‘Closing the Gap’: How is the Use of Non-Mainstream Schools Related to the Educational Outcomes of Children in Public Care?

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Abstract

In high-income countries, children ‘in care’ have, on average, much lower educational attainment than their peers. We explore the hypothesis that this gap can be lessened by reducing the use of non-mainstream schools (NMS). We analysed a national longitudinal data-set comprising state-educated children eligible for national examinations in 2013 at the age of sixteen years (n = 642,805), including a sub-sample of 4,847 children looked after continuously in state care for at least a year on 31 March 2013 (CLA12). Nearly four out of ten CLA12 were in NMS at the age of sixteen years: this proportion varied widely between authorities. The academic attainment of those in NMS was very low and lower on average in authorities making high use of NMS. These differences were not explained by differences in child characteristics. We argue that care removes children from stress at home and offers them an opportunity to realise their academic potential. However, concentrating children with very low attainment, behavioural problems or highly specialised needs in long-term settings makes it difficult to realise this potential. Real needs for individualised teaching in a supportive setting should be flexibly met in mainstream schools, special units within these schools or, at the most, short-term placements in NMS.

Keywords: academic attainment, children in care, inclusion, non-mainstream schools, special educational needs
Introduction

In high-income countries, children in public care do not, on average, ‘do well’ in education (O’Higgins et al., 2015). In England, concern about this issue has focused particularly on the gap at the age of sixteen years between the examination performance of children looked after continuously in care for at least the previous year (CLA12) and their peers (Department for Education, 2020). In previous work, we found that this educational gap predated entry to care, and that care reduced but did not reverse the rate at which children fell behind (Sinclair et al., 2019, 2020). The ‘gap’ could, however, be bridged: children in stable placements and attending a mainstream school ‘good with’ children of low educational attainment commonly ‘caught up’ with their peers (Sinclair et al., 2022).

In contrast to the above, the CLA12 in non-mainstream schools (NMS) rarely caught up. These schools are broadly divided between ‘special schools’ providing for children with physical, cognitive or psychological disabilities, and ‘pupil referral units’ or ‘alternative provision’ for those excluded or otherwise unable to attend mainstream schools. Children attending either form of NMS, had much lower attainment at sixteen years than that predicted from their characteristics and histories (Sebba et al., 2015). Many of them had a very high probability of attending NMS but others with a lower probability of attending them may not have needed this provision.

Following the Warnock Committee (1978), English policy has been to educate all children in mainstream schools wherever possible (Department for Education/Department of Health, 2015). This policy reflects international expectations (UNESCO, 1994) and widespread agreement that all children have a right to be included in society and also to schooling which pays due attention to their special educational needs. Nevertheless, the ‘proper’ use of NMS remains highly contested (Daniels et al., 2019) with disagreements over whether the needs of those currently attending NMS can be met in mainstream schools (Warnock et al., 2010) and a potential conflict between the policy aims of universal inclusion and educational excellence (Daniels et al., 2019).

International research on the effects of such differences suggests—with a low degree of certainty—that inclusive policies should have a mild to positive impact on the academic attainment of those included, but no clear impact on either their well-being or the attainments of other children (Dell’Anna et al., 2021, 2022).
At the time of the research, some local authorities made frequent use of NMS for children in care whilst other, more ‘inclusive’ authorities made little or none. The variation in local authority practice allows us to test the international conclusions on the effects of inclusion on the attainment on children in care. Our focus is on the use of NMS during secondary school, and in particular during the two-year period leading up to the national examinations at sixteen years. Any effects on examination outcomes that are produced by policies on NMS use are most likely to reflect differences in the education provided by mainstream schools and NMS at this point. We examine:

- The degree to which the educational gap between the CLA12 and their peers reflects the low attainment of those in NMS
- Whether variations between local authorities in the use of NMS for the CLA12 are fully explained by the children’s characteristics
- Whether higher use of NMS is reflected in low average attainment amongst all the CLA12 after taking account of the children’s other characteristics.

Our final discussion suggests that a reduction in the use of NMS is likely to increase average attainment amongst the CLA12 but that this can only be safely accomplished if other changes are made as well.

**Method**

**Database and samples**

Our analysis is part of a larger mixed methods study (Sebba et al., 2015). The data came from the English National Pupil Database (NPD), and our cohort comprised all state-funded children aged fifteen years on 1 September 2012, and thus eligible to take the National GCSE examinations in 2013 (n = 642,805).

