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Raising educational attainment in deprived areas: the challenges of geography and residential mobility for area-based initiatives

Evidence from the New Deal for Communities Programme

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The findings and recommendations in this report are those of the authors and do not necessarily represent the views of the Department for Communities and Local Government.

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Aims and objectives

- Improving education and skills is one of the five priority goals of the National Strategy for Neighbourhood Renewal (NSNR) and its component New Deal for Communities (NDC) Programme. This paper explores some of the challenges to raising the educational attainment of children living in NDC areas. The challenges which this paper focuses on are:
  - the extent to which the dispersal of NDC-resident children amongst different schools presents challenges for local NDCs seeking to reach these children through school-based interventions
  - the extent to which the schools educating NDC-resident pupils are judged to be of poorer quality than other schools in the area
  - the extent to which the geographical mobility of pupils may limit the potential impact of the NDC Programme on educational attainment outcomes.
- To inform the above questions, this paper first explores how the NDC pupil population is spread between the different schools serving each NDC area. Analyses are then undertaken to, first, compare the characteristics of NDC and non-NDC pupils attending the same schools and, second, compare the characteristics of the schools serving the NDC areas with other schools in the NDC local authority. Pupil turnover is then examined, including a comparison of the characteristics of 'inmovers' and 'outmovers'. Finally, the results are drawn together and considered as a whole in the context of the aims and objectives of the paper and the implications for the design and evaluation of area-based initiatives addressing educational attainment.

Geographies of school attendance: the concentration and dispersal of NDC-resident children amongst local schools

- Almost all NDC Partnerships can achieve coverage of approximately 80 per cent of their pupil populations of both primary and secondary school age through targeting around 10 primary schools and 10 secondary schools in each NDC area. However, the remaining 20 per cent or so of pupils in each NDC area are spread across a much larger number of schools making it impractical to implement interventions in *all* schools attended by NDC pupils.
- In general, a higher proportion of the pupil population in each NDC Partnership attends the main[1] secondary school than attends the main primary school.

[1] Where the 'main' school is the school which educates the largest number of NDC pupils.

However, a higher proportion of the children attending the main primary school tend to live within the NDC area than children attending the main secondary school. There is considerable variation between Partnerships in terms of how NDC pupils are distributed between schools and the extent to which NDC pupils are concentrated in particular schools at both the primary and secondary level.

- In general, the primary and secondary schools identified as being 'main schools' (i.e. the schools that educate the highest number of NDC pupils in primary and secondary cohorts in each NDC area) in 2002 continued to educate similar proportions of NDC pupils year-on-year through to 2006. Most of these main schools in 2002 remained as the main school through this period up to and including 2006. Greater fluctuation was observed in secondary schools than primary schools and this may be a reflection of parents and pupils being more inclined to exercise 'choice' in regard to secondary schools[2] and/or greater activity in terms of closures of secondary school around NDC Partnerships.

How do schools attended by NDC pupils compare to other schools in the locality?

- The schools attended by the majority of NDC pupils tend to have more deprived pupil intakes than other schools in the local authority. This manifests in terms of higher rates of eligibility[3] for free school meals, higher rates of special educational needs and lower average attainment. However, these trends do not hold for all NDC areas, especially at the secondary level.
- One measure of school quality is the contextual value added (CVA) score produced by the Department for Children, Schools and Families. On average, schools which educate the largest numbers of NDC-resident pupils are more likely to be below the national average (as measured by their CVA score) than other schools in the same local authority. In addition, many of the schools which were educating large numbers of NDC pupils in 2002 have closed between 2002 and 2007.

How do NDC-resident children compare to their school peers?

- When comparing NDC and non-NDC children within the same schools, the home neighbourhoods of NDC pupils of both primary and secondary ages are, in general, more deprived than the home neighbourhoods of non-NDC children attending the same schools. The proportions of NDC children eligible for free school meals and having special educational needs are higher than non-NDC children attending the same schools.
- In general, educational attainment is considerably lower amongst NDC pupils than amongst non-NDC pupils attending the same schools. This applies to both primary and secondary attainment.

[2] See, for example, Walford, G (1994) *Choice and Equity in Education*, London, Cassell
[3] See section 1.5 for a definition of free school meals eligibility.

- There appears to be a relationship between the key stage 4 attainment of NDC-resident children and the difference in levels of income deprivation between NDC-resident children and their school peers. NDC children tend to do better at key stage 4 when they attend schools with children who come from areas with similar levels of income deprivation. There is, however, no apparent link between actual levels of income deprivation in the NDC areas and key stage 4 attainment i.e. children living in more income deprived NDC areas do not have lower key stage 4 attainment than those living in less income deprived NDC areas.

Trends in pupil turnover in NDC areas

- In general, between 50 per cent and 70 per cent of each 2002 primary and secondary school cohort remained resident in the same NDC area in 2006. Again, considerable variation is apparent between Partnerships, but it is notable that in some Partnerships less than half of the original 2002 NDC cohort remained resident in the NDC Partnership through to 2006.
- It is clear that many more pupils migrated out of the NDC areas than migrated in, resulting in a net reduction in the primary and secondary NDC pupil cohorts between 2002 and 2006. The majority of the moves were within the parent local authority.
- Both the primary and secondary school cohorts of NDC pupils exhibited lower eligibility rates for free school meals in 2006 than in 2002. The secondary school aged cohort also had a lower proportion of children registered as having special educational needs in 2006 than in 2002. The influx of inmovers and outmovers in NDC areas did little to change the overall rates of free school meal eligibility and incidence of special educational needs. Eligibility for free school meals did decline between 2002 and 2006 but this occurred in a context where national eligibility rates were also declining.
- Children who moved into NDC areas between 2002 and 2006 tended to move from neighbourhoods that were considerably less deprived than their new NDC neighbourhood. Similarly, children who moved out of NDC areas between 2002 and 2006 tended to move to new neighbourhoods that were considerably less deprived than their NDC neighbourhood. This raises interesting questions as to the 'role' of NDC areas in relation to socio-economic dynamics within the surrounding geographical area.

Implications for area-based initiatives

- The analyses presented in this paper demonstrate that there is some potential for NDC Partnerships to engage with pupils through school-based interventions. This can be achieved at both primary and secondary school levels; however, in most cases it is only realistic to target 50 to 80 per cent of the NDC pupil population through school-based interventions. It is therefore difficult for the Programme to be very efficient in its targeting. It is clear that the geographical

patterns of school attendance are an important factor to consider prior to the implementation of an area-based education intervention.

- There is theoretical justification for targeting NDC pupils but not their non-NDC peers in the same school as the NDC pupil population tends on the whole to have lower levels of attainment and higher levels of factors that are known to negatively influence attainment. However, in practical terms targeting some pupils within a school on the basis of where they live presents challenges.
- The effects of migration may have serious implications for sustained support for NDC pupils and for the accurate measurement of Programme impact through established evaluation techniques. This is likely to be an issue regardless of whether an intervention is area or school-based. It is often difficult to modify evaluation methods to take account of migration (especially when limited data are available) but this is nevertheless an important factor to consider.
- The results presented here form a valuable addition to the evidence base on the challenges to the implementation and evaluation of area-based education programmes. In addition, this report sets out the kind of analysis that should ideally inform the development of other area-based initiatives in the future.

1. Introduction

Improving education and skills is one of the five priority goals of the National Strategy for Neighbourhood Renewal (NSNR) and its component New Deal for Communities (NDC) Programme. The New Deal for Communities Programme is one of the most important area-based initiatives (ABIs) ever launched in England. The Programme's primary purpose is to **reduce gaps between some 39 deprived neighbourhoods and the rest of the country**. In these 39 areas, with an average population of about 9,800 people, NDC Partnerships are implementing approved 10-year Delivery Plans, each of which has attracted approximately £50m of Government investment. The Programme is based on a number of key principles:

- the 39 NDC Partnerships are carrying out 10-year strategic programmes designed to transform these deprived neighbourhoods and to improve the lives of those living within them
- decision-making falls within the remit of 39 Partnership Boards, consisting of agency and community representatives
- the community is 'at the heart' of the Programme
- in order to achieve their outcomes, the 39 Partnerships are working closely with other delivery agencies such as the police and Primary Care Trusts
- the Programme is designed to achieve the holistic improvement of these 39 areas by improving outcomes in relation to:
  - three **'place-based'** issues: crime, the community and housing and the physical environment
  - three **'people-based'** considerations: education, health, and worklessness.

This paper explores some of the challenges to raising the educational attainment of children living in NDC areas. The challenges which this paper focuses on are:

- the extent to which the concentration of NDC-resident children amongst different schools presents challenges to NDCs seeking to reach these children through school-based interventions
- the extent to which the schools serving the NDC area are judged to be of poorer quality than other schools in the area
- the extent to which pupil mobility may impact upon progress made by the NDC Programme in improving educational attainment outcomes.

This paper is produced by the Social Disadvantage Research Centre at the University of Oxford. SDRC is a member of the National Evaluation Team for the NDC Programme. The National Evaluation Team is headed by the

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1.1 Educational attainment in deprived areas

The attainment gap between children from deprived and more affluent neighbourhoods has long been an issue of concern for policy makers. Only 26 per cent of children living in the 10 per cent most deprived neighbourhoods in England achieved five or more A*-C grades at GCSE in 2002 compared to 72 per cent in the 10 per cent most affluent neighbourhoods[4]. In addition, Cassen and Kingdon[5] find many factors associated with living in a deprived area, such as high rates of unemployment, low adult qualifications and skills and high rates of special educational needs are associated with low educational attainment. The vast majority of NDC areas have low educational attainment when compared to national and local authority averages. Even though there is evidence that the gap is closing and attainment is improving in the NDC areas, some areas are still a long way behind. In addition, the evidence suggests that as children in deprived areas get older they fall further behind. Therefore, many of these children are missing the opportunity to obtain higher level qualifications, such as GCSEs which are crucial in accessing higher education or better job opportunities. Education is a key enabler to improving the prospects of people living in NDC areas and, as such, is an important component of the NDC Programme.

1.2 Improving educational attainment through area-based initiatives

The idea of taking an area-based approach to educational interventions is not new. The late 1960s saw the introduction of Educational Priority Areas in areas identified as having low educational attainment. Since then, particularly since 1997, there have been many initiatives (for example, Sure Start, Excellence in Cities, Education Action Zones and Aimhigher) which have been targeted towards areas with high levels of educational disadvantage. The approach taken by the NDC Programme is unique in relation to previous initiatives in that the Programme aims to address not only education but the other factors that might impede progress in educational attainment such as high levels of worklessness or crime. In addition, the vast majority of previous education interventions have been implemented through schools. The NDC Programme is unusual in its focus on a small area. Whilst the area approach has the advantage that synergies can be achieved through attempting to simultaneously address

4 Smith, G., Smith, T., Wilkinson, K. and Sigala, M. (2005) *National Evaluation of the New Deal for Communities Programme: Education and Skills*, SDRC Papers on the New Deal for Communities National Evaluation, Social Disadvantage Research Centre, University of Oxford.

5 Cassen, R and Kingdon, G. (2007) *Tackling low educational achievement*, Joseph Rowntree Foundation.

multiple drivers of disadvantage, in terms of addressing educational attainment this raises some challenges. Two particular issues, which are the focus of this report, are the relationship between where a child lives and where they go to school and the extent to which children move home and change school throughout the duration of the NDC Programme.

1.3 The NDC Programme – interventions and outcomes

Interventions around the education theme in the NDC areas have been wide ranging. Although the majority of NDC Partnerships included 'improving educational attainment at key stage examinations' as a target in their original delivery plans[6], the strategies employed to achieve this have varied considerably. Analysis of spend data on the education theme from the 'System K' database shows that 'extra curricula activities' was the most common spending category (again this can incorporate a wide range of activities from homework clubs to early years support) followed by 'improving and developing infrastructure' (for example, improving school buildings). Providing educational support posts in local schools was also amongst the top five expenditure categories.

The NDC Partnerships have employed a mixture of school and community-based interventions. However, both these approaches can face difficulties.

Community-based interventions have the potential advantage that all NDC-resident children live close enough to be able to access the Programme. However, there are widely recognised difficulties in engaging with children through community-based interventions (as they must rely on voluntary attendance) and it is often those with the greatest need for support who are the hardest to reach[7].

School-based interventions have the advantage that children are concentrated in established learning environments and therefore raising awareness of initiatives available through the NDC Programme is arguably more straightforward. The main challenges to implementing school-based interventions are that: (i) the school age populations of NDC areas attend a large number of different schools so selecting schools to target for intervention support may not be straightforward, and (ii) the schools attended by the NDC school age population are also attended by non-NDC resident pupils which raises both ethical and practical issues around targeting the NDC resident pupils.

The most appropriate balance of school versus community-based interventions will vary between each area, and in some areas children may be harder to reach than in others. This clearly raises difficulties in terms

[6] Marsall, F. (2005) *Analysis of Delivery Plans 2004: Outcomes, Floor Targets and Projects*, National Evaluation of the New Deal for Communities Programme, Department for Communities and Local Government.

[7] See for example, Paul Doherty, P and Kinder, K. (2004) *Delivering services to hard to reach families in On Track areas: definition, consultation and needs assessment*, Development and Practice Report 15. London: The Home Office

of implementing the NDC Programme but it also adds challenges to the evaluation of the Programme.

Educational attainment has improved in the NDC areas: between 2002 and 2006 the proportion of children obtaining five or more A*-C grades at key stage 4 has increased by 11 percentage points[8]. However, this trend has also been occurring in other deprived neighbourhoods. Thus, rather than asking whether educational attainment has improved, the evaluation seeks to determine if educational attainment has improved above what would have been expected in the absence of the NDC Programme.

1.4 Evaluation challenges

This report focuses on challenges associated with implementing interventions through the NDC Programme; however, some of these implementation challenges also have relevance in terms of the rigorous evaluation of the Programme.

There are three main challenges to the evaluation of the NDC Programme: not knowing who has taken part or benefited from programme interventions; intervention overlap; and pupil mobility.

The first issue is that it is impossible to know which children have actually benefited from the NDC Programme. Given the significant implementation challenges (which will be discussed further in the remainder of this report) it seems unlikely that all NDC-resident children can have benefited. Thus, the evaluation unfairly includes children for whom there may have been no direct Programme impact.

Second, in comparing NDC children to children in other deprived areas, the evaluation assumes that the other areas are 'intervention free', but this is generally not the case. For example, an analysis of the overlap between area-based initiatives in deprived areas in Bristol[9] showed that there were at least 12 area-based initiatives operating simultaneously in 2002. Very few of the most deprived wards in the city were not covered by at least one of these. Many NDC children attend schools which are targeted by education interventions due to their low attainment outcomes so NDC children and children from other deprived areas outside of the NDC area may be benefiting from the same school-based interventions. In addition, NDC interventions implemented through schools may benefit children who do not live in NDC areas (as there are no schools which are attended exclusively by NDC-resident children). Thus, there may be spill-over of NDC interventions to other children living in other deprived areas.

[8] Beatty et al. (2008), *New Deal for Communities: A synthesis of new Programme-wide evidence, 2006–7*, NDC National Evaluation Research Report 39, Department for Communities and Local Government.

[9] Stewart, M. (2001) Area Based Initiatives and Urban Policy, Area-based Initiatives in contemporary Urban Policy, Danish Building and Urban Research and European Urban Research association, Copenhagen May 2001.

Finally, it is likely that there will be a time delay between a child taking part in an NDC intervention and any resultant impact on their educational attainment. The analyses in later sections of this report show that rates of pupil mobility in NDC areas are high. Thus, children may benefit from the Programme and move to other areas before taking key stage exams (thereby losing the Programme benefits) or children may move into an NDC area without having benefited from the Programme at earlier stages in their education. The issue of pupil mobility is related to the first challenge of not knowing who has benefited; however, in this case there is an additional problem of not knowing who has benefited and for how long.

This paper discusses some of the challenges to effectively and efficiently targeting resources to increase the educational attainment of children of compulsory school age through the NDC area-based initiative, and explores some of the difficulties of undertaking rigorous quantitative evaluation of outcomes to evidence Programme impact. The aim is not to quantify the impact of the Programme but rather to demonstrate some of the difficulties facing any such attempts to undertake such quantitative analysis.

1.5 Data

This report draws on the UK's main administrative data source on educational attainment for children of compulsory school age covering the period 2002 to 2006. These data, namely the National Pupil Database (NPD) and the Pupil Level Annual School Census (PLASC), are at individual pupil level and contain information on attainment at each set of key stage examinations taken, plus a wide range of information on pupil characteristics.

The presence of each pupil's home postcode in these data enables the linkage of valuable neighbourhood level information, such as Income Deprivation Affecting Children (IDACI) score from the English Indices of Deprivation 2007. This score represents the proportion of children living in income deprived households at Lower Super Output Area[10] (LSOA) level.

The presence of a school identification code in the pupil level datasets allows school level data to be matched to pupil level data. Data on schools are taken from the Edubase dataset (provided by the Department for Children, Schools and Families) and from the Local Education Authority Schools Information Services (LEASIS).

Pupils were mapped geographically and, where appropriate, allocated to NDC areas based on the location of their home postcode. A list of all postcodes falling within the 39 NDC areas was provided by the Office for National Statistics for use in this project.

[10] An LSOA is a small area with an average population of 1,500. There are 32,482 LSOAs in England.

This data matching generates a dataset at individual pupil level containing information on pupil characteristics, pupil attainment at national Key Stage examinations, school characteristics including average attainment levels, and neighbourhood characteristics such as the level of income deprivation affecting children. All pupils living within NDC Partnership areas are flagged to indicate this status and are coded to specify the Partnership in which they live. These data are held for each year from 2002 through to 2006.

Throughout the report many of the analyses report statistics on free school meals eligibility. A child is considered to be *eligible* for free school meals if their parent has made a claim for receipt of free school meals and the school has confirmed that the claim is valid (i.e that the parent is in receipt of a low income benefit). Eligibility is distinguished from an *entitlement* to free school meals. A child is entitled to a free school meal if their parent is in receipt of a low income benefit. However, the child does not become eligible unless the parent makes a claim for a free school meal. It is worth noting that eligibility for free school meals does not necessarily mean that the child will choose to take up the free meal. All the analyses presented in this report relate to free school meal eligibility as recorded in PLASC.

The analyses presented in this paper are restricted to children of compulsory school age. In other words, children classified as being of 'primary school age' are those in Year 1 (i.e. aged five at the beginning of the academic year) through to Year 6 (i.e. aged 10 at the beginning of the academic year), and children classified as being of 'secondary school age' are those in Year 7 (i.e. those aged 11 at the beginning of the academic year) through to Year 11 (i.e. aged 15 at the beginning of the academic year). For certain analyses presented in this report it was necessary to select sub-sets of children from these overall groups for further analysis and this is clearly indicated in the report where relevant.

Only pupils attending schools coded as state primary or state secondary schools are included in analyses. Regrettably there are no comparable data available for those children attending schools in the independent sector.

1.6 Report structure

Three principal research questions run throughout this paper:

- the extent to which the concentration of NDC-resident children amongst different schools presents challenges for NDCs seeking to reach these children through school-based interventions
- the extent to which the schools serving the NDC area are judged to be of poorer quality than other schools in the area
- the extent to which pupil mobility may impact upon progress made by the NDC Programme in improving educational attainment outcomes.

The remainder of the paper is divided into five further sections.

Section 2 examines how the NDC pupil population is spread between different schools and the extent to which the pupil populations within these schools reside within the NDC areas. This information is used to identify a group of schools for each NDC Partnership area which might be expected to be the most likely targets for intervention. The analyses presented in the remainder of the report focus specifically on those children attending this sub-set of selected schools.

Section 3 compares the characteristics of schools serving the NDC area with other schools in the local authority. Schools are compared on the basis of rates of eligibility for free school meals, incidence of special educational needs, attainment in key stage examinations and school 'quality' as measured through CVA scores.

Section 4 compares the characteristics of NDC pupils against non-NDC pupils attending a selected sub-set of key schools. This examines the extent to which NDC pupils' needs differ from those of their school peers.

Section 5 focuses on the issue of 'turnover' of children between NDC and non-NDC neighbourhoods and the impact this has had on the characteristics of pupils resident in the NDC Partnership areas over time.

Finally, **Section 6** draws together the main findings of the report and discusses the implications of the findings for the implementation and evaluation of area-based initiatives to tackle low educational attainment.

2. Geographies of school attendance: the concentration and dispersal of NDC-resident children amongst local schools

The degree of concentration or dispersal of NDC-resident pupils in local schools will determine the extent to which an NDC's intervention strategy based on schools can be feasible and effective in addressing the poor attainment of children living in deprived neighbourhoods such as NDC areas. These patterns vary both between NDC areas and across primary and secondary school age-groups. As an extreme example, children from the Hackney NDC area attended 171 different primary and secondary schools in 2002. So, in this NDC area, targeting every child through a school-based intervention is clearly unfeasible.

As well as considering the number of different schools that NDC-resident pupils attend, it is also instructive to look at concentrations of NDC pupils within each school. The proportion of each school's overall pupil population made up of children from any particularly defined deprived area, such as an NDC, will have implications for the extent to which schools are likely to see themselves as natural partners to any area-based initiative. Additionally, this dimension will also determine the extent to which the benefits of interventions may 'spill-over' beyond the target group.

The main findings from this section are:

- Around half of the NDC pupil population can be targeted through five or fewer schools. However, to extend coverage to 80 per cent of NDC pupils involves targeting many more schools in most NDC areas. At the primary level around 80 per cent of primary-age pupils attend 10 or fewer primary schools in all NDC areas; however, the picture is slightly different for secondary school pupils. In six NDC areas more than 10 secondary schools would have to be targeted to achieve coverage of 80 per cent of secondary-age pupils.
- In general, NDC-resident primary school children attend primary schools in which a relatively high proportion of the children in the school are resident in an NDC area. At the secondary level children from the NDC area tend to make up a smaller proportion of the overall school intake than at the primary level.

- The 'main' primary school and main secondary school serving each NDC area tends to remain fairly stable over time. At the secondary level a number of school closures results in changes in the schools attended by the largest numbers of NDC pupils over time.

2.1 Over how many schools is each NDC Partnership's pupil population distributed?

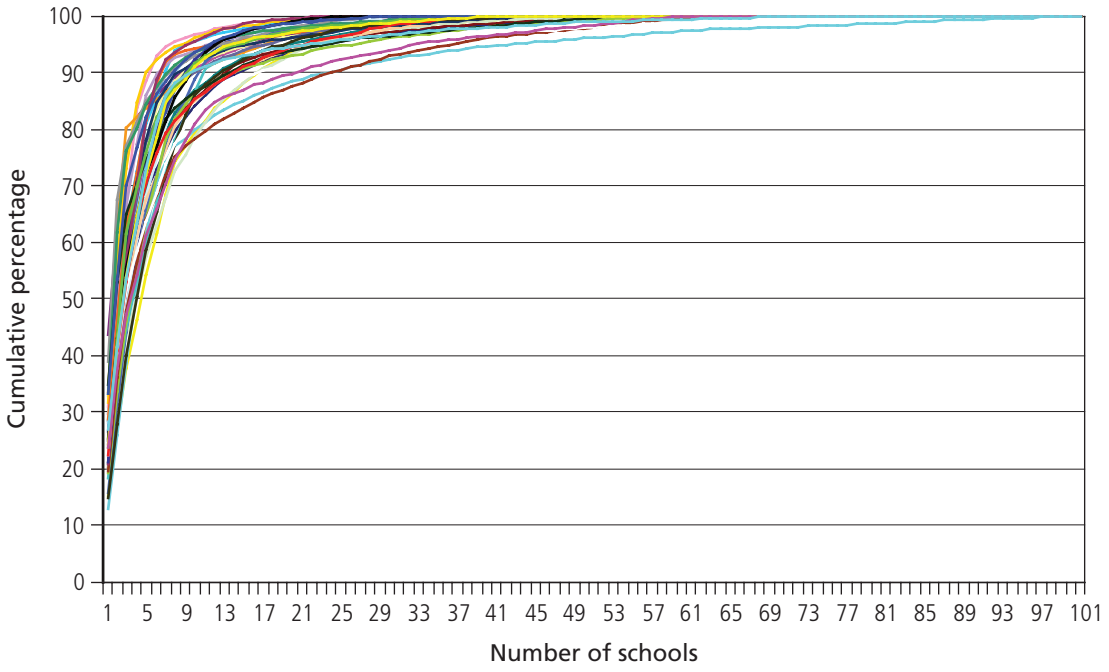
In **Figures 1** and **2** the cumulative proportion of NDC primary and secondary school pupils, respectively, that attend each school serving an NDC area in 2002 are presented. Schools are ranked from highest to lowest in terms of the absolute number of NDC pupils attending the school. Each NDC Partnership is represented by a different coloured line. However, the legend is not displayed here because the purpose of these charts is to demonstrate the overall pattern across the 39 Partnerships rather than to identify individual Partnership areas. The data underlying these two figures are presented in full in **Tables A1** and **A2** in **Appendix A**.

2.1.1 Distribution of NDC pupils amongst primary schools

It is clear from **Figure 1** that in all 39 NDC Partnerships at least half of the NDC primary school age pupil population is distributed amongst five or fewer primary schools. **Table A1** shows that, with the exception of Norwich NDC Partnership, four primary schools accounted for 50 per cent or more of each Partnership's pupil population. In Norwich, the first four schools accounted for 46 per cent of its pupil population while adding the fifth school took the cumulative value above 50 per cent. In eight Partnerships, 50 per cent of pupil population was accounted for by just two primary schools.

At the extremes of the distribution, the total number of primary schools attended by NDC pupils ranges from a low of 23 schools in both Islington and Kingston upon Hull NDC Partnerships, to a high of 101 schools in the Hackney NDC Partnership. It is unlikely that Partnership resources can be spread so thinly as to fund all the schools that one or more NDC pupils attend. The cumulative distribution displayed in **Figure 1** shows that the Partnership curves tail off sharply after approximately 80 per cent of the pupil population has been accounted for. This indicates that the remaining 20 per cent or so of pupils in each Partnership are spread across a much larger number of schools. In all but three Partnerships, 10 or fewer primary schools account for over 80 per cent of the primary-age pupil population.

