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Identifying SEND:

Final Report on Special Educational Needs & Disabilities and contact with CAMHS

Jo Hutchinson, Dr Johnny Downs & Professor Tamsin Ford

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About the authors

Jo Hutchinson is Director for SEND and Additional Needs at the Education Policy Institute. She has published a wide range of studies of educational outcomes for groups including deaf children, children who speak English as an additional language, and refugee and asylum-seeking children. She has also researched the prevalence of unexplained school exits and the effects of Ofsted inspections. She worked in the Department for Education from 2005 to 2016 as a statistician.

Dr Johnny Downs is a Senior Clinical Lecturer and NIHR Clinician Scientist at Department of Child & Adolescent Psychiatry, and Honorary Consultant Child and Adolescent Psychiatrist at South London and Maudsley NHS Foundation Trust. He leads the CAMHS Digital Lab within the King's Maudsley Partnership where his research focuses on the use of informatics and epidemiological

approaches to examine risks factors and outcomes for childhood neurodevelopmental and mental health disorders. He is the National Clinical lead for NHS England's Getting Right First Time Programme for Children and Young People's Mental Health Services.

Professor Tamsin Ford is Professor of Child and Adolescent Psychiatry at the University of Cambridge and an honorary consultant child and adolescent psychiatrist at Cambridgeshire and Peterborough NHD Foundation Trust. She is an internationally renowned Child Psychiatric Epidemiologist who researches the organisation, delivery, and effectiveness of services and interventions for children and young people's mental health.

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Executive summary

This is the final report of the project 'Identifying Special Educational Needs and Disabilities' (SEND), funded by the Nuffield Foundation. It summarises the research questions, methods and findings of the project, and presents recommendations for improving policy and practice.

Our research questions concerned which children are identified with SEND, the nature of the 'postcode lottery' reported on by Ofsted in 2010, and what inequalities exist in support for SEND. The project considers the importance of deprivation, and has a focus on social, emotional and mental health needs (SEMH).

The prevalence of identified SEND in a given place at a given time depends on both the level of need in the child population and the nature of the education provision that is ordinarily available in mainstream schools.

Current increases in the proportion of children identified with SEND, especially at the EHCP level, result from some combination of increased actual needs and increased identified needs. Identified needs may increase due to factors such as reduced resources and staffing available through regular school funding, and less inclusive mainstream education provision, focused narrowly on academic success in a reduced set of qualifications.

Key findings and recommendations (in bold type) in response to these findings are presented below, grouped under themes that emerged from the research.

The 'postcode lottery' for SEND

- The school attended was more important than anything about the individual child in explaining who was identified with SEND: two thirds of the total variation for primary and secondary SEN Support and EHCPs, and four fifths of the variation in which children joined a special school in Years 7-11, reflected differences between (not within) schools. This amounts to a lottery whereby SEND is identified or not according to which school a child attends.

Methods

We conducted multi-level regression modelling of data from the National Pupil Database and the linked CRIS-NPD dataset for the South London and Maudsley NHS Trust.

Our analysis of primary school SEND concerned children who reached Year 4 in 2014, prior to the implementation of the Children and Families Act (2014); our secondary school analysis concerned children post-reform, who reached Year 11 in 2019.

The methods used in this research are not causal, but care has been taken to compare like with like using a rich set of observable information about children, schools and local authorities (LAs).

We modelled both SEN Support and EHCP identification, in primary and secondary school. Further models described SEMH identification; the addition of SEMH needs to other SEND; and moving from mainstream to special school; in secondary school. Additionally, we modelled child and adolescent mental health service (CAMHS) use of children identified with SEND in the four LAs served by the South London and Maudsley NHS Foundation Trust.

- Local authorities played a smaller-than-expected role in the chances of SEND identification; differences between LAs accounted for just four per cent of variation in primary EHCPs, two per cent in secondary EHCPs, and 12 per cent for joining a special school in Years 7-11.
- **Recommendation 1: in response to large between-schools differences in SEND identification, we recommend that training in child development and different types of SEND should be mandatory in initial teacher training and early career development, and prioritised in development for experienced teachers. Such training is not currently part of the core content framework requirements.**
- **Recommendation 2: in response to large between-schools differences in SEND identification, we recommend that further research into differences in school identification and recording practices is undertaken, to understand the role played by recording practices in the differences between schools, and the implications of this for the provision children receive.**
- After adjusting for a rich set of information about children, schools and LAs, pupils attending academies had lower odds of:
    - EHCP identification in primary school (but not secondary school)
    - SEN Support identification in primary or secondary school
    - SEMH identification in secondary school (we did not test this for primary school)
    - joining a special school in Years 7-11, and
    - being identified with SEND if using CAMHS.
- There are competing explanations for the lower rate of SEND identification in academies. It could mean that academies are under-identifying SEND and not recognising children's needs; that children with SEND are less likely to enrol at academies; that academies meet more of children's needs without identifying these as SEND; that LA capacity for SEND assessment became insufficient where academisation affected more schools, reducing or delaying the issue of new EHCPs; or some combination of these reasons.
- **Recommendation 3: in response to the lower odds of SEND identification for children attending academies, we recommend that further research is undertaken into the causes of these differences and whether there are positive or negative consequences of different approaches to identifying children's needs.**
- One factor contributed notably to the variation at LA level: primary school children living in the most-academised LAs were less likely to have an EHCP. In the top quarter of LAs with the highest proportions of primary academies, both children attending an LA school and children attending an academy had odds of an EHCP that were one tenth of those for children living in the least-academised LAs. This may result from lower resources in LAs responsible for fewer schools.
- **Recommendation 4: in response to the markedly reduced chances of receiving an EHCP for primary school children living in the most-academised LAs, we recommend that the government makes targeted investment ensuring local allocations of the high needs budget are sufficient to meet needs and to staff the education, health and care needs assessment (EHCNA) function.**

Who is and isn't identified with SEND and the role of deprivation

- Children meeting fewer development goals at age five, summer-born children, boys, and children looked-after for more than a year all experienced greater odds of being identified with SEND.
- **Recommendation 5: in response to the differences in identification for summer-born children and boys, we recommend that awareness is promoted among school staff of the importance of considering the progress children are making over time as well as their current ability and behaviour, and of how SEND can manifest differently in girls.**
- Patterns of SEND identification by ethnicity were complex, and there are competing possible explanations for these. However, children with Asian ethnicities were consistently less likely to be identified with SEND than White British children. There was a mixed picture for children with Black ethnicities or of Gypsy/Roma or Irish Traveller Heritage.
- Experiences which may make needs less 'visible' in school reduced the chances of being identified with SEND: children who moved schools, or were frequently absent had reduced odds of identification in primary school. Those who faced language barriers because English was not their first language had reduced odds of identification at all ages. Those with no KS2 assessment results had lower chances of identification in secondary school.
- **Recommendation 6: in response to lower chances of SEND identification for children with greater levels of absence from school, we recommend that the response to emerging school attendance problems should include consideration of whether the child may have unidentified SEND.**
- **Recommendation 7: in response to lower chances of SEND identification for children who are mobile between schools, effective information sharing systems between schools and LAs should be established and schools should share the evidence they have gathered in SEND assessments when a child moves.**
- **Recommendation 8: in response to lower chances of SEND identification for children who speak English as an additional language, the response to low attainment for children in this group should consider both language and SEND as possible contributory factors.**
- Persistently disadvantaged children had odds of SEND identification that were three times those of more affluent children in primary school, and 1-2 times those of other children in Years 7-11. They were also 1-2 times more likely to be identified as having SEMH needs in Years 7-11, in addition to another type of SEND already identified in the primary phase.
- Children living in the most deprived eighth of neighbourhoods had 300 times the odds of children in the least deprived eighth of neighbourhoods of being identified for SEN Support and 76 times the odds of receiving an EHCP.
- **Recommendation 9: in response to the findings that SEND identification is strongly associated with childhood deprivation at the individual, school and neighbourhood levels, we recommend that the government pursues its priority of developing an effective cross-government poverty strategy; this must reduce the level of need in the population by reducing the proportion of children living in poverty.**

- We found evidence suggestive of rationed support in primary schools in deprived areas: although children in deprived schools, neighbourhoods and LAs all had substantially higher odds of being identified with SEND, this was especially true for the *least-disadvantaged* children in those deprived schools and areas.
- We also found evidence that children who are persistently eligible for FSM (for two or three years in the first three years of school) were less likely than those whose FSM eligibility was transient (eligible for one of the first three years) to have used CAMHS by Year 11.
- **Recommendation 10: in response to under-identification of children whose needs are less visible and apparent rationing of provision within deprived contexts, we recommend that the government establishes effective oversight of local Joint Strategic Needs Assessments and joint planning by LAs and Integrated Care Boards to ensure these processes are conducted in line with the SEND Code of Practice.**

Other SEND identified in primary school as a marker of SEMH risk in secondary school

- Children already identified with another SEND in primary school were more likely than average to be identified as having SEMH needs in secondary school (nine per cent of those identified with a need other than SEMH by Year 6, compared with four per cent of the full national cohort).
- Identification of SEMH during the secondary phase in addition to other SEND identified in primary was most common among children previously identified with moderate or specific learning difficulties (nine per cent), speech, language and communication needs (seven per cent), or autistic spectrum disorder (five per cent).