The NPD provides longitudinal data on all English pupils whose education is supported by the state. The data include the characteristics, attainments and schools of pupils at the end of four Key Stages (KS) of schooling: KS1 (age seven years), KS2 (age eleven years), KS3 (age fourteen years) and KS4 (age sixteen years). Strictly speaking, KS refers to stages rather than points in time but except for data on exclusions, all our data were collected at the end points of each stage. Unless otherwise made clear, our usage of the terms KS2, KS4, etc. reflects this fact.

The pupils are linked by an anonymised identifier to the national CLA database (CLAD) and this provided additional data on 4,847 children in care continuously for at least the previous twelve months on 31...
March 2013. (An additional 2 CLA12 were in the NPD but could not be linked to a child in the CLAD.) We call these children the CLA12.

Definition of non-mainstream schools

The data included a variable dividing the type of school attended at KS2 and KS4 into thirteen categories. We counted the following categories as non-mainstream schools (NMS):

- special schools intended for pupils with special educational needs (communication and interaction; cognition and learning; social, emotional and mental health; or sensory and physical needs)
- pupil referral units (PRUs), which teach children who are not able to attend MS and may not otherwise receive suitable education. This could be because they have a short- or long-term illness, have been excluded (in practice by far the main use) or are waiting for a mainstream school place
- alternative provision serves similar functions to PRUs but differs from them in terms of their relationship to the local authority
- secure provision—used for children physically prevented from leaving the premises
- further education colleges (in this context often used for more vocational courses that are not often available in MS)
- ‘other schools’ not covered above but clearly not MS

As will be seen, the main types of NMS provision used by the CLA12 were special schools, PRUs, and alternative provision. School type was not recorded at the end of KS1 and KS3 but NMS status could be inferred for most schools (79.0 per cent at KS1, 93.7 per cent at KS3) from data on their status at KS2 or KS4. We deemed the remainder NMS if more than 60 per cent of their pupils were at some point in their schooling said to have special educational needs. Almost all identified NMS (96.4 per cent at KS2, 99.7 per cent at KS4) but virtually no (0.1 per cent at KS2, 0.6 per cent at KS4) identified MS exceeded this percentage.

The 10,000 or so children on the rolls of a mainstream school but attending NMS for at least some of the school week (House of Commons Education Committee, 2018) and a high proportion of those in NMS for brief periods but in mainstream schools at the time of data collection were not identified as being in NMS, the former because the conventions for recording the data allocated them to MS and the latter because they were comparatively unlikely to be present at the point of data collection. This qualification is important as a possible implication of this study is that children should be better able to leave NMS than they are.
Outcomes

The main outcome is the KS4 attainment score, based on the national GCSE examinations generally taken at sixteen years. In 2013, this score was determined by subject grades ranging between A and G with an additional top Grade of A*, an unclassified grade and a ‘standard pass’ of C. Pupils received a total score based on their eight best subjects, with a possible range of 0–464 and each grade in an individual subject adding 6 more points than the one immediately below it. In our cohort, the mean score was 335.85 (SD = 95.77). For ease of interpretation, we use scores standardised on this national cohort (\(M = 0, \ SD = 1\)) as the outcome for analyses of the CLA12.

Explanatory variables

Our primary purpose was to examine variations between local authorities in the use of NMS and the apparent impact of these on outcomes after controlling for child characteristics. To do this, we used a standard set of explanatory variables coded with a view to their statistical relevance to our outcome measures and our research aims. As an example, we used a binary classification of ethnicity (‘white British’ or ‘other’) instead of the more detailed nineteen-category ethnicity classification available in the database. This simplification would be inappropriate in a study with different purposes but made the data much easier to present without affecting our key results. The variables we used comprised:

- Prior attainment at KS1 and KS2—presented as standardised scores (\(M = 0, \ SD = 1\)) which were standardised across the whole of the Original Cohort, so that an increase of 1 represents an advance of 1 standard deviation in the distribution of the scores of all state-supported pupils.
- Demographic characteristics—gender (male/female) and ethnicity (white British/other).
- FSM—early family poverty indicated by the proxy measure, recorded as eligible for free school meals at KS1/age seven years.
- Special educational needs (SEN) recorded at each KS and classified as autism spectrum disorder (ASD), behavioural, emotional or social difficulties (BESD), moderate learning difficulty (MLD), severe/multiple learning difficulty (SMLD) or ‘Other Needs’.
- Statement—an official statement of a child’s special educational needs and the help they are entitled to have (this was superseded in 2014–2018 by Education Health and Care Plans).
- Exclusion—one or more temporary or permanent exclusions during identified periods (KS2, KS3 and KS4).
Explanatory variables available only for the CLA12 comprised:

- Early entrant—whether first entered care during or before the KS2 stage
- Stability—whether the child was in the same care placement for a continuous period of at least two years, between 31 March 2011 and 2013 (the last census date in the CLAD)
- Strengths and Difficulties Questionnaire (SDQ) total difficulties score (Goodman, 1997), a behavioural screening tool applied annually to all children in care for a year or more, with higher scores representing greater levels of difficulty. We standardised the latest available score.

Missing data

The data were collected in four ‘sweeps’ at the end of each of the four key stages. The main reason for missing data was that no data were collected on an individual at a particular stage. This was probably because they were not in the country, were in private education, or were not on the roll of any school. All the children were present at KS4 and at this point, there was very little missing information. Of the 4,847 CLA12, 15.9 per cent had missing outcome data for KS1, 12.8 per cent for KS2 and 20.5 per cent for KS3 and 0 per cent for KS4. The high numbers with missing data at KS3 partly reflected 476 children who were not recorded as on the roll of any school at this point. Of these, 401 were in NMS at KS4 and we have assumed that they were effectively allocated to NMS at KS3 and that the transfer had not yet taken place.

Missing outcome data on attainment and the SDQ score were imputed from the other outcome data and the explanatory variables correlated with it using the regression approach hosted by SPSS. Binary (yes/no) variables that were held to be constant throughout the period were recorded as ‘yes’ if so, recorded at any point. The exception was whether FSM at KS1. For this we used two binary variables: ‘whether recorded as FSM at KS1’ and whether there was information on FSM status at KS1.

Analyses including the KS2 attainment variable excluded missing data. We have, however, checked the key results in Tables 2 and 3, using a dummy variable to signify missing data, and ten categorical ‘yes/no’ variables for the deciles of the attainment score. This allowed us to include the whole sample and made virtually no difference to the key results we reported.
Terminology and risk groups

For consistency, we use ‘child’ rather than ‘adolescent,’ ‘young person,’ ‘pupil’ or ‘student’. Our analyses are estimates but nevertheless seek to look beyond associations and suggest (but not prove) causal effects. We use ‘apparent effects’ or ‘effects’ to indicate this.

Analyses and analytical strategy

We use descriptive statistics, correlations, and graphs to describe the way NMS was used with our sample of 4,847 CLA12 and to document wide differences between local authorities in the frequency of its use. We then used a multi-level model (Goldstein, 2011), to estimate the impact of local authorities on the children’s outcomes after allowing for the children’s characteristics, including their estimated likelihood of being in NMS (Rosenbaum and Rubin, 1983). This allowed us to assess whether authorities using more (or less) NMS than expected from the characteristics of the CLA12 had ‘better’ or ‘worse’ outcomes amongst the CLA12.

We used SPSS v24 and MIWiN v2.36 (Rasbash et al., 2012) for all analyses.

Ethical approval

The study conforms to the ethical guidelines of the British Educational Research Association and the British Psychological Society. The English Government’s Department for Education gave us access to the anonymised data for the specified purposes. The University of Oxford gave ethical approval for this secondary analysis.

Results

How far does the ‘gap’ reflect the low attainment of those in NMS?

Table 1 describes the standardised attainment of those in different kinds of NMS at KS4 and relates it to whether they had been in care for the previous twelve months. The difference between these attainments measures of the ‘Gap’ which English policymakers wish to reduce.

Three points stand out:

- The proportion of the CLA12 in NMS at KS4 (37.8 per cent) is between eight and nine times as great as the proportion amongst the remainder (4.4 per cent).
The average attainment of those in any form of NMS is much lower than that of those in MS.

The size of the gap between the CLA 12 and their peers would be almost halved (from −1.40 to −0.76), if those CLA12 who were also in NMS were omitted.

So far, the potential influence of NMS on the CLA12 has been little discussed in England. These results suggest that any serious attempt to reduce ‘the gap’ will require an understanding of its role. In seeking to understand this we will, for the moment, ignore the differences in the outcomes of different kinds of NMS but return to them in the final section on results.

Are variations between authorities in the use of NMS explained by child characteristics?

