly, not all schools provide all types of therapy. As per the approach used for the pilot study, this report uses an average number of therapy hours taken across the sample used as follows:

Therapy	Mean hours per student per week	Standard deviation
Occupational therapy	2.2	6.4
Physiotherapy	0.8	1.7
Speech and Language therapy	2.2	2.4
Psychology	1.0	1.0
Other	1.4	1.5
<b>Total therapy hours per student per week</b>	<b>7.6</b>	<b>6.9</b>

- 4.6 The table above shows a lower average number of therapy hours per student than that for the previous study, which found average therapy input of 12 hours per student per week. This may be expected, given that several of the schools included in the 2011 report focus on issues including Asperger Syndrome,

Autism, SEBD or severe physical disabilities which may be expected to require relatively high levels of intervention.

- 4.7 The standard deviation shown above highlights that the averages are based on broad ranges of therapeutic intervention across the sample of schools included in this study. Therapy hours are within 1.5 standard deviations of the mean for all but one school, which specialises in needs including SEBD, Depression and Post Traumatic Disorders (which may be expected to require particularly high levels of intervention).
- 4.8 The revised annual cost adjustment to apply to LA-Maintained school costs for therapy delivered outside school by the LA health and social care budget is shown below:

Therapy	Number of hours per week	Assumed cost per hour (£)	Therefore cost per annum (£)
Occupational therapy	2.2	34	3,870
Physiotherapy	0.8	34	1,331
Speech and Language therapy	2.2	34	3,992
Psychology	1.0	135	7,150
Other	1.4	34	2,436
<b>Total cost adjustment to apply</b>			<b>18,712</b>

- 4.9 The cost adjustment of £19k shown above is based on the therapy hours responses from the group and hourly rates derived from the 2011 edition of Unit Costs of Health and Social Care<sup>E</sup>. The 2011 edition of the report shows a rate of £34 per hour for occupational, physio- and speech and language therapists, compared to a rate of £41 per hour in the previous study.
- 4.10 In the 2011 study, it was noted that one of the schools provided psychologists within the school as part of the therapeutic interventions delivered. In the absence of broader data on the prevalence of psychological provision among the wider group of NMIS schools, no adjustment was made for this. However, in light of the data provided by the 2012 sample, an adjustment has been made for psychology sessions at £135 per hour, based on the hourly rate for a clinical psychologist (Curtis, 2011).
- 4.11 The resulting cost adjustment to be applied to LA Maintained provision of £19k is c£9k lower than that shown in the previous study.

## Depreciation charges

- 4.12 The 2011 study used an average depreciation charge of £4,362 per annum to adjust LA-Maintained school education budget data for the costs of facilities.
- 4.13 A similar approach has been taken in this study. The average depreciation charge for the participating schools was found to be £5,761 per annum. This is marginally higher than the charge identified by the previous study.

<sup>E</sup> Curtis, L. (2011) Unit Costs of Health and Social Care 2011, Canterbury, University of Kent Personal Social Services Research Unit

## 5. Summary of key findings

### Adjusted costs of LA-Maintained provision

- 5.1 Using the methodology set out in the 2011 pilot study and adjusting for revised information as discussed in section 4 of this report, an adjusted cost of LA-Maintained provision is derived as follows:

Cost type	Annual cost per pupil (£)
LA-Maintained education budget data	26,636
Incremental costs to the family (assumed equivalent to the care element of DLA)	7,959
Recurring equipment costs	25,000
Short breaks	7,000
Travel costs	20,000
Depreciation charge on school facilities per student	5,761
Annual costs of therapeutic intervention	18,712
<b>Total adjusted cost of LA-Maintained provision per student</b>	<b>111,068</b>

- 5.2 The table above indicates an adjusted cost of £111k per annum for the total education and care package within the LA-Maintained sector. This cost represents the estimated mean cost: individual case costs would be expected to vary around this mean.
- 5.3 The cost shown is c£8k lower than that found in the 2011 pilot study as a result of the reduction in therapy costs of £9k (due to a reduction in therapy hours and hourly rates discussed at 4.5 to 4.11) less the increase in depreciation charge of £1k.
- 5.4 Detailed rationales for the adjustments shown in respect of the care element of DLA (i.e. excluding the mobility component, to which many students may be entitled in any case), equipment costs, short breaks and travel can be found in section 4 of the 2011 report. With the exception of items discussed in section 4, these have been used without further adjustment. However, we note that the travel cost of £20k per annum assumed a 40 mile total distance travelled in a taxi to and from school. Given the breadth of area served by some of the sample, it is possible that this may be understated. An understatement of this cost would not impact upon comparison with day only NMIS schools (to which an equal adjustment is applied). For boarding provision at NMIS schools, an understated travel cost for LA-Maintained provision would show the LA provision more favourably. In the absence of specific data on mileage, NASS believe using the 2011 data to be prudent.