Personal, Social and Emotional Development (PSED) at age five as a marker of risk

- Communication, language and literacy (CLL) at age five was the developmental domain most likely to result in identification for SEN Support, with children scoring in the bottom decile having 100 times the odds of those in the highest-scoring decile of being identified.
- However, the developmental domain most likely to lead to a child being identified as needing an EHCP by their LA during primary school was personal, social and emotional development (PSED). Children with the lowest PSED scores (bottom decile) had 100 times the odds of children with the highest PSED scores (top decile) of receiving an EHCP.
- Suspensions and high levels of absence in Key Stage 2 were stronger indicators of risk for being identified with SEMH needs in secondary school than academic attainment.
- **Recommendation 11: in response to the lack of any universal national assessment of PSED after age five, and in a context of rising numbers of EHCPs associated with PSED, we recommend that the National Curriculum Review considers whether to introduce national PSED assessments in early KS2 and early secondary school to assist timely and consistent identification.**

Looked-after children status as a marker of SEND and SEMH risk

- Looked-after children faced a strong risk of being identified with SEND, but they were unlikely to have their SEND needs identified in primary school until they had been looked-after for more than a year. Additionally, children with a Child Protection Plan, which often

precedes being looked after, had lower chances of being identified as having SEND in primary school.

- Considering SEMH specifically, looked-after children were more likely than children who were never looked-after to be identified as having SEMH during secondary school, with up to six times the odds of SEMH for those who had been in care the longest.
- The chances of identifying SEMH in Years 7-11 did not reduce the longer the child had been looked-after (both in general, and specifically for children who had another SEND identified in primary school) suggesting that social care and SEND provision were not protective against identified SEMH in secondary school.
- **Recommendation 12: in response to the findings suggestive of missed opportunities to identify SEND early for looked-after children, we recommend that children's educational needs should be prioritised from the beginning of the social care assessment process, and that the high probability of SEMH for this group should be recognised by making the need for SEN support a presumption to be ruled out.**

Suspensions during primary school as a marker of SEMH risk

- Being suspended from school during Key Stage 2 increased the chance of being identified as having SEMH during secondary school, and this risk increased with the total number of days suspended (children with one day of suspension had almost four times the odds of SEMH, while those suspended for eleven or more days had almost 14 times the odds).
- However, for children already identified with another SEND in primary school, the chances of being identified as having SEMH in Years 7-11 were fully realised from the first day's suspension, suggesting that even short primary suspensions are an early warning of potential SEMH in secondary school for children already identified with SEND.
- **Recommendation 13: In response to the finding that suspensions are a marker of risk for later SEMH identification, children with suspensions during Key Stage 2 should have their needs assessed to consider what support they will need at the transition to secondary school. For those not identified with SEND, consideration should be given to whether they have unidentified SEND, and for those already identified with another SEND consideration should be given to whether they have SEMH.**

Under-recognition of emotional disorders and girls' SEMH

- In the national cohort, girls were less likely than boys to be identified as having SEMH for the first time during secondary school, all else being equal (odds ratio for boys = 1.46). This finding is at odds with the equal prevalence of psychiatric disorders (including neurodevelopmental, behavioural, mood and anxiety disorders) between boys and girls in the population aged 11-16 (NHS Digital 2018).
- In South London, only 41 per cent of children who had used CAMHS by Year 11 had ever been identified as having SEND. This conflicts with the designation of SEMH as one of the four broad areas of SEND, with the inclusion of functional impairment in diagnostic criteria for common disorders in school-aged children, and with high thresholds for access to CAMHS (Children's Commissioner for England 2023).

- Children who were not enrolled at a school in Year 7, normally due to having first joined a school in England after migrating later than January of Year 7, contributed disproportionately to the group who used CAMHS but were never identified as having SEND. This suggests that geographic mobility and late arrivals are important obstacles to SEND identification.
- The chances of SEND identification increased with the duration of CAMHS involvement, but never exceeded 50/50 for girls. Boys using CAMHS for four years or more had a 63 per cent chance of being identified with SEND, while girls using CAMHS for four years or more only had a 44 per cent chance. Only one third of children diagnosed by CAMHS with mood or anxiety disorders in Years 7-11 had been identified with SEND by Year 11.
- **Recommendation 14: in response to the under-recognition of mood and anxiety disorders as SEMH potentially needing support in school, we recommend strengthening the use of 'pupil voice' in schools particularly concerning pupils' perceptions of safety, inclusion and engagement at school, and using this evidence to support SEND provision, safeguarding and pastoral support.**
- Other research suggests reasons behind the under-recognition of girls' needs as SEMH. Teachers' recognition of mood and anxiety disorders was weak compared with behaviour disorders and ADHD (Mathews et al. 2021). Access to targeted support from teachers and education specialists for mental health has been skewed towards children whose needs impact others at school, and away from those only impacting the child (Ford et al. 2008).
- **Recommendation 15: in response to the under-recognition of girls' needs, particularly mood and anxiety disorders, we recommend that CAMHS should seek consent and share information and advice with schools about support in school to minimise the risks of lost academic potential due to working memory problems, to enhance attendance and participation, and to respond to school-based risks to recovery such as exam stress.**

Introduction

Project aims

The core aim of this project was to assess how fairly and effectively Special Educational Needs and Disabilities (SEND) have been identified in England over recent years, and to begin to map out how joined-up the support from schools and from Child and Adolescent Mental Health Services (CAMHS) is for children with relevant needs. This report sets out the full range of results from the first phase of the project (identification in primary schools) and the second phase of the project (identification in secondary schools and overlap between SEND identification and involvement with CAMHS).

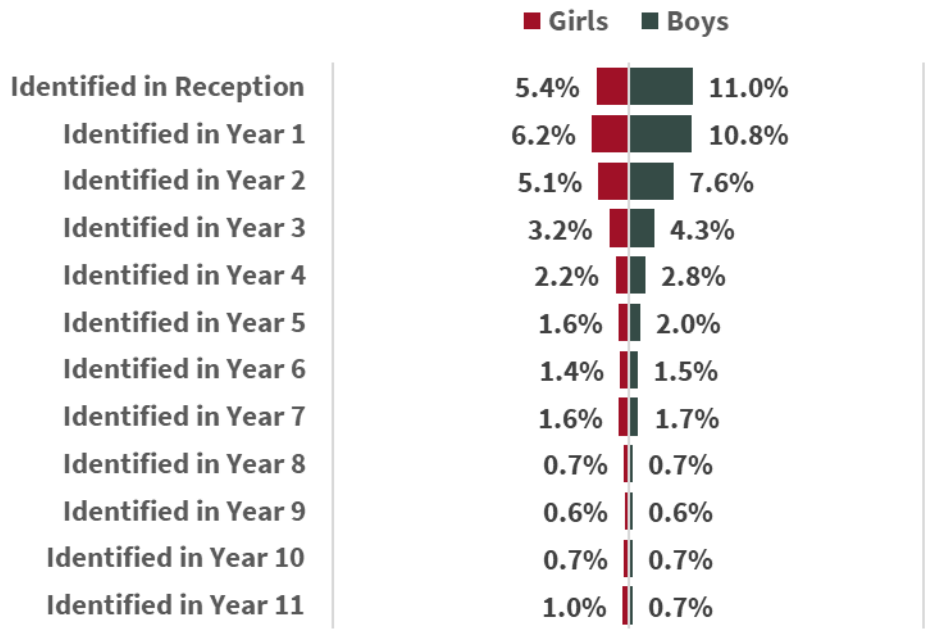
We have examined which groups of children are most likely to be identified as having SEND, as well as where and in what circumstances the numbers of children identified with SEND are fewer or more than might be expected given the known characteristics, experiences and attainment of the children concerned. A key dimension we have explored is whether socio-economically disadvantaged children have fair access to support for SEND compared with more advantaged children.

The motivation for the project stems from widespread concerns that the reforms introduced by the government in 2014, which are described in the following section, have failed to address important problems in the system identified at least as far back as 2010. In particular, it is commonly claimed that access to support for children with SEND is a 'postcode lottery', and we aim to provide the first systematic and quantified picture of variations in access to support through the SEND registers that indicate the targeted support being provided to individual children by schools or through Education, Health and Care Plans (EHCPs).

Preliminary analysis of the prevalence of SEND revealed that the proportion of children ever identified as having SEND by schools during compulsory schooling was much higher than expected from the official statistics (see Figure 1 below). Because the official figures take a snapshot of the number of children with SEND at each age, they do not capture the dynamic nature of the system by which schools continue to periodically assess and review SEND status, resulting in some children ceasing to have SEND while others are newly identified.

We have analysed longitudinal records and discovered that 37 per cent of children who started school in 2008 and reached Year 11 in 2019 (or were part of that cohort in any Year from Reception to Year 11) were recorded as having SEND at some point between ages five and sixteen. This makes SEND directly relevant to almost four in ten children, or eleven per class of thirty, on average. For boys the proportion ever identified with SEND in primary or secondary schools was even higher, at 44 per cent, and for girls it was 30 per cent. This supports the broad relevance of our research, since while a minority of children are identified with SEND it is a large minority.

Figure 1. Prevalence of SEND (including EHCPs): percentage of children newly identified by school Year



The project is purely quantitative in nature and cannot answer all of the important questions that exist about practices and ethos for the inclusion of most children with SEND in mainstream schools. However, it does aim to help frame those questions more precisely in future research. It also aims to highlight any inequalities in access to support for SEND that appear to stem from the operation of school and local authority systems, rather than from plausible risk factors.

Policy background

The background of this research has been one of policy reform, followed by continued concerns and a further phase of reform. At the time of writing, six months into the new Labour government, the fate of the previous government's SEND policy and its implications for how many children are identified with SEND are not yet clear.