The 151 authorities in the study varied greatly in size. One had no CLA12 and the others had between 2 and 223 with an average of 32.31, and an SD of 28.44. The percentages of CLA12 in NMS at KS4 varied between 0 and 100 per cent with an average of 28.58 and an SD of 14.17. Figure 1 relates the number of CLA12 in the authority to percentage in NMS. As can be seen, the extreme values tend to be based on very small numbers of CLA12. Nevertheless, the variation is substantial ($\chi^2 = 265.50, df = 149, p < 0.001, or 229.23, df = 122, p < 0.001$, omitting authorities with fewer than five CLA12) and vanishingly unlikely to be due to chance.

It is possible that this variation could reflect differences in the characteristics of those in the different authorities. To determine if this was so, we needed to calculate the relationship between a given set of characteristics and the likelihood that a child would be in NMS at KS4. For this purpose, we used a logistic regression which we ran on the CLA12 and which used our explanatory variables to predict the likelihood of being in NMS at KS4 (see Table 2).

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**Table 1. Mean standardised attainment at KS4 by type of NMS and care status.**

<table>
<thead>
<tr>
<th>Type of school</th>
<th>In care for previous 12 months</th>
<th>Not in care for previous 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Special school</td>
<td>1,061</td>
<td>21.9</td>
</tr>
<tr>
<td>Pupil referral unit</td>
<td>323</td>
<td>6.7</td>
</tr>
<tr>
<td>Alternative provision</td>
<td>272</td>
<td>5.6</td>
</tr>
<tr>
<td>Other NMS</td>
<td>179</td>
<td>3.7</td>
</tr>
<tr>
<td>Total NMS</td>
<td>1,835</td>
<td>37.8</td>
</tr>
<tr>
<td>Not in NMS</td>
<td>3,014</td>
<td>62.2</td>
</tr>
<tr>
<td>Total</td>
<td>4,849</td>
<td>100</td>
</tr>
</tbody>
</table>
This regression allowed us to predict correctly (i.e. with a probability of 50 per cent or more) 88.0 per cent of those who were not in NMS at the end of KS4, and 68.9 per cent of those who were. Overall, 80.8 per cent of the predictions were correct. Adding information on the child’s authority at KS4 further increased the proportion of ‘correct’ predictions to 82.6 per cent. This difference, whilst apparently small, is statistically massively significant. In addition, some of these characteristics (e.g. subject to a statement of special educational need) probably reflected justifications for a decision to use NMS as well as independent influences on it. These considerations make it very unlikely the variations in the proportions in NMS are solely down to differences between the children as against differences in policy, practice, or available resources.

Figure 2 provides a graphical illustration of this effect. The ‘decile groups of the propensity score’ reflect the grouped probability that a child would enter NMS as estimated from the analysis in Table 2. The proportions in NMS run from 1.2 per cent in the lowest decile to 89.9 per cent in the highest. As can be seen, we subdivided each propensity score decile by whether those in it were in authorities that made higher (40 per cent or above) or lower use of NMS at KS4. [We defined ‘higher use’ as 40 per cent as a convenient approximation for the median (37 per cent) and the mean (38 per cent)]

Within all the deciles except the first, the proportions in NMS in the higher-use authorities are consistently greater than that of those in the lower-use ones. Children in the two highest deciles of the propensity score are highly likely to be in NMS at KS4, and this is true in both higher- and lower-use authorities. With children in the lower deciles, the
decision is more finely balanced, and the differences between higher- 
and lower-use authorities are larger.

These findings could reflect the presence of some unmeasured child 
characteristic which is detectable by professionals, more common in 
higher-use authorities, and essentially uncorrelated with our propensity 
score. It is unclear what this characteristic could be and in our view the

![Figure 2: Percent in NMS at KS4 by probability of NMS at KS4 by authority use of NMS for CLA12.](image)