## Adjusted cost of NMIS provision

### Adjustments applied for non- and part-time residential provision

- 5.5 As per the methodology set out in the 2011 pilot study, certain of the cost adjustments applied to LA-Maintained provision were applied to non-residential and part-time (i.e. less than 52 week) residential provision at NMIS schools. The maximum increase (applied to day only schools) was derived as follows:

Cost adjustments applied to day-only NMIS schools	Annual cost (£)
Incremental costs to the family (assumed equivalent to the care element of DLA)	7,959
Recurring equipment costs	12,500
Short breaks	7,000
Travel costs	20,000
<b>Total cost adjustment applied</b>	<b>47,459</b>

- 5.6 The basis for the use of, and calculations to support these adjustments are set out in section 5 of the 2011 report.

- 5.7 This adjustment is applied pro-rata for part-time residential provision as follows:

Adjustment type	Weekly/fortnightly boarding (£)	Term time only boarding (£)
Incremental family costs / DLA	3,980	2,879
Recurring equipment costs	12,500	7,500
Short breaks	7,000	7,000
Travel costs	4,000	-
<b>Total adjustment</b>	<b>27,480</b>	<b>17,379</b>

- 5.8 The adjustment applied to weekly/fortnightly boarding is based on students being resident in the family home for between 40% and 50% of the year. The adjustment shown assumes 50% of the cost, which NASS believes to be a prudent assumption. It is assumed that travel costs for weekly/fortnightly boarding will amount to one fifth of the cost of a non-residential school, as travel to and from school occurs only once per week (at most).

- 5.9 The adjustment applied to term-time only boarding is based on students being resident in the family home for 30% of the year. Again, it is assumed that parents will make their own travel arrangements (i.e. no cost of travel is borne by the LA). The full adjustment for short breaks is included.

## Standard deviations in fees per student

5.10 The table below shows a summary of the mean fees identified for each type of provision, along with the standard deviation and deviations of the highest and lowest data points in the sample:

Provision	Mean fees per student £	Standard deviation £	Lowest data point SDs from mean	Highest data point SDs from mean	% of data points within 1.5SD of mean
Day only	45,252	15,154	-2.4	+1.9	92%
Weekly/fortnightly boarding	61,859	22,906	-1.2	+2.6	92%
Term-time boarding	105,522	46,611	-2.0	+1.6	88%
52 week boarding	167,268	50,468	-1.6	+1.2	92%

5.11 The table above highlights that the vast majority of the data points obtained from the sample schools in this study are within 1.5 standard deviations of the mean. Whilst there are some data points that show greater deviation from the mean, this finding gives comfort that the mean reflects the values of the majority of schools that responded to this study.

5.12 Detailed commentary on standard deviations by provision type is shown below, including analysis of the highest and lowest data points:

- ▶ **52 week provision:** the standard deviation across the sample was c£50k. All results were within 1.6 standard deviations of the mean, with two schools greater than the mean by more than 1.5 standard deviations. The lowest cost provision was c£86k, being broadly consistent with the adjusted cost of day-only or weekly/fortnightly boarding NMIS School provision, and therefore below the cost of LA-Maintained provision. The highest cost provision was c£230k, the premium of c£119k compared to LA-Maintained provision being driven primarily by the need at that school for specialised facilities to address the needs of students with Social, Emotional and Behavioural Difficulties (“SEBD”).
- ▶ **Term-time boarding:** the standard deviation across the sample was c£47k. All results were within 2 standard deviations of the mean, and only one school being greater than the mean by more than 1.5 standard deviations. The lowest adjusted cost of provision was c£30k, being c£81k below the adjusted cost of LA-Maintained provision: the school in question specialises in sensory impairment, and has a relatively low requirement for care and support staff. The highest adjusted cost of provision was c£181k, being £70k greater than the adjusted cost of LA-Maintained provision: the school in question specialises in provision for students with severe SEBD who require high levels of care/support staffing and staff with more specialist qualifications.
- ▶ **Weekly/fortnightly boarding:** the standard deviation across the sample was c£23k, with all but one school being within 1.2 standard deviations of the mean, and only one school greater than the mean by more than 1 standard deviation. The highest adjusted cost of provision was £137k (fees were £120k, being 2.6 standard deviations above the mean): the school in question specialises in severe SEBD and therefore has higher care/support staffing requirements and costs associated with more specialised facilities. The lowest adjusted cost of provision was £34k, at a school that specialises in sensory impairment and has relatively low care/support staff requirements.
- ▶ **Day-only:** the standard deviation across the sample was c£15k, with all but one school being within 2 standard deviations of the mean, and with only two schools being greater than the mean by more than 1.5 standard deviations. The lowest fee cost of £10k (adjusted total cost of £57k) was 2.4 standard deviations lower than the mean: the school specialises in sensory impairment and therefore has a relatively low care and support staffing requirement. The highest adjusted cost of provision was £122k at a school that specialises in SEBD, autism and communication/learning difficulties: the school has relatively high care and support staffing requirements in order to meet the needs of students with behavioural issues.