Just a few months into the Coalition government formed in 2010, Ofsted published its review of the SEND system entitled 'A Statement is Not Enough' (Ofsted 2010). The report was critical of support for children and families, identifying particular weaknesses concerning the agency and involvement of parents and children in the decision processes surrounding SEND provision, and also criticising the inconsistency of practice from place to place that has been dubbed a 'postcode lottery' (BBC News 2015).

In 2011, the Coalition government launched a consultation on its Green Paper entitled 'Support and Aspiration' (Department for Education 2011) to address the problems highlighted by Ofsted, and in 2012 it published recommendations under the title 'Progress and Next Steps' (Department for Education 2012). This confirmed a focus on early identification, a better experience for parents with less 'fighting for' support, and better coordination between health, social care and education services.

In 2014, the reforms were put into practice through the Children and Families Act and the new SEND Code of Practice (Department for Education and Department of Health 2015), which created a requirement for a SEND 'Local Offer' to be published by each local authority to inform parents about what support they could expect. It also extended support to children and young people aged 0-25; support was previously provided from age 0 to the point of leaving school or transferring to an FE college at age 16-18. Reform pilots took place in 31 'pathfinder' LAs and the reforms were rolled out nationally with transformation funding provided to LAs from September 2015 to April 2018, by which time it was expected that all Statements of SEN from the previous system would have been replaced by new Education, Health and Care Plans (EHCPs).

In practice, non-trivial numbers of replacement EHCPs were rushed through around the time of the deadline, having yet to be completed by the January 2018 school census with just over two months to go (Department for Education 2019b). A further visible sign of the reforms taking effect was a fall in the proportion of children identified as requiring SEN support in school, from a peak of 18.3 per cent in 2010, the point at which the expectation of reduced numbers was set by Ofsted's report, to 15.1 per cent in 2014 when the new Code of Practice was introduced, to 11.6 per cent by 2017. By 2019 (the latest year analysed in this report), this had risen again slightly to 11.9 per cent, and by the most recent year, 2024, it had increased further to 13.6 per cent (Department for Education 2024a).

In contrast, the prevalence of Statements / EHCPs remained steady at 2.8 per cent from 2010 to 2017 but has since increased to 3.1 per cent by 2019 and 4.8 per cent in 2024. This increase is often anecdotally attributed to continued dissatisfaction with early support for SEND in mainstream schools (Booth 2024), but explanations of increased diagnosed rates of Autistic Spectrum Disorder and Social, Emotional and Mental Health needs (Department for Education 2019b) and increases in life expectancy for children with the most severe and complex disabilities and health needs have also been offered (Thomas and Barnes 2010).

Increases in raw numbers of children and young people with EHCPs have also been prompted by the extension of support up to age 25. At the same time, the number of families lodging appeals with SEND tribunals has increased and the proportion of appeals that are upheld had reached 89 per cent by 2017, rising to 92 per cent by 2019 and 98 per cent by 2023, suggesting continued and increasing problems with local authority decision-making (Ministry of Justice 2023).

In September 2019, a cluster of new announcements emerged from the Department for Education, signalling that, with the arrival of Gavin Williamson as the new Secretary of State for Education, a response to increasingly urgent concerns around the funding and capacity of the SEND system was taking shape. The latest manifestations of the problems in the system were two court cases; in August 2018, the Upper Tribunal upheld an appeal against the exclusion from school of a boy whose disabilities led to aggressive behaviour, on grounds of discrimination (Adams 2018); and in June of 2019 a High Court challenge was mounted by families claiming that the government's funding of SEND was inadequate and unlawful (BBC News 2019).

While the funding challenge was ultimately not upheld, it garnered significant press attention and resulted in many stories of children missing out on the support they need reaching the public. The

government moved to announce an additional £700m for special needs and a review of high needs funding in advance of the Court's ruling (Department for Education 2019a).

Within the package of announcements, a new review of support for SEND was accompanied by a commitment to make additional new alternative provision the focus of the next free schools application round. The review would aim to "improve the services available to families who need support, equip staff in schools and colleges to respond effectively to their needs as well as ending the 'postcode lottery' they often face".

The 'postcode lottery' concern echoed Ofsted's 2010 findings, yet the 2014 reforms did not contain any elements that obviously responded to this problem, so it is difficult to see the later review as a follow-up or checkpoint on work already undertaken. The pairing of the review with planned increases in capacity for alternative provision, which were announced before the review got underway, also does not fit easily with a narrative of review-led policy.

The review resulted in the SEND and Alternative Provision Improvement Plan (Department for Education 2023). Much of the detail of how mainstream schools would be made more inclusive through a National SEND Framework were left to be developed through a Change Programme, the future of which has not yet been announced since the Labour government took office. Financial pressures in local government have been met with Safety Valve Agreements between individual LAs and the Department for Education, in which emergency funding is offered in return for negotiated future savings. But it is unclear how it is possible to make savings within a framework in which local authorities have a legal duty to meet rising needs, and the government announced that it would not enter any new Safety Valve agreements, although it would continue work on those already agreed, in December 2024 (Lepper 2024).

Finally, there are some important links between SEN support practice in schools and wider policies, centred on funding and accountability pressures in mainstream schools, which have been implicated in increasing difficulties in providing adequate support for SEND. Funding pressures include staffing cost pressure on school budgets and reductions in the availability of local early help to support families in difficulty. Accountability pressures include changes to curriculum, qualifications and performance measures that make it less feasible for some children to be educated in mainstream schools (Bryant, Parish, and Swords 2018). These pressures are visible in rising numbers of permanent exclusions, which have rebounded following reductions during the Covid-19 pandemic, and surpassed 2019 levels in 2023 (Department for Education 2024b). This means increasing pressure on specialist school places and increases in home schooling, as well as over 100,000 children missing education where need for specialist provision cannot be met (Children's Commissioner for England 2024).

Research questions

The project aims were distilled into ten research questions for the first phase of the analysis, drawing on some of the recurring and unresolved themes of the recent policy history described above. These questions were as follows:

- 1. What are the factors that best predict a child being identified with SEND?
- 2. How do these factors differ between different need types and levels of SEND?
- 3. Do these factors differ by socio-economic background?
- 4. Can we identify clusters of children identified more or less often than predicted?
- 5. Is 'under-identification' or 'over-identification' of SEN relative to predicted levels associated with socio-economic disadvantage, generally or for specific types of need?
- 6. Have patterns of under- or over-identification changed over time?
- 7. What is the comorbidity (overlap) of identified SEND with mental health disorders?
- 8. How many children are identified with SEND (in particular SEMH) but have not used CAMHS services? And how many children have used CAMHS but are not identified as having SEMH, or not identified with SEND of any kind?
- 9. How does the overlap of SEND identification and CAMHS service use vary by diagnosis?
- 10. Is the overlap associated with socio-economic status, or the type of school attended?

In the limitations section, we discuss difficulties encountered in using the planned methodology (detailed below) to address different need types as envisaged in research question 2 and the trend referenced in research question 6.

The premise of the research questions is that there is a stable set of factors that are associated with SEND and capable of defining an expected rate of identification for a given population of children, given that the factors are known for that population. This set of risk factors is of interest in itself and examined as part of the analysis for research question 1. Knowing about these risk factors can help to frame future policy development and research questions. It can also help practitioners in schools and local authorities to assess how local patterns of actual identification compare with nationally derived expectations.

In phase 1 of the project, we built models for SEND identification in primary school, during Years 1-4. These models were divided into those for children identified for 'School Action' and 'School Action Plus' prior to the 2014 reforms and for 'SEN support' since; and those identified for 'Statements of SEND' before the reforms and for 'Education, Health and Care Plans' (EHCPs) since.

In phase 2, we have added to this with models of SEND identification during secondary school, in Years 7-11, at the two levels of support, and models of identification with Social, Emotional and Mental Health Needs (SEMH, a specific type of SEND that often emerges or increases during adolescence). A further two models examine which children were most likely to have experienced changes in identification at or after the transition to secondary school, in two specific ways: firstly, by having been newly identified with SEMH needs during secondary school whilst having had other types of SEND need (but not SEMH) before this; secondly, by moving from mainstream school to special school during Years 7-11, indicating that mainstream secondary provision did not meet their needs. Finally, a model of which children identified with SEND at any time during

primary and secondary school also had contact with CAMHS by the age of eighteen completes the set.

SEN Support is assessed and supported mainly by schools, and the first £6,000 of costs must be met from the regular schools' block funding, with local authorities able to top this up at their discretion. In practice, additional funding beyond this threshold is often reserved for children with EHCPs, which are assessed by the local authority and funded from its high needs budget.

This can include funds for additional support in mainstream school, such as dedicated support from a teaching assistant or purchased therapies provided outside of the classroom. In the cases deemed by local authorities to require the most specialised care and education, children may be offered a place in a special school or other specialist setting that is assessed as a better fit for their needs.

In some cases, the choice between mainstream and specialist provision is determined by practical considerations such as needs for significant personal and health care or for education provided by teachers with specialist need-specific training and experience, or by limited capacity in special schools and other specialist settings in many local areas. In other cases, it has been argued that the large variation in practices between local areas demonstrates that the decision is influenced by the variable 'inclusion climate' in mainstream schools, such as differences in tolerance for atypical or challenging behaviour, or in the flexibility of the curriculum to meet different needs.

This project does not address the question of which children generally attend special schools, but it does address which children move into special school during the secondary phase (ages twelve to sixteen), since this is of importance for planning provision and resources. This complements the main focus on the level of SEND, which defines whether the provision is statutory and forms a legal entitlement (in the case of EHCPs) or falls below this threshold (SEN Support).