**Table 2.** Logistic regression predicting NMS at KS4 for CLA12.

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>Exp (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-1.609</td>
<td>0.199</td>
<td>65.666</td>
<td>1</td>
<td>0.000</td>
<td>0.200</td>
</tr>
<tr>
<td>Male</td>
<td>0.325</td>
<td>0.082</td>
<td>15.725</td>
<td>1</td>
<td>0.000</td>
<td>1.384</td>
</tr>
<tr>
<td>White British</td>
<td>-0.859</td>
<td>0.094</td>
<td>83.801</td>
<td>1</td>
<td>0.000</td>
<td>0.424</td>
</tr>
<tr>
<td>Recorded as FSM at KS1</td>
<td>0.062</td>
<td>0.083</td>
<td>0.561</td>
<td>1</td>
<td>0.454</td>
<td>1.064</td>
</tr>
<tr>
<td>FSM record missing at KS1</td>
<td>-0.666</td>
<td>0.167</td>
<td>15.885</td>
<td>1</td>
<td>0.000</td>
<td>0.514</td>
</tr>
<tr>
<td>Autistic spectrum disorder SEN</td>
<td>1.783</td>
<td>0.250</td>
<td>50.849</td>
<td>1</td>
<td>0.000</td>
<td>5.947</td>
</tr>
<tr>
<td>Behaviour/emotion/social SEN</td>
<td>0.592</td>
<td>0.127</td>
<td>21.890</td>
<td>1</td>
<td>0.000</td>
<td>1.807</td>
</tr>
<tr>
<td>Moderate learning SEN</td>
<td>0.442</td>
<td>0.145</td>
<td>9.286</td>
<td>1</td>
<td>0.002</td>
<td>1.556</td>
</tr>
<tr>
<td>Severe/multiple learning SEN</td>
<td>2.530</td>
<td>0.290</td>
<td>76.039</td>
<td>1</td>
<td>0.000</td>
<td>12.555</td>
</tr>
<tr>
<td>Other SEN</td>
<td>0.354</td>
<td>0.144</td>
<td>6.015</td>
<td>1</td>
<td>0.014</td>
<td>1.424</td>
</tr>
<tr>
<td>SDQ score</td>
<td>0.056</td>
<td>0.006</td>
<td>75.874</td>
<td>1</td>
<td>0.000</td>
<td>1.058</td>
</tr>
<tr>
<td>Early entrance to care</td>
<td>-0.381</td>
<td>0.086</td>
<td>19.388</td>
<td>1</td>
<td>0.000</td>
<td>0.683</td>
</tr>
<tr>
<td>Stability in care at KS4</td>
<td>-1.049</td>
<td>0.090</td>
<td>134.571</td>
<td>1</td>
<td>0.000</td>
<td>0.350</td>
</tr>
<tr>
<td>KS2 attainment score</td>
<td>-0.381</td>
<td>0.042</td>
<td>83.076</td>
<td>1</td>
<td>0.000</td>
<td>0.683</td>
</tr>
<tr>
<td>Excluded during KS2</td>
<td>0.799</td>
<td>0.139</td>
<td>33.063</td>
<td>1</td>
<td>0.000</td>
<td>2.222</td>
</tr>
<tr>
<td>Excluded during KS3</td>
<td>1.145</td>
<td>0.089</td>
<td>166.652</td>
<td>1</td>
<td>0.000</td>
<td>3.142</td>
</tr>
<tr>
<td>Excluded during KS4</td>
<td>-1.031</td>
<td>0.096</td>
<td>114.519</td>
<td>1</td>
<td>0.000</td>
<td>0.357</td>
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<tr>
<td>Statement of SEN</td>
<td>1.725</td>
<td>0.108</td>
<td>254.134</td>
<td>1</td>
<td>0.000</td>
<td>5.613</td>
</tr>
</tbody>
</table>
size of the effect makes its existence unlikely. A more plausible explanation is that for reasons of policy, practice or available resources, professionals in higher-use authorities are more likely than colleagues in lower-use ones to recommend NMS for any given child, whilst still paying attention to the same characteristics.

Is the association between the use of NMS and outcomes explained by child characteristics?

Figure 3 relates the proportions of the CLA12 in NMS in an authority to the average academic attainment of the CLA12 in the authority at KS4. Higher proportions in NMS are strongly associated with lower average attainment ($r = -0.74$). As seen in Figure 1, some of the percentages are based on small numbers; restricting the calculation to authorities with at least ten or at least twenty CLA12 produces similar correlations of $-0.76$ and $-0.74$.

Some authorities provide NMS for others and this practice would be expected to increase their proportion in NMS and lower average attainment. A correlation based on the proportions in NMS in the children’s home authorities rather than their school authorities is not subject to this potential source of bias and is very little lower ($r = -0.68$). Whatever the reason, high use of NMS for the CLA12 is associated with low average attainment amongst all the CLA12 in that authority.