5.13 The above commentary highlights that those schools that returned the highest cost of delivery for any provision type specialise in SEBD provision, whilst those with the lowest cost of delivery for any provision type specialise in sensory impairment. This apparent connection appears to be due to the relative staffing requirements: schools specialising in sensory impairment tend to have lower ratios of care and support staff per student than those specialising in SEBD.

## Adjusted cost of NMIS provision

5.14 The table below shows the range of costs to the LA of delivery at NMIS Schools, adjusted as discussed above:

Average cost of provision	52 week (£)	Term-time boarding (£)	Weekly/fortnightly boarding (£)	Day only (£)
Fees paid by LA	167,268	105,522	61,859	46,252
Adjustments	-	17,379	27,480	47,459
<b>Total package cost</b>	<b>167,268</b>	<b>122,901</b>	<b>89,339</b>	<b>93,711</b>

5.15 Each of the NASS member schools included in this study offers a range of provision, and some day only as well as boarders of varying tenures. The table above uses the mean fees per student for each type of provision as reported by the participating schools.

5.16 The table above highlights that the average adjusted cost of the total education and care package if education is delivered at NMIS schools ranges from c£94k to £167k. This compares to a range of £102k to £167k found by the 2011 pilot study.

5.17 The table also highlights that adjusted costs to the LA of day-only and weekly/fortnightly boarding provision are broadly at the same level.

5.18 The results of this analysis have not been adjusted for the following factors:

- ▶ The schools represented in this study serve a cohort of students with very different types and complexities of need. It has not been possible to adjust the financial costs shown to account for this. Very broadly, it might be expected that students in 52 week provision would have higher multiplicity and complexity of need than those in day-only provision. However, it should be noted that some day-only schools include students with SEBD that display challenging behaviours or who have severe physical disabilities that would indicate a high complexity of need, resulting in greater costs of provision.
- ▶ The decision on whether students board may not, necessarily, be connected to the multiplicity and complexity of their needs. This might also be affected by issues such as the distance from the family home to school. For schools that cover a wide regional or national area, boarding may be chosen in order to avoid travel costs rather than due to the specific needs of the student.
- ▶ A separate study is being published by NASS to consider the Social Impact of provision at NMIS schools compared to LA-Maintained provision. That study takes into account the long term implications of delivery at NMIS schools compared to LA-Maintained provision (including the impact on costs of long-term care provision by the LA).

## Comparison of findings with the 2011 pilot study

5.19 The table below shows a comparison of the findings of this study with the findings from the 2011 pilot study:

Average cost of provision	52 week (£)	Term-time boarding (£)	Weekly/ fortnightly boarding (£)	Day only (£)
As shown above	167,268	122,901	89,339	93,711
Per the 2011 pilot study	167,000	112,379	N/A	102,459
<b>Difference compared to the pilot study</b>	<b>268</b>	<b>10,522</b>	<b>N/A</b>	<b>(8,748)</b>

5.20 The table above highlights that:

- ▶ Average costs of 52 week residential provision are consistent with those identified by the previous study.
- ▶ Average costs of term-time boarding provision were c£8k higher than the previous study. This increase is due to an increase in average fees per student.
- ▶ Average costs of day-only provision were c£9k below the cost identified by the previous study. Again, this is due to a reduction in the average fees per student among the sample included in this study compared to the 2011 pilot.
- ▶ The 2011 pilot did not include an analysis of weekly/fortnightly boarding costs per student.