Research questions 3 to 6 explore the variation of expected and actual SEND rates across different groupings of children. Questions 3 and 5 focus on children who are socio-economically disadvantaged. Question 4 examines variation by local area and for different types of provision, most notably the academy status of schools attended. Other features of the school provision that are examined include the most recent Ofsted judgment and the characteristics of the school's intake. Questions 7-10 explore the size of the overlap between CAMHS and SEND services, and variations between groups of children in the chances of accessing both services.

Data and research methods

In this final report, we extend our previous analysis of SEND identification for a cohort of primary school aged children in several ways. Our new analysis focuses on a cohort of children who joined Reception in 2008 (or joined the school system in England with that age cohort at a later point) and follows them through to Year 11 in 2019.

The analysis of new (first-time) SEND identifications in secondary school repeats the analysis from our previous report, modelling the factors associated with identification for SEN Support, previously 'School Action Plus'), and separately those associated with 'Education, Health and Care Plans (EHCPs), previously known as 'Statements of SEND'.

We then examine further outcomes, with two foci: firstly, identification of social, emotional and mental health (SEMH) needs during secondary school, which is the period when this need type becomes more prominent, linked to the onset of many common mental health disorders; and secondly, changes in identified needs at the transition from primary school to secondary school (newly-identified SEMH needs for children who previously had SEND of other need types; and moving from a mainstream school to a special school).

Finally, we examine a subset of the 2019 Year 11 cohort that lived in the catchment area for the South London and Maudsley NHS Foundation Trust Child and Adolescent Mental Health Services (CAMHS) or accessed those services while living elsewhere. For this subset of children, we make use of matched education and clinical CAMHS data to explore which children experienced contact with CAMHS, and how this group overlaps with children recorded as having SEND in their education records. The catchment area for this subset analysis consists of four local authorities in South London: Lambeth, Lewisham, Croydon and Southwark.

Datasets and variables

Data for this research project were sourced from the National Pupil Database. In addition to the pupil-level school and provider censuses, we merged in data from the Key Stage 1 and Key Stage 2 national assessment results from 2010 and 2014, and the school absence and school exclusions modules of the school census. Finally, we merged in children's social care records from the Children In Need census and the Children Looked After census; data were available for episodes of need from 2008/09, when the children in our cohort were three years old, and for episodes of care from 2005/06 which was the year they were born in.

Additional data for our analyses of the intersections between SEND and CAMHS were sourced from the Clinical Record Interactive Search (CRIS) dataset, matched with the National Pupil Database.

Factors in the models

A table detailing the variables we included in our final models and how these were derived appears in Appendix B. A list of variables that were tested but dropped from the final models because they did not have coherent and significant patterns of odds effects or were not possible to fit as part of our models can be found in our earlier report (Hutchinson 2021). In some cases, the

specification varies between models due to data availability or model fitting constraints, and this is noted in the table.

Analytic strategy

We fitted mixed effects models with three levels in child, school, and local authority hierarchies with random effects for school and local authority identity. In the final versions of the models all other factors were fitted as fixed effects.

The units of analysis for the dependent variables describing identification with SEND were defined as an event rather than a status: the first incidence where a child was recorded with SEND at that level during their school life. In the case of the SEND-CAMHS models, sample size constraints meant that the units of analysis needed to be defined more broadly as a status. The models focus on:

- For the primary models, identifications in Year 1 or later, so that a rich range of covariate factors measured prior to identification, including Early Years Foundation Stage Profile scale scores, were included.
- For the secondary SEN Support and EHCP models, first identifications in Years 7-11, controlling for covariate factors during primary school, including Key Stage 1 and Key Stage 2 assessments, and school factors pertaining to Year 7 so that the context of the secondary school attended was included.
- For the secondary Social, Emotional and Mental Health (SEMH) models, first identifications in Years 7-11, which encompasses the period of adolescence when this type of SEND need increases substantially in prevalence.
- For the additional identification models, changes to identification and provision during Years 7-11 for children with pre-existing SEND needs identified during Years Reception-6, whereby a new need type of SEMH was added to other previously recorded need types, or whereby a child moved from mainstream school to special school.
- For the SEND-CAMHS models, of children who were identified with SEND in Years Reception-11, those who also had any contact with CAMHS in any Year up to Year 11, controlling for covariate factors in Years Reception-Year 2.

Additional models predicting which children were identified with SEND of those children who had contact with CAMHS were tested but not included in the final specifications because of convergence problems. This is explored further in the descriptive statistics.

Identifications were assigned a time based on the first term (primary models) or year (January census, secondary models) in which the school census recorded SEND status at that level or of that need type or provision, and these identification times were used to derive factor variables that took into account longitudinal records over the course of schooling.

For example, in the primary models, if an identification took place in the spring term of Year 2, the sickness absence variable was defined to give the average termly sickness absence rate across the six terms in Reception and Year 1 plus the autumn term of Year 2. If a child was never identified

with SEND, their sickness absence was measured across all terms from Reception up until the end of the modelled period, in Year 4.

In the secondary models, irrespective whether they were ever identified with SEND or of which of Years 7-11 the child was first identified with SEND in, the sickness absence variable was defined to give the sickness absence rate calculated across Years 1-6 (Reception is excluded as school is not compulsory until a child reaches the age of five).

Further technical details of the models appear in Appendix C.

Limitations

The original plan for this research encompassed some questions that it has not been possible to address due to challenges in modelling the outcomes of interest. The research questions called for multi-level modelling in order to reflect the hierarchy in which decisions about children's SEND are made, and the resulting clustering of SEND identification, which was more extreme than expected.

Children are nested within almost 25 thousand schools within 152 local authorities after infant, junior, primary, secondary, all-through, special and alternative provision schools and closures and openings are taken into account.

A rich matrix of data was created to supply independent variables for the analysis. This complex data structure combined with many small clusters which explained a high proportion of variance, and with many of the outcomes of interest having low prevalence in the population, to make achieving model convergence challenging.

The process of building models that would converge required many iterations adjusting the specification of the models and factors. While we were eventually able to converge models for different levels of SEND, it was not feasible to construct comparable separate models for different types of primary-identified SEND need as envisaged in research questions 2 and 5.

Indeed, the preliminary analysis suggested that SEND types were not well distinguished from one another in the data, and that the smaller numbers of children identified with individual need types could not support the level of analysis required. However, we were able to model the identification of SEMH needs during secondary school.

The resource-intensive nature of the analysis meant it was also not feasible to test the models over a time series of successive cohorts to assess change over time in the factors that predict identification with SEND (research question 6). A degree of time variation is achieved between the primary and secondary models as the most recent cohorts we were able to model were to 2015 (Y4) for the primary models and to 2019 (Y11) for the secondary models. The primary and secondary models reflect different cohorts of children, and different policy contexts as the primary models were prior to the implementation of the 2014 SEND reforms and the secondary models were post-2014 reforms. This must be considered when comparing the findings.

A scoping limitation due to data availability was that the process of SEND identification prior to compulsory schooling has not been analysed in this project. This means that children with the most severe or 'obvious' development needs and disabilities, detected by health professionals or

in nursery provision, are not included in the findings. Additionally, any SEND first identified in post-16 education is outside the scope of this research.

Processes for identifying and supporting those children are of equal importance, but the same richness of data is not available prior to compulsory school age. It is probably the case that although the timing of early identification may differ from place to place, it is less likely that children with the most severe needs would be affected by under-identification (having their needs missed altogether) or over-identification (being identified with SEND where there are no special needs or disabilities), which are the main focus of this research.

A final scoping limitation is that this project cannot assess whether SEND prevalence at the national level has been 'too high' or 'too low'. While these are important questions of interest to policy-makers, and there has been a belief on the part of government that lower-level SEND was over-identified prior to the 2014 reforms, there is no objective basis for us to determine a 'right' or 'true' level of prevalence. What we were able to do was to examine variations between groups of children, and from school to school, and place to place, to determine where identification is relatively high or low, taking relevant risk factors into account, and that has been our focus.

Missing data

Comparison of the full dataset and the complete case samples revealed that missing data disproportionately affected the most deprived neighbourhoods, local authorities with the highest academisation rates or higher BME rates, and the following ethnic groups: Chinese, Black Other, Black African, Asian Other, Indian and Irish. In addition, very high rates of missingness were observed for Gypsy/Roma, White Other, Irish Traveller, and Other ethnicities.

Children who were already identified with SEND by the start of the 'identification window' in Y1 for primary or Y7 for secondary, for SEN Support or an EHCP, were a larger group deliberately excluded from the analysis. This meant that boys, summer-born children, local authorities with the lowest free school meal rates, and children with English as an additional language were also under-represented in the analysis at this level.

Omitted variables

Many factors of interest exist for which we do not have good data, especially concerning schools and how they staff and administer their functions under the SEND Code of Practice. We do not know about the training, qualifications and experience of key staff such as SENCOs, and cannot distinguish between schools that allocate more or less staff and leadership time to these functions or have a different ethos or approach to labelling and identification.

We also cannot distinguish what specialist resources such as educational psychologist time or local top-up funding are available to different schools. The closest we were able to come to this is to examine whether differences in high needs funding levels or the availability of different provision types are associated with variation in identification levels.

In particular, some schools with very high levels of additional need choose to address more common and less severe needs through whole school policies and practices and do not identify

and record SEN Support in the same way as others because they believe they can successfully support those pupils without invoking the Code of Practice processes (Skipp and Hopwood 2017).