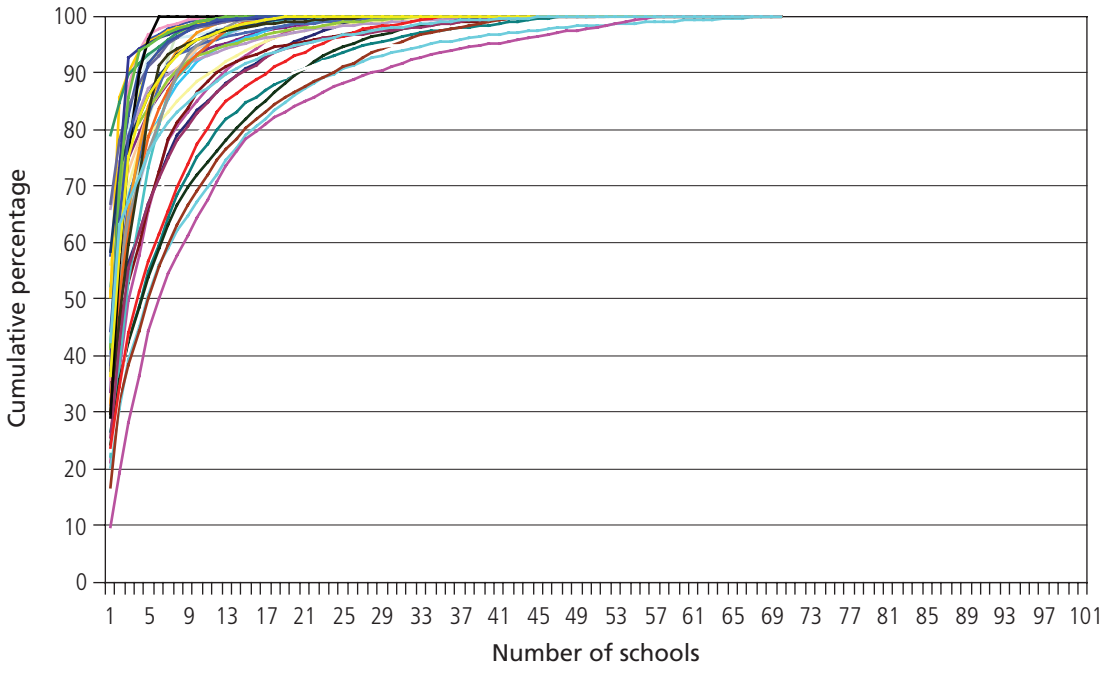
Figure 1: Cumulative proportion of NDC pupils in each primary school serving each NDC area, 2002



2.1.2 Distribution of NDC pupils amongst secondary schools

In **Figure 1** 80 per cent of the primary-age population can be targeted by interventions covering 10 or fewer primary schools in each NDC Partnership. The picture is somewhat different for secondary schools.

Figure 2: Cumulative proportion of NDC pupils attending each secondary school serving each NDC area, 2002



The equivalent data for secondary school pupils in 2002 is shown in **Figure 2**[11]. Similar patterns are observed to those displayed in **Figure 1** but there are some differences. First, the range in the total number of secondary schools attended by NDC pupils is lower than the range in the number of primary schools attended. This is perhaps not surprising given the typically larger size of secondary schools. Second, the spread of the secondary school distribution is slightly greater than the spread of the primary school distribution when looking at the left-hand section of the charts. For instance, taking the 80 per cent of pupil population cut-off utilised in the discussion above, it becomes clear that in seven Partnerships the number of schools required to account for this group of children exceeds ten schools. Variation is again evident: in two NDC areas (Sunderland and Luton) 80 per cent of secondary pupils attend one of two schools.

The data displayed in **Figures 1** and **2** highlight an important determining factor in the choice of schools for targeted NDC intervention. If Partnerships are to effectively target the school age population resident within their boundaries through school-based interventions then it is imperative to understand how the pupil population is distributed amongst different schools. By targeting a relatively small number of primary schools each Partnership can, in theory, achieve coverage of 80 per cent of the NDC primary-age pupil population; in some NDC Partnerships, slightly larger numbers of secondary schools would need to be targeted to achieve the same degree of coverage. It is not feasible, within the given resource constraints of the Programme, to implement interventions in all schools attended by NDC pupils. The point at which it is no longer cost effective to include further schools in NDC interventions varies considerably between NDC areas and according to whether targeting is to include primary- or secondary-aged children (or both).

2.1.3 Proportion of NDC pupils attending five main primary and secondary schools

In order to obtain an estimate of the proportion of NDC pupils that could realistically be targeted through a school-based intervention it is assumed that the NDC Programme could target no more than five primary schools and five secondary schools in each NDC Partnership area. The data presented below show how the NDC pupil population is distributed across the five main primary and secondary schools serving each NDC area. **Figures 3** and **4** focus on the five primary and secondary schools, respectively, with the largest number of NDC pupils in each NDC Partnership. Each figure shows the percentage of each NDC Partnership's total number of pupils attending each of the five schools.

Figure 3 shows the proportion of NDC primary-age pupils in each of the five primary schools with the largest numbers of NDC pupils. **Figure 3** is sorted according to the percentage of NDC pupils in the school with the highest number of NDC pupils (school 1). For example, in Tower Hamlets

[11] See **Table A2** in **Appendix A** for underlying data.

over 40 per cent of the primary aged population attend a single school, which is the highest percentage attending any single school across all 39 Partnerships. As such, Tower Hamlets is placed at the far-left of this chart. The five primary schools displayed in **Figure 3** account for between 54 per cent (Norwich) and 90 per cent (Sunderland) of primary-aged pupils in the NDC Partnerships. Tower Hamlets NDC Partnership has the highest proportion (44%) of primary-age pupils attending a single school. At the other end of the distribution, no more than 13 per cent of the total pupil population in the Hackney NDC Partnership attend any one school in 2002.

Figure 4 shows that the cumulative distribution across secondary schools is considerably more varied than that observed across primary schools. In two NDC Partnerships two-thirds or more of the secondary school pupil population attended a single school. The highest value relates to Luton NDC where 79 per cent of pupils attended a single secondary school. At the other end of the spectrum, no more than 10 per cent of the secondary pupil population in Lambeth NDC attended any one secondary school in 2002.

From **Figure 3** and **Figure 4** it is clear that the proportion of NDC pupils that can be reached through working with the five main primary schools and five main secondary schools varies considerably between Partnerships.

Figure 3: Cumulative proportion of primary age NDC children across the five primary schools with the largest number of NDC pupils in 2002 (ranked by percentage attending school 1)

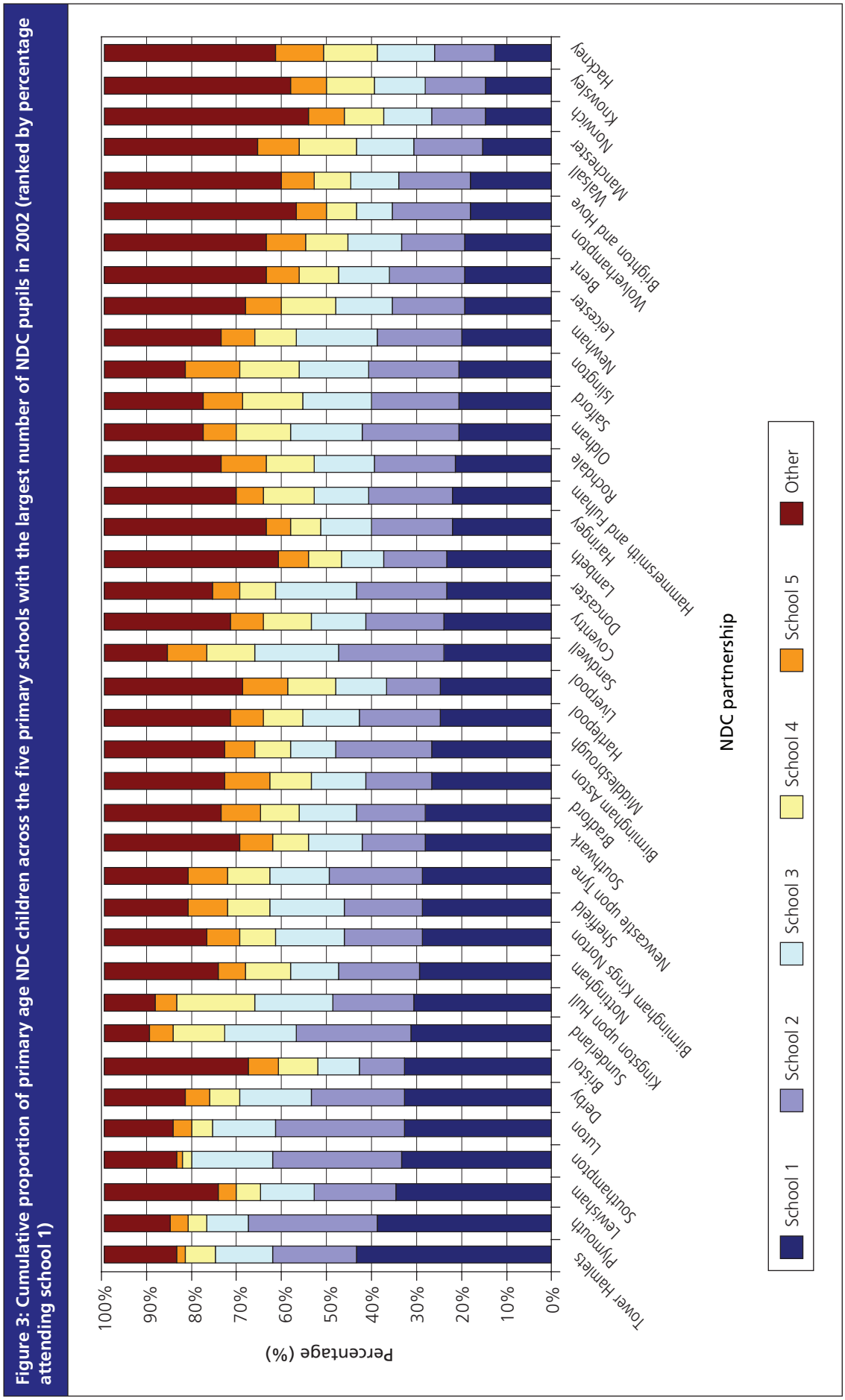
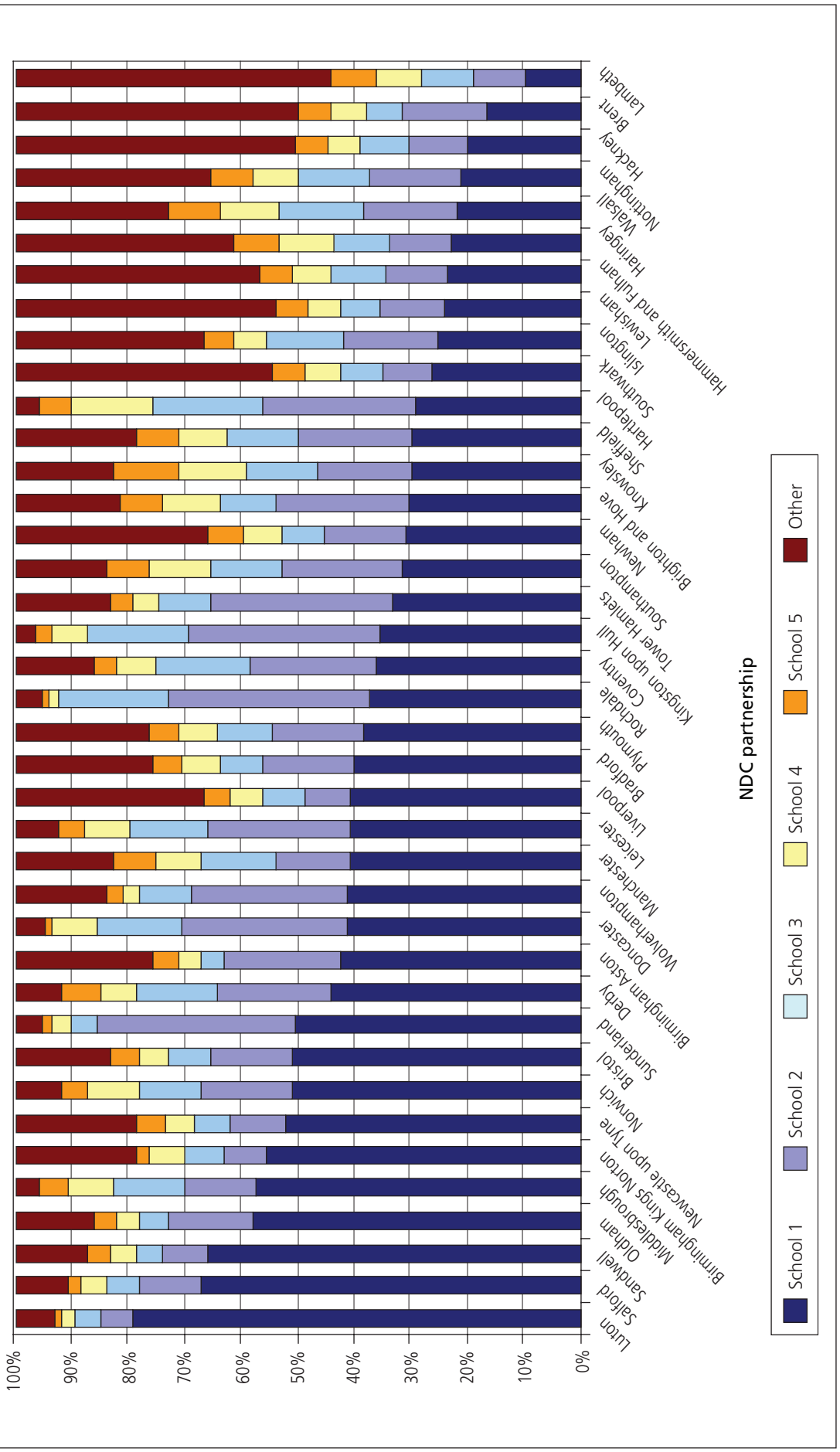


Figure 4: Cumulative proportion of secondary age NDC children across the five secondary schools with the largest number of NDC pupils in 2002 (ranked by percentage attending school 1)



2.2 What proportion of each school's overall pupil population lives within an NDC Partnership?

The analyses presented above describe how the NDC pupil population is spread across different schools serving the NDC area. While these analyses have provided some valuable insights, it is important also to consider how this compares with the share of each *school's* pupil population that resides in an NDC area as the most likely partners for NDCs will be those schools with a large enough proportion of NDC-resident children to warrant the establishment of such a relationship.

In addition, the proportion of a particular school's enrolled pupils that live within an NDC Partnership area is likely to be an important factor in determining the efficiency with which NDC resources can be targeted through school-based initiatives. If all pupils in a school reside within an NDC Partnership then none of the NDC resources channelled into that school will be used to support non-NDC pupils. Whilst this does not guarantee that NDC pupils in this school will benefit from the support offered it does at least ensure that there is a clearly defined target population and removes the possibility of 'spill-over' of positive benefits to non-NDC children. At the other extreme, in a case where a relatively low proportion of the overall school enrolment resides in the NDC area, ethical and practical issues in targeting pupil sub-groups within schools are raised.

2.2.1 What proportion of NDC pupils attend the 'main' primary and secondary schools?

The data presented in **Figures 5** and **6** relates to the single primary and secondary school serving each NDC Partnership that contains the highest number of NDC pupils. For the purpose of simplicity of referencing, these schools will be referred to as 'main' schools. Each NDC Partnership therefore has one main primary school and one main secondary school.

The bars in **Figures 5** and **6** represent the proportion of the total NDC pupil population that attends the main school. The dots on the charts represent the proportion of the pupils at that school who reside in the NDC area. For example, in the Tower Hamlets NDC area, 44 per cent of primary-age pupils attended the main school in 2002 and 90 per cent of the pupils at this school lived in the Tower Hamlets NDC Partnership. The 39 Partnerships are again ordered along the horizontal axis according to the total number of NDC pupils attending the main primary or secondary school (i.e. the same as in **Figures 3** and **4** above). The full data underlying **Figures 5** and **6** are presented in **Tables A3** and **A4** in **Appendix A**.

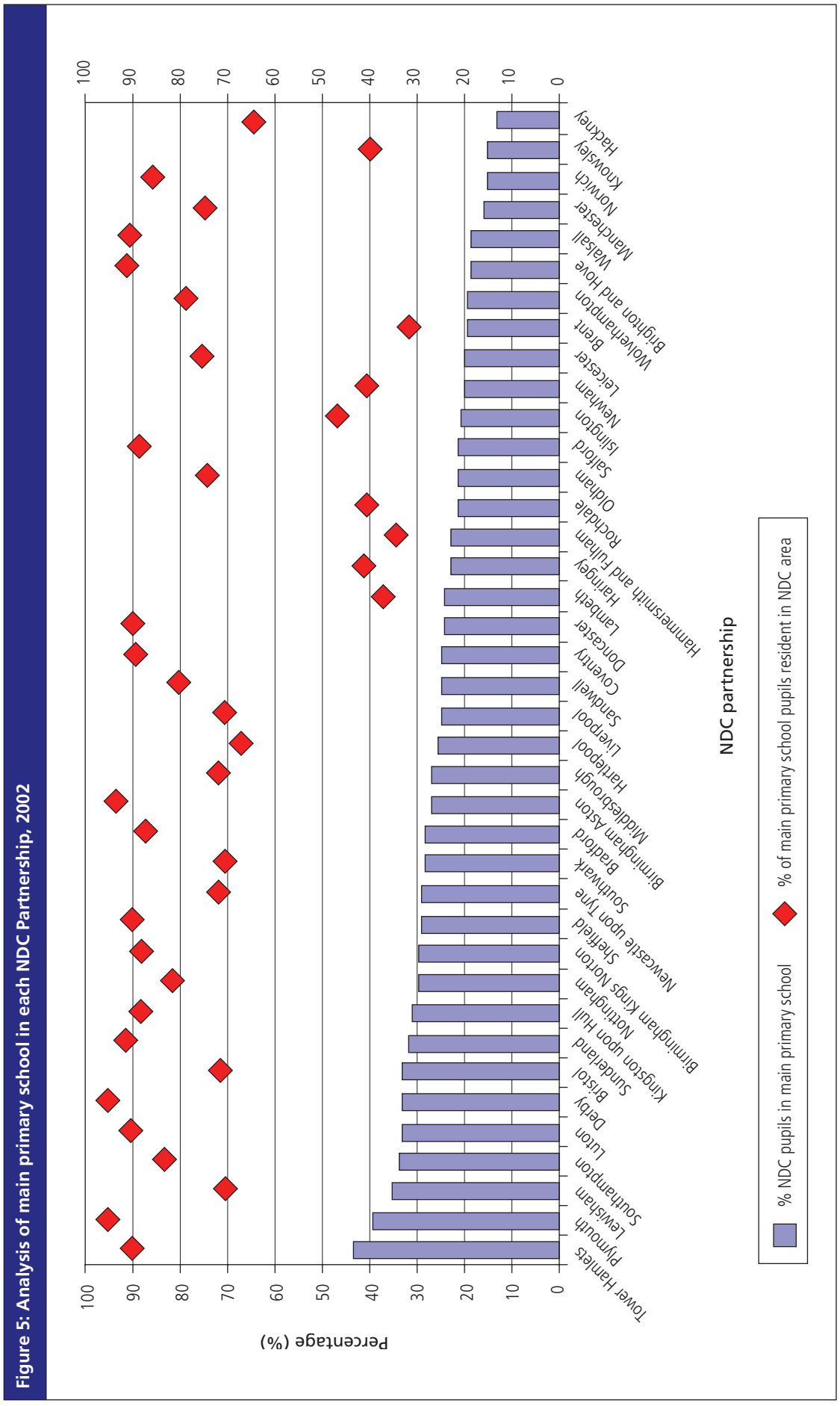
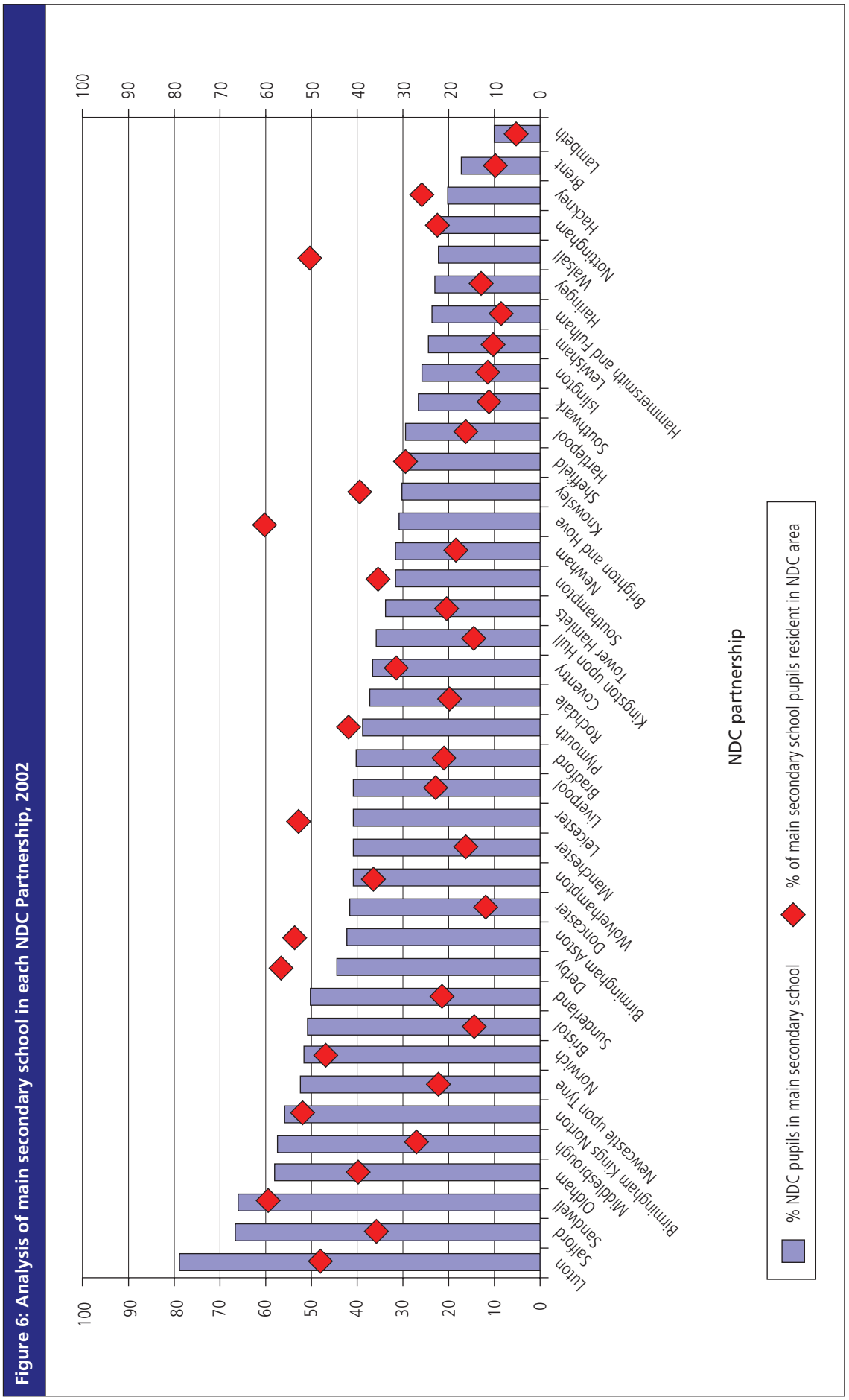


Figure 5: Analysis of main primary school in each NDC Partnership, 2002

Figure 6: Analysis of main secondary school in each NDC Partnership, 2002



It is apparent from **Figure 5** that there is considerable variation across the NDC Partnerships in how effectively NDC interventions could be targeted through the main primary school. Tower Hamlets and Plymouth NDC Partnerships would seem to be well placed to effectively target NDC pupils through primary schools due to the fact that a relatively large percentage of NDC pupils attend the main primary school and a relatively large proportion of the main school's pupils live in the NDC Partnership area. In Plymouth NDC, for instance, 96 per cent of the pupils in the main primary school are from the NDC Partnership and around 40 per cent of all of the primary age pupils in the Plymouth NDC Partnership attend this school.

Some interesting variations within regions are apparent. For example, the results from Tower Hamlets and, to a lesser extent, Lewisham NDC Partnerships are interesting in that they have a single school containing a majority of pupils from the NDC area which also accounts for a sizeable percentage of all of the primary age pupils in those NDC Partnerships. This contrasts with other NDC Partnerships in London such as Brent and Lambeth where the main primary school accounts for a markedly lower share of the primary age NDC pupils and contains mainly non-NDC pupils.

Figure 6 shows that in most cases less than 30 per cent of all pupils enrolled at the main secondary school live in NDC Partnership areas. However, there are several NDC areas with higher concentrations of NDC pupils within the main secondary school, including seven Partnerships in which more than 50 per cent of pupils at the main secondary school live in an NDC Partnership area.

Comparison of **Figures 5** and **6** shows that, in general, a higher percentage of the NDC pupil population attends the main secondary school than is the case with the main primary school. However, as secondary schools have a much higher pupil intake than primary schools, NDC-resident pupils form a smaller proportion of the total pupil intake in the main secondary school than they do in the main primary school.

2.2.2 Does the 'main' primary or secondary school attended by NDC pupils change from year to year?

It may be argued that schools which are attended by a high number of NDC pupils relative to other schools in the locality are more likely to make good candidates for NDC investment. If, however, there is considerable year-by-year fluctuation in the schools attended by NDC pupils then this may make it more difficult to implement longer term school-based interventions.

The data were therefore analysed to determine if the main schools, as defined based upon 2002 data, continued to be the main schools in subsequent years. Data relating to the percentage of NDC pupils educated in the 2002-main school for 2002 to 2006 are presented in **Table A5** (for primary schools) and **Table A6** (for secondary schools) in **Appendix A**.

Overall, there is considerable stability at the primary level: the main primary school in 2002 continues to play a key role in educational provision for NDC-resident children between 2003 and 2006. Twenty-nine of the 39 NDC Partnerships have the same main primary school in 2006 as in 2002. The continued importance of the main primary school throughout the 2002–06 period is also reflected in terms of the percentage of NDC pupils who are educated in the main school remaining relatively stable over the period. The case of Coventry NDC Partnership is unusual as the main primary school in 2002 closed at the end of 2002 due to an amalgamation.

There is also a relatively high degree of stability in terms of the continuing importance of the main secondary school to educational provision in the NDC Partnerships. The main school in 2002 remains the main school in each year from 2002–2006 in 29 NDC Partnerships. However, when looking at the percentage of secondary-age NDC pupils attending the main secondary school throughout the period it can be seen that this headline stability masks a larger degree of fluctuation. In several cases there is a marked change in the percentage of NDC pupils attending the 2002 main school. In the Southampton, Sheffield and Haringey NDC Partnerships, for example, the main school in 2002 sees a noticeable increase in the percentage of NDC pupils which it receives. For instance, the main secondary school in Southampton NDC Partnership receives 31.7 per cent of the NDC Partnership's secondary age pupils in 2002 but by 2006 this has increased to 42.4 per cent.

Conversely, in some NDC Partnerships there is a reduction in the proportion of NDC pupils educated in the main school between 2002 and 2006. For example, the main schools serving the Islington and Tower Hamlets NDC Partnerships both see a noticeable fall in NDC pupil numbers. In both cases these schools cease to be main schools for the NDC Partnerships during the 2002 to 2006 period. In four NDC Partnerships (Nottingham, Bristol, Walsall and Derby) the main school in 2002 closed during the period studied. In these cases the main school either closed completely (as occurred in Nottingham) or re-opened as an Academy (Bristol and Walsall) or under the 'Fresh Start' scheme (Derby).

In general, secondary school pupil populations seem to be more mobile than the primary-age cohort. There are many possible reasons for this including parents and pupils being more inclined to exercise 'choice' in regard to secondary schools[12] and/or greater activity in terms of new provisions and closures.