## 6. Conclusion

### Overview of key findings

#### Cost comparison – approach and adjustments

- 6.1 This study, in line with the 2011 pilot, provides a detailed review of the costs that are included within the LA special school direct cost data using national median costs for LA special schools as a starting point, but also provides a quantification of other costs that must be considered in order to provide a like-for-like comparison with NMIS school provision (which includes education, care and therapeutic provision) over a full year.
- 6.2 The methodology used for comparison starts with the premise that all types of provision will deliver against the Government's aim of achieving positive outcomes for students.
- 6.3 The adjustments made to arrive at a total cost of education and care to an LA include the following key cost headings (discussed in detail in sections **Error! Reference source not found.** and **Error! Reference source not found.** and in the 2011 report):
- ▶ Costs of physiotherapy, occupational health and speech and language therapy;
  - ▶ Incremental costs to the family of caring for a child with SEN and disability issues at home (which appear to be funded principally from welfare benefits including Disability Living Allowance);
  - ▶ Recurrent costs of maintaining specialist equipment, costs of consumables and costs of disposing of sanitary and medical waste;
  - ▶ Costs of short breaks;
  - ▶ Costs of travel to and from school (which apply to both LA special schools and non-residential NMIS schools shown in this study); and
  - ▶ Capital costs of providing facilities and specialist equipment (calculated on the average depreciation charge of special schools included in this study).

#### Cost comparison – findings and conclusions

- 6.4 The resulting analysis of adjusted costs is shown below:

	52 Week (£)	Term time boarding (£)	Weekly/ fortnightly boarding (£)	Day only (£)	LA-Maintained (£)
Fees paid by LA	167,268	105,522	61,859	46,252	26,636
Total adjustments	-	17,379	27,480	47,459	84,432
<b>Total package cost</b>	<b>167,268</b>	<b>120,901</b>	<b>89,339</b>	<b>93,711</b>	<b>111,068</b>

- 6.5 The table above highlights that:
- ▶ Day-only provision costs at NMIS schools (being the closest comparator to LA-Maintained delivery, were found to cost c£17k less than LA provision.
  - ▶ Residential provision on a weekly/fortnightly basis was found to have a lower cost than day only provision at NMIS schools, principally due to the lower costs of care borne by the LA outside the school environment. This level of residential provision was found to cost c£22k less than LA provision.

- ▶ The cost of term-time boarding was found to be £121k, being c£10k higher than the cost of LA-Maintained provision. Given the expectation that some students who require this level of boarding may have greater support needs, the additional cost premium appears to be relatively modest. It was noted that many of the schools included in the study that offer this type of provision specialise in SEBD, which are likely to require higher levels of care and support staffing (due to the likelihood that they will display challenging behaviours and require more intensive therapeutic intervention).
- ▶ The cost of 52 week boarding was found to be consistent with the 2011 pilot study at £167k, representing a premium of c£56k compared to LA provision. As was noted in the previous study, schools that offer this type of provision tend to specialise in needs such as SEBD that require higher levels of staffing and more specialised buildings than would be expected for shorter tenure NMIS provision or LA-Maintained schools. Feedback gathered during the pilot study was that students in this type of provision would tend to have needs that could not be met within LA-Maintained provision. Hence, it was felt in that a comparison between 52 week NMIS provision and LA-Maintained provision would not be meaningful.

6.6 It remains, therefore, noteworthy that the differential in cost between LA-funded provision and 52 week boarding at a special school of c£56k appears to be relatively modest in light of the additional facilities provided (notably higher delivery staff to student ratios and better access to mobility aids and ICT/other technology that supports access to learning). In some cases 52 week boarders require 24 hour supervision by trained care staff, which is included within the £167k cost shown above. The adjustments shown to LA provision costs in this study reflect a far lower level of need. This is supported by the average ratio service delivery staff per student for NMIS schools that provide term time or 52 week boarding of 2.2 to 1, compared to an implied ratio of 0.75 service deliver staff per student based on the national median cost data set<sup>F</sup>. It is also highlighted by the average depreciation charge, which reflects the costs of facilities at these schools, of c£7,700 per student (c£2,100 greater than the average across all NMIS schools included in this study), compared to an average cost of premises and ICT resources for LA-Maintained provision of £1,437 per student<sup>G</sup>.

## Sensitivity analysis

6.7 In order to assess the extent to which a variation in delivery costs within schools may be material, we have used a fee range of plus and minus 2 standard deviations from the mean fees per student, to which the adjustments shown above (6.4) have been applied:

Sensitivity Analysis	-2 SDs fees per student adjusted as above £	+1 SDs fees per student adjusted as above £	+2 SDs fees per student adjusted as above £	LA-Maintained adjusted cost per student £
Day only	63,402	108,865	124,020	111,068
Weekly/fortnightly boarding	43,527	112,245	135,151	111,068
Term-time only boarding	29,680	169,511	216,122	111,068
52 week boarding	66,331	217,736	268,205	111,068

6.8 The conclusion of this analysis is that:

- ▶ The analyses based on fees per student of -2 standard deviations from the mean returned adjusted costs below that identified for LA-Maintained provision.