This is a different phenomenon - but not easy to distinguish on the basis of administrative data - from schools that don't recognise SEND as an important source of educational disadvantage, and don't prioritise individual support for children with SEND, either because they are less prevalent in the local area, because of preferences against mainstream integration of children with particular SEND needs, or because of budgetary and/or accountability pressures.

We were able to examine the role of pupil-teacher ratios, each school's propensity to identify SEND, and the presence or absence of SEND units, along with the role of local authority or academy governance, which may touch on some of these issues but are not direct proxies for everything it would be useful to know about different schools.

Aside from school factors, there is reason to suspect that pollution levels at the small area level are likely to play a role in explaining variations in SEND (Heissel, Persico, & Simon, 2019). We do not have data related to this factor but it is likely to be correlated with area deprivation, and research on cognitive and non-cognitive development from the US suggests it has effects on child development independent of deprivation.

The factors we are able to examine may, however, provide useful clues for where to direct future qualitative research aimed at unpicking school-level variation further. It is our hope that this project will encourage wider research interest in the subject of SEND encompassing other methodologies and research questions.

So far during the life of the project there have been encouraging signs of growth in research into SEND, such as the HOPE Study led by Professor Ruth Gilbert; the CALM Study led by Professors Susan Gathercole, Joni Holmes, Rogier Kievit and Dr Duncan Astle; the Impact of additional learning needs identification in Wales project, led by Dr Cathryn Knight; the Rethinking SEND project led by Dr Umar Toseeb; and the uneven distribution of pupils with SEND in mainstream schools project led by Matt Walker.

Model results

Full details of the models are presented in the Annex, including a summary table of small, medium and large effects across the outcomes (Appendix A), model output tables (Appendices D and E) and model fit statistics (Appendix G). Below we describe and discuss the main findings from the models, illustrating the effects of different factors in odds effects charts to make these as accessible as possible.

1. Variation at individual, school, and local authority levels

The statistical models allow us to assess what proportion of the variation in SEND identification was explained by differences between individual children in the same school, by differences between schools, and by differences between local authorities (LAs). If SEND identification were completely consistent between different schools and LAs, then all differences in the chances of being identified as having SEND should be explained by individual factors with no variation explained by the school and LA .

However, the school decides which children will be recorded as having SEN Support, and the LA assesses which children will be identified for EHCPs. We would therefore expect some proportion of the variation in identification to be explained at the school level, and some at the local authority level. These are components of the so-called 'postcode lottery' for SEND provision as they mean that the same child can be treated differently depending on where they live and which school they attend.

The intra-class correlation for the 'empty models' tells us to what extent differences in identification are explained at the school and LA levels. This is expressed as the percentage of total variation in SEND identification explained at each level, detailed in the table below.

Model	Individual child	School	LA
a. Primary SEN Support ID	29%	69%	2%
b. Primary EHCP ID	29%	67%	4%
c. Secondary SEN Support ID	39%	60%	1%
d. Secondary EHCP ID	29%	69%	2%
e. Secondary SEMH ID	29%	70%	1%
f. Secondary: SEMH added to other earlier-identified SEND	47%	52%	1%
g. Secondary: move from mainstream to special school	8%	80%	12%
h. CAMHS use of children identified with SEND	12%	85%	4%

Which school a pupil attends dominates their chances of being identified with SEND to a greater extent than any combination of factors specific to that child. Across all the outcomes we modelled,

the school explained most of the variation in SEND identification or CAMHS use, ranging from 52 per cent of the differences in identification of Social, Emotional and Mental Health (SEMH) in secondary school for children with other earlier-identified SEND to 85 per cent of the differences in use of CAMHS for children identified as having SEND.

For the main models of SEN Support and EHCP identification in primary and secondary school, between 60 per cent and 69 per cent of the differences in SEND identification were explained by the school attended in each case. This represents the key source of inconsistency in SEND identification and suggests that the system is dysfunctional, since, by definition, SEND is targeted at individual children whose needs are greater than those of other children. Children with SEND may legitimately be clustered into some schools in greater numbers than others, but this variation would still be explained by individual differences between the children attending one school or another, if the system was working as intended.

The LA responsible for the child (the LA in which they lived) played a surprisingly small role in explaining differences in the chances of SEND identification. Only between one per cent and four per cent of variation in identification was explained by the LA for the main outcomes of SEN Support and EHCP identification in primary and secondary school. This was similarly small for SEMH identification, and less surprisingly (since health trusts and not LAs make the decision about which referrals to CAMHS are accepted), for use of CAMHS by children identified as having SEND.

The largest role for LAs in explaining identification (12 per cent of variation explained) among the outcomes we modelled was for moving from a mainstream school in Year 6 to a special school during Years 7-11. This makes sense since the local authority writes the EHCP which may name a special school for the child to attend where they deem this necessary to meet the child's needs. The capacity of special school places also varies locally, affecting the feasibility of naming a special school in a given EHCP.

The dominance of the school attended in explaining SEND identification even in cases in which the LA is the decision maker (and might therefore be expected to explain more of the variation) must logically reflect the role of the school in assessing children's needs, exhausting early support options, and presenting evidence for EHC Needs Assessments to the satisfaction of the LA's assessment staff. It is also possible that LA perceptions of need might vary at the school level, although that would not be consistent with the SEND Code of Practice either prior to or after the 2014 reforms: "Local authorities must carry out their functions with a view to identifying all the children and young people in their area who have or may have SEN or have or may have a disability (Section 22 of the Children and Families Act 2014)" (Department for Education, 2015).

2. Prior attainment

Since SEND is defined as having additional needs beyond those of most children of the same age, it is unsurprising that there was a negative association between assessed attainment and the odds of being identified as having SEND (see Figure 2.1).

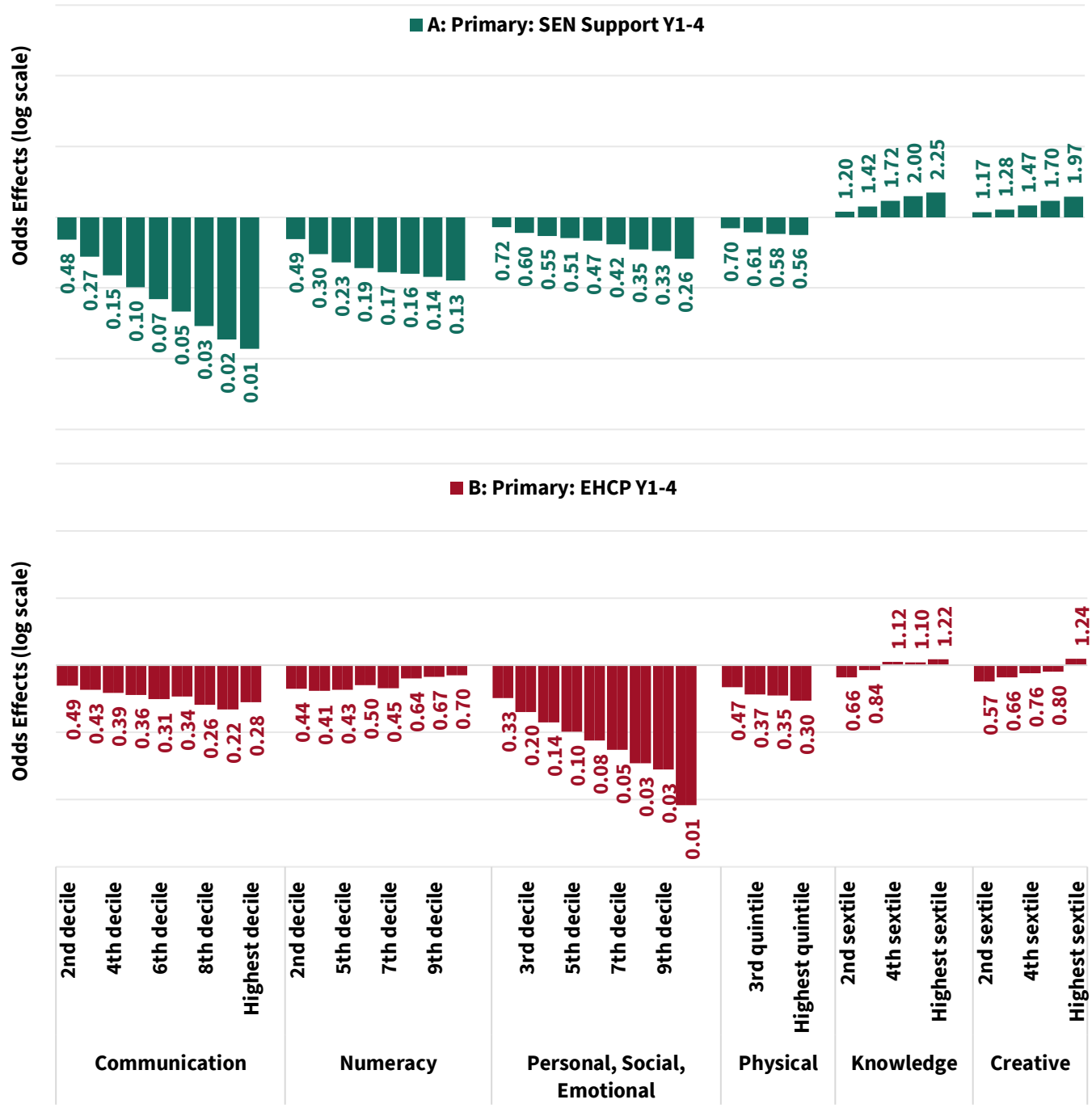
This relationship is at its strongest during primary school, where children who are assessed as being in the lowest decile of development in **communication, language and literacy** at age five had odds of being identified for **SEN Support** that were 100 times those of children in the highest decile of language development. For identification for EHCPs, this relationship was more moderate, with children in the lowest decile of language development having odds of being identified that were 72 per cent greater than children whose language development was in the highest decile.