[12] There are two main reasons why parental choice results in increased pupil mobility at secondary level. First, as primary school-age children cannot travel to school independently parents are far more likely to prefer a school that is close to their home location. Second, primary schools do not have admissions criteria (with the exception of faith-based schools) so there is no competition between parents to obtain places in academically selective schools, for example. For further discussion of the impact of parental choice at the primary and secondary level see: Walford, G (1994) *Choice and Equity in Education*, London, Cassell; and Gibbons, S. et al. (2005), Competition, Choice and Primary School Performance, Centre for Economic Performance Working Paper, London School of Economics.

2.3 Geographies of school attendance: main messages

NDC Partnerships can in theory achieve coverage of approximately 80 per cent of their primary-age pupil populations through working with ten or fewer schools. At secondary level there is a large variation between NDC areas: in some areas the majority of secondary-age pupils attend only a few schools (for example, Luton), whereas in other NDC areas (for example, Lambeth) more than 10 schools would need to be targeted to reach 80 per cent of the secondary school population. In all cases the remaining 20 per cent of pupils in each NDC area (of all ages) are spread across a much larger number of schools meaning that it is unlikely to be feasible, within the given constraints of the Programme, to implement interventions in *all* schools attended by NDC pupils.

In general, a higher proportion of the pupil population in each NDC Partnership attends the main secondary school than attends the main primary school. However, in general, a higher proportion of the children attending the main primary school live within the NDC area than children attending the main secondary school. Again there is considerable variation between Partnerships at both primary and secondary ages.

In general, the primary and secondary schools identified as being main schools in 2002 continued to educate similar proportions of NDC pupils year on year through to 2006. Most of the main schools in 2002 remain as the main school throughout this period up to and including 2006. Greater fluctuation was observed in secondary schools than primary schools and this may be a reflection of parents and pupils being more inclined to exercise 'choice' in regard to secondary schools and/or greater activity in terms of closures of secondary school around NDC Partnerships.

This analysis demonstrates that, for many NDCs, particularly those in which NDC-resident children are dispersed amongst a larger number of schools, seeking to develop interventions with schools as partners will be a strategy that may only feasibly reach a relatively small proportion of children. For other NDCs where NDC-resident children are concentrated in fewer schools the school-ABI partnership approach may represent a successful strategy.

3. How do schools attended by NDC pupils compare to other schools in the locality?

There is much debate currently on the extent to which the quality of a school can impact upon a pupil's educational attainment. Cassen and Kingdon find that around 14 per cent of the incidence of low attainment can be attributed to school quality[13]. The school choice agenda has become increasingly prominent in recent years in the belief that giving parents a greater choice of schools will encourage schools to improve the quality of their educational provision. The evidence on the impact of widening choice is mixed and some research has suggested that it has had a negative impact on pupils in deprived areas as they become concentrated in the most poorly performing schools[14]. The purpose of this section is to determine how the schools attended by NDC pupils differ from other schools in the locality: firstly, in terms of the characteristics of the pupils in NDC and non-NDC schools and, secondly, in terms of the contextual value added[15] (CVA) scores of NDC and non-NDC schools.

It is acknowledged that CVA scores are an imperfect measure of school quality as the CVA model does not include all the characteristics that might be expected to impact upon pupil performance, for example, family background. However, as it is the only consistent measure with which to compare schools it is considered to be the most appropriate measure to use here.

The main findings of this section are:

- All NDC 'key' primary schools (see 3.1) have higher rates of eligibility for free school meals than non-key schools and the majority of key primary schools have higher rates of special educational needs.
- Key secondary schools also tend to have higher rates of eligibility for free school meals and higher proportions of pupils with special educational needs. In general the differences between the key and non-key schools are less pronounced at the secondary level. As the intake of a secondary school is drawn from a wider catchment area this seems to have the effect of lowering average levels of deprivation in key NDC secondary schools.
- At the primary and secondary level NDC key schools are more likely to be classified as below average according to their CVA score than non-

[13] Cassen, R and Kingdon, G. (2007) *Tackling low educational achievement*, Joseph Rowntree Foundation.
[14] Ball, S., (2003). The Risks of Social Reproduction: the middle class and education markets. *London Review of Education*, 1 (3), 163–175.
[15] Contextual value added scores provide a measure of school effectiveness. CVA scores are based on the difference between the actual attainment of pupils and their expected attainment. For more information please refer to www.standards.dfes.gov.uk/performance/1316367/CVAinPAT2005/.

key schools. A number of key schools (primary and secondary) have closed down between 2002 and 2007. School closure may have had a significant impact on the children who attended those schools due to the disruption caused by moving schools.

3.1 Selecting 'key' schools

The analyses presented in **Figure 1** and **Figure 2** showed that in most cases around 10 primary and 10 secondary schools accounted for about 80 per cent of the total pupil population in each NDC Partnership, and that the remaining 20 per cent or so of pupils in each Partnership were spread across a much larger number of schools. For the analyses presented in this section of the report, this 80 per cent cut-off threshold is used to select a subset of schools for more detailed consideration. This subset, referred to here as 'key' schools, consists of those schools with the highest numbers of NDC pupils enrolled and which together account for 80 per cent of the Partnership's pupil population. This selection of key schools therefore represents the schools where interventions are most likely to be targeted.

3.2 Characteristics of NDC key schools and non-key schools in the NDC local authority

3.2.1 Primary schools

As discussed above, in determining which schools are deemed to serve the NDC area the 'key' school classification is used. These analyses compare key schools with other schools in the same local authority as the NDC area that are not classified as key schools. However, it should be noted that key schools may contain large numbers of pupils who are not resident in the NDC area and non-key schools may also contain small numbers of NDC pupils. This section looks at the difference in the proportion of pupils eligible for free school meals, the proportion of pupils registered as having special educational needs and the attainment scores for NDC key schools and non-key schools in the NDC local authority. In all cases the figures presented are calculated based on all pupils in the school regardless of whether or not they are resident in an NDC area.

In **Figure 7** to **Figure 9** key primary schools are compared with other schools in the local authority. The data in the charts are ranked by the difference between the NDC key schools and non-key schools in the same local authority. For example, in **Figure 8** key schools which have lower proportions of children with special educational needs compared with non-key schools are shown on the left of the chart and key schools which have the highest proportions of children with special educational needs compared to non-key schools are shown on the right of the chart.

Figure 7: Percentage of pupils eligible for free school meals in NDC key primary schools and other non-key schools in the same local authority, 2006

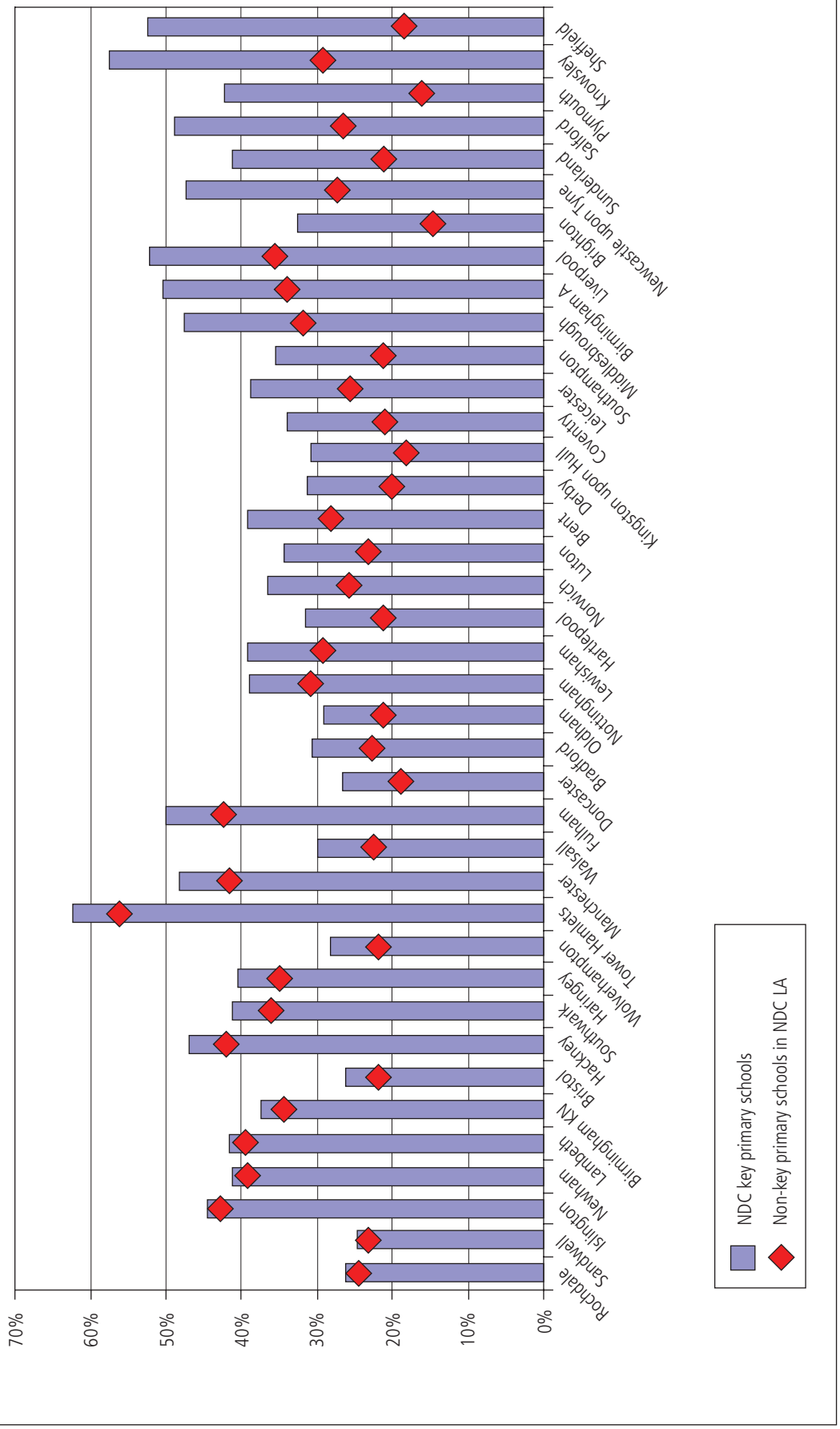
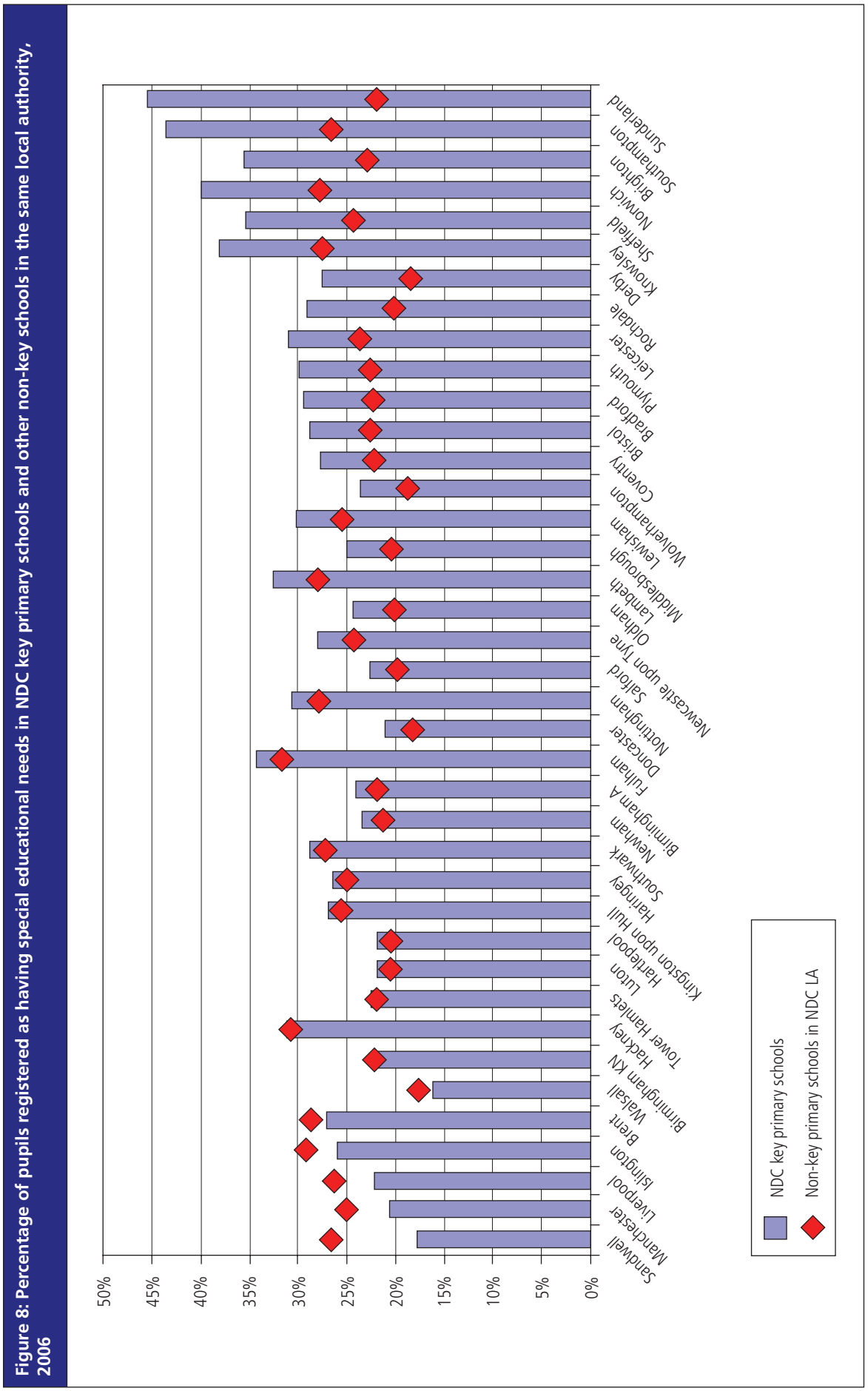


Figure 8: Percentage of pupils registered as having special educational needs in NDC key primary schools and other non-key schools in the same local authority, 2006



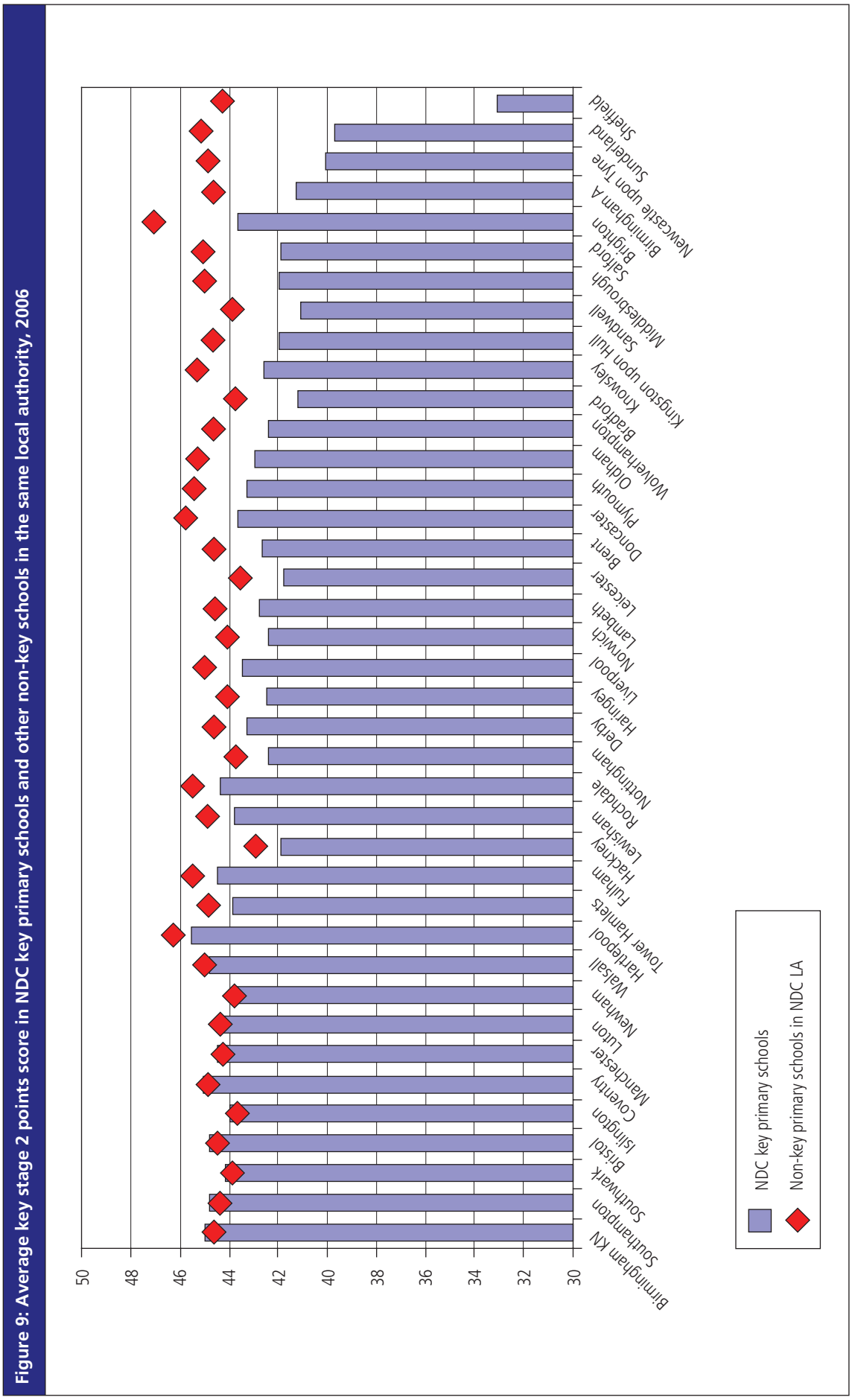
In every NDC area the NDC key primary schools have higher proportions of pupils eligible[16] for free school meals than other schools in the local authority. In general NDC key primary schools serving London NDC areas tend to be most similar to other primary schools. In some NDC areas, for example Sheffield and Plymouth, the NDC key schools have rates of free school meal eligibility more than double those of other schools in the area.

In **Figure 8** the key schools for six NDC Partnerships have lower proportions of special educational needs than other schools in the local authority. In general the differences between the key schools and other schools are not too large on this measure; however, it is very difficult to know what impact even small differences may have on school resources as this measure does not include any indication of the severity of needs of each pupil. It is clear that the key schools serving some of the NDC Partnership areas have very high proportions of pupils with special educational needs. In Fulham, Lambeth, Knowsley, Sheffield, Norwich, Brighton, Southampton and Sunderland more than a third of pupils in key primary schools have special educational needs.

Finally, looking at the difference in average points score at key stage 2, there are nine NDC areas in which the key NDC primary schools perform equally as well or better than other schools in the local authority. In Sheffield, Sunderland and Newcastle upon Tyne NDC areas the key NDC schools have much lower key stage 2 attainment than other schools. Sunderland and Sheffield key NDC schools also have very high rates of special educational needs (see **Figure 8**).

[16] See section 1.5 for a definition of free school meal eligibility.

Figure 9: Average key stage 2 points score in NDC key primary schools and other non-key schools in the same local authority, 2006



3.2.2 Secondary schools

In **Figure 10, Figure 11** and **Figure 12** equivalent data for key NDC secondary schools are presented. Again the charts are ordered so that NDC areas in which key schools are most similar to other schools in the local authority are on the left of the chart. It is clear through comparison of **Figure 7** and **Figure 10** that free school meal eligibility rates are lower at secondary school level than primary school level. This may be due to the fact that a lower proportion of secondary age pupils are entitled to receive free school meals nationally and take-up rates are also lower[17]. It is interesting that there are 12 NDC Partnerships in which free school meal eligibility amongst the NDC secondary key schools is lower than for other secondary schools in the local authority as rates of free school meal eligibility are generally high amongst NDC-resident children.

There do not seem to be strong similarities in the ordering of the NDC areas in **Figure 7** and **Figure 10** indicating that primary and secondary schools in the same area can have quite varying intakes.

In **Figure 11** the differences in the incidence of special educational needs between NDC key secondary schools and other secondary schools in the local authority is shown. As at the primary level, most NDC key secondary schools do have higher proportions of pupils with special educational needs. However, ten NDC areas have key secondary schools with lower proportions of pupils with special educational needs than non-key schools. The analyses in **Figure 8** show that just six NDC areas had key primary schools with lower proportions of pupils with special educational needs than non-key primary schools. Again, this illustrates how the wider catchment area of secondary schools can result in pupils with a wider range of characteristics and backgrounds attending the same school.

At key stage 4 slightly more NDC key secondary schools outperform other local authority schools than is the case at key stage 2 (see **Figure 12**). In most NDC areas there is not a large amount of difference between the results of the key and non-key schools with the exception of Leicester and Fulham NDC areas. Sheffield, Sunderland and Newcastle upon Tyne NDC areas are interesting in that the NDC key schools all fall behind other local authority schools at key stage 2 but overtake non-key schools at key stage 4. Again, there is clearly a difference in the how key schools compare to non-key schools between the primary and secondary level

[17] See (DCSF, Pupil characteristics and class sizes in maintained schools in England, January 2006 (Provisional)) for eligibility rates in primary and secondary schools and (The School Food Trust: www.schoolfoodtrust.org.uk/news_item.asp?NewsId=151) for differences in the take-up of free school meals between primary and secondary schools.

Figure 10: Percentage of pupils eligible for free school meals in NDC key secondary schools and other non-key schools in the same local authority, 2006

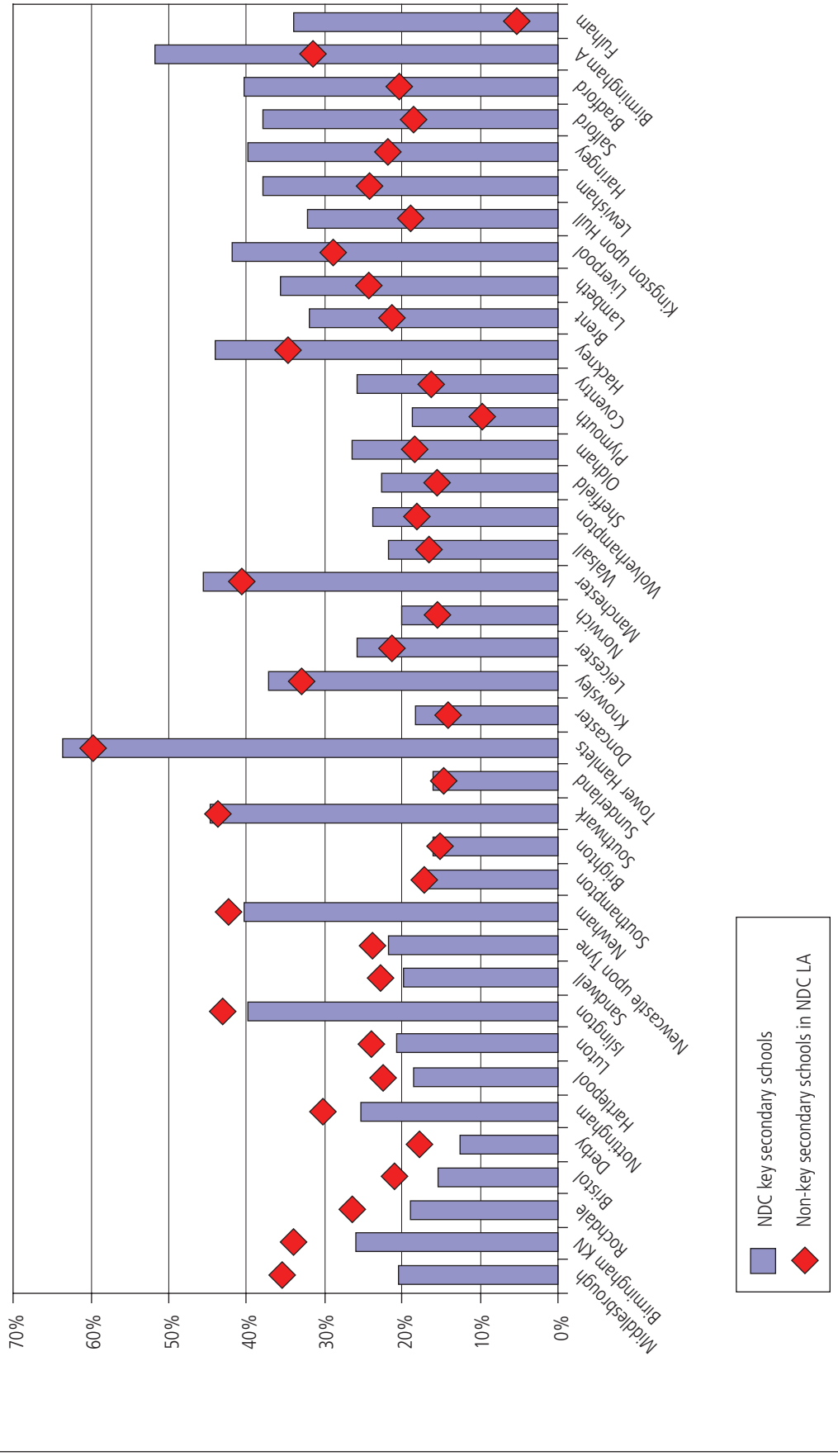


Figure 11: Percentage of pupils with special educational needs in NDC key secondary schools and other non-key schools in the same local authority, 2006