The correlation between use and average attainment could reflect the characteristics of the children in higher use authorities, the characteristics of the authorities (e.g. their socio-economic profile) or the impact of

![Figure 3: Authority mean standardised attainment of CLA12 by percent of CLA12 in NMS.](image)
a higher use of NMS. Table 3 describes two ‘multi-level models’
designed to tease out the impact of higher use allowing for other author-
ity (level 2) or child (level 1) factors. The latter are based on our explan-
atory variables and a child’s propensity to be in NMS. (For ease of
presentation, we have excluded explanatory variables which were not
significantly related to outcome in the analysis.) The models’ random
parts distribute variation in the outcome unexplained by variables in the
fixed part, allocating it between the authorities and the children.

As can be seen, the proportion of CLA12 in NMS at KS4 in Model 1
is strongly and negatively related to outcome. Its coefficient (−1.02) sug-
uggests that the attainment of a CLA12 child in an authority with, say, 20
per cent of its CLA12 in NMS should, on average, be roughly 0.2 SD
higher than that of a CLA12 in an authority with 40 per cent of the
CLA12 in NMS (−1.02*(0.20–0.40)) and 0.4 SD higher than one with 60
per cent of them in NMS. These figures take account of the other vari-
bables in the equation (e.g. placement stability) and of the ‘random part’
of the model which reflects the influence of different local authorities af-
der account has been taken of the other variables in the model.

Removing this average authority use of NMS for CLA12 from Model
1 increases the unexplained authority-level variance to 0.014 which,
whilst tiny relative to the variance attributed to individuals, is neverthe-
less significant (the SE is 0.005). This suggests that the use of NMS (or a

<table>
<thead>
<tr>
<th>Variable level</th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coeff.</td>
<td>SE</td>
<td>Coeff.</td>
<td>SE</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.18</td>
<td>0.07</td>
<td>-0.45</td>
<td>0.061</td>
</tr>
<tr>
<td>Child Male</td>
<td>-0.09</td>
<td>0.03</td>
<td>-0.08</td>
<td>0.027</td>
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<tr>
<td>Child Autistic spectrum SEN</td>
<td>-0.49</td>
<td>0.09</td>
<td>-0.39</td>
<td>0.073</td>
</tr>
<tr>
<td>Child Severe/multiple learning SEN</td>
<td>-0.91</td>
<td>0.09</td>
<td>-0.88</td>
<td>0.072</td>
</tr>
<tr>
<td>Child SDQ score</td>
<td>-0.18</td>
<td>0.02</td>
<td>-0.16</td>
<td>0.015</td>
</tr>
<tr>
<td>Child Stability in care at KS4</td>
<td>0.47</td>
<td>0.03</td>
<td>0.44</td>
<td>0.03</td>
</tr>
<tr>
<td>Child KS2 attainment score</td>
<td>0.31</td>
<td>0.02</td>
<td>0.30</td>
<td>0.01</td>
</tr>
<tr>
<td>Child Excluded during KS3</td>
<td>-0.30</td>
<td>0.04</td>
<td>-0.27</td>
<td>0.04</td>
</tr>
<tr>
<td>Child Excluded during KS4</td>
<td>-0.20</td>
<td>0.04</td>
<td>-0.21</td>
<td>0.03</td>
</tr>
<tr>
<td>Child NMS propensity score</td>
<td>-1.06</td>
<td>0.10</td>
<td>0.17</td>
<td>0.09</td>
</tr>
<tr>
<td>Authority Percent of CLA12 in NMS</td>
<td>-1.02</td>
<td>0.14</td>
<td>-0.22</td>
<td>0.13</td>
</tr>
<tr>
<td>Child Special school at KS4</td>
<td>-1.29</td>
<td>0.04</td>
<td>-1.60</td>
<td>0.05</td>
</tr>
<tr>
<td>Child PRU at KS4</td>
<td>-1.87</td>
<td>0.06</td>
<td>-1.05</td>
<td>0.07</td>
</tr>
<tr>
<td>Child Alternative provision at KS4</td>
<td>-1.05</td>
<td>0.07</td>
<td>-1.05</td>
<td>0.07</td>
</tr>
</tbody>
</table>

| Random Part                  |         |      |         |      |
| Authority level variance     | 0.006   | 0.004| 0.011   | 0.004|
| Child level variance         | 1.032   | 0.021| 0.734   | 0.015|
| Units                        | 150     | 150  | 4,847   | 4,847|
| Children                     | 4,847   | 4,847| 4,847   | 4,847|
| Deviance score               | 13,935.434 | 12,311.155 |
variable very highly correlated with it) is the only authority-level characteristic associated with the outcome.