<sup>F</sup> Per the s.251 returns, the national median includes c£8k for teacher costs and c£6k for learning support staff. This is assumed to equate to, broadly 25% of the total employment costs of a teacher and 50% of the total employment costs of a Learning Support Assistant (i.e. 0.75 staff per student in total).

- ▶ The analyses based on fees per student of +2 standard deviations from the mean returned adjusted costs above that identified for LA-Maintained provision. The findings from this study highlight that the key factor in determining costs of provision is the nature of the needs of the students that a school serves. Certain needs, such as SEBD, were more likely to result in above average costs due to the higher staffing requirements to meet these needs effectively. As is discussed above (1.13), very few results were more than 1 standard deviation greater than the mean. The analysis based on fees per student of +1 standard deviation from the mean returned adjusted costs of delivery at day-only and weekly/fortnightly boarding NMIS provision broadly consistent with the adjusted cost of provision in LA-Maintained schools.
- 6.9 The sensitivity analysis shown above highlights that, for the majority of schools included in this study, the cost of provision by NMIS schools is below that identified for the LA-Maintained sector. NASS believes that the conclusion from the previous study in relation to term-time and 52 week boarding (i.e. that schools with costs of delivery greater than that of LA-Maintained provision tend to serve students whose needs cannot be met within the LA-Maintained sector, and so achieve delivery at a relatively modest premium) is still valid.
- 6.10 Various assumptions have been made in the course of preparing this analysis and the detailed tables of calculations shown in this report. Some relate to estimates made by the NASS working group during the 2011 pilot study in coming to the views of costs and some relate to adjustments to LA-maintained school direct costs, as derived from the education budget data.
- 6.11 In order to assess the extent to which these assumptions are material, potentially key assumptions have been identified. Each has been subject to variation within what appears to be a reasonable range, and the effect on the total valued outcomes under the study has been recast. The resulting analysis is shown at Appendix D.
- 6.12 The conclusion of this analysis is that, in the context of the non-residential and 38 week residential cost range of £94k to £120k, none of these sensitivities appears to materially change the conclusion of this study (i.e. that the costs of delivery at the NMIS schools included in this study for non-residential and weekly/fortnightly residential provision are lower than the total education and care package under LA provision and that term-time boarding at an NMIS school attracts a relatively modest premium).

## Conclusion

- 6.13 This study shows that NMIS schools offer a service that is, in most cases, less costly than the equivalent Local Authority supported provision. The true cost of such provision is in the range £94k to £120k, with the LA equivalent at £111k. For those students with the most complex of needs, the schools shown in this study are providing a substantially higher level of service for a relatively modest premium in excess of the national median cost of LA-funded provision.
- 6.14 The ranges and averages found relating to the costs of provision at the 42 schools included in the sample used for this study are believed by NASS to reflect a broad range of needs and geographical regions. It is likely, however, that some other schools may have fees that fall outside the ranges shown in this study. In such cases, this reflects an additional saving (if fees are lower than those shown) or is likely to be reflective of significantly greater needs on the part of students at that school. In either case, NASS does not believe that the conclusion of this study would be materially different (i.e. that costs of delivery at NMIS schools compare favourably to LA provision, or that NMIS schools are delivering additional care for a relatively modest premium).
- 6.15 The findings of this study are based on a larger sample than the 2011 pilot study, but support the conclusions shown in the 2011 report.

# Appendices

## A. List of participating schools

Appletree Treatment Centre  
Aran Hall School  
Brantridge School  
Chaigeley Educational Foundation (Chaigeley School)  
CYCES School  
Dawn House School  
Eden Grove School  
Grafham Grange School  
Grateley  
Heathermount  
Helen Allison School  
High Close School  
Hill House  
Hollybank School  
Inscape House School  
Mary Hare School  
Meath School  
Moor House School  
Muntham House School  
Pegasus School  
Pield Heath School  
Purbeck  
Radlett Lodge School  
Rainbow School part of BeyondAutism  
Ripplevale school  
Robert Ogden  
Rowden House School  
Southlands  
St Elizabeth's School  
St John's Catholic School for the Deaf  
St Joseph's Specialist School & College  
St Mary's Wrestwood Children's Trust  
St Vincent's 'A Specialist School for Sensory Impairment and Other Needs'  
Sunfield Children's Home  
Talbot House School  
Taloche School  
The Mulberry Bush School  
The New School at West Heath  
The Sheiling School Thornbury  
The William Henry Smith School  
The Wing Centre  
Wargrave House School

## B. Validation of data returns

### Approach to initial data gathering

At the outset of this study, a questionnaire was emailed to a representative of each participating school. This was followed up with two interactive webinar sessions, which were chaired by NASS and Baker Tilly. Both webinars were recorded and made available for download by participants.