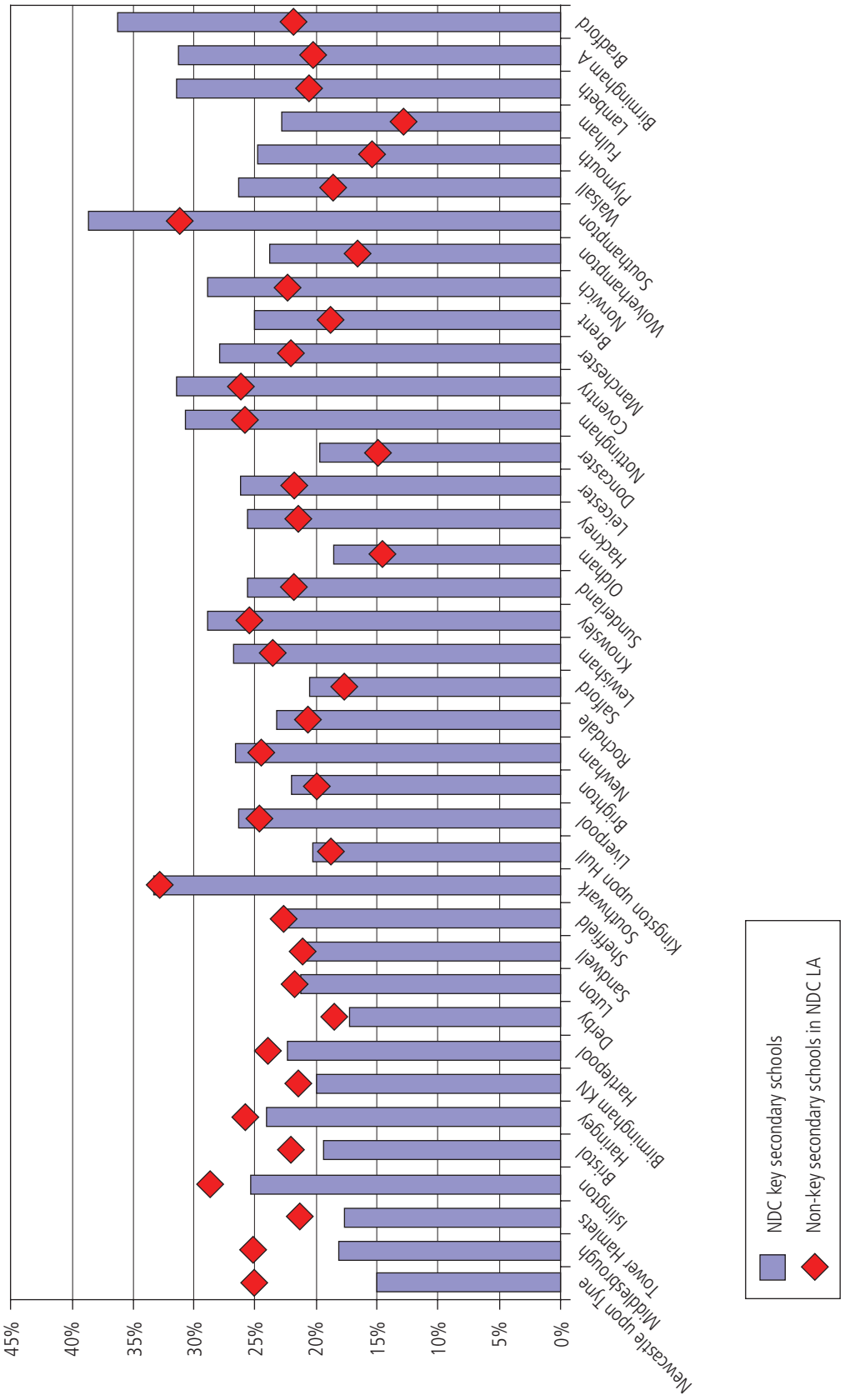
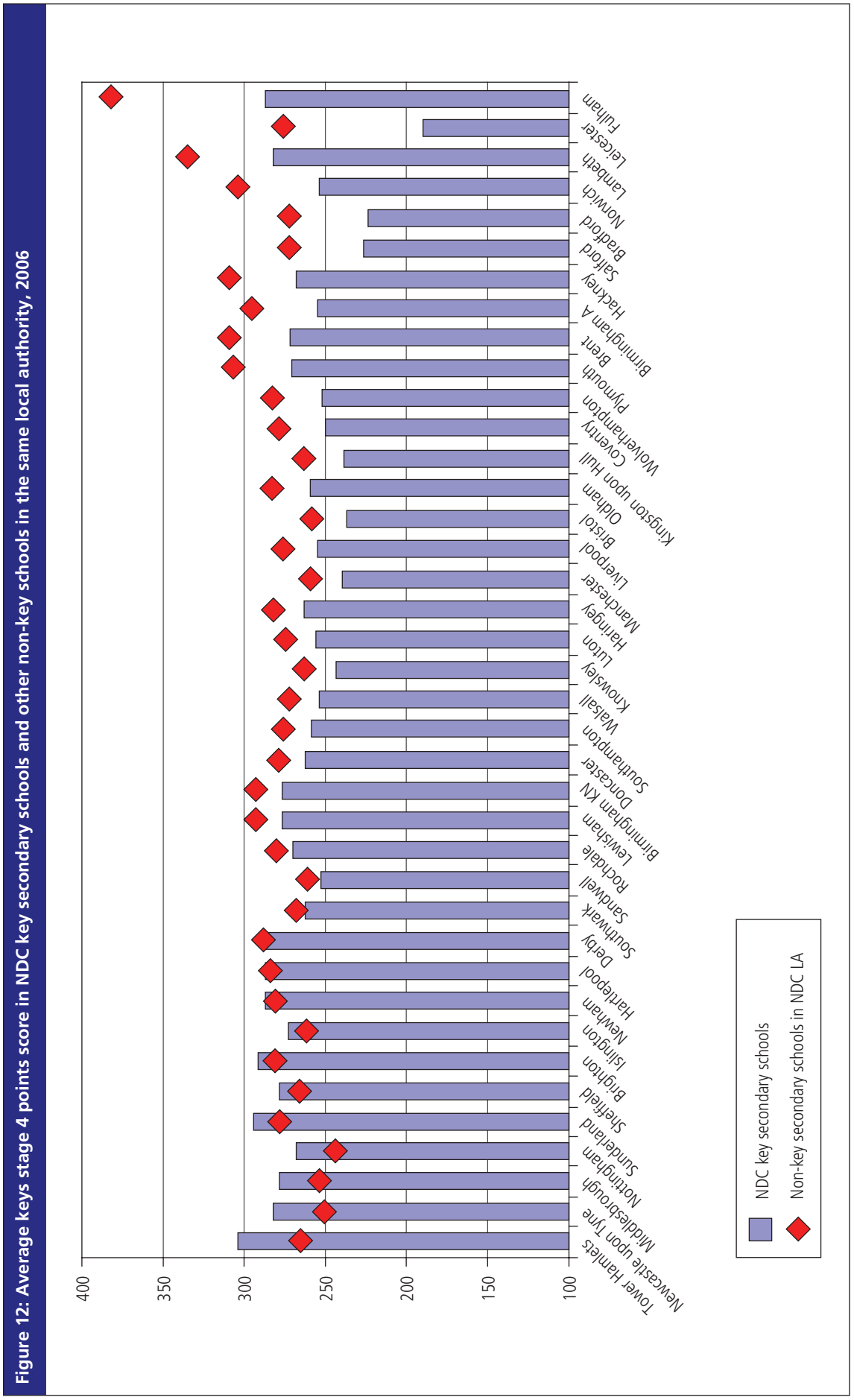


Figure 12: Average keys stage 4 points score in NDC key secondary schools and other non-key schools in the same local authority, 2006



3.3 Assessing school quality through contextual value added scores

The contextual value added (CVA) scores for key NDC primary and secondary schools are presented in **Figures 13** to **16**. As discussed previously, the CVA scores cannot be thought of as a perfect measure of school quality but are a means of comparing schools on a consistent basis. The CVA measure provides an indication of how well pupils in a particular school perform compared to how they might be expected to perform after controlling for a number of differences in background characteristics. In **Figures 13** to **16** the CVA scores for key schools and non-key schools in the NDC local authority are classified as either: above average (pupils perform better than expected); non-significant (pupils perform as expected); below average (pupils perform worse than expected) or missing[18] (there is no CVA score for that school). It is also indicated where key schools have closed between 2002 and 2007 and hence there is no CVA score available in 2007. As CVA scores for the key stage 2 cohort have only been produced for data from 2007 onwards, the data presented in the charts relates to 2007[19]. Thus, at primary school level this includes pupils who took key stage 2 in 2007 (and therefore key stage 1 in 2003), and at secondary level this include pupils who took key stage 4 in 2007 (and therefore key stage 2 in 2003).

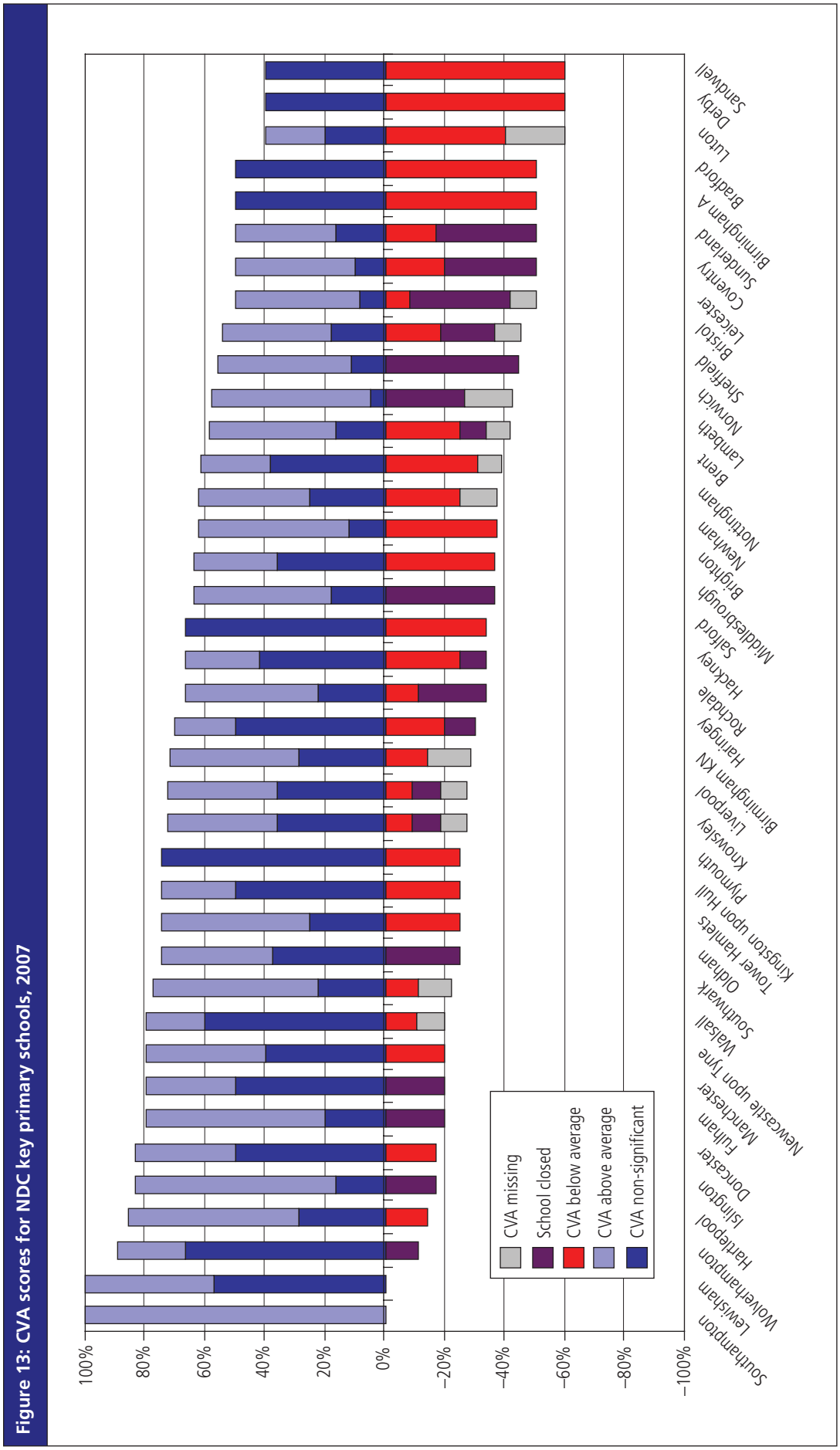
3.3.1 Primary schools

The data for NDC key primaries is shown in **Figure 13**. The CVA scores for these schools can be compared to non-key primary schools in the same local authority (**Figure 14**). NDC areas are ordered according to the proportion of schools classified as above average or not significantly different from average. Each column sums to 100 per cent; however, the data are presented so that schools which are below average (or where data is missing or the school has closed since 2002) are shown below zero on the y-axis to aid comparison between NDC areas.

It is evident from **Figure 13** that there are two NDC areas (Lewisham and Southampton) in which no key primary schools are classified as below average. In a further seven areas, all of the key schools which remained open since 2002 are classified as above average or not significantly different from average. In **Figure 14**, at least 60 per cent of non-key primary schools in the majority of NDC parent local authorities are not significantly different from average or above average, whereas around one third of NDC areas have fewer than 60 per cent of schools classified as not significantly different from average or above average. In Birmingham Aston, Bradford, Derby and Sandwell NDC Partnership areas more than half of the NDC key schools are classified as below average. It is noticeable

[18] CVA data may be missing at primary level because the school does not cover the age range up to key stage 2. Missing data at primary or secondary level can also be due to school closure.
[19] Note that the 2007 attainment data was not available at the time the original analyses were carried out.

Figure 13: CVA scores for NDC key primary schools, 2007



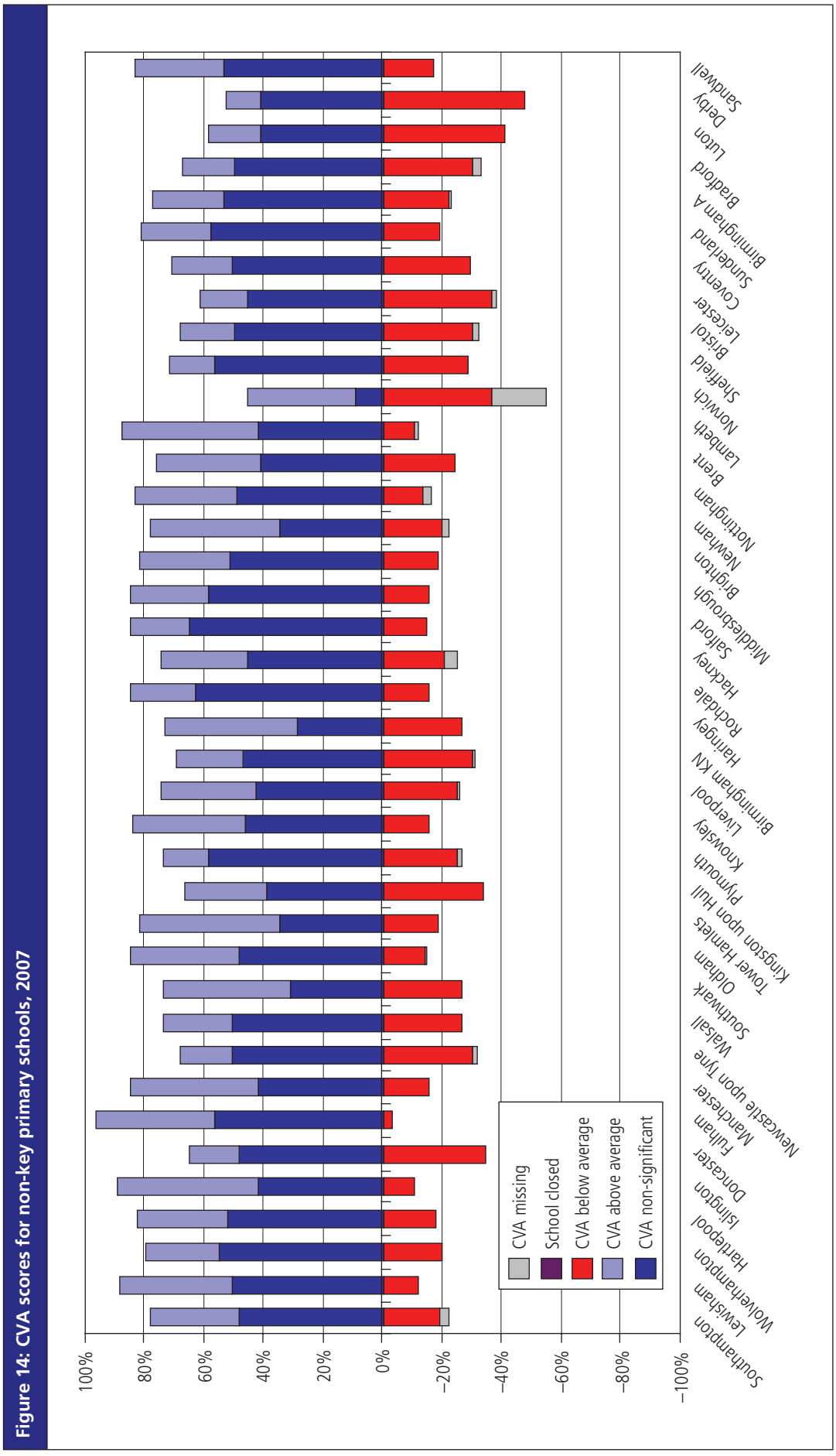


Figure 14: CVA scores for non-key primary schools, 2007
100%
80%
60%
40%
20%
0%
–20%
–40%
–60%
–80%
–100%
CVA missing
School closed
CVA below average
CVA above average
CVA non-significant
Southampton
Lewisham
Wolverhampton
Hartlepool
Islington
Doncaster
Fulham
Manchester
Newcastle upon Tyne
Walsall
Southwark
Oldham
Tower Hamlets
Kingston upon Hull
Plymouth
Knowsley
Liverpool
Birmingham KN
Haringey
Rochdale
Hackney
Salford
Middlesbrough
Brighton
Newham
Nottingham
Brent
Lambeth
Norwich
Sheffield
Bristol
Leicester
Coventry
Sunderland
Birmingham A
Bradford
Luton
Derby
Sandwell

that many of the 2002 key primary schools have closed between 2002 and 2007, whereas none of the non-key schools have closed over this period. It is possible that some of these schools have closed down because they may have been judged to be of poor quality. In any case, many pupils living in NDC areas will have faced some disruption in their education due to school closures. For example, in the Sheffield NDC area nearly half of the key primary schools in 2002 have closed by 2007.

In some NDC areas (and their parent local authorities) key primary schools have missing CVA scores. In most cases it is not known why these scores are missing. CVA scores will be missing if a school is a middle school as these schools do not teach pupils up to key stage 2. However, only one NDC area – Norwich – has a large proportion of middle schools.

3.3.2 Secondary schools

The equivalent data for key NDC secondary schools and other schools in the local authority are presented in **Figure 15** and **Figure 16**. Again the data are ranked according to the proportion of key NDC secondary schools classified as average or above average.

All key secondary schools remaining open in 2007 are classified as average or above average in five NDC areas. However, there are more NDC areas in which nearly half of key secondary schools are classified as below average. For example, Birmingham Kings Norton, Coventry, Oldham, Southampton, Doncaster, Wolverhampton, Leicester, Sandwell and Luton all have more than 40 per cent of key secondary schools classified as below average and, in Luton, every one of the key secondary schools is classified as below average. Again, the non-key secondary schools in the NDC local authorities do appear to have better overall CVA scores: 80 per cent or more key NDC secondary schools are classified as average or above average for nine of the 39 NDC areas. However, there are a larger number of NDC parent local authorities (19) in which more than 80 per cent of the non-key schools are average or above average.

Again, many key NDC secondary schools have closed between 2002 and 2007, whereas none of the non-key secondary schools have closed over the same time period. As at the primary level, this again suggests that the NDC pupils resident in areas where there have been several school closures may have suffered from poor quality schooling and disruption due to changing school.

Figure 15: CVA scores for key NDC secondary schools, 2007

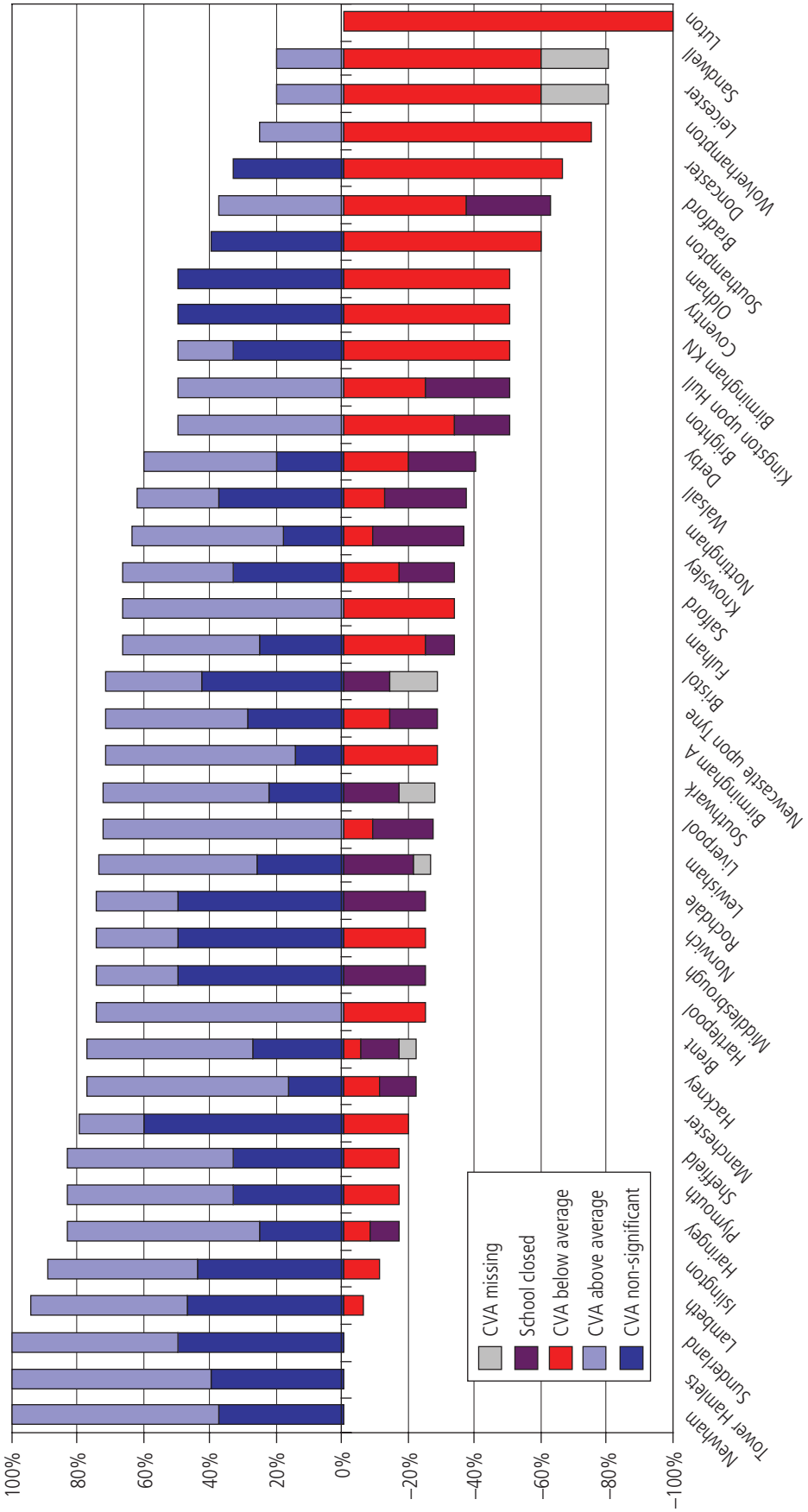
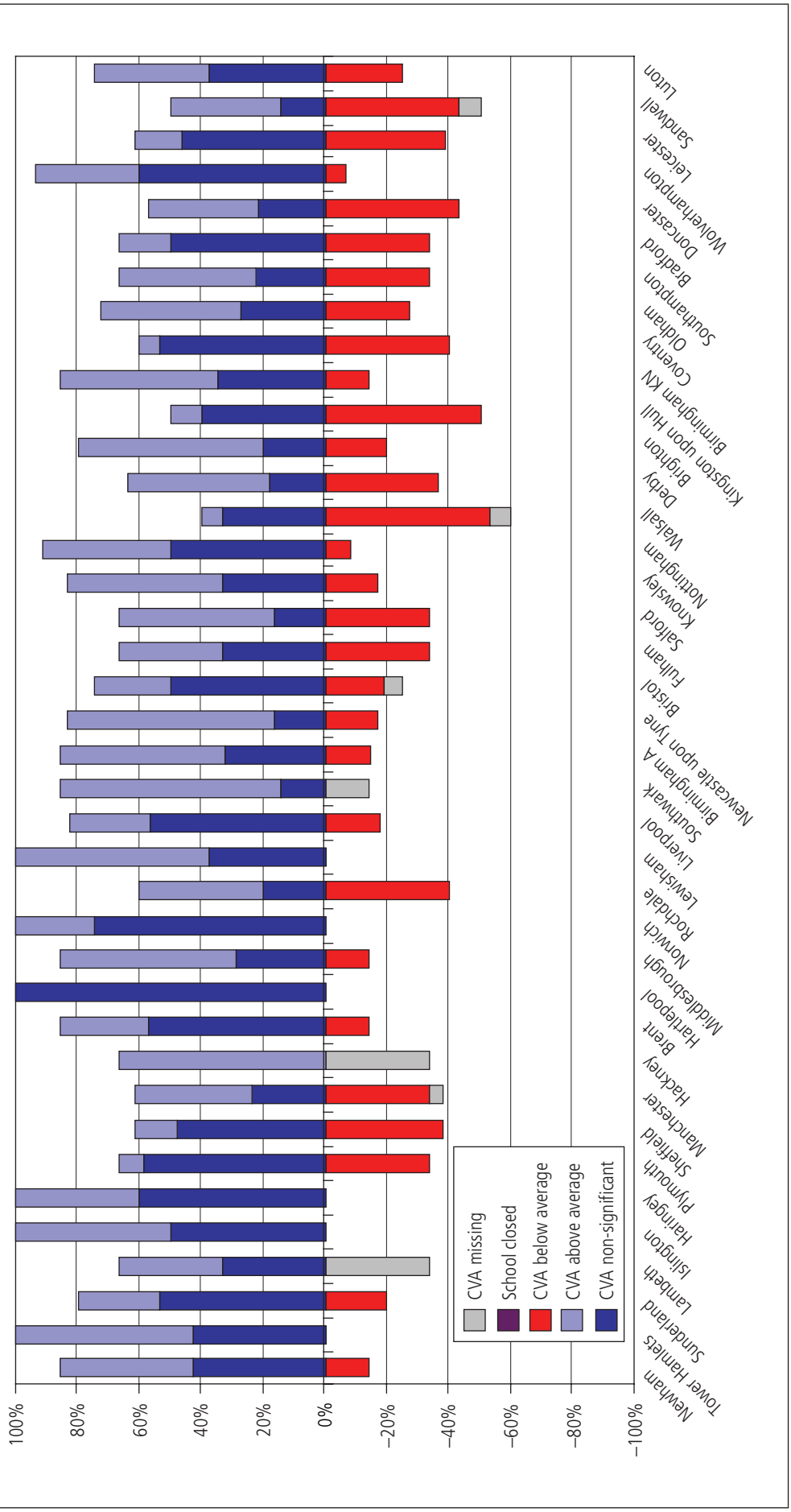


Figure 16: CVA scores for non-key secondary schools, 2007



3.4 How do schools attended by NDC pupils compare to other schools in the locality: main messages

All NDC key primary schools have higher rates of eligibility for free school meals than non-key schools and the majority of key primary schools have higher rates of special educational needs. Even though the NDC key primary schools tend to be more deprived in terms of free school meal eligibility and proportions of pupils with special educational needs, the key primary schools in nine NDC areas do better than non-key primary schools at key stage 2.

Key secondary schools also tend to have higher rates of eligibility for free school meals and higher proportions of pupils with special educational needs. However, in general the differences between the key and non-key schools are less pronounced at the secondary level. As the intake of a secondary school is drawn from a wider catchment area this seems to have the effect of lowering average levels of deprivation in key NDC secondary schools. Key secondary schools have higher average key stage 4 attainment scores in 10 NDC areas, whereas in nine NDCs the key primary schools outperform the non-key schools at key stage 2.

At the primary and secondary level NDC key schools are more likely to be classified as below average (according to CVA scores) than non-key schools. There is a large amount of variation between NDC areas. For example, in Newham, Sunderland and Tower Hamlets all key secondary schools are classified as average or above average, whereas in Luton all the key secondary schools are classified as below average. A number of key schools (primary and secondary) have closed down between 2002 and 2007. School closure is likely to have had a significant impact on the children who attended those schools at least in terms of the disruption caused by moving schools.