Model 2 differs from Model 1 by including the type of NMS attended. Including these variables reduces the coefficients on both the ‘NMS propensity score’ and ‘authority use of NMS for CLA12’ variables to insignificance. This is further evidence that the impact of higher use reflects the impact of the schools used and not, for example, an association between higher use and an authority’s socio-economic profile. As can be seen this ‘impact’ varies between different types of NMS. It is, however, substantial in all types of NMS and not explained by the children’s characteristics in Table 3. In summary, authorities appear to influence the educational outcomes of CLA12 through the schools they use and not in other ways.

**Discussion**

This study highlights two features of our sample of children in longer term care: the strikingly high proportion of them who were in NMS and the ‘Care Gap’—the average difference between their educational attainment and that of others of the same age. At KS4 33.9 per cent of our Care sample were in the main English forms of NMS—i.e. special schools, pupil referral units or alternative provision. For comparison, the same proportion for those with special educational needs and disabilities was 13 per cent, and for those previously excluded from school 15.1 per cent (I. Sinclair et al., submitted for publication a, b). As far as we are aware, this is the first paper to highlight these proportions, connect them to the low attainment of those in longer term care (CLA12), and find that authorities making high use of NMS for this group have worse-than-expected outcomes amongst them.

The implications of the study depend on the size of the effects. These are large. Without those in NMS, the ‘Care Gap’ for those in longer term care would have been moderate (0.63 SD): with them it more than doubles to 1.39 SD. Theoretically, there could be child characteristics which are unmeasured in our study, and whose very powerful associations with both entry to NMS and low attainment at 16 ‘explain away’ these ‘apparent effects’ of NMS. These associations would need to be little, if at all, reduced by taking account of our measured variables, including attainment prior to 16. We have failed to identify such characteristics and doubt they exist. The safest, admittedly not fully proven, conclusion is that the high use of NMS for the CLA12 in England in 2013 contributed directly to the ‘Care Gap’.

This evidence combined with the internationally accepted case for inclusive education provides a strong argument for reducing, and ideally eliminating, the use of NMS for children in care. There are, however,
caveats: our study is a ‘natural’ experiment without randomisation; it is dated (we take no account of the ‘bedding in’ of virtual heads; Sebba and Berridge, 2019) and local to England; and our primary outcomes—examination results—are not the only, or even perhaps the most important yardsticks against which to measure success. To generalise from such a study, we need an explanation of why the apparent effect occurred. To draw policy conclusions, we need to address the other aims of NMS.

Why might ‘inclusive education’ benefit children in care?

As explained in the introduction, at the age of seven years, our sample of children in longer term public care was already far behind their peers educationally. At this point, most of them were at home and on average they continued to fall further behind until they entered care. Following entry, they performed, on average, in line with other children with comparable attainments and characteristics (Sinclair et al., 2019, 2020, 2022). Other evidence has shown that the cognitive deficits associated with extreme early deprivation can be largely eliminated by adoption (Rutter et al., 2007) and that in some foster homes children achieve much better educational outcomes than in others (Stone, 2007; Cheung et al., 2012; Eiberg and Olsen, 2022). In short, negative experience at home depresses attainment, removal from this experience reduces the negative effect, and a positive experience in adoption or a stable foster placement tends towards catching up.

Catching up itself seems to depend on both the home and school. The children themselves see educational success as ultimately ‘down to them’. Nevertheless, they commonly see entry to care as benefitting their education, and attribute part of any educational success to their schools, foster carers and particular teachers (Jackson et al., 2005; Berridge, 2017). There is abundant evidence on the effects of schools on educational outcomes (Reynolds et al., 2014). In our study, children in care had around a 50 per cent chance of effectively closing the gap between them and their peers if (i) they were in a secondary school which had good results with those of low attainment at entry, (ii) they were in a stable placement and (iii) they were not in NMS (Sinclair et al., 2022).

This article explores the apparently poor educational performance of those in NMS. The results should not surprise. Evidence from mainstream schools suggests that ‘setting by attainment’ may benefit ‘high-attainers’ but set back ‘low-attainers’ (Francis et al., 2019), that some pupils with SEN display behaviour that teachers find difficult (Dyson et al., 2012), that teachers also perform less well in classes containing ‘challenging’ pupils (Kutnick et al., 2006; Sacerdote, 2011; Francis et al., 2019) and that the greater the number of pupils with special educational
needs in a class the lower the attainment of the other pupils (Hienonen et al., 2018). NMS put together pupils with special educational needs, ‘challenging’ behaviour and low attainment thus creating a group which is very hard to teach.