The webinar sessions covered:

- ▶ An introduction to the research project from NASS;
- ▶ An overview of the questionnaire structure and guidance on its use;
- ▶ Detailed guidance on how to answer each section of the questionnaire appropriately, with opportunities for participants to ask questions and seek clarification; and
- ▶ Outline of next steps and timescales for completion and validation of responses.

Following the webinar, contact details were provided for NASS and Baker Tilly to allow participants to ask for further clarification on how to answer particular areas or to discuss any difficulties.

A number of schools made contact, principally to discuss:

- ▶ How to allocate staff between categories
- ▶ Their basis for calculating therapy hours per student and to confirm that their approach was reasonable
- ▶ To clarify that they were responding using management rather than audited accounts. In these cases, participating schools have been asked to inform us if subsequent audit adjustments result in a material change to their submission. To date no such disclosures have been received.

### Approach to testing sample selection

Between May and July, 42 questionnaire responses were received by Baker Tilly. Costs of provision, based on fees per student for each type of provision (i.e. day only, weekly/fortnightly boarding, term-time boarding and 52 week boarding), were plotted as a normal distribution. Based on that analysis:

- ▶ It was noted that all responses were within 2.5 standard deviations of the average, and that:
  - ▶ 95% of day only responses were within 1.5 standard deviations of the average;
  - ▶ 92% of weekly/fortnightly boarding costs were within 1.5 standard deviations of the average; and
  - ▶ All Term time and 52 week residential provision costs were within 1.5 standard deviations of the average.

Baker Tilly agreed an approach to data validation with NASS, as follows:

- ▶ A sample of ten schools was to be selected, representing 24% of the total population of results.
- ▶ The sample was selected based upon the following factors:
  - ▶ Those schools that showed the greatest deviation from the average; and
  - ▶ Those schools that were closest to the average.

Each of the schools was contacted by Baker Tilly, and asked to provide the following additional information:

- ▶ Copies of source documents for financial information provided
- ▶ Their basis (including copies of any workings) for calculating fees per student;
- ▶ Their basis (including copies of any workings) for calculating average therapy hours per student; and
- ▶ To provide an outline of any features of their school that they would expect to impact upon their cost of delivery.

In addition to this a review was carried out by Baker Tilly to identify the types of need at each school. The findings from this were that:

- ▶ The schools that had the highest costs typically focus on SEBD provision. This is to be expected, given that students with SEBD tend to require more supervision and care staff. These schools tend to have higher numbers of staff 'on standby' to handle violent outbursts by students. They also tend to have higher facility costs due to the need for greater levels of security; and
- ▶ The schools that had the lowest costs typically focus on provision for sensory impairment. Feedback from research participants indicates that for students in these schools, the need for support staff is likely to be lower, and the students themselves may have higher cognitive ability (reducing the need for support assistants and psychological therapy) and physical mobility (reducing the need for physio- and other types of therapy).

Hence, it appears that there is logical justification for the cost differentials for those schools with the highest and lowest costs. Further discussion during the testing process with schools at the higher end of the cost range indicated that their students tended to have more extreme forms of SEBD.

The findings from the validation process were that:

- ▶ Some schools which are part of wider corporate or charitable entities produce management accounts that exclude central recharges. These schools have (appropriately) added the central recharge to their questionnaire responses with other organisational governance costs.
- ▶ Fees per student was calculated either by reference to:
  - ▶ Total income shown in their accounting records per type of provision divided by the number of students receiving that level of provision; or
  - ▶ The published fee rates that applied to that type of provision for the accounting period used.Either basis was deemed to be acceptable for the purposes of this exercise.
- ▶ Estimates of therapy hours were based upon either:
  - ▶ A calculation of the number of hours delivered per week divided by the number of students at the school; or
  - ▶ An estimate, based on feedback from the team leader responsible for therapeutic delivery. Typically such estimates were built up from the number of therapeutic staff, the rate of utilisation for 'client facing' work and the length of their working week (giving an estimate of the number of hours delivered in total). This was then divided by the number of students. In the absence of data, it does not appear to be unreasonable to conclude that this is a sound approach. The adjustment for therapy hours delivered has been considered as a sensitivity in Appendix D.