4. How do NDC-resident pupils compare to their school peers?

Section 2 of this report described how NDC pupils attend a large number of different schools with significant clustering in particular schools. In this section of the report the analyses compare the characteristics of NDC pupils with the characteristics of their non-NDC school peers attending key schools.

The value of these analyses is twofold. First it is important to ascertain whether or not there might be some empirical justification for focusing interventions on NDC pupils rather than on non-NDC pupils in the same schools. For instance, if the NDC pupil population within a given school is considerably more deprived and has considerably lower attainment than non-NDC pupils in that school then the school management may feel justified in selectively focusing additional resources on those NDC children. If, on the other hand, the non-NDC pupils are equally or more deprived and/or with equal or lower attainment than the NDC pupils then it may be more difficult to justify excluding the non-NDC pupils from additional support activities. Second, there is evidence that the educational attainment of individuals can be affected by their school peers both positively and negatively[20]. Thus, the characteristics of the children who attend the same schools as the NDC-resident pupils may impact upon the performance of the NDC pupils.

The main findings from this section are:

- In general, NDC pupils live in more deprived neighbourhods than their school peers; they are also more likely to have special educational needs and lower educational attainment.
- At key stage 4 there is an association between the difference in levels of income deprivation between NDC pupils and their school peers and attainment at key stage 4. In NDC areas where NDC pupils are similar to their peers in terms of income deprivation, key stage 4 attainment is generally higher.

[20] See for example Hanushek, E. et al. (2002), *Does peer ability affect student achievement?*, Journal of Applied Econometrics, 18(5)

4.1 Overall characteristics of NDC and non-NDC pupils in key schools

In **Table 1** the characteristics of NDC and non-NDC pupils are compared for schools identified as key schools in each NDC Partnership. Analyses are conducted separately for key primary schools and key secondary schools. The characteristics examined include special educational needs status, eligibility for free school meals, the level of income poverty in the child's neighbourhood (measured using the IDACI[21]), and the attainment scores at key stage 2 (for the primary-age pupil population) and key stage 4 (for the secondary-age pupil population).

In **Table 1** there is a considerable difference between NDC and non-NDC pupils in terms of their average scores on the IDACI[22]. NDC pupils in key schools are, on average, living in markedly more deprived neighbourhoods than their non-NDC peers. Furthermore, a higher percentage of NDC pupils in both primary and secondary schools have special educational needs and are eligible for free school meals[23].

Key stage 2 and key stage 4 attainment in 2002 is noticeably lower amongst NDC pupils in key schools than amongst their non-NDC peers. Equivalent data for 2006 is presented in **Table 2**. Comparing the attainment data in **Tables 1** and **2** illustrates that NDC Partnerships have seen improvements in key stage 2 and key stage 4 results between 2002 and 2006, particularly in the percentage of pupils gaining 5 A*-C grades at key stage 4. However, the attainment of non-NDC pupils has also improved over the same time period (although to a slightly lesser extent). Therefore, the gap between NDC and non-NDC pupils still remains in 2006.

[21] Income deprivation is measured using the Income Deprivation Affecting Children Index (IDACI) from the Indices of Deprivation 2007. IDACI measures the proportion of children in small areas who live in income-deprived households.

[22] The IDACI score is calculated as follows: (i) the actual IDACI score from the Indices of Deprivation is calculated at Lower Super Output Area (LSOA) level and represents the percentage of all children aged 0–15 living in each LSOA that live within income deprived families; (ii) each NDC and non-NDC pupil is assigned the IDACI score that relates to their home LSOA; (iii) these assigned scores are averaged across the group of NDC or non-NDC children. In summary, the IDACI scores presented in the table below give an indication of the level of deprivation in the neighbourhoods in which the NDC and non-NDC children live. The IDACI scores presented below therefore do not say anything about the individual characteristics of the children in the cohorts examined here but rather about the *areas* in which the pupils live.

[23] See section 1.5 for a definition of free school meal eligibility.

Table 1: Characteristics of NDC compared with non-NDC children in all NDC key schools, 2002

	Key primary schools		Key secondary schools	
	All NDC pupils in key schools	All non-NDC pupils in key schools	All NDC pupils in key schools	All non-NDC pupils in key schools
% Special educational needs	34.0	27.6	30.7	24.3
% Free school meals	48.8	35.2	44.7	32.4
IDACI[24] score (ID2007)	0.56	0.41	0.55	0.40
% of those sitting KS2 exams who attained level 4 in English	56.7	68.9		
% of those sitting KS2 exams who attained level 4 in maths	58.7	68.0		
% of those sitting KS2 exams who attained level 4 in science	76.0	82.8		
% of those sitting GCSE exams who attained 5 A*-C grades			25.5	38.5
% of those sitting GCSE exams who attained 5 A*-G grades			79.7	85.8

Table 2: Characteristics of NDC compared with non-NDC children in all NDC key schools, 2006

	Key primary schools		Key secondary schools	
	All NDC pupils in key schools	All non-NDC pupils in key schools	All NDC pupils in key schools	All non-NDC pupils in key schools
% Special educational needs	30.4	25.7	31.2	24.6
% Free school meals	46.4	34.0	41.4	31.0
IDACI[21] score (ID2007)	0.56	0.42	0.56	0.40
% of those sitting KS2 exams who attained level 4 in English	66.0	74.9		
% of those sitting KS2 exams who attained level 4 in maths	61.9	69.7		
% of those sitting KS2 exams who attained level 4 in science	76.1	82.2		
% of those sitting GCSE exams who attained 5 A*-C grades			40.5	51.3
% of those sitting GCSE exams who attained 5 A*-G grades			82.5	87.7

[24] IDACI is the income deprivation affecting children index. It measures the proportion of children in a small area who live in income deprived households.

4.2 Characteristics of NDC and non-NDC pupils in key schools by NDC area

The IDACI scores for NDC and non-NDC children in key primary and secondary schools in each NDC area are shown in **Figure 17**. Of the children attending these key schools, NDC-resident children tend, on average, to live in neighbourhoods with higher levels of childhood income deprivation than the neighbourhoods in which their school peers live. This holds true for all NDC areas except Southwark NDC. The data in **Figure 17** are ordered so that the NDC areas in which NDC primary pupils are most similar to their peers are on the left of the chart.

In general, the difference in IDACI scores between NDC and non-NDC pupils in key schools is greater at secondary level than at the primary school level. The Newcastle upon Tyne NDC area stands out in **Figure 17** as the primary-age cohort of NDC and non-NDC pupils are fairly similar, but at the secondary level NDC children are more than twice as deprived as their school peers on the IDACI measure.

In **Figure 18** the proportions of NDC and non-NDC pupils in key schools obtaining level 4 in English at key stage 2 are shown. Again the NDC areas in which the NDC pupils are most similar to their school peers are shown on the left of the chart. Children in six NDC areas do better on average than their school peers at key stage 2. Here there is also a definite trend of increasing difference as the performance of the NDC pupils declines. The Plymouth NDC area is particularly noticeable as less than 40 per cent of the NDC children achieve level 4 in English at Key Stage 2 whilst more than 90 per cent of their school peers reach this level.

It is interesting to compare **Figure 18** with similar data on key stage 4 performance. **Figure 19** shows the percentage of NDC and non-NDC pupils getting at least five A*-C grades at key stage 4. Again, children in six NDC areas do better than their school peers; however, only Fulham and Bradford NDC areas do better at both key stage 2 and key stage 4.

The gap between NDC and non-NDC children widens at key stage 4 and, again, it appears that pupils in NDC areas with the lowest levels of attainment at key stage 4 are 'furthest' from their school peers. On each measure presented it appears that the NDC and non-NDC children are generally most similar in the London NDC areas.

In section 3.2.2 it was noted that there was generally not a large amount of difference in the average attainment at key stage 4 between key NDC secondary schools and non-key secondary schools. However, **Figure 19** shows that within key schools there are large differences in the attainment of NDC and non-NDC pupils.

Figure 17: IDACI scores for primary and secondary NDC and non-NDC pupils in key schools, 2002

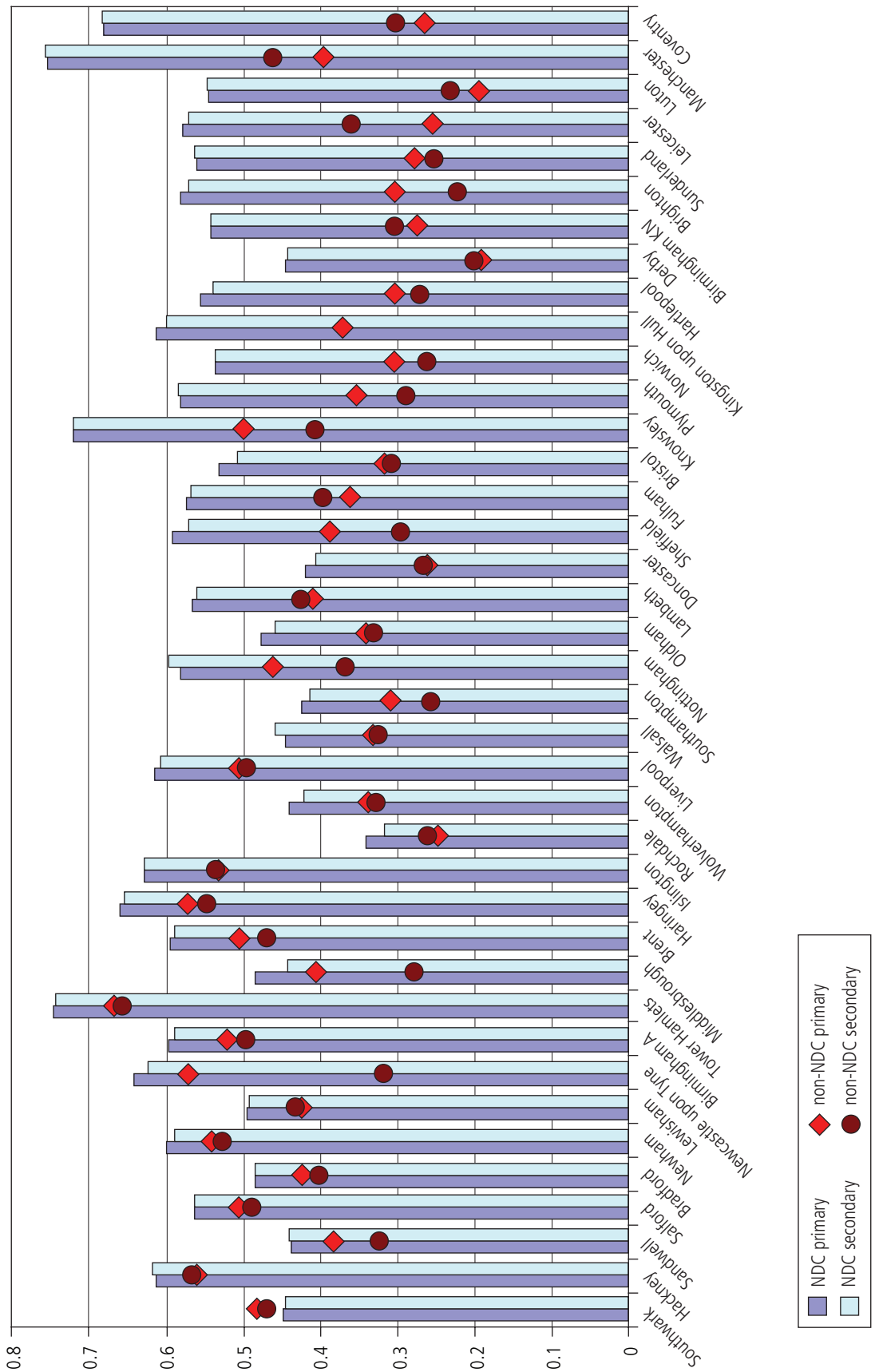


Figure 18: Per cent of NDC and non-NDC children achieving level 4 in English at key stage 2 in key schools, 2002

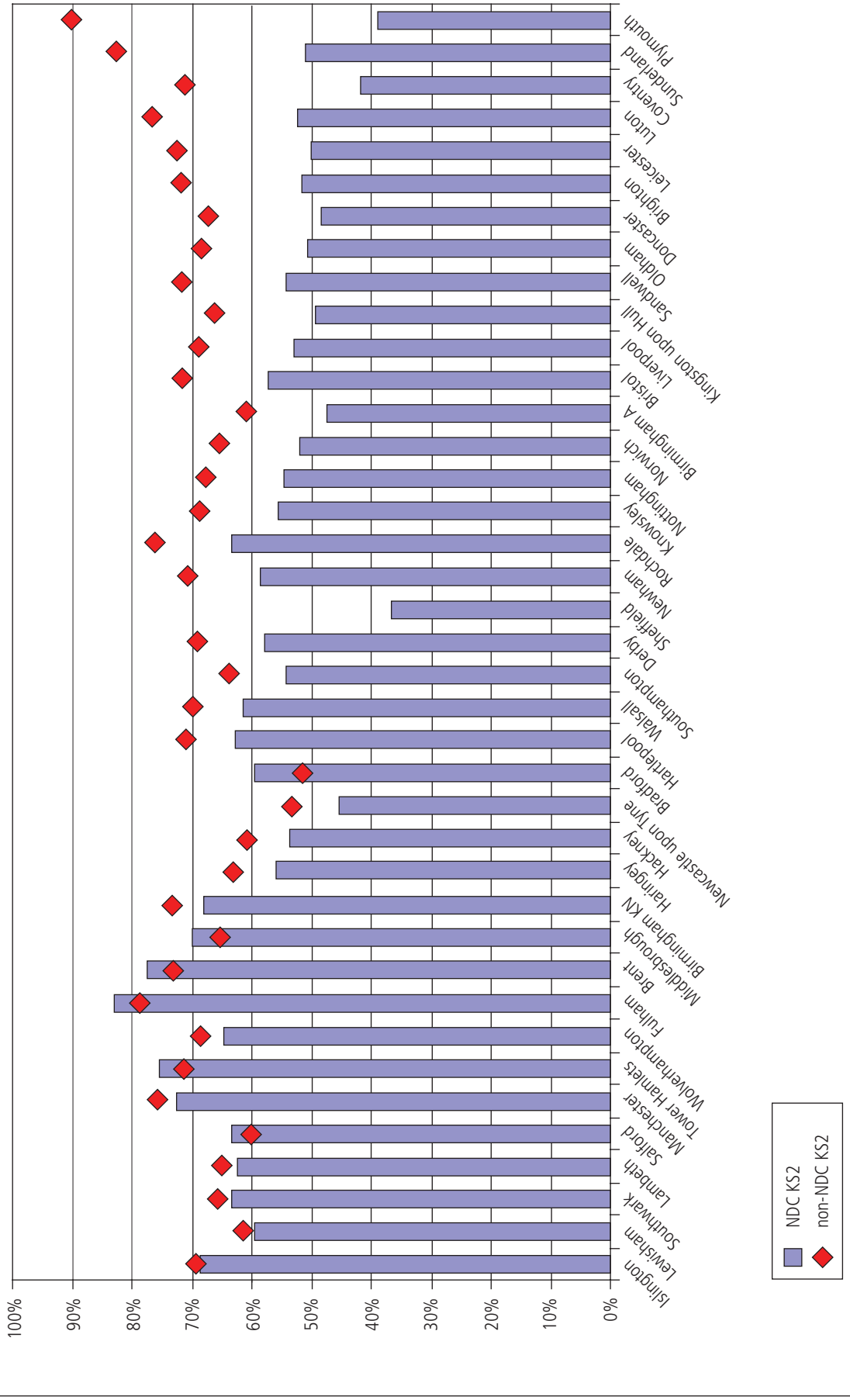


Figure 19: Per cent of NDC and non-NDC children achieving at least five A*-C grades at key stage 4 in key schools, 2002

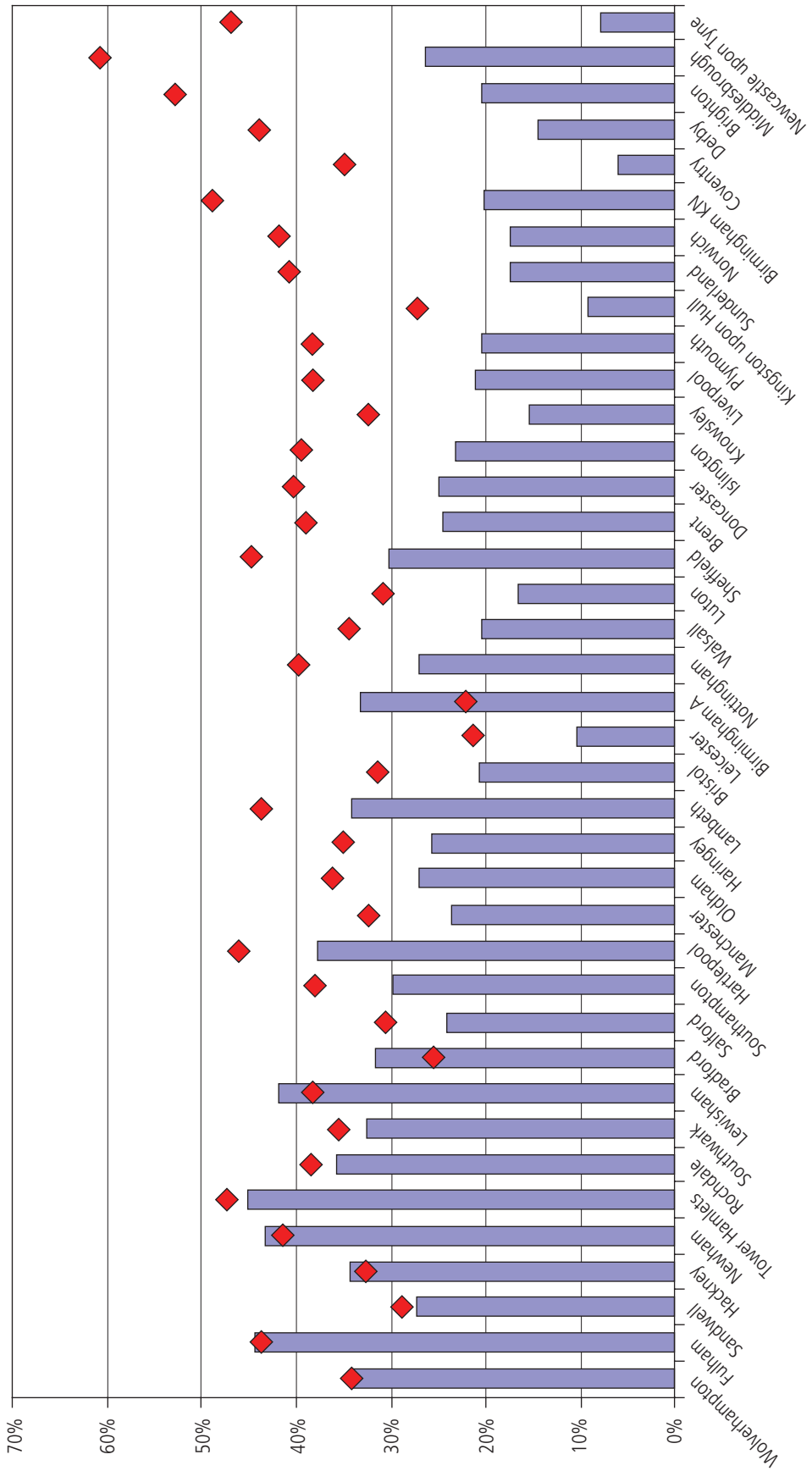


Figure 20 and **Figure 21** show the relationship between the difference in levels of income deprivation between NDC and non-NDC children as measured by the IDACI and the average attainment score at key stage 2 (**Figure 20**) and key stage 4 (**Figure 21**) of NDC children in key schools. An interesting trend emerges here. In **Figure 20** there appears to be little relationship between how different NDC children are from their school peers and their key stage 2 attainment score in English (the correlation coefficient is –0.24). However, at key stage 4 a trend can be seen. In **Figure 21** NDC children who go to school with children who come from areas with similar levels of income deprivation do better than children in NDC areas where the NDC children are more income deprived than their school peers (the correlation coefficient is –0.64). This finding is not related to the absolute levels of income deprivation in NDC areas as the correlation between IDACI score and attainment at key stage 2 or key stage 4 for NDC pupils in key schools is very small.

In terms of other characteristics of NDC and non-NDC pupils, data on the proportion of pupils recorded as having special education needs and the proportion of pupils eligible for free school meals are presented in **Tables A7** to **A10** in **Appendix A**. These tables also include data on English, maths and science scores at key stage 2 and the percentage of pupils obtaining five or more A*-G passes at key stage 4.

Figure 20: Difference between NDC and non-NDC primary pupil IDACI score and % NDC children achieving level 4 at key stage 2 in key schools, 2002

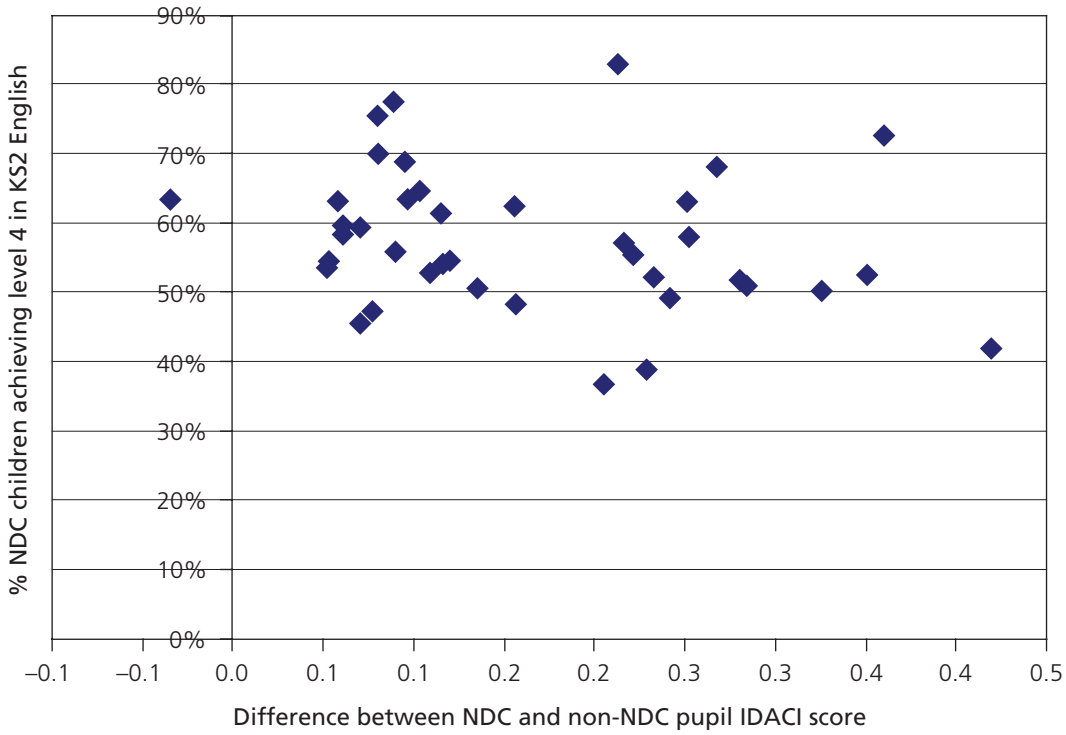
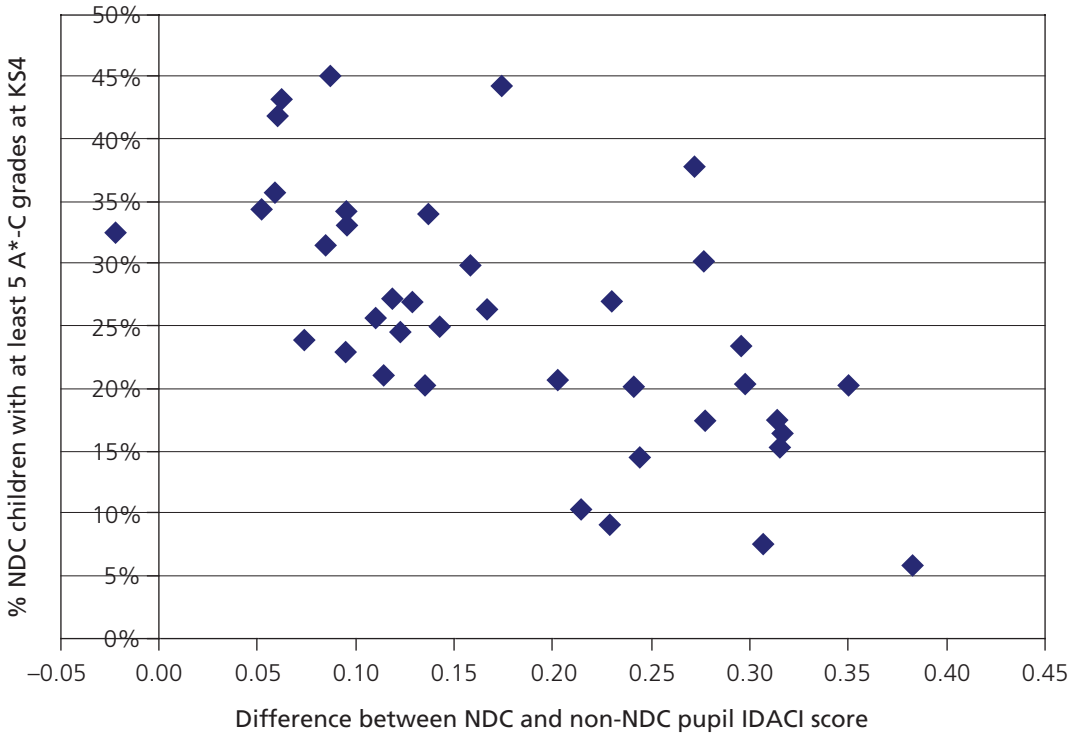


Figure 21: Difference between NDC and non-NDC secondary pupil IDACI score and % NDC children with at least 5 A*-C grades at key stage 4 in key schools, 2002



The trends seen across these additional measures are similar to those discussed above in that the NDC children are generally more deprived, have higher incidences of special educational needs and lower attainment scores than their non-NDC peers. Of course there are some exceptions to these general trends.

4.3 How do NDC-resident pupils compare to their school peers: main messages

The home neighbourhoods of NDC pupils of both primary and secondary age groups are, in general, more deprived than the home neighbourhoods of non-NDC children attending the same schools. NDC children also generally exhibit higher rates of eligibility for free school meals and higher levels of special educational needs than non-NDC children attending the same schools.

In general, educational attainment is lower amongst NDC pupils than amongst non-NDC pupils attending the same schools, certainly when looking across all Partnerships as a whole. This applies to both primary and secondary attainment. Individual Partnerships show great variety in both the direction and extent of differences between NDC and non-NDC pupils. One key trend that emerges is that the NDC areas in which there are the largest differences between the levels of income deprivation for NDC

and non-NDC pupils are the same areas that have the lowest attainment scores at key stage 4. In other words, NDC children tend to do better at Key Stage 4 when they attend schools with children who come from areas with similar levels of income deprivation. This trend does not emerge at key stage 2.