Other difficulties relate to the size and staffing of NMS. These are typically small (average in our sample sixteen in a year group as against 157 in other secondary schools). Inevitably they are geared to the needs of those with a very high propensity to be in them. Specialist teachers with a strong interest in their subject may not be attracted to them (Rowland, 2016). A necessarily small staff group may find it hard to respond to the physical, emotional and educational needs of their pupils, struggle to produce high attainment, and enter relatively few children for examinations (O’Higgins et al., 2021).

Should any negative effects of NMS on education be balanced against other benefits?

None of the above implies that NMS inevitably produces low attainment. The results apply to the kind of NMS widely available in England in 2013. They may or may not apply to NMS of which there were few English examples. These include therapeutic communities (Whitwell, 1998) and schools for children with specific disabilities (Marschark et al., 2015; Miyauchi et al., 2022). Exceptional teachers in ‘ordinary NMS’ but able to deliver one-to-one support can enable high attainment (BBC News, 2023). Moreover, there are reasons why NMS exist. Proposals to reduce their use need to take account of the way they could change and of the benefits they currently offer.

First, the small classes and favourable teacher/pupil ratios in NMS may offer a kind of asylum. Children with special educational needs can be bullied or very unhappy in mainstream schools (e.g. Rogers, 2007; Goodall, 2018; House of Commons Education Committee, 2018; McCluskey et al., 2015; Cosma and Soni, 2019). Children in alternative provision and PRUs often compare them favourably with their previous mainstream schools (Mills and Thomson, 2018; Berridge et al., 2021). Some children have needs which call for specialist equipment or equipment or an adapted curriculum, not easily available in a mainstream school.

Secondly, mainstream schools are not an academic panacea: they differ considerably in their academic impact on those with previous low attainment, including those in longer term care (Sinclair et al., 2022). The children in NMS who perform below their academic potential were not doing well in their previous mainstream schools. Referral to NMS reflects a view that the school was unsuitable for the child or was harming the education of other children or may need the small classes and
high staffing ratios, which are valued attributes of PRUs. Blocking their removal will not necessarily improve their attainment and could lead to their unofficial exclusion or other potentially damaging responses.

These considerations explain why some children with very high needs have an over 90 per cent probability of being taught in NMS (I. Sinclair et al., submitted for publication a, b). For these children the potential conflict between their education and their well-being is probably best resolved by compromise: blurring the boundary between NMS and mainstream schools, recognising the varied objectives the schools must pursue (Norwich, 2008), and creating alliances between schools (Secretary of State for Education, 2022) or specialist units within mainstream schools (Ofsted, 2006). Such accommodations can be used flexibly, offering pupils with special educational needs or disabilities (SEND) short-term placements in NMS, shared teaching between mainstream and NMS, access to both expertise in special educational needs and specialist subject teachers, and inclusion in activities with non-disabled peers.

Such arrangements would aim to enable children in care to catch up academically and rejoin mainstream schooling. They would be appropriate to the unrealised potential of children in care and to their desire to be treated as ‘normal’ (Sinclair et al., 2001; Rahilly and Hendry, 2014). Some mainstream schools seem better able than others to support and stretch pupils with initial low attainment including those in care (Sinclair et al., 2022). Schools can be encouraged and supported in this through managerial measures—resource allocation, inspection, performance indicators, training and specialised posts—and the development of specialised interventions (Evans et al., 2017; Männistö and Pirttimaa, 2018; Taylor et al., 2021).

Conclusion

Children in care need stable, supportive placements and schools, which can bring out their potential. Their early difficulties generally lead to low initial attainment and often to difficulties in adjusting to school. Our study suggests that these problems should be addressed in mainstream schools. Long-term placements in specialised schools designed for those with behavioural, psychological or cognitive difficulties run counter to the principle of inclusive education, limit academic attainment and are not appropriate for children in care.

Acknowledgements

The authors are very grateful to Professor Judy Sebba (project Principal Investigator), Professor David Berridge and Dr Aoife O’Higgins for their encouragement and detailed comments on earlier versions of this article. They owe a particular debt to Dr John Fletcher who identified
the association between NMS and outcomes and on whose initial work on the data their own analysis was built.

**Funding**

This project was funded by the Nuffield Foundation (Grant no. EDU/41524), but the views expressed are those of the authors and not necessarily those of the Foundation.

**Conflict of interest statement.** None declared

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