Most critical to the chances of being identified for **EHCPs** was children's assessed **personal, social and emotional development (PSED)** at age five. Children in the lowest decile of PSED had odds of receiving an EHCP during primary school that were 100 times those of children in the highest decile of PSED. Mirroring the pattern for language development, the relationship with PSED was moderate for SEN Support identification . Children in the lowest decile of PSED had odds of being identified for SEN Support that were 74 per cent greater than children with PSED in the highest decile.

For SEN Support, numeracy was the second most important domain of development at age five, whereas for EHCPs, physical development was third most important after language and PSED. Children whose **numeracy** was assessed as being in the lowest decile at age five had odds of being identified for **SEN Support** that were 87 per cent greater than children with numeracy in the highest decile. There was a non-linear, partially positive relationship between numeracy at age five and the odds of receiving an EHCP in primary school.

Turning to physical development, children in the lowest quintile for **physical development** at age five had odds of receiving an **EHCP** that were 70 per cent greater than children in the highest quintile for physical development. This relationship was moderate for SEN Support, with children in the lowest quintile for physical development having odds of being identified for SEN Support that were 44 per cent greater than children with physical development in the highest quintile.

Figure 2.1: EYFSP odds effects on Primary SEND identification



Relationships between prior attainment and new identifications of SEND during secondary school were mostly smaller than those in primary school, reflecting the fact that children with low attainment had frequently already been identified with SEND before their transition to secondary school.

However, there was a relationship between **maths attainment** at age eleven and **new EHCPs identified during secondary school** that was comparable with the primary SEND odds effects. Children assessed on the P-Scales for maths at age eleven had odds of being newly identified for an EHCP that were 79 times those of children who achieved the expected level of maths attainment. Since the P-scales were assessments of attainment below the

level of the test intended to represent the development towards that level by children with SEND, this implies that children believed to have SEND in Year 6 are more likely to go on to receive an EHCP than those with higher or unknown maths attainment.

Children who were assessed at level 1 or 2 in writing (2 or 3 levels lower than expected at age eleven) had five times the odds of children at the expected level in writing of going on to be identified for an EHCP during secondary school, and children at level 3 had twice the odds of those at the expected level. Whilst maths was most important in predicting identification for EHCPs, **writing** was most important in explaining identification for **SEN Support during secondary school**. Children assessed at levels 1 or 2 in writing at age eleven had 7.5 times the odds of being identified for SEN Support as those with no writing result, and 3.8 times the odds of children at the expected level of writing.

Attainment at age eleven was not strongly associated with going on to be identified as having Social, Emotional and Mental Health (SEMH) needs during secondary school. Effects of prior attainment on the odds of joining a special school during Years 7-11 having previously attended a mainstream school were also mostly non-significant, but children assessed at level 4 (the expected level) in writing at age eleven had odds of joining special school that were 53 per cent lower than children on the P-scales or with no writing result.

There appeared to be a positive relationship between attainment at age seven in reading and maths and having contact with Child and Adolescent Mental Health Services (CAMHS) at any time up to age eighteen. Children assessed as at **level 1 or above** (the expected level at age seven is level 2) in these subjects had odds of **contact with CAMHS** that were 16 times greater than those with lower attainment in reading and 140 times greater than those with lower attainment in maths respectively. It is not clear whether this is because low-attaining children at age seven are less likely to experience serious mental health concerns, or whether they are less likely to have their needs recognised.

Children with **no Key Stage 2 assessment results** may have been newly arrived in England, have been absent from school on the day of the assessment, or their assessment may have been lost or deemed to have been subject to malpractice or maladministration. This group of children were **less likely** than those with below-expected attainment in reading, writing and maths to be identified for **SEN Support in secondary school**, and also less likely than children with expected attainment in writing to be identified for SEN Support.

Children with **no assessment results** were **less likely** than those with below-expected attainment in writing to be identified for an **EHCP in secondary school**, and less likely than those assessed at level 1 or 2, or on the p-scales in maths to be identified for an EHCP. Furthermore, children with no assessment result were **less likely** than children with below-expected attainment in writing and maths to be identified as having **SEMH in secondary school**. Taken together this pattern suggests that children without assessment results at the end of primary school had needs that were 'less visible' to SEND assessment in secondary school.

Figure 2.2: KS2 attainment odds effects on Secondary SEND Identification

3. Child factors

The individual child factors with the strongest influence on SEND identification in primary school (after controlling for all other factors) were deprivation followed by birth month, ethnicity, then gender for identification for SEN Support; and birth month followed by ethnicity, deprivation, then gender for identification for EHCPs.

It is plausible that deprivation results in a higher prevalence of SEND through environmental mechanisms such as poorer food and housing, family stress, hidden costs of access to NHS healthcare, and greater exposure to pollution (Food Foundation 2023; Bidmead et al. 2024; Ferguson et al. 2021). The fact that **deprivation** was a stronger predictor of identification for **SEN Support** than for EHCPs, after controlling for prior attainment, gender and a range of other factors, may indicate real differences in the type and severity of need experienced by disadvantaged children, or alternatively it may indicate some degree of inequality in access to EHCPs, or some combination of the two.

Children who were **persistently disadvantaged** in Years 1-4 (i.e., those eligible for free school meals for at least 80 per cent of those school terms) had chances three times those who were eligible for FSM for less than 20 per cent of the terms to be identified with SEND at either level. After controlling for all factors in the model, this fell to around twice the odds for **EHCP** identification, but for **SEN Support** identification it remained at three times the odds.

While many health conditions do correlate with birth month, the pattern we have found for SEND identification does not correspond to this, since the birth months with greatest risk of health conditions are October and November (Boland et al. 2015) whereas the **birth months** with the highest odds of SEND identification are the **summer months**, corresponding to those children who are youngest in the school Year group, and have the lowest prior attainment due to being younger at the time of the assessment (Crawford, Dearden, and Greaves 2013).

The effects in figure 2.1 appear to show reduced odds of SEND identification for the youngest children in the Year group, however this is not the true case, as the effect is reversed when the Early Years Foundation Stage Profile assessments at age five are not in the model, and only appear to be negative once children's development is separately controlled through these prior attainment factors. When not adjusted for EYFSP assessments, August-born children experienced around twice the chances of being identified for SEN Support during primary school compared with September-born children. For EHCPs the month of birth pattern was less marked; August-born children experienced odds of identification for an EHCP in primary school that were 35 per cent higher than September-born children.

Based on models not adjusted for EYFSP assessments, **Gypsy/Roma and Traveller**, **Black Caribbean**, and **Mixed White and Black Caribbean** children were over-represented among children identified with SEND in Years 1-4 for **SEN Support** and for **EHCPs**. The size of these effects was small, except for Gypsy/Roma and Traveller children, who experienced odds of identification that remained twice as high after controlling for all other child factors. There is a history of misidentification of Black Caribbean children. Our models indicate that this group remains over-identified (odds raised by 13 per cent for SEN Support and 41 per cent for EHCPs). While a proportion of the over-representation is due to **greater levels of poverty**, most is associated with attending **schools that identify more children with SEND** or is mediated through **lower attainment assessments** at age five.

For identification of Gypsy/Roma and Traveller children for EHCPs, most over-representation is associated with lower EYFSP attainment assessments at age five; this was more important than the school attended. If the EYFSP