## Conclusion from the testing process

Based on the findings of our validation work:

- ▶ Cost and Income information provided by schools was consistent with source documentation. Few adjustments had been made: those adjustments identified were found to be reasonable (principally relating to central management recharges for schools that were part of a larger organisation);
- ▶ Fees per student was calculated based on the best available data;
- ▶ Therapy hours was calculated based on the best available data; and
- ▶ There were logical reasons for deviations away from the average relating to the nature of provision or specialism at schools with the highest and lowest costs.

Based on the sample tested, it was concluded that the data returns to this study may be treated as reliable.

It should be noted that Baker Tilly's validation work was limited to the matters outlined above for a sample that was selected based on selection criteria agreed with NASS. Our validation work did not constitute an audit of the financial information provided, and we have relied upon the accuracy of source documentation during this review.

## C. Questionnaire

The questionnaire used in this study is shown below. It is based upon the cost comparison matrix developed for the 2011 pilot study, with additional information requested in order to support the contextualisation of findings and provide data on the background of participating schools:

### **Part 1 - About your organisation**

Name of school	
Your name (or the person responsible for compiling information used to complete this questionnaire)	
Location (town, county)	
Location description	[Urban/rural]
About you catchment area	[Size of catchment area and number of Local Authorities that you draw students from]
Corporate structure	[e.g. registered charity, incorporated/unincorporated etc.]

Overview of student levels of need	[Please describe any conditions or types of disability that are common to your students]
Overview of your school and provision	[Describe facilities and types of provision offered including any specialisms]

Year end date of latest full year for which financial information is available	[e.g. registered charity, incorporated/unincorporated etc.]
Have you used management or audited accounts to complete this questionnaire?	[Management or audited]

**Part 2 - student characteristics**

Number of pupils

Number of day-only pupils	
Number of fortnightly boarders	
Number of 38 week (i.e. term time only) boarders	
Number of 39 to 52 week boarders	

Number of pupils referred by tribunal	
Number of pupils for which this is their first placement	
Number of pupils for which this is their second or third placement	
Number of pupils for which this is their third to fifth placement	
Number of pupils for which this is more than their fifth placement	

<b>Age Profile</b>	
Number of students aged 4 - 10	
Number of students aged 10 - 16	
Number of students aged 16 - 20	
Number of students aged over 20	
Total students	0

**Average weekly therapy hours per student**

Occupational health hours per week	
Physiotherapy hours per week	
Speech and language therapy	
Other therapy	
<b>Total average weekly therapy hours per student</b>	0

**Part 3 - Staff numbers**

Number of Teaching Staff	
Number of Supply Teachers	
Number of Support Staff	
Number of Care Staff	

**Part 4 - fees per student**

Annual fees per student (£)

Day-only fees	
Fortnightly boarding fees	
38 week (i.e. term time only) boarding fees	
39 to 52 week boarding fees	

**Part 5 - Sources of income**

Annual Income £

Revenue grants	
Capital grants	
Fee income	
Legacies	
<b>Other - state nature</b>	
[Other 1]	
[Other 2]	
[Other 3]	
[Other 4]	
[Other 5]	
[Other 6]	
[Other 7]	
[Other 8]	
Total income	£ -

**Part 6 - Analysis of expenditure**

Annual Expenditure £

Teaching Staff Costs (including Employees and employers NI)	
Supply Teachers Costs (including Employees and employers NI)	
Maternity costs	
Care Staff Costs including qualified nursing staff (including Employees and employers NI)	
Premises/Estate costs (including maintenance staff)	
Back office/administrative staff costs (including Employees and employers NI)	
Catering (food and staff costs including Employees and employers NI)	
Speech & Language Support costs including staff costs (if delivered using employees, this should include employees and employers NI)	
Occupational health and physiotherapy costs (if delivered using employees, this should include employees and employers NI)	
Other therapy costs (if delivered using employees, this should include employees and employers NI)	
Learning Support Assistant costs (including Employees and Employers NI)	
Other staff costs (including Employees and employers NI)	

Energy and other utility costs	
Learning Resources (other than ICT)	
ICT Learning Resource costs (revenue expenditure)	
Bought in professional services (relating to curriculum advisory work only)	
Staff training Costs	
Insurance costs	
Bank Interest charges	
Telephone and postage costs	
Furniture & Equipment (revenue expenditure)	
Professional Services (e.g. Audit, Accountancy, Legal)	
Other Residential provision costs	
Capital equipment lease costs and/or depreciation charge	
Transport Costs	
Corporation tax (if applicable)	
VAT (irrecoverable VAT cost only)	

<i>Other costs</i>	
[Other 1]	
[Other 2]	
[Other 3]	
[Other 4]	
[Other 5]	
[Other 6]	
[Other 7]	
[Other 8]	
Total expenditure	£ -