5. Trends in pupil mobility

In **Sections 2, 3** and **4** of this report the focus has been on analysing the challenges raised by the distribution of pupils between schools and the type of schools that NDC pupils attend. This included: investigating the extent to which primary and secondary-age NDC pupils are spatially distributed between different schools; how the schools attended by NDC pupils differ from other schools in the locality; and, how the characteristics of NDC and non-NDC pupils differ within key schools.

In this section, the temporal stability of the NDC pupil population is considered. In evaluations of area-based initiatives it is important to understand the potential for 'leakage' of positive programme benefits through out-migration and the dilution of positive benefits through in-migration. For instance, if children do benefit from an NDC intervention during their primary and/or secondary education but then proceed to leave the NDC area before taking their key stage examinations then these positive benefits may appear to be lost from the area. In addition, there is evidence to suggest that high rates of pupil mobility can be damaging to educational progression, particularly for older children[25]. Thus, the challenge to area-based initiatives investigated here is that of residential mobility, specifically the mobility of children.

The main findings from this section are:

- Rates of pupil mobility in NDC areas are reasonably high. Generally, only 50–70 per cent of pupils that were resident in NDC areas in 2002 were still resident in the same NDC area in 2006.
- There was more out-migration than in-migration between 2002 and 2006 resulting in a net decrease in the school-age population over the period.
- Although pupil mobility is high the actual characteristics of NDC pupils changed little between 2002 and 2006. The proportion of pupils in the cohort analysed who were eligible for free school meals declined between 2002 and 2006. However, it should also be noted that take-up of free school meals decreases as children get older and national levels of income deprivation (and hence eligibility for free school meals) also declined over the 2002 to 2006 period.
- The data suggest that the NDC areas may have relatively high rates of international in-migration.
- In general, the children moving into NDC areas tend to move from more affluent areas and the majority of outmovers (nearly 60%) move away to more affluent areas.

[25] See for example, Strand, S and Demie, F (2007), *Pupil mobility, attainment and progress in secondary school*, Educational Studies, 33(3), 313–331

5.1 Stability of pupil populations over time

Figure 22 shows the degree of stability in NDC pupil populations between 2002 and 2006 for primary and secondary school pupils respectively[26]. In each case an initial cohort of NDC pupils in 2002 is identified: for the primary school analyses the initial 2002 cohort consists of pupils in year 2 (second year of primary school) in 2002, these pupils reach year 6 (last year of primary school) in 2006; for the secondary school analyses the initial 2002 cohort consists of pupils in year 7 (first year of secondary school) in 2002, these pupils reach year 11 (last year of compulsory education) in 2006. The geographical location of each pupil in these two cohorts is tracked across the period 2002–06 to assess whether each pupil has remained in the NDC area or has moved out of the NDC area. The data in **Figure 22** is ranked according the proportion of the original 2002 secondary school cohort remaining in the NDC Partnership area in 2006 (data for each year between 2002 and 2006 are presented in **Table A11** in **Appendix A**).

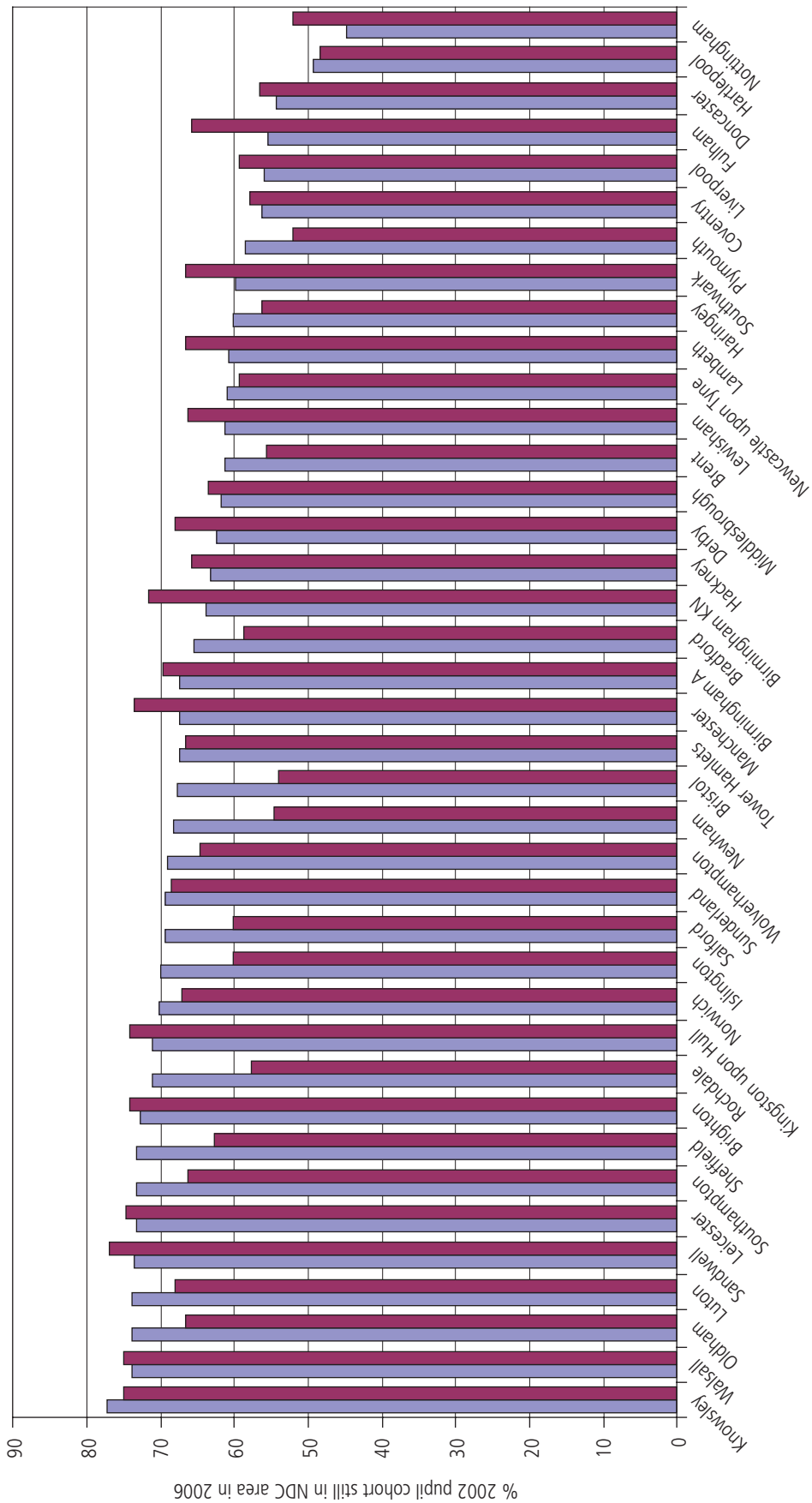
In general it can be seen that for both the primary and the secondary cohorts between 50 per cent and 75 per cent of the 2002 cohort still lived in the same NDC Partnership in 2006. At 48.3 per cent Hartlepool NDC Partnership has the lowest percentage of its primary cohort still living in the NDC Partnership in 2006 whilst Sandwell NDC Partnership has the highest percentage (76.9%) of NDC pupils in the 2002 primary cohort still resident in the area in 2006. At the secondary level, Nottingham NDC Partnership has the lowest percentage of its 2002 year 7 cohort (44.9%) still living in the NDC Partnership in 2002, whilst Knowsley NDC Partnership retains the highest percentage (77.5%) of its secondary school cohort between 2002 and 2006.

5.2 Comparing 'inmovers' and 'outmovers'

In addition to understanding the rate of attrition from the original 2002 pupil cohorts (as shown in **Figure 22**), it is important to consider in addition the characteristics of children moving into the NDC area ('inmovers') and those of children who move out of the NDC area ('outmovers').

[26] There are no directly comparable figures against which to assess the NDC turnover rates (as comparable research tends to focus on pupils moving between schools rather than between areas).

Figure 22: Percentage of 2002 primary and secondary school cohort still resident in the same NDC area in 2006



5.2.1 The incidence of special educational needs and free school meals eligibility amongst inmovers and outmovers

The destinations of the original 2002 primary school year 2 cohort are recorded in **Table 3**. In 2006, the pupils from the 2002 cohort are classified as: staying within the same NDC Partnership as in 2002; moving out of the NDC Partnership to a known location; or moving to an unknown location. A pupil's location is unknown if the pupil's postcode is missing or incomplete or, more usually as **Table 7** shows, where the pupil is not contained within the administrative data in the year of analysis. For example, in 2006, a total of 3,892 pupils from the 2002 cohort lived in the NDC Partnership in which they lived in 2002, 1,658 pupils had moved out of the NDC area to other known locations, and 235 pupils could not be located in 2006.

The final four columns of **Table 3** set out the special educational needs and free school meals status of the pupils in the three groups described above in 2002 and in 2006 respectively: the penultimate two columns shows the 2002 characteristics for each group whilst the final two columns shows the 2006[27] characteristics for each group. For example, 48.7 per cent of the 3,892 pupils who lived in the same NDC Partnership in 2006 as in 2002 were eligible for free school meals in 2002. This compares with an average figure of 47.4 per cent of pupils eligible for free school meals in 2002 for all three groups combined (all 5,785 pupils). In 2006, 44.1 per cent of the 3,892 pupils who lived in the same NDC Partnership in 2006 as in 2002 were eligible for free school meals in 2006. This change suggests that there may have been a slight improvement in household incomes amongst this group over the period, although the differences may be caused by other factors such as the probability that parents will make a claim for a free school meal for their child[28].

In **Table 3** the difference in the proportion of pupils eligible for free school meals – a commonly used indicator of income poverty – between those who stay in the NDC Partnership and those who move out of the Partnership area enables us to ask whether there is evidence to suggest that the children (and families) who become more affluent are exiting the NDC Partnership areas, whilst children (and families) who remain income deprived remain in the NDC areas. A sophisticated regression technique would be needed to address this question with statistical robustness but **Table 3** does provide interesting indicative findings.

As noted above, 1,658 children from the initial 2002 cohort of 5,785 children had left the NDC area by 2006. Forty-six per cent of this group were eligible for free school meals in 2002 whilst 37.9 per cent of the same group were eligible for free school meals in 2006. At the same time, however, the group of 3,892 pupils who remained in the same NDC Partnership in 2006 as in 2002 also saw a reduction in the percentage of pupils eligible for free school meals from 48.7 per cent in 2002 to 44.1 per

[27] It is not possible to present data for 2006 for those pupils who left the 2002 cohort to unknown destinations in 2006 as the majority of these pupils are not present in the administrative data in 2006.
[28] See section 1.5 for a definition of free school meal eligibility.

cent in 2006. Rates of eligibility for free school meals therefore declined by a larger amount (3.3 percentage points) for the outmovers compared to the 'stayers'.

Table 3: Characteristics of 'stayers' and 'outmovers' from 2002 NDC primary school cohort

	2002 NDC primary school cohort					2006 sub-set: characteristics in 2002		2006 sub-set: characteristics in 2006	
Location 2002	2002	2003	2004	2005	2006	% SEN	% FSM	% SEN	% FSM
NDC	5785	5041	4551	4171	3892	32.2	48.7	35.3	44.1
Not in NDC		652	1079	1415	1658	33.5	45.8	32.7	37.9
Unknown		92	155	199	235	26.4	37.9	N/A	N/A
Total cohort size	5785	5785	5785	5785	5785	32.3	47.4	N/A	N/A

Note: SEN means special educational needs; FSM means free school meals

If there had been no geographical movement of pupils between 2002 and 2006 then the NDC year 6 cohort in 2006 would consist of the same pupils as the 2002 cohort.

The data presented in **Table 3** illustrated the trajectories of the 2002 pupil cohort through to 2006, thus, the data relate to stayers and outmovers. In **Table 4** a different approach is taken, here the analyses consider the NDC year 6 cohort in 2006 and examine the locations of these pupils each year back to 2002. In **Table 4** the data therefore relate to stayers and inmovers.

Table 4 shows that the 2006 cohort consisted of 5,365 year 6 pupils, indicating that the primary cohort has reduced in size by 420 pupils between 2002 and 2006. Of the 5,365 year 6 pupils who were living in NDC areas in 2006, 3,892 of these pupils lived in the same NDC Partnership in 2002, 971 pupils moved into the NDC area between 2002 and 2006, and 502 pupils could not be located in 2002. **Table 7** focuses in greater detail on this group of pupils who move to or from unknown locations.

The four final columns of **Table 4** set out, respectively, the 2002 and 2006 special educational needs and free school meals status of the pupils in the three groups in 2002 (in NDC, not in NDC, unknown). The penultimate two columns show these characteristics for the groups in 2002[29] whilst the final two columns show these characteristics for the groups in 2006. As already noted, the proportion of children eligible for free school meals decreased slightly in the cohort of children remaining in the NDC area between 2002 and 2006. Focusing on the free school meals characteristics of the group of 971 pupils who moved into an NDC Partnership area from known locations between 2002 and 2006 and joined the 2006 year 6

[29] It is not possible to present data for 2002 for those pupils who entered the 2006 cohort from unknown destinations in 2002 given that the majority of these pupils are not present in the administrative data in 2002.

cohort, this group also saw a small reduction in the percentage of pupils eligible for free school meals.

Table 4: Characteristics of 'stayers' and 'inmovers' to 2006 NDC primary school cohort

	2006 NDC primary school cohort					2002 sub-set: characteristics in 2002		2002 sub-set: characteristics in 2006	
Location 2006	2002	2003	2004	2005	2006	% SEN	% FSM	% SEN	% FSM
NDC	3892	4225	4509	4844	5365	32.2	48.7	35.3	44.1
Not in NDC	971	768	574	347		34.9	54.5	37.3	50.2
Unknown	502	372	282	174		N/A	N/A	26.5	41.4
Total cohort size	5365	5365	5365	5365	5365	N/A	N/A	34.8	45.0

Note: SEN means special educational needs; FSM means free school meals

Tables 5 and **6** show equivalent data for the secondary-age NDC cohort. There were 5,603 pupils in the year 7 NDC secondary cohort in 2002 (see **Table 5**), 3,871 of these pupils still lived in the same NDC Partnership in 2006, 1,160 pupils moved out of the original NDC Partnership to another known location, and 572 pupils could not be located in 2006. The final four columns of **Table 5** show the 2002 and 2006 characteristics of the three groups in 2006. For example, 44.4 per cent of the 1,160 pupils who lived outside of the NDC Partnership and in a known location in 2006 were eligible for free school meals in 2002, and, in 2006, 33.9 per cent of this group were eligible for free school meals. This suggests a potential improvement in household incomes, as measured by eligibility for free school meals, and this can also be seen within the group of pupils who remain in the NDC Partnerships in 2006.

Table 5: Characteristics of 'stayers' and 'outmovers' from 2002 NDC secondary school cohort

	2002 NDC secondary school cohort					2006 sub-set: characteristics in 2002		2006 sub-set: characteristics in 2006	
Location 2002	2002	2003	2004	2005	2006	% SEN	% FSM	% SEN	% FSM
NDC	5603	4947	4505	4198	3871	29.4	43.8	28.5	35.6
Not in NDC		491	841	1061	1160	30.4	44.4	30.9	33.9
Unknown		165	257	344	572	38.8	56.6	N/A	N/A
Total cohort size	5603	5603	5603	5603	5603	30.6	45.2	N/A	N/A

Note: SEN means special educational Needs; FSM means free school meals

Table 6 focuses on the year 11 NDC cohort in 2006 and analyses the geographical location of these pupils in each year from 2002 onwards. There were 5,050 pupils in this cohort in 2006 compared with 5,603 pupils who were in the year 7 cohort in 2002. This means that there has been a net reduction in the size of the secondary school cohort between 2002 and 2006. As noted above, the two factors contributing to changes

in the cohort sizes are: (i) migration; and (ii) incomplete or missing pupil records in the administrative datasets. Of the 5,050 year 11 pupils in NDC areas in 2006, a total of 3,871 of these pupils also lived in the same NDC Partnership in 2002, 741 pupils moved into the NDC Partnership from a known location between 2002 and 2006, and 438 pupils could not be geographically located in 2002. The final four columns in **Table 6** again show the 2002 and 2006 characteristics of the three groups of pupils as defined by their 2002 origins. Forty-one per cent of the pupils who moved into an NDC Partnership from known locations between 2002 and 2006 were eligible for free school meals in 2006 whereas 49.1 per cent of this group of pupils were eligible for free school meals in 2002.

Comparing **Table 5** and **Table 6**, there is a net reduction in the proportion of NDC pupils eligible for free school meals between 2002 and 2006 (from 45.2 % to 36.6%). This is largely due to eligibility declining amongst NDC 'stayers'.

Table 6: Characteristics of 'stayers' and 'inmovers' to 2006 NDC secondary school cohort

	2006 NDC secondary school cohort					2002 sub-set: characteristics in 2002		2002 sub-set: characteristics in 2006	
Location 2006	2002	2003	2004	2005	2006	% SEN	% FSM	% SEN	% FSM
NDC	3871	4105	4333	4664	5050	29.3	43.8	28.5	35.6
Not in NDC	741	632	489	276		30.8	49.1	30.4	40.9
Unknown	438	313	228	110		N/A	N/A	22.8	37.9
Total cohort size	5050	5050	5050	5050	5050	N/A	N/A	28.3	36.6

Note: SEN means special educational needs; FSM means free school meals

Several trends emerge from the data in **Tables 3** to **6**. First, it is clear that for both the primary and secondary cohorts many more pupils leave the NDC Partnerships than move into NDC areas, resulting in a net reduction in the number of pupils in both cohorts between 2002 and 2006. Second, it can be seen that just under 70 per cent of both the primary and secondary cohorts lived in the same NDC Partnership in 2006 as in 2002. With the cohorts reducing in size this means that around a quarter of both the year 6 and year 11 cohorts in 2006 are made up of pupils who did not live in the NDC Partnership in 2002. It is also clear that the proportion of pupils eligible for free school meals has fallen between 2002 and 2006 not only amongst inmovers and outmovers but also amongst children who continue to live in the same NDC Partnership between 2002 and 2006. This may be indicative of an increase in household incomes across the period[30], although other factors, such as take-up of free school meals, may play a part in these changes. For example, it is estimated that national

[30] Rates of income deprivation decreased nationally over the period 2002 to 2006 and a smaller proportion of children were eligible for free school meals (14.9% in 2002 compared to 13.6% in 2006 for secondary schools, (DCSF (2006), Pupil characteristics and class sizes in maintained schools in England, January 2006 (Provisional)).

take-up rates for free school meals are lower for secondary pupils (73%) than for primary school pupils (82%)[31].

Comparing the characteristics of the two cohorts in 2002 with the resulting cohorts in 2006 it can be seen that not only have the two cohorts both reduced in size but their characteristics have also changed somewhat. Focusing firstly on the primary cohort, a comparison of the final row of the final two columns of **Tables 3** and **4** shows that the year 6 cohort in 2006 has a higher proportion of pupils with special educational needs compared with the year 2 cohort in 2002 (34.8% in 2006 compared with 32.3% in 2002) but has a smaller percentage of pupils eligible for free school meals in 2006 compared with 2002 (45% in 2006 compared with 47.4% in 2002). Focusing on the secondary cohort, comparing the final row of the final columns of **Tables 5** and **6** shows that the year 11 cohort of NDC pupils in 2006 has a smaller percentage of pupils with special educational needs (28.3% in 2006 compared with 30.6% in 2002) and a smaller percentage of pupils eligible for free school meals (36.6% in 2006 compared with 45.2% in 2002).

In general, it seems that the NDC-outmovers group at the primary level tended to have lower proportions of pupils with special educational needs or eligible for free school meals, whilst the primary-inmover group was fairly similar to the existing NDC pupils. By contrast, at the secondary level, both the outmover and inmover groups tended to have slightly higher proportions of pupils with special educational needs or eligible for free school meals than the NDC-stayers.

5.2.2 Exploring the characteristics of inmovers and outmovers from unknown locations

The data presented in **Tables 3** to **6** show that a small but significant number of pupils who are resident in NDC areas in 2002 or 2006 move to or from unknown locations. There are two possible reasons why it is not possible to geographically identify pupils in the administrative data: (i) the pupil records may exist but have missing or incomplete postcode data; or (ii) the pupil may for some reason not have a record at all within the dataset for a particular year (or series of years). Where pupil records exist but postcode data is missing or incomplete then there is little that can be done to geographically locate the pupil, although it is possible to say which school the pupil attends. However, less than 5 per cent of cases have missing or incomplete postcodes in PLASC so this does not generally present a problem when analysing pupil mobility. Where pupils do not have records at all within the administrative dataset this suggests that the pupil is outside of the formal state education system[32].

An analysis of the ethnicity of pupils with missing records in either 2002 or 2006 in **Table 7** shows that the majority of these inmovers and outmovers are from ethnic minority groups. There has been considerable

[31] The School Food Trust: www.schoolfoodtrust.org.uk/news_item.asp?NewsId=151
[32] This can occur because the pupil has left the country, is educated in the independent sector or is educated at home.

research on impact of ethnicity on educational attainment; however, if it is the case (as seems likely) that NDC areas are receiving relatively high numbers of immigrant children this adds further challenge and complexity to the task of raising educational attainment. Cassen and Kingdon have shown, for example, that not having English as a first language can act as a disadvantage in the early years of schooling but that disadvantage disappears by the time a child reaches GCSE age[33]. Little research has been done regarding the impact of immigration on educational attainment in deprived areas and the findings from **Table 7** suggest that this may be an area worth exploring in future research.

The first row of **Table 7** gives the number of cases in which the pupil does not have a record in the 2006 or 2002 administrative data. Column one shows pupil ethnicity and the remaining columns indicate the ethnic composition of each sub-group of inmovers and outmovers.

The difference between the ethnicity of inmovers from unknown status compared with the ethnicity of outmovers to unknown status is particularly striking. Primary and secondary-age inmovers are comprised predominantly of pupils who are not categorised as white British (for example only 5% of inmovers are classified as white British, whilst this group nationally accounts for 80% of school children[34]). Rather, the bulk of these inmovers are defined as black African (35.7% for the primary cohort and 33.4% for the secondary cohort) and 'known other' (25.8% for the primary cohort and 18.6% for the secondary cohort). In contrast, **Table 7** shows that those who move out of the 2002 cohorts to unknown status are mainly white British pupils. This finding is consistent with other research into population turnover in the NDC areas. For example, Cole *et al*.[35] found that inmovers are far more likely to come from black and minority ethnic groups than outmovers.

It is tempting to look for explanations for these findings. One possibility is international in-migration. For example, children of primary school age who entered England after 2002 and before 2006 would be counted in the 2006 dataset but not in the 2002 dataset and therefore would be classified as 'status unknown' in 2002. However, as noted earlier in this report, it may be the case that children with 'status unknown' in 2002 actually moved within Britain from an independent sector school in 2002 to a state sector school in 2006 or, alternatively, the child may have been educated at home in 2002 (although both of these are unlikely to apply to the vast majority of cases). Without further in-depth research, which is outside the scope of this current report, it is not possible to definitely state the sources or destinations of children with unknown status in any particularly year. However, it seems plausible that a sizeable percentage of inmovers from 'unknown status' in 2002 are immigrants.

[33] Kingdon, G and Cassen, R (2007) *Understanding low achievement in English schools*, CASE paper 118
[34] See, DCSF (2006), *Pupil characteristics and class sizes in maintained school in England*, January 2006 (Provisional)
[35] Cole et al. (2007) *The Moving Escalator? Patterns of Residential Mobility in New Deal for Communities areas*, Research Report 32, Department for Communities and Local Government

Table 7: Ethnicity of outmovers with 'unknown' status in 2006 and inmovers with 'unknown' geographical origins in 2002

	Primary cohorts		Secondary cohorts	
	Outmovers to unknown status in 2006	Inmovers from unknown status in 2002	Outmovers to unknown status in 2006	Inmovers from unknown status in 2002
Unknown due to no pupil records	210	423	389	392
Bangladeshi	6.2	7.3	5.7	8.2
Indian	2.4	1.4	1.0	2.3
Pakistani	4.8	4.3	4.9	5.9
Black African	14.3	35.7	8.2	33.4
Black Caribbean	4.8	4.7	6.9	8.7
Black Other	1.4	1.4	1.5	1.8
Chinese	1.9	0.5	0.5	0.8
White British	32.9	5.0	54.0	12.0
White Other	7.6	13.5	5.7	7.7
Known Other	23.8	25.8	9.5	18.6
Missing	0.0	0.5	2.1	0.8
Total of ethnic group percentages	100.0	100.0	100.0	100.0

5.3 Geographical source of inmovers and destination of outmovers

In this section the characteristics of the areas that NDC pupils move from or move to are considered. **Table 8** contains data on the destinations of outmovers from the 2002 primary school year 2 cohort and the origins of inmovers who join the 2006 year 6 primary school cohort.

The upper section of **Table 8** (labelled 'Outmovers 2002–06') follows the journeys of those 1,893 pupils who were part of the initial year 2 primary school NDC cohort in 2002 and who left the NDC Partnership between 2002 and 2006. For example, 1,018 outmovers lived in the same local authority in 2006 as in 2002 but in a different Lower Super Output Area (LSOA) and Middle Super Output Area (MSOA). As outlined in **Table 3** there are 235 outmovers from this 2002 NDC primary cohort with unknown locations in 2006.

To the right of the upper section of **Table 8** is a second set of columns showing how the IDACI scores of the areas which the outmovers moved to compared with the IDACI scores of the LSOAs in the NDC Partnership area. For each inmover and outmover, the IDACI score of the pupil's home LSOA in 2002 is compared to the IDACI score for the pupil's home LSOA in 2006. As the IDACI is constructed for all 32,482 LSOAs in England it is possible to assess how each LSOA relates to every other LSOA in the

country. In **Table 8** changes in IDACI scores are presented in terms of changes in the national decile of IDACI scores. For example, of the 1,893 pupils who move out of NDC Partnership areas between 2002 and 2006, a total of 530 pupils (28% of outmovers) moved to an LSOA with an IDACI score that was at least three deciles less deprived than the LSOA in which they lived in 2002.

The lower section of **Table 8** (labelled 'Inmovers 2002–06') traces the origins of the 1,473 pupils who lived outside of the NDC in 2002 but moved into the NDC area by 2006. The first set of columns describe the geographical location of these inmovers in 2002, for example, 49 (3.3%) of these inmovers lived in the same MSOA in 2002 as in 2006. Likewise, 44.7 per cent of inmovers lived in the same local authority in 2002 as in 2006 but not in the same LSOA or MSOA . To the right of the lower section of **Table 8** is a set of columns showing the difference between the IDACI decile of the neighbourhoods that inmovers moved from and the NDC area. These data show, for example, that 73 of the 1,473 inmovers to the primary cohort between 2002 and 2006 lived in 2006 in LSOAs which were less deprived by one decile, according to the IDACI, than the LSOA in which they lived in 2002.

Some interesting patterns emerge from the data in **Table 8**. It is clear that the majority of children leaving an NDC area between 2002 and 2006 move to a less deprived area. Fifty-four per cent of outmovers from the year 2 primary cohort in 2002 move to an LSOA which is relatively less deprived (according to the IDACI) and 28 per cent of outmovers from this primary cohort move to an LSOA which is at least three deciles less deprived according to the IDACI. Second, whilst those moving out of the NDC areas move to less deprived areas, those moving in to the NDC areas move *from* less deprived areas. This is unsurprising given that NDC Partnership areas will, by definition, contain deprived LSOAs.