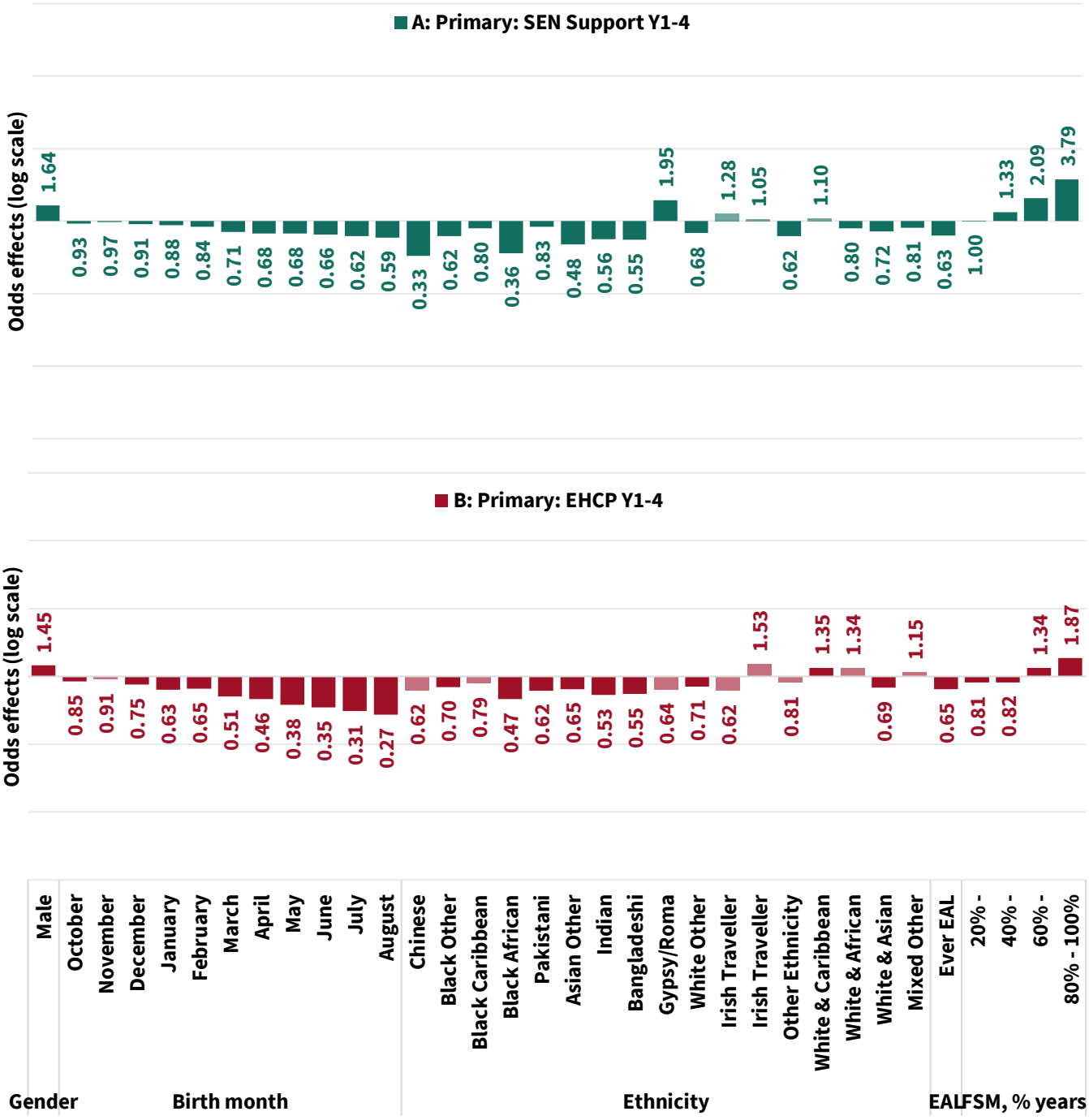
assessments are accurate and unbiased, then this means that the greater chances of EHCPs are not due to over-identification of SEND and fully represent greater need.

Asian children (**Indian**, **Pakistani**, **Bangladeshi**, **Asian Other** and **Mixed White and Asian**) are **under-represented** in SEND identifications at both levels after controlling for all individual child-level factors, and this is further exacerbated by attending schools with lower-than average rates of identification. The under-representation of Asian groups, especially Bangladeshi and Pakistani children, is greatest for those who are **most disadvantaged**.

Boys had higher odds of SEND identification in primary school than girls at both levels (by 64 per cent for **SEN Support** and 45 per cent for **EHCPs**) after accounting for all other factors. Before accounting for their lower prior attainment at age five, boys had three times the odds of being identified for an EHCP as girls.

Children who spoke **English as an Additional Language** had **reduced chances** of being identified with SEND in Years 1-4 compared with children whose first language was English (odds reduced by 35 per cent for **SEN Support** and by 37 per cent for **EHCPs**). While it is not possible to determine if the true underlying needs of children of migrant heritage are comparable to those of non-migrant heritage, since individuals who migrate may not be a random representation of the population, this finding nevertheless raises the possibility that language barriers may be an obstacle to the identification of SEND, potentially resulting in under-identification.

Figure 3.1: Child factor odds effects on Primary SEND identification



The largest child factor effects on the identification of SEND during secondary school were associated with ethnicity. All **Asian ethnicities** were **underrepresented** among children identified with SEND in Years 7-11. Being of 'Other' Asian ethnicity had the largest effects on SEN Support and EHCP identification. White British children had 2.6 times the odds of Other Asian children of being identified for **SEN Support in secondary school**, and 3.5 times the odds of receiving an **EHCP for the first time in secondary school**.

For identification with **Social, Emotional and Mental Health (SEMH)** in secondary school, **Indian** pupils had the **lowest chances**. White British children had odds of SEMH identification that were 2.6 times those of Indian children. This is consistent with the NHS Children and Young People's Mental Health Survey (CYPMHS) in 2017, which found that White British children were almost three times as likely to have a mental health disorder as British Asian children (NHS Digital 2018). There is no equivalent survey of SEND in the population with which to compare our results for SEN Support and EHCPs identified by schools and local authorities. These findings could indicate lower actual levels of SEND and/or mental health disorders among Asian children, or they could indicate lower levels of recognition (Strand, Lindsay, and Pather 2006).

Black children were also less likely to be identified with SEND during secondary school than White British children in most cases. Each of the **Black ethnicities** apart from Mixed White and Black Caribbean had **lower chances** of identification than White British children for **both levels of SEND**, and for **SEMH** in particular. White British children had odds of identification for SEN Support that were 1.6 times those of Black African children, and odds of identification for EHCPs that were three times those of Black African children. For SEMH needs identified during secondary school, White British children had odds 1.7 times those of Black African children. Black Caribbean children and Black children of other ethnicities generally also had reduced odds of SEND identification in secondary school, but with smaller effects than those of Black African children. As with Asian children, Black children were found to have lower prevalence of mental health disorders in the 2017 CYPMH Survey.

Gypsy Roma children also had **reduced chances** of being identified with **SEN Support** or **EHCPs** in Years 7-11, while **Irish Traveller** children had reduced chances of an **EHCP**, but for SEN Support and SEMH their effects were not statistically significant, possibly because of the small size of the ethnic group as recorded in the School Census. Notably, White British children had odds of being identified for an EHCP in Years 7-11 that were 2.8 times those of children with Traveller Irish heritage. White British children had odds of identification that were greater than those for children with **Gypsy Roma heritage** at both levels of SEND and for **SEMH** in particular. White British children's odds of being identified for SEN Support during secondary school were 1.9 times those of Gypsy Roma children.

Children with **Chinese** ethnicity or **Other Ethnicities** were also **less likely** to be identified with SEND in secondary school than White British children, at **both levels of SEND** and for **SEMH**. White British children had odds of being identified for an EHCP for the first time in Years 7-11 that were 1.9 times those of children of Other Ethnicities. White British children had odds of being identified with SEMH needs that were 1.6 times those of Chinese children. The odds of receiving a new EHCP in secondary school for White British children were 25 times those of White Irish children, and those of being identified with SEMH were 1.5 times greater. Other White children had reduced odds of being identified for SEN Support and with SEMH needs in secondary school; White British children had odds of SEMH identification that were 1.5 times those of Other White children.

In addition to ethnicity, **English as an Additional Language (EAL)** was also associated with **reduced chances** of being identified with SEND in secondary school. Children whose first language was English had odds of being identified for **SEN Support** that were 1.6 times those of children who spoke EAL, and odds of being identified for an **EHCP** or of being identified as having **SEMH** that were twice those of children who spoke EAL. It is possible this

reflects **actual differences in SEND**, but also possible that **language barriers** are an obstacle to SEND identification resulting in some under-recognition.

Individual child-level deprivation increased the chances of being identified with SEND during secondary school. These effects were somewhat smaller than the deprivation effects on SEND identification in primary school, with children who were **persistently disadvantaged** (eligible for FSM for 80 per cent or more of school terms) having odds of identification for **SEN Support** that were 1.6 times those of children who were eligible for FSM for less than 20 per cent of terms, and twice the odds for identification for **EHCPs** and for **SEMH**. This was consistent with the CYPMH survey, which found that children from families in receipt of low-income benefits were substantially more likely to have a mental health disorder than those of children from families not in receipt of low-income benefits.

Boys remained more likely to be identified with SEND during Years 7-11, having 1.2 times the odds of girls for identification for **SEN Support**, 1.7 times the odds of girls of being identified for an **EHCP**, and 1.5 times the odds of girls of being identified with SEMH needs during secondary school. This is not consistent with the picture from the CYPMH Survey of national population prevalence of mental health disorders, which found that secondary-aged girls were more likely to have emotional disorders than boys.

The CYPMH survey does not rely on children having been assessed by any service or in school and so is likely to represent the more accurate picture of need, since it is less affected by any biases in access to services. It reported that 10.9 per cent of girls aged 11-16 had an emotional disorder in 2017 compared with 7.1 per cent of boys. Boys were more likely to experience other types of disorder relevant to SEMH needs and SEND in the CYPMH survey, notably behavioural disorders (7.4 per cent compared with 5.0 percent of girls), hyperactivity disorders (3.2 per cent compared with 0.7 per cent of girls), and autism (1.8 per cent compared with 0.7 per cent of girls). Overall, accounting for **both emotional and behavioural disorders**, secondary school aged **girls and boys were equally likely** to have any disorder.

Other research suggests reasons behind the under-recognition of girls' needs as SEMH. **Teachers' recognition of mood and anxiety disorders** was found to be weak compared with behaviour disorders and ADHD (Mathews et al. 2021). Furthermore, **access to targeted support** from teachers and education specialists for mental health has been skewed towards **children whose needs impact others at school**, and away from those only impacting the child (Ford et al. 2008). Impact on others may take the form of challenging behaviours that require support from school staff to keep children safe or make progress with teaching and learning, for example. Taken together, this suggests that emotional disorders (internalised distress) are less well-recognised in school SEND systems than externalising behaviour disorders and neurodevelopmental disorders. This results in an unequal system whereby girls are less likely to have their needs recognised or supported as SEND than boys.

Month of birth effects on SEND identification were smaller in secondary school than in primary school, as we might expect given that month of birth effects on school attainment shrink as children get older and differences of age measured in months become smaller proportions of the child's life.