## Instructions to participants

During the briefing webinar sessions delivered by Baker Tilly and NASS at the outset of this project, the following key matters were included:

- ▶ Income and cost data was to be provided for the 2011 year end (either based on Management or, if possible, audited accounts). Some participants provided Management accounts for the year ending March 2012: this was approved on the basis that the period in question principally covered 2011 (the period upon which this study focuses).
- ▶ Exceptional costs are to be excluded: the example discussed was professional fees relating to a forthcoming building project (i.e. not related to delivery in the year under review)
- ▶ In the event that an estimate was used to complete a cell, a note was to be added on the questionnaire to indicate the basis for the estimate. Where a note was included on responses, it has been reviewed to confirm that the basis for the estimate in question was appropriate.
- ▶ Schools were asked (where relevant) either to include irrecoverable VAT as a separate cost item or to ensure that costs included the irrecoverable VAT element. Some schools were found to record VAT as a separate expense, although many record VAT within the expense line on which it was paid.

## D. Sensitivity analysis

### Sensitivity to key cost adjustment assumptions

Various assumptions have been made in the course of preparing this analysis and the detailed tables of calculations shown in this report. Some relate to estimates made by the 2011 pilot study Action Research group in coming to the views of costs and some relate to adjustments to LA-maintained school direct costs, as derived from the education budget data.

In order to assess the extent to which these assumptions are material, potentially key assumptions have been identified. Each has been subject to variation within what appears to be a reasonable range, and the effect on the total valued outcomes under the study has been recast. The resulting analysis is shown below:

Sensitivity	52 week boarding (£)	Term-time boarding (£)	Weekly/ fortnightly boarding (£)	Day only (£)	LA provision (£)
<i>Per Section 6</i>	167,268	120,901	89,339	93,711	111,068
Reduce therapy hours by 10%	167,268	120,901	89,339	93,711	109,182
Remove psychology cost	167,268	120,901	89,339	93,711	103,918
Reduce travel cost by 10%	167,268	120,901	88,939	91,711	109,068
Increase travel cost by 10%	167,268	120,901	89,739	95,711	113,068
Reduce short break cost by 50%	167,268	117,401	85,839	90,211	107,568
Reduce recurrent equipment cost by 25%	167,268	119,026	86,214	87,461	104,818

The conclusion of this analysis is that, in the context of day only and weekly/fortnightly residential costs of £89k to £93k, none of these sensitivities appears to materially change the conclusion of this study (i.e. that the costs of delivery at the NMIS schools included in this study for day only and weekly/fortnightly residential provision are lower than the total education and care package under LA provision).

### Sensitivity to variation in fees per student

In order to assess the extent to which a variation in delivery costs within schools may be material, we have used a fee range of plus and minus 2 standard deviations from the mean fees per student, to which the adjustments shown above (1.10 have been applied):

Sensitivity Analysis	-2 SDs fees per student adjusted as above £	+1 SDs fees per student adjusted as above £	+2 SDs fees per student adjusted as above £	LA-Maintained adjusted cost per student £
Day only	63,402	108,865	124,020	111,068
Weekly/fortnightly boarding	43,527	112,245	135,151	111,068
Term-time only boarding	29,680	169,511	216,122	111,068
52 week boarding	66,331	217,736	268,205	111,068

6.16 The conclusion of this analysis is that:

- ▶ The analyses based on fees per student of -2 standard deviations from the mean returned adjusted costs below that identified for LA-Maintained provision.
- ▶ The analyses based on fees per student of +2 standard deviations from the mean returned adjusted costs above that identified for LA-Maintained provision. The findings from this study highlight that the key factor in determining costs of provision is the nature of the needs of the students that a school serves. Certain needs, such as SEBD, were more likely to result in above average costs due to the higher staffing requirements to meet these needs effectively. As is discussed above (1.13), very few results were more than 1 standard deviation greater than the mean. The analysis based on fees per student of +1 standard deviation from the mean returned adjusted costs of delivery at day-only and weekly/fortnightly boarding NMIS provision broadly consistent with the adjusted cost of provision in LA-Maintained schools.

6.17 The sensitivity analysis shown above highlights that, for the majority of schools included in this study, the cost of provision by NMIS schools is below that identified for the LA-Maintained sector. NASS believes that the conclusion from the previous study in relation to term-time and 52 week boarding (i.e. that schools with costs of delivery greater than that of LA-Maintained provision tend to serve students whose needs cannot be met within the LA-Maintained sector, and so achieve delivery at a relatively modest premium) is still valid.

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