Finally, it is worth noting that 10.7 per cent of inmovers experienced a deterioration in IDACI score of three or more deciles indicating that some children are moving into NDC areas from much less deprived areas. While these figures raise some important questions about the dynamics of the in- and out-migration, it should be remembered that it is not possible to infer characteristics about individuals from the neighbourhood level IDACI score.

Table 9 presents equivalent data for the 2002 NDC secondary year 7 cohort. Comparing **Tables 8** and **9** it can be seen that the primary and secondary cohorts are similar in terms of the patterns which emerge so the main messages outlined above in relation to the primary cohort apply equally to the secondary cohort. One notable difference already highlighted in **Table 7** is that the proportion of outmovers who move to an unknown location is much higher at the secondary level than the primary level. It is not clear what causes this difference.

Table 8: Destinations of outmovers from NDC Partnerships 2002–06 and origins of inmovers to NDC Partnerships 2002, year 2 primary school cohort in 2002

		Moving between areas						Change in IDACI rank 2002–06							
	Cases	Same LSOA	Same MSOA	Same LA	Same region	Beyond region	Unknown	Less deprived by three or more deciles	Less deprived by two deciles	Less deprived by one decile	Same decile	More deprived by one decile	More deprived by two deciles	More deprived by three or more deciles	Unknown
Outmovers 2002–06	1893	19	58	1018	373	190	235	530	191	294	511	92	32	8	235
Percentage	100.0	1.0	3.1	53.8	19.7	10.0	12.4	28.0	10.1	15.5	27.0	4.9	1.7	0.4	12.4
Inmovers 2002–06	1473	11	49	665	152	94	502	20	19	73	419	186	97	157	502
Percentage	100.0	0.7	3.3	45.1	10.3	6.4	34.1	1.4	1.3	5.0	28.4	12.6	6.6	10.7	34.1

Table 9: Destinations of outmovers from NDC Partnerships 2002–06 and origins of inmovers to NDC Partnerships 2002, year 7 secondary school cohort in 2002

		Moving between areas						Change in IDACI rank 2002–06							
	Cases	Same LSOA	Same MSOA	Same LA	Same region	Beyond region	Unknown	Less deprived by three or more deciles	Less deprived by two deciles	Less deprived by one decile	Same decile	More deprived by one decile	More deprived by two deciles	More deprived by three or more deciles	Unknown
Outmovers 2002–06	1732	14	52	749	243	102	572	344	128	201	371	66	36	14	572
Percentage	100.0	0.8	3.0	43.2	14.0	5.9	33.0	19.9	7.4	11.6	21.4	3.8	2.1	0.8	33.0
Inmovers 2002–06	1179	10	39	527	110	55	438	14	18	67	279	144	79	140	438
Percentage	100.0	0.8	3.3	44.7	9.3	4.7	37.2	1.2	1.5	5.7	23.7	12.2	6.7	11.9	37.2

5.4 Trends in pupil mobility: main messages

In general, only 50 per cent to 70 per cent of both primary and secondary school cohorts remained in the NDC Partnership between 2002 and 2006. Again, considerable variation is apparent between Partnerships and it is notable that in some Partnerships less than half of the original 2002 NDC primary and secondary cohorts remained in the NDC Partnership in 2006.

It is clear that, in general, many more pupils moved out of the NDC Partnerships than moved in, resulting in a net reduction in the size of the primary and secondary NDC pupil cohorts between 2002 and 2006. The majority of moves were within the parent local authority but beyond the MSOA.

There was little change in the proportion of children in NDC areas with special educational needs over the period 2002 to 2006; however, the proportion of children eligible to receive free school meals declined marginally. This change was driven by a reduction in the proportions of 'stayers' who were eligible for free school meals. Children moving into NDC areas between 2002 and 2006 had very slightly higher rates of free school meal eligibility than the cohort of NDC 'stayers' at primary and secondary level. However, only at the primary level was there a noticeable trend of the more affluent pupils moving out of the NDC area, whereas at the secondary level both inmovers and outmovers were slightly more deprived than the NDC stayers.

Children who moved into NDC areas between 2002 and 2006 tended to move from neighbourhoods that were less deprived than their new NDC neighbourhood. Similarly, children who moved out of NDC areas between 2002 and 2006 tended to move to new neighbourhoods that were less deprived than their NDC neighbourhood and many of these children moved to considerably less deprived areas by 2006, suggesting that some NDC areas may be acting as transitional areas for a certain segment of the NDC population[36]. This raises interesting questions as to the role of NDC areas in relation to socio-economic dynamics within the surrounding geographical area.

[36] See Cole et al. (2007) The Moving Escalator? Patterns of Residential Mobility in New Deal for Communities areas, Research Report 32, Department for Communities and Local Government

6. Summary of findings and implications for area-based initiatives

This paper has discussed the extent to which challenges created by the geographical patterns of school attendance, the quality and composition of schools serving the NDC areas and trends in pupil mobility impact upon the potential of the NDC Programme, as an area-based initiative, to improve the educational attainment of pupils living in the NDC areas. These implementation challenges also highlight further evaluation challenges; however, discussion of the issues surrounding programme evaluation is not a central theme of this report.

NDC resources could be most effectively targeted if all NDC children attended a single primary school or a single secondary school, these schools contained no non-NDC children and there was zero pupil mobility. This situation would allow resources to be targeted at a clearly defined 'treatment group' with no opportunity for the Programme to impact upon non-NDC pupils. Such a situation would also facilitate a straightforward quantitative evaluation of Programme impact by comparing outcomes for NDC pupils against outcomes for non-NDC pupils with no concerns being raised over 'contamination' of the treatment and/or comparator group in terms of benefiting from the Programme. The greater the deviation from this 'ideal' situation, the greater the challenges to efficiently targeting resources to NDC pupils and the greater the challenges to rigorously evaluating Programme impact. The results presented in this paper reveal for the first time how the actual situation in the NDC Partnership areas compares with this 'ideal' situation and, as such, this paper helps develop an understanding of the extent to which area-based initiatives aimed at improving educational attainment may be realistically expected to affect positive outcomes and how quantitative evaluation may be able to identify these effects.

It is evident from the results presented in this paper that some NDC Partnerships can potentially engage with approximately 50–80 per cent of their pupil populations at both primary and secondary levels through targeting a relatively small number of schools. However, to ensure that 80 per cent of NDC pupils are reached in all NDC areas this would imply targeting around 20 schools per area (i.e. 10 primary and 10 secondary). This may be unachievable for all but the most low cost and easily implemented interventions. The remaining 20 per cent of each Partnership's pupil populations are spread much more thinly across a considerably larger number of schools. This suggests that school-based interventions may indeed be effective mechanisms through which to offer additional support to children living in some NDC areas but, equally, that it

may not be possible within the constraints of limited time and resources to target all NDC pupils through schools.

In general, the secondary-aged NDC pupil population tends to be concentrated in a smaller number of schools than the equivalent primary-age population. However, when examining the composition of particular schools it becomes evident that primary schools often have higher proportions of their overall pupil enrolment living in NDC areas than secondary schools. This means that if a school-based intervention is implemented that does not differentiate between NDC and non-NDC pupils the amount of spill-over into the non-NDC pupil population is likely to be greater at secondary school level than primary school level.

If school-based interventions can be accurately targeted to support only those children that live within a certain area then the issue of spill-over is removed. However, there may be ethical and/or practical complications to such pupil selection. For instance, should a relatively well-performing pupil that lives within an area targeted through and area-based initiative be offered additional support but not a pupil who lives outside of the target area but who has lower educational attainment? While from the perspective of the area-based initiative the child resident in the intervention area should take priority, the management team of the school is likely to have the best interests of all pupils as a priority regardless of residential location. However, if there are justifiable reasons for targeting pupils from a particular locality, for example if they have lower attainment levels or face greater barriers to increased attainment (e.g. special educational needs, free school meals, living in a severely deprived neighbourhood) then these ethical issues may be reduced.

The analyses presented in the paper show that, on average, pupils living in NDC areas do indeed have notably lower attainment levels than non-NDC resident pupils attending the same schools. The NDC pupil population is also composed of a higher proportion of children with special education needs and a higher proportion who are eligible for free school meals than their non-NDC peers. NDC pupils also tend to live in more deprived neighbourhoods than their non-NDC school peers. Whilst there is a large degree of variation between the 39 Partnerships, these results nevertheless suggest that there might be justifiable reasons to focus interventions on NDC pupils as opposed to their school peers.

One area of concern relates to the link between poor educational attainment and poor quality schools. A particular issue is that pupils in deprived areas may become concentrated in the worst schools and this then further impedes their chances of progression. It is difficult to obtain robust measures of school quality as too little is known about important factors which affect pupil attainment such as parental background. However, the analyses here based on CVA scores show that the performance of pupils in the key schools that serve NDC areas is often below the expected level, although this is not the case within every single NDC area. Many of the schools identified as key schools in 2002

have closed between 2002 and 2007. By contrast, there are no school closures amongst non-key schools in the NDC parent local authorities. This high number of school closures suggests that some of these schools may have been judged to be poorly performing. In addition the disruption of changing to a new school following school closure may have also impacted on educational performance.

One factor that will affect the efficiency with which area-based initiatives can engage with children is the level of turnover within the pupil population. It may be argued that a stable pupil population provides a greater opportunity to impact upon children's attainment through being able to offer sustained long-term support. In areas with a high degree of pupil turnover the children who are most able to benefit from education interventions may be those who are in families that are most likely to migrate out of the area. If this is indeed the case, then any benefits accrued by children who leave the area will be lost and will not be captured by subsequent programme evaluation.

The analyses presented here demonstrate that relatively high proportions of children leave the NDC area during the period examined. In a minority of cases, less than half of the original NDC pupil cohort from 2002 was still living in the same Partnership area in 2006. In most NDC Partnership areas between 50 per cent and 70 per cent of the original cohort remained in the NDC area between 2002 and 2006. Some of this population loss was offset by in-migration of new pupils, but on the whole the balance between in- and out-migration resulted in a net loss of pupils over the period. Primary-age pupils moving out of NDC areas tended to have lower levels of special educational needs and lower rates of eligibility for free school meals than children moving in to the NDC areas over the period. This means that some of the benefits of the Programme may have been lost to non-NDC neighbourhoods through out-migration, and that inmovers tended, on average, to face greater challenges in terms of barriers to attainment than the outmovers.

In summary, the analyses presented in this paper demonstrate that there is potential for area-based initiatives to engage with pupils through school-based interventions. The extent to which this can be achieved at both primary and secondary school levels is highly dependent on the geographical patterns of schools attendance. It may be possible to justify targeting pupils from a particular area if, as is the case in the majority of NDC areas, NDC pupils have lower levels of attainment and higher levels of factors that are known to negatively influence attainment. The effects of migration may have serious implications for sustained support and impact of any education intervention (whether area or school-based) and for the accurate measurement of the intervention's impact through established evaluation techniques.

The results presented here form a valuable addition to the evidence base concerning the challenges to the implementation and evaluation of initiatives to improve educational attainment in small areas. This

information can, and indeed should, be ascertained prior to the deployment of other area-based initiatives in the future as it may help to guide the implementation of specific interventions to ensure the highest possible degree of efficiency in targeting and the most rigorous quantitative evaluation of programme impacts.

Appendix A

Table A1: Cumulative percentage of primary age NDC pupils attending main ten primary schools, 2002

	School										Total number of primary schools attended
	1	2	3	4	5	6	7	8	9	10	
Liverpool	24.9	36.9	48.4	58.7	69.1	72.8	76.3	79.6	82.2	84.1	52
Nottingham	29.6	47.4	58.6	68.6	74.2	79.7	83.7	87.3	89.1	90.6	33
Norwich	15.1	27.1	37.6	46.4	54.0	61.4	68.4	74.3	76.9	79.3	50
Hackney	13.0	25.9	38.6	51.1	61.5	70.7	74.2	77.0	78.4	79.8	101
Tower Hamlets	43.6	62.4	75.0	82.0	83.9	85.9	87.6	89.1	90.4	91.5	38
Newham	20.0	39.0	56.7	66.4	73.6	76.8	79.7	81.6	83.5	85.2	54
Southwark	28.4	42.4	54.3	62.0	69.7	76.2	79.6	82.6	85.4	86.9	42
Middlesbrough	26.6	48.3	58.4	66.3	73.1	79.3	83.2	86.7	89.4	91.2	31
Newcastle upon Tyne	28.6	49.9	63.1	72.5	80.9	85.7	90.5	93.7	95.0	95.6	29
Leicester	19.8	35.3	48.1	60.6	68.3	74.8	80.6	85.3	88.8	91.2	42
Brighton	18.3	35.8	43.3	50.3	57.2	62.9	67.8	72.5	75.6	78.5	53
Birmingham KN	29.1	46.6	61.9	69.8	77.2	83.5	86.7	88.5	90.2	91.3	45
Bradford	28.0	43.8	56.5	65.1	73.7	80.1	85.8	90.1	92.1	93.5	41
Kingston upon Hull	30.9	48.7	66.4	83.6	88.4	92.8	94.4	95.3	96.0	96.6	23
Sandwell	24.4	47.3	66.1	77.3	85.8	89.7	91.4	92.4	93.2	94.0	39
Bristol	32.7	42.9	52.4	61.0	67.5	72.0	76.4	80.6	83.5	85.1	39
Manchester	15.8	31.2	43.9	56.2	65.7	72.0	77.5	81.8	85.4	88.7	39
Walsall	18.2	34.5	44.7	53.1	60.1	67.0	73.0	77.9	82.5	86.6	44
Wolverhampton	19.2	33.4	45.9	55.2	63.9	71.7	78.3	81.6	84.2	86.5	59
Sunderland	31.5	56.8	72.8	84.5	90.1	92.4	93.4	94.4	95.2	96.1	26
Southampton	33.5	62.3	80.2	82.2	83.8	85.2	86.5	87.9	89.2	90.1	41
Sheffield	28.7	46.5	62.8	72.4	81.3	88.2	91.8	93.1	93.7	94.2	43
Salford	20.9	40.6	55.6	69.0	77.8	81.9	85.9	87.6	88.9	90.1	35
Plymouth	39.0	67.6	76.9	81.2	85.0	87.3	89.3	90.7	91.8	92.7	29
Oldham	21.1	42.1	58.5	70.7	78.1	84.5	87.1	89.7	90.7	91.8	45
Luton	33.1	61.9	76.0	80.2	84.3	87.5	89.7	91.2	92.5	93.5	37
Lewisham	34.7	52.8	64.9	70.4	74.4	78.4	81.9	83.7	85.4	86.5	53
Knowsley	14.7	27.9	39.7	50.5	58.5	65.3	71.6	77.4	82.3	85.8	44
Brent	19.4	36.1	47.7	56.5	63.9	68.3	72.0	75.0	77.1	78.4	63
Islington	20.7	41.2	56.6	69.9	81.6	88.8	92.3	93.5	94.7	95.6	23
Rochdale	21.3	39.6	53.2	63.5	73.6	79.4	84.0	87.1	89.9	92.3	28
Hartlepool	25.2	43.1	55.4	64.6	71.9	77.1	81.5	85.5	88.5	91.1	26
Haringey	22.5	40.2	51.5	58.1	63.6	68.8	73.9	77.2	80.4	83.4	70
Fulham	22.5	40.8	52.8	64.2	70.4	75.7	79.2	81.3	83.4	85.3	39
Doncaster	23.8	43.4	61.4	69.7	75.9	82.0	84.9	87.6	89.7	91.8	36
Derby	33.0	53.6	70.0	76.6	82.0	86.2	88.4	90.4	92.3	93.5	30
Coventry	24.3	41.4	53.8	64.7	71.9	78.7	84.6	86.8	88.9	91.0	41
Lambeth	23.7	37.8	47.1	54.2	61.1	65.8	70.4	74.3	78.1	80.9	60
Birmingham A	26.7	41.3	53.5	63.2	72.9	81.1	86.0	88.2	89.5	90.5	73

Table A2: Cumulative percentage of secondary age NDC pupils attending main ten secondary schools, 2002

	School										Total number of secondary schools attended
	1	2	3	4	5	6	7	8	9	10	
Liverpool	40.6	48.6	56.3	61.8	66.8	71.6	75.5	78.9	81.1	83.2	33
Nottingham	21.1	37.2	49.9	57.8	65.7	72.7	78.0	80.6	83.0	85.0	25
Norwich	51.3	67.5	77.8	87.3	91.6	94.0	95.7	96.7	97.8	98.5	15
Hackney	20.2	30.8	39.2	45.0	50.7	56.0	59.0	62.0	64.7	67.2	70
Tower Hamlets	33.5	65.8	74.7	79.3	83.2	85.9	88.3	90.1	91.8	93.0	28
Newham	31.3	45.6	52.8	59.5	66.3	72.5	78.2	81.1	83.8	86.4	45
Southwark	26.5	35.2	42.6	48.7	54.7	59.6	64.2	68.3	71.9	75.0	48
Middlesbrough	57.7	70.1	82.5	90.8	95.7	96.8	97.5	98.3	98.8	99.2	12
Newcastle upon Tyne	52.2	61.9	68.3	73.4	78.5	81.9	85.3	88.0	90.2	91.9	28
Leicester	41.0	66.3	79.6	87.7	92.7	94.5	95.3	96.0	96.5	96.8	29
Brighton	30.5	53.8	63.9	73.9	81.8	87.6	92.5	97.0	98.0	98.9	16
Birmingham KN	56.0	63.0	69.9	76.5	78.9	81.1	83.1	85.1	86.9	88.4	36
Bradford	40.0	56.1	63.5	70.4	75.9	81.0	86.0	89.3	92.0	94.1	23
Kingston upon Hull	35.6	69.2	87.4	93.8	96.6	97.7	98.2	98.8	99.1	99.5	12
Sandwell	65.8	74.1	78.8	83.5	87.3	88.8	89.7	90.7	91.6	92.3	41
Bristol	51.0	65.7	72.7	78.0	83.3	86.1	88.6	90.6	92.7	94.3	19
Manchester	41.0	54.2	67.1	75.2	82.4	87.5	91.7	93.1	94.0	94.8	30
Walsall	22.2	38.7	53.2	63.9	73.2	81.0	86.2	89.1	91.1	93.1	25
Wolverhampton	41.1	68.9	77.9	81.0	83.7	86.3	88.8	90.4	91.8	93.0	34
Sunderland	50.5	85.6	89.9	93.7	95.5	96.4	97.3	97.9	98.2	98.5	18
Southampton	31.7	53.1	65.7	76.2	83.9	88.7	91.3	93.7	95.3	96.9	20
Sheffield	29.7	50.2	62.4	71.2	78.8	83.8	86.9	89.5	91.7	93.3	21
Salford	66.9	78.0	83.9	88.1	90.9	93.0	95.1	96.2	97.2	97.9	18
Plymouth	38.4	54.6	64.3	71.0	76.2	81.1	85.7	89.9	93.3	94.8	18
Oldham	58.3	72.9	77.9	82.0	85.8	89.5	91.3	93.1	94.4	95.7	23
Luton	79.1	84.8	89.8	91.6	93.1	94.4	95.8	97.0	98.0	98.8	16
Lewisham	24.3	35.7	42.5	48.5	53.9	58.8	63.2	66.4	69.7	71.9	41
Knowsley	29.8	46.6	59.4	71.1	82.6	91.4	93.1	94.1	95.1	95.9	29
Brent	16.8	31.9	38.2	44.4	50.1	55.8	59.5	63.0	66.4	69.2	44
Islington	25.6	42.2	55.5	61.7	66.9	71.4	74.8	78.1	80.4	82.6	42
Rochdale	37.2	72.8	92.5	94.1	95.2	96.1	96.8	97.3	97.9	98.2	18
Hartlepool	29.2	56.4	75.8	89.9	95.8	99.8	100.0				7
Haringey	23.0	33.7	44.0	53.3	61.2	68.5	72.4	74.9	77.3	79.2	57
Fulham	23.7	34.4	44.0	51.2	56.8	61.3	65.6	69.9	73.9	77.3	36
Doncaster	41.5	70.5	85.7	93.7	94.9	95.9	96.9	97.8	98.4	99.0	14
Derby	44.3	64.1	78.6	85.2	91.6	94.0	95.3	96.5	97.4	98.2	17
Coventry	36.3	58.4	75.0	82.0	85.9	88.9	91.2	93.0	94.7	95.8	20
Lambeth	9.8	19.3	28.0	36.4	44.3	50.1	54.3	57.7	61.1	64.4	58
Birmingham A	42.5	63.1	67.3	71.5	75.6	79.0	81.1	82.9	84.6	86.1	49

Table A3: Percentage of primary school population which is made up of NDC pupils, 2002

	School 1	School 2	School 3	School 4	School 5	School 6	School 7	School 8	School 9	School 10
Liverpool	71.5	40.0	69.4	71.0	61.3	9.7	14.7	15.4	5.6	8.6
Nottingham	82.1	77.7	16.8	35.7	13.0	15.6	12.6	13.6	4.9	2.1
Norwich	85.5	88.4	93.0	93.7	33.5	100.0	37.6	35.3	11.3	7.6
Hackney	64.3	85.7	87.4	74.7	86.9	64.7	34.0	13.5	12.6	7.7
Tower Hamlets	90.2	39.4	50.0	15.9	7.2	8.0	3.4	6.7	3.2	2.4
Newham	40.7	55.2	34.1	27.1	18.6	8.9	8.6	6.1	5.2	6.8
Southwark	70.7	39.8	22.3	19.6	42.0	24.2	6.0	9.5	8.6	2.0
Middlesbrough	71.7	69.0	72.6	27.6	24.4	46.5	8.7	9.1	5.9	2.9
Newcastle upon Tyne	72.4	54.6	57.4	68.6	45.9	25.0	13.4	7.2	3.4	1.0
Leicester	75.8	66.5	92.9	95.5	67.4	92.7	92.6	29.1	23.6	9.0
Brighton	91.5	94.2	86.8	42.6	40.3	27.2	48.3	37.7	15.4	27.4
Birmingham KN	87.9	84.7	85.5	20.9	19.8	37.7	18.2	5.9	10.6	3.1
Bradford	86.8	70.5	72.0	36.8	35.9	27.8	26.3	22.8	9.7	5.3
Kingston upon Hull	88.5	50.0	38.5	41.0	29.1	8.1	3.6	2.0	1.4	2.1
Sandwell	80.2	79.7	91.9	42.1	53.0	14.5	9.1	6.7	4.7	4.4
Bristol	71.8	11.4	80.0	25.8	14.0	9.5	5.2	3.9	4.1	2.1
Manchester	74.5	88.4	70.2	78.8	89.1	68.6	22.8	12.1	20.1	14.6
Walsall	90.7	76.5	54.2	40.0	62.8	22.4	31.3	21.9	23.9	24.0
Wolverhampton	78.9	84.6	71.6	29.6	82.2	65.3	38.8	21.0	15.1	5.8
Sunderland	91.8	86.1	41.1	94.3	11.6	4.0	1.5	1.9	1.6	3.0
Southampton	83.5	84.5	78.4	4.7	3.3	4.5	4.0	6.9	2.9	2.2
Sheffield	89.8	97.4	61.4	69.6	94.9	32.6	8.3	6.4	1.8	1.6
Salford	88.7	84.7	72.1	75.2	39.6	10.3	15.9	4.9	6.3	2.7
Plymouth	95.6	85.7	42.7	8.2	12.8	12.5	3.3	6.5	1.2	2.5
Oldham	75.0	91.3	77.3	67.1	96.9	15.5	8.5	14.3	4.0	4.1
Luton	90.7	86.6	88.3	12.9	10.2	4.7	12.3	4.5	3.1	2.6
Lewisham	70.8	68.2	22.6	15.0	15.9	18.1	7.5	3.6	4.2	2.0
Knowsley	40.4	66.2	88.5	54.3	33.1	26.5	27.1	62.1	19.5	15.7
Brent	32.2	69.2	61.1	11.1	24.6	9.6	13.2	5.1	3.8	2.5
Islington	47.1	68.6	35.0	57.8	40.4	24.7	11.7	7.8	3.1	2.9
Rochdale	40.5	69.0	25.8	33.3	20.0	18.7	13.0	12.2	8.6	10.6
Hartlepool	67.9	61.4	31.6	17.5	13.5	16.8	12.0	8.8	24.8	13.5
Haringey	41.9	60.8	66.5	16.9	14.9	20.5	26.7	13.3	8.6	23.5
Fulham	34.4	52.2	29.6	23.8	17.8	15.9	8.4	3.2	4.5	5.7
Doncaster	90.0	42.9	43.4	15.0	12.8	16.9	10.2	5.3	4.2	3.8
Derby	95.7	74.0	51.6	21.8	18.3	8.8	9.6	6.7	14.2	4.3
Coventry	89.3	79.3	67.5	86.9	25.1	16.2	21.6	10.7	3.4	5.2
Lambeth	37.7	33.8	21.9	33.3	9.2	9.8	9.8	12.3	17.9	9.6
Birmingham A	93.6	55.0	86.9	67.0	60.2	67.4	73.3	21.9	7.1	8.6

Table A4: Percentage of secondary school population which is made up of NDC pupils, 2002