Figure 3.2: Child factor odds effects on Secondary SEND identification

Next, we review the odds effects of individual child factors on our additional outcomes: having SEMH needs that were added to SEND needs of other types at a later point in time than the original needs were first identified; moving from a mainstream school to a special school during Years 7-11; and having contact with NHS Child and Adolescent Mental Health Services (CAMHS) by Year 11. The CAMHS results pertain to children living in four local authorities in South London that make up the catchment area of the South London and Maudsley NHS Foundation Trust.

White British children had twice the odds of **Bangladeshi** children of being identified with SEMH needs during secondary school in addition to other needs identified earlier (and 1.9 times the odds for **Indian** or **Chinese** children). **Pakistani** children, **Other Asian** children, and children of all **Black ethnicities** apart from Mixed White and Black Caribbean were also **less likely** to have **additional SEMH needs** identified during the secondary phase, as were **Other White** children and children of Other Ethnicities.

A smaller number of minority ethnicities were **less likely to move from a mainstream school to a special school** during Years 7-11. White British children had odds of moving to special school that were 2.9 times those of **Bangladeshi** children, 2.0 times those of **Black African** and **Other White** children, and 1.4 times those of **Black Caribbean** children, after controlling for prior attainment and a range of other child, school and local authority factors.

It is not possible to determine whether these results reflect lower chances of additional need for these minority ethnic groups, or alternatively, poorer identification. The reduced prevalence of mental health disorders reported by the CYPMH Survey may suggest a real lower level of need, but it is also possible there are inequalities in the EHCP system for accessing special school places, in particular, since many parents need to use the SEND tribunal and Local Authority Ombudsman complaints system to secure places in special school to meet their children's needs and shortages of places in special schools are common (Whittaker 2024; Hesketh 2024).

The sample size for our analysis of **CAMHS contact among children identified with SEND** (either before or after that CAMHS contact) is necessarily smaller than that for the preceding analyses since national data for CAMHS are not available matched to education records. Fewer ethnicities had different chances of access to CAMHS among children identified with SEND and this may partly reflect that **smaller sample** providing less statistical power. However, there was a mixed picture of access to CAMHS for some minority ethnic groups, with medium-to-large and statistically significant effects.

White British children identified with SEND in South London had odds of **accessing CAMHS** that were twice those of children in the **Other Black** category identified with SEND. The chances of using CAMHS for Black African and Black Caribbean children were not statistically significantly different from those of White British children. However, **Mixed White and Black African** children identified with SEND in South London had odds of contact with CAMHS that were almost five times those of White British children not of mixed heritage. Children of **Traveller Irish heritage** identified with SEND had odds of CAMHS contact that were 19 times those of White British children, and **Other White** children identified with SEND had odds that were three times those of White British children.

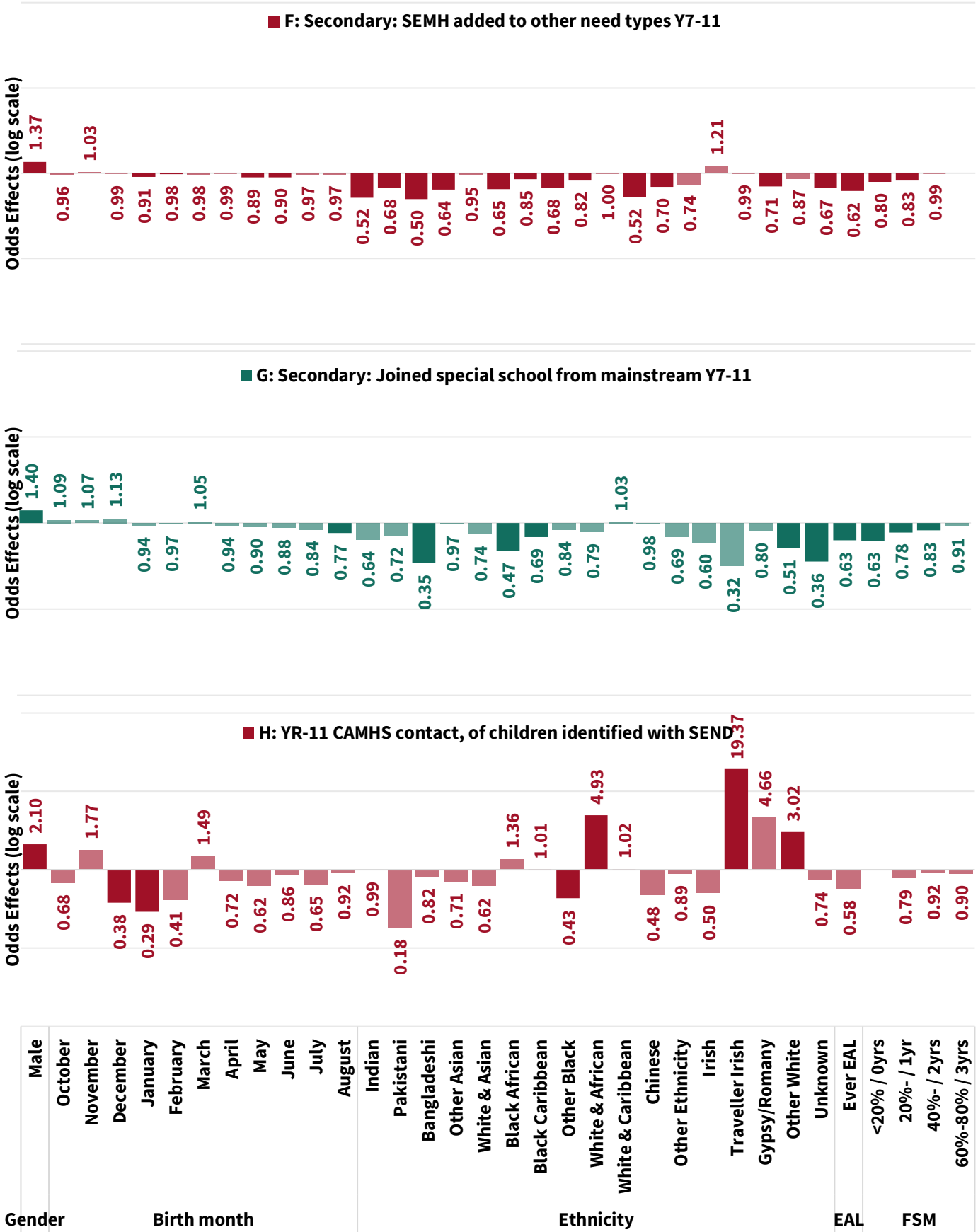
These raised chances of CAMHS contact among children identified with SEND suggest there are substantial **vulnerabilities to mental ill health** associated with some minority ethnicities. This **contrasts with the picture for SEND identification**, possibly because the severity of need among children using CAMHS is typically very high, often requiring them to be in crisis before a referral is accepted. Some SEND is more subtle in its presentation and may be correspondingly more prone to under-recognition.

Deprivation was also associated with identification of additional SEND. Children who have grown up with **persistent disadvantage** (eligible for FSM in at least 80 per cent of the primary school Years) had odds of **moving to a special school** in Years 7-11, or of being identified with **SEMH needs in addition to other preceding SEND**, that were 1.6 times those of children who were eligible for FSM for less than 20 per cent of their time in primary school. There was no statistically significant relationship between deprivation in Key Stage 1 and CAMHS contact among children identified with SEND, possibly due to the relatively small sample size for children identified with SEND in this dataset.

Gender had statistically significant effects on use of CAMHS. **Boys identified with SEND** had twice the odds of **contact with CAMHS** of their female counterparts. Boys also had 1.4 times the odds of girls of **moving from mainstream to special school in Years 7-11**, and of having **SEMH identified during secondary school in addition to other SEND identified earlier**. This continues the pattern of boys being more likely to be identified with all kinds of SEND including SEMH described earlier. It is not clear from our analysis whether boys are more likely to develop SEMH in secondary school than girls, or just more likely to have these needs identified. Changes in the numbers of girls being identified as having neurodevelopmental needs over time suggest that gender patterns may not necessarily reflect underlying need so much as awareness and recognition that some children 'mask' their needs by struggling to hide their differences from peers and adults. The **under-recognition of SEMH among girls** is suggested by comparing the greater identification of additional SEMH among boys with the findings of the CYMPH population survey, which showed that secondary school aged **girls were equally likely to have any psychiatric disorder and more likely to have an emotional disorder** than boys of this age.

Month of birth differences in SEMH identification during secondary school in addition to other SEND identified earlier did not form a coherent pattern that was statistically significant. This may be because month of birth is most relevant to academic development through language and literacy, and/or because differences in age measured in months are proportionally less marked by the time children reach secondary school, when a twelve-month difference in age represents less than 10 per cent of a child's total age, compared with 20 per cent at age five.

Figure 3.3: Child factor odds effects on additional identification and CAMHS use



4. School, neighbourhood and care experiences

Experiences of their neighbourhood and school, and of contact with children' social care services, were associated with the chances of SEND identification in primary school. Specifically, children living in the most deprived neighbourhoods had greater chances of being identified with SEND. Conversely, children who **moved between different primary schools** or had **high levels of absence** from school, particularly sickness absence or unauthorised absence, had **reduced chances** of being identified with SEND at both levels, as did children with **Child Protection Plans**. These children appeared to be **less visible to the SEND system** than children who were otherwise similar.

Looked After Children had **raised chances** of SEND identification, but **not until they had been in care for a year or more.** Further to this, children who had not had any **Child Protection Plans (CPPs)** had odds of SEN Support