	School 1	School 2	School 3	School 4	School 5	School 6	School 7	School 8	School 9	School 10
Liverpool	23.0	4.5	5.0	8.0	3.5	4.4	2.5	4.0	1.8	1.0
Nottingham	22.2	8.8	5.1	2.9	7.4	3.0	1.5	1.1	1.1	1.0
Norwich	47.8	10.9	5.2	6.1	2.7	2.3	1.1	2.0	0.9	0.4
Hackney	26.4	17.4	9.6	7.2	5.7	6.2	3.3	6.7	3.5	3.8
Tower Hamlets	20.1	15.1	6.9	2.4	1.8	1.7	1.3	1.3	3.1	1.3
Newham	18.7	7.0	5.4	4.4	4.6	3.5	4.0	1.2	2.9	1.9
Southwark	11.2	5.6	4.2	3.3	3.1	3.0	3.7	3.3	2.5	2.6
Middlesbrough	27.8	9.2	7.1	4.9	3.3	0.9	0.8	1.1	0.4	0.6
Newcastle upon Tyne	22.8	5.3	3.6	3.2	1.9	2.6	6.5	3.7	0.8	1.0
Leicester	53.6	33.2	10.2	17.2	6.5	2.4	1.6	0.7	0.5	0.5
Brighton	60.4	70.8	8.7	14.7	7.6	6.9	4.8	5.4	0.9	1.6
Birmingham KN	52.7	4.6	4.1	6.1	2.9	2.4	1.6	1.6	1.1	1.4
Bradford	21.6	9.1	6.2	7.0	2.8	4.0	4.8	2.9	8.8	2.0
Kingston upon Hull	14.9	29.4	12.0	3.0	1.3	0.4	0.2	0.2	0.7	0.1
Sandwell	59.9	5.9	4.0	3.9	2.9	1.9	0.7	0.8	1.4	0.6
Bristol	14.3	3.5	2.2	1.6	1.8	1.3	0.6	0.6	0.4	1.3
Manchester	16.6	8.9	10.8	5.0	7.5	3.5	2.4	1.3	0.6	0.3
Walsall	51.4	17.5	17.3	8.0	6.3	13.6	5.4	2.4	1.5	1.9
Wolverhampton	37.2	18.8	5.5	3.8	3.1	2.4	3.0	1.0	0.9	1.7
Sunderland	21.9	15.3	2.8	2.6	1.0	0.6	0.7	0.4	0.1	0.1
Southampton	35.4	14.1	12.5	8.0	6.8	2.1	2.7	1.2	0.9	1.1
Sheffield	29.9	10.4	13.0	5.0	4.8	3.4	3.3	1.8	1.4	1.1
Salford	36.3	11.0	2.7	1.9	1.1	1.4	1.1	0.6	0.6	0.2
Plymouth	41.6	4.5	3.7	2.5	1.5	1.4	1.1	2.1	1.6	0.5
Oldham	40.3	11.2	4.7	2.7	2.0	2.3	1.5	0.8	1.1	0.7
Luton	48.3	4.2	2.7	1.4	0.8	1.0	1.2	0.8	0.6	0.6
Lewisham	10.5	10.2	5.6	2.9	2.4	2.2	2.2	1.7	2.1	1.1
Knowsley	39.5	18.3	12.1	12.6	11.1	11.5	2.0	1.5	0.7	0.6
Brent	10.2	5.3	2.5	1.3	2.6	3.7	2.3	2.1	1.4	1.5
Islington	11.8	10.9	5.3	4.4	2.7	2.0	2.1	1.7	1.6	1.1
Rochdale	19.8	25.2	24.2	1.0	0.8	0.5	0.5	0.5	0.4	0.2
Hartlepool	16.5	18.8	11.2	7.8	3.9	3.1	0.1			
Haringey	12.8	7.8	6.6	6.4	6.4	4.1	2.5	3.2	1.8	1.0
Fulham	8.8	7.2	6.0	2.7	2.3	2.2	2.0	1.4	1.7	1.6
Doncaster	12.7	11.4	5.1	2.8	0.6	0.4	0.4	0.5	0.3	0.4
Derby	57.3	12.3	7.5	3.7	5.3	1.3	0.9	1.1	0.4	0.8
Coventry	31.6	18.2	7.8	4.6	2.1	2.0	1.2	1.2	0.8	1.4
Lambeth	5.3	3.8	3.3	3.8	4.0	2.7	2.9	1.3	1.0	0.9
Birmingham A	54.5	43.2	7.2	5.3	9.9	5.2	6.4	4.2	3.9	2.5

Table A5: Percentage of NDC pupils attending the 2002 main primary school in each year from 2002 to 2006[37]

	% NDC primary age pupils attending 2002 main primary school				
	2002	2003	2004	2005	2006
Liverpool	**24.9**	**23.1**	**22.8**	**23.7**	**21.4**
Nottingham	**29.6**	**30.4**	**32.7**	**31.4**	**32.3**
Norwich	**15.1**	**14.4**	**13.3**	*11.2*	*12.0*
Hackney	**13.0**	**13.7**	*13.4*	*13.3*	*12.2*
Tower Hamlets	**43.6**	**42.9**	**43.1**	**42.4**	**42.1**
Newham	**20.0**	*18.6*	*17.7*	*18.3*	*16.2*
Southwark	**28.4**	**25.6**	**25.9**	**25.7**	**26.0**
Middlesbrough	**26.6**	**26.0**	*28.1*	*29.0*	*30.9*
Newcastle upon Tyne	**28.6**	**28.9**	**29.6**	**29.4**	**28.0**
Leicester	**19.8**	**19.4**	**19.1**	**19.8**	**20.5**
Brighton	**18.3**	**18.2**	**19.5**	**19.1**	**17.4**
Birmingham KN	**29.1**	**28.2**	**24.8**	**24.0**	**23.2**
Bradford	**28.0**	**27.4**	**29.6**	**28.3**	**28.1**
Kingston upon Hull	**30.9**	**31.3**	**29.2**	**26.0**	**25.2**
Sandwell	**24.4**	*22.7*	**23.9**	**22.6**	*21.0*
Bristol	**32.7**	**34.8**	**36.8**	**36.7**	**37.1**
Manchester	**15.8**	**15.9**	**15.5**	**16.3**	**16.4**
Walsall	**18.2**	**16.1**	**14.5**	**15.2**	**14.3**
Wolverhampton	**19.2**	*21.0*	**21.7**	**22.6**	**23.2**
Sunderland	**31.5**	*30.5*	*30.3*	*31.3*	*31.2*
Southampton	**33.5**	**33.3**	**30.9**	**27.0**	**25.0**
Sheffield	**28.7**	**33.7**	**34.3**	**34.6**	**35.9**
Salford	**20.9**	**21.0**	**21.5**	**20.9**	**21.6**
Plymouth	**39.0**	**35.2**	**35.1**	**38.8**	**33.0**
Oldham	**21.1**	*22.9*	*22.6*	*22.0*	**22.9**
Luton	**33.1**	**32.8**	**32.1**	**32.5**	**32.3**
Lewisham	**34.7**	**32.3**	**33.5**	**35.2**	**35.3**
Knowsley	**14.7**	**15.1**	**15.1**	**15.4**	**14.4**
Brent	**19.4**	**20.0**	*18.9*	*18.9*	*19.1*
Islington	**20.7**	*20.3*	*18.3*	*19.5*	**20.2**
Rochdale	**21.3**	**20.9**	**19.9**	**18.4**	*16.7*
Hartlepool	**25.2**	**24.1**	**26.7**	**26.2**	**23.8**
Haringey	**22.5**	**21.7**	20.9	18.4	*17.0*
Fulham	**22.5**	**21.8**	**19.6**	**21.4**	**20.8**
Doncaster	**23.8**	**24.4**	**24.3**	**26.0**	**26.4**
Derby	**33.0**	**29.1**	**27.6**	*23.7*	**26.0**
Coventry	**24.3**	N/A	N/A	N/A	N/A
Lambeth	**23.7**	**22.8**	**24.2**	**24.1**	**25.2**
Birmingham A	**26.7**	**25.4**	**24.6**	**23.7**	**23.2**
Total number as main school	**39**	**32**	**31**	**29**	**29**

[37] In **Tables A5** and **A6** the main school is identified as the school educating the largest number of NDC-resident pupils for each NDC Partnership in 2002. Values presented in **bold** indicate that the school had the highest percentage of pupils in that year and values presented in *italics* indicate that the school did not have the highest percentage of pupils in that year.

Table A6: Percentage of NDC pupils attending the 2002 main secondary school in each year from 2002 to 2006[33]

	% NDC secondary age pupils attending 2002 main secondary school				
	2002	2003	2004	2005	2006
Liverpool	**40.6**	**40.6**	**39.4**	**37.1**	**32.0**
Nottingham	**21.1**	N/A	N/A	N/A	N/A
Norwich	**51.3**	**51.1**	**53.8**	**55.0**	**55.4**
Hackney	**20.2**	**20.2**	**21.4**	**19.2**	**18.1**
Tower Hamlets	**33.5**	**29.9**	*27.4*	*25.8*	*27.4*
Newham	**31.3**	**30.5**	**32.1**	**34.5**	**35.4**
Southwark	**26.5**	**23.2**	**24.0**	**24.8**	**24.7**
Middlesbrough	**57.7**	**57.4**	**60.3**	**59.1**	**56.3**
Newcastle upon Tyne	**52.2**	**53.1**	**52.6**	**53.4**	**53.0**
Leicester	**41.0**	**43.1**	**44.4**	**43.4**	**45.5**
Brighton	**30.5**	**29.7**	**28.2**	**26.5**	**28.5**
Birmingham KN	**56.0**	**53.7**	**53.1**	**51.4**	**47.5**
Bradford	**40.0**	**42.9**	**43.0**	**42.3**	**39.2**
Kingston upon Hull	**35.6**	**39.7**	**38.9**	**35.3**	**37.5**
Sandwell	**65.8**	**65.5**	**64.0**	**60.7**	**61.7**
Bristol	**51.0**	**52.3**	N/A	N/A	N/A
Manchester	**41.0**	**39.7**	**41.5**	**43.3**	**42.3**
Walsall	**22.2**	*16.0*	N/A	N/A	N/A
Wolverhampton	**41.1**	**40.8**	**35.8**	**37.0**	**38.1**
Sunderland	**50.5**	**51.3**	**54.3**	**54.1**	**55.5**
Southampton	**31.7**	**33.2**	**35.8**	**39.7**	**42.4**
Sheffield	**29.7**	**31.6**	**34.5**	**37.9**	**37.7**
Salford	**66.9**	**65.9**	**67.8**	**69.1**	**68.2**
Plymouth	**38.4**	**37.6**	**36.1**	**35.0**	**37.3**
Oldham	**58.3**	**59.2**	**57.6**	**58.9**	**60.4**
Luton	**79.1**	**76.6**	**75.1**	**72.9**	**74.4**
Lewisham	**24.3**	**25.1**	**22.1**	**24.0**	**25.8**
Knowsley	**29.8**	**31.5**	**31.9**	**30.0**	**31.0**
Brent	**16.8**	**15.8**	*13.2*	*11.0*	*11.9*
Islington	**25.6**	**21.1**	**21.0**	*16.5*	*14.6*
Rochdale	**37.2**	**38.1**	**39.6**	**42.3**	**38.0**
Hartlepool	**29.2**	*27.3*	*27.1*	*28.0*	*26.9*
Haringey	**23.0**	**27.0**	**25.4**	**27.1**	**28.8**
Fulham	**23.7**	**27.9**	**23.0**	**20.8**	*17.4*
Doncaster	**41.5**	**42.7**	**40.7**	**41.5**	**41.8**
Derby	**44.3**	**42.6**	**44.4**	N/A	N/A
Coventry	**36.3**	**36.3**	**40.6**	**39.4**	**39.3**
Lambeth	**9.8**	*10.1*	*8.7*	*8.4*	*9.3*
Birmingham A	**42.5**	**41.7**	**42.0**	**40.6**	**41.5**
Total number as main school	**39**	**35**	**32**	**30**	**29**

Table A7: Characteristics of NDC and non-NDC children in each NDC's key primary schools, 2002

	Income Deprivation Affecting Children Index (IDACI) score		% Special Educational Needs (SEN)		% Free School Meals (FSM)	
	All NDC pupils in key schools	All non-NDC pupils in key schools	All NDC pupils in key schools	All non-NDC pupils in key schools	All NDC pupils in key schools	All non-NDC pupils in key schools
Liverpool	0.61	0.51	36.0	30.1	64.5	51.3
Nottingham	0.58	0.46	37.2	34.7	63.8	45.2
Norwich	0.54	0.30	45.1	34.7	46.6	23.0
Hackney	0.61	0.56	37.4	31.2	52.8	46.1
Tower Hamlets	0.75	0.67	37.3	19.4	61.5	65.9
Newham	0.60	0.54	23.5	22.2	45.9	41.8
Southwark	0.45	0.48	33.8	33.8	56.8	46.3
Middlesbrough	0.48	0.41	29.2	23.3	48.6	41.4
Newcastle upon Tyne	0.64	0.57	30.5	29.9	60.4	52.2
Leicester	0.58	0.25	39.0	29.0	46.8	16.6
Brighton	0.58	0.30	45.2	29.1	49.1	23.8
Birmingham KN	0.54	0.28	27.4	16.0	52.0	18.6
Bradford	0.48	0.42	28.0	28.5	41.9	37.5
Kingston upon Hull	0.61	0.37	37.3	22.3	54.8	30.6
Sandwell	0.44	0.38	30.4	16.0	29.3	21.5
Bristol	0.53	0.32	30.8	26.8	48.1	21.6
Manchester	0.76	0.40	26.3	24.4	59.4	33.1
Walsall	0.44	0.33	24.0	23.9	32.5	18.9
Wolverhampton	0.44	0.34	20.0	21.4	38.3	27.3
Sunderland	0.56	0.28	44.9	21.2	51.3	22.3
Southampton	0.42	0.31	57.4	50.4	38.5	32.4
Sheffield	0.59	0.39	41.2	16.3	43.9	28.9
Salford	0.56	0.51	28.8	20.9	48.6	43.9
Plymouth	0.58	0.35	27.7	20.9	52.0	27.7
Oldham	0.48	0.34	31.3	23.0	40.5	19.8
Luton	0.54	0.19	30.5	16.1	43.4	14.6
Lewisham	0.50	0.43	29.4	31.9	43.6	40.9
Knowsley	0.72	0.50	43.5	31.7	75.2	50.7
Brent	0.59	0.51	42.6	33.1	47.6	40.5
Islington	0.63	0.53	35.6	32.7	37.7	39.1
Rochdale	0.34	0.25	29.4	22.2	30.0	19.6
Hartlepool	0.55	0.30	31.4	21.4	47.0	24.4
Haringey	0.66	0.57	24.0	26.0	45.6	41.0
Fulham	0.57	0.36	34.8	29.5	49.0	43.2
Doncaster	0.42	0.26	35.3	26.6	45.4	21.8
Derby	0.44	0.19	30.7	21.4	49.1	19.0
Coventry	0.68	0.26	36.2	24.5	65.1	23.0
Lambeth	0.57	0.41	44.9	39.1	42.1	40.2
Birmingham A	0.60	0.52	27.6	26.1	53.2	45.0

Table A8: Key stage 2 attainment of NDC and non-NDC children in each NDC's key primary schools, 2002

	% reaching Key Stage 2 level 4 in English		% reaching Key Stage 2 level 4 in maths		% reaching Key Stage 2 level 4 in science	
	All NDC pupils in key schools	All non-NDC pupils in key schools	All NDC pupils in key schools	All non-NDC pupils in key schools	All NDC pupils in key schools	All non-NDC pupils in key schools
Liverpool	53.1	69.0	57.6	74.6	74.7	86.4
Nottingham	54.7	67.9	42.7	64.9	70.7	85.8
Norwich	52.0	65.5	47.2	61.9	78.7	75.8
Hackney	53.8	61.0	54.4	62.3	65.6	69.3
Tower Hamlets	75.6	71.8	69.2	69.4	87.2	83.5
Newham	58.5	70.8	67.8	69.2	76.3	82.8
Southwark	63.5	65.7	66.7	59.3	88.5	82.4
Middlesbrough	70.2	65.6	71.8	57.8	85.5	71.4
Newcastle upon Tyne	45.5	53.3	54.5	65.3	66.3	82.7
Leicester	50.2	72.7	60.7	76.4	77.7	81.8
Brighton	51.7	71.9	52.4	66.5	65.5	84.5
Birmingham KN	68.1	73.3	58.0	73.3	80.7	84.7
Bradford	59.7	51.7	54.2	53.4	72.2	66.9
Kingston upon Hull	49.4	66.3	66.7	80.6	82.8	88.8
Sandwell	54.3	71.9	58.6	73.7	78.4	91.2
Bristol	57.1	71.7	64.3	64.7	78.6	78.7
Manchester	72.6	76.0	75.0	74.4	84.7	88.0
Walsall	61.5	70.0	64.4	69.3	78.5	85.3
Wolverhampton	64.8	68.8	59.3	70.4	77.2	83.2
Sunderland	51.0	82.9	44.9	68.3	65.3	90.2
Southampton	54.2	64.0	50.8	68.0	79.7	88.0
Sheffield	36.6	48.3	37.6	41.4	56.4	62.1
Salford	63.4	60.2	63.4	67.5	83.9	84.3
Plymouth	39.0	90.3	49.2	90.3	50.8	98.4
Oldham	50.8	68.7	54.0	61.4	75.4	84.3
Luton	52.5	77.0	57.6	73.8	69.7	93.4
Lewisham	59.5	61.4	63.3	57.6	75.9	72.8
Knowsley	55.6	68.8	60.2	70.6	80.5	90.5
Brent	77.8	73.4	79.2	69.6	90.3	82.5
Islington	68.9	69.4	73.0	75.3	75.7	75.3
Rochdale	63.5	76.5	62.4	71.5	80.0	82.4
Hartlepool	62.8	71.0	64.6	72.4	85.8	86.5
Haringey	56.1	63.1	54.5	56.8	73.2	77.7
Fulham	83.1	78.8	84.7	84.3	89.8	91.2
Doncaster	48.4	67.4	53.8	69.1	70.3	79.0
Derby	57.9	69.1	68.6	70.1	86.0	92.8
Coventry	42.0	71.3	40.3	72.0	68.1	85.3
Lambeth	62.5	65.3	55.0	69.1	82.5	88.2
Birmingham A	47.3	60.8	57.0	61.9	74.0	85.6

Table A9: Characteristics of NDC and non-NDC children in each NDC's key secondary schools, 2002

	Income Deprivation Affecting Children Index (IDACI) score		% Special Educational Needs (SEN)		% Free School Meals (FSM)	
	All NDC pupils in key schools	All non-NDC pupils in key schools	All NDC pupils in key schools	All non-NDC pupils in key schools	All NDC pupils in key schools	All non-NDC pupils in key schools
Liverpool	0.61	0.49	38.2	32.1	59.4	44.1
Nottingham	0.60	0.37	24.4	20.9	65.5	29.8
Norwich	0.54	0.26	43.6	20.9	27.6	16.3
Hackney	0.62	0.57	28.1	27.5	44.9	46.2
Tower Hamlets	0.74	0.66	28.4	24.7	64.1	63.5
Newham	0.59	0.53	26.6	22.9	45.2	42.7
Southwark	0.45	0.47	27.4	29.2	54.0	45.0
Middlesbrough	0.44	0.28	31.5	13.8	37.3	19.5
Newcastle upon Tyne	0.62	0.32	31.1	18.1	61.1	24.1
Leicester	0.57	0.36	38.4	36.6	39.2	19.9
Brighton	0.57	0.22	41.5	23.0	38.6	13.8
Birmingham KN	0.54	0.30	29.2	18.9	50.4	23.0
Bradford	0.48	0.40	18.8	22.1	53.5	36.9
Kingston upon Hull	0.60	0.37	40.1	24.8	49.7	24.8
Sandwell	0.44	0.32	47.2	23.3	33.7	18.8
Bristol	0.51	0.31	33.3	24.7	31.4	20.0
Manchester	0.76	0.46	24.2	19.5	61.8	39.9
Walsall	0.46	0.32	32.9	25.9	33.4	20.6
Wolverhampton	0.42	0.33	15.7	15.6	29.8	26.0
Sunderland	0.56	0.25	41.2	18.2	36.3	14.4
Southampton	0.41	0.25	50.2	40.1	22.4	17.4
Sheffield	0.57	0.29	25.4	25.1	56.2	25.0
Salford	0.56	0.49	25.8	28.7	42.4	38.0
Plymouth	0.58	0.29	43.2	18.3	45.1	18.7
Oldham	0.46	0.33	19.2	15.3	36.9	26.5
Luton	0.55	0.23	36.8	26.2	36.1	15.8
Lewisham	0.49	0.43	22.5	24.5	42.7	38.0
Knowsley	0.72	0.41	31.3	21.2	68.8	37.2
Brent	0.59	0.47	27.7	25.4	42.2	33.0
Islington	0.63	0.53	26.2	26.4	39.0	39.1
Rochdale	0.32	0.26	14.9	11.4	31.3	19.3
Hartlepool	0.54	0.27	30.4	23.3	39.5	22.4
Haringey	0.66	0.55	32.7	28.7	47.3	41.0
Fulham	0.57	0.40	22.9	27.1	51.8	35.6
Doncaster	0.41	0.26	35.4	20.5	40.1	19.1
Derby	0.44	0.20	10.3	14.6	36.6	16.0
Coventry	0.68	0.30	33.5	18.6	50.7	20.3
Lambeth	0.56	0.42	27.7	26.0	45.3	36.3
Birmingham A	0.59	0.49	23.7	29.1	62.1	52.5

Table A10: Key stage 4 attainment of NDC and non-NDC children in each NDC's key secondary schools, 2002

	% gaining 5 A*-C grades at GCSE		% gaining 5 A*-G grades at GCSE	
	All NDC pupils in key schools	All non-NDC pupils in key schools	All NDC pupils in key schools	All non-NDC pupils in key schools
Liverpool	21.1	38.3	78.9	84.9
Nottingham	27.1	39.9	68.8	80.8
Norwich	17.4	41.9	77.9	84.0
Hackney	34.3	32.7	89.3	83.1
Tower Hamlets	45.1	47.4	87.8	89.9
Newham	43.3	41.4	92.5	93.5
Southwark	32.6	35.5	88.4	86.2
Middlesbrough	26.4	60.9	86.8	95.8
Newcastle upon Tyne	7.7	47.1	61.5	86.2
Leicester	10.3	21.2	67.7	71.2
Brighton	20.3	52.9	84.4	92.3
Birmingham KN	20.2	49.0	73.7	91.9
Bradford	31.6	25.5	82.9	78.2
Kingston upon Hull	9.2	27.2	67.3	83.3
Sandwell	27.2	28.8	83.0	82.9
Bristol	20.7	31.5	69.0	83.1
Manchester	23.5	32.3	64.7	75.5
Walsall	20.3	34.5	72.5	82.2
Wolverhampton	34.3	34.2	87.0	85.2
Sunderland	17.5	40.8	76.7	92.4
Southampton	29.9	38.0	82.5	91.2
Sheffield	30.3	44.6	81.8	87.5
Salford	23.9	30.6	87.3	87.5
Plymouth	20.4	38.3	87.0	89.1
Oldham	27.0	36.2	81.0	88.1
Luton	16.5	30.8	76.7	87.9
Lewisham	41.9	38.3	85.5	87.8
Knowsley	15.3	32.5	70.8	80.3
Brent	24.5	38.9	83.0	83.7
Islington	23.1	39.5	83.3	82.0
Rochdale	35.7	38.4	83.3	87.0
Hartlepool	37.8	46.2	83.8	91.9
Haringey	25.7	35.0	80.2	82.6
Fulham	44.4	43.7	93.3	88.6
Doncaster	25.0	40.2	69.7	87.6
Derby	14.4	43.9	78.8	90.7
Coventry	6.0	35.0	61.9	82.0
Lambeth	34.1	43.8	79.5	87.3
Birmingham A	33.2	22.0	84.5	84.3

Table A11: Percentage of NDC 2002 year 2 cohorts staying in the same NDC throughout their primary school years

	Primary school cohort				
	2002 cohort	% in NDC 2003	% in NDC 2004	% in NDC 2005	% in NDC 2006
Sandwell	156	90.4	86.5	80.8	76.9
Knowsley	181	93.4	85.6	79.0	75.1
Walsall	156	89.7	83.3	76.9	75.0
Leicester	265	94.0	86.4	80.0	74.7
Brighton	303	92.7	83.8	80.2	74.3
Kingston upon Hull	97	92.8	84.5	77.3	74.2
Manchester	156	89.7	83.3	76.9	73.7
Birmingham KN	167	92.8	85.6	76.6	71.9
Birmingham A	355	85.4	77.7	73.0	69.9
Sunderland	121	88.4	82.6	75.2	68.6
Derby	138	89.9	81.9	77.5	68.1
Luton	116	89.7	80.2	72.4	68.1
Norwich	162	93.8	85.8	75.3	67.3
Tower Hamlets	141	81.6	73.8	69.5	66.7
Southwark	117	90.6	82.9	70.9	66.7
Oldham	123	87.0	76.4	68.3	66.7
Lambeth	81	91.4	82.7	72.8	66.7
Southampton	137	85.4	79.6	73.0	66.4
Lewisham	125	84.8	72.8	71.2	66.4
Fulham	88	90.9	76.1	69.3	65.9
Hackney	277	88.1	79.4	71.5	65.7
Wolverhampton	144	86.8	80.6	70.1	64.6
Middlesbrough	137	83.9	73.0	67.9	63.5
Sheffield	142	82.4	72.5	69.0	62.7
Islington	111	89.2	78.4	68.5	60.4
Salford	113	85.0	80.5	71.7	60.2
Newcastle upon Tyne	155	79.4	72.3	64.5	59.4
Liverpool	123	83.7	74.8	66.7	59.3
Bradford	214	87.4	73.4	66.8	58.9
Coventry	160	84.4	73.1	63.8	58.1
Rochdale	111	85.6	73.9	64.0	57.7
Doncaster	120	79.2	70.0	63.3	56.7
Haringey	165	81.8	73.9	63.0	56.4
Brent	104	85.6	77.9	64.4	55.8
Newham	161	82.6	66.5	60.9	54.7
Bristol	72	86.1	69.4	61.1	54.2
Nottingham	67	83.6	71.6	58.2	52.2
Plymouth	75	77.3	68.0	60.0	52.0
Hartlepool	149	76.5	61.7	53.0	48.3

Table A12: Percentage of NDC 2002 year 7 cohorts staying in the same NDC throughout their secondary school years

	Secondary school cohort				
	2002 cohort	% in NDC 2003	% in NDC 2004	% in NDC 2005	% in NDC 2006
Knowsley	204	93.1	83.3	80.4	77.5
Walsall	188	89.4	85.1	79.3	73.9
Oldham	134	91.8	82.8	79.9	73.9
Luton	149	89.3	83.9	77.9	73.8
Sandwell	182	90.1	83.5	80.2	73.6
Leicester	264	92.0	83.7	77.3	73.5
Southampton	132	93.2	84.1	79.5	73.5
Sheffield	128	85.2	79.7	75.8	73.4
Brighton	303	93.1	86.8	79.5	72.9
Rochdale	132	86.4	78.8	75.0	71.2
Kingston upon Hull	118	90.7	85.6	75.4	71.2
Norwich	159	90.6	84.9	77.4	70.4
Islington	110	88.2	82.7	77.3	70.0
Salford	105	89.5	80.0	74.3	69.5
Sunderland	144	91.7	85.4	81.3	69.4
Wolverhampton	176	87.5	81.3	74.4	69.3
Newham	149	88.6	84.6	78.5	68.5
Bristol	65	92.3	84.6	73.8	67.7
Tower Hamlets	102	87.3	78.4	71.6	67.6
Manchester	166	92.2	83.7	74.7	67.5
Birmingham A	313	90.1	77.3	74.1	67.4
Bradford	154	85.7	77.9	72.7	65.6
Birmingham KN	158	83.5	75.9	67.7	63.9
Hackney	246	81.7	72.4	68.3	63.4
Derby	131	93.9	84.0	76.3	62.6
Middlesbrough	118	80.5	71.2	63.6	61.9
Brent	70	88.6	81.4	71.4	61.4
Lewisham	93	88.2	80.6	72.0	61.3
Newcastle upon Tyne	141	80.1	72.3	65.2	61.0
Lambeth	74	85.1	77.0	71.6	60.8
Haringey	133	88.7	70.7	64.7	60.2
Southwark	100	91.0	80.0	71.0	60.0
Plymouth	77	79.2	67.5	59.7	58.4
Coventry	146	86.3	74.0	63.0	56.2
Liverpool	132	90.2	78.8	66.7	56.1
Fulham	92	88.0	77.2	68.5	55.4
Doncaster	114	80.7	67.5	61.4	54.4
Hartlepool	132	81.8	67.4	55.3	49.2
Nottingham	69	79.7	62.3	52.2	44.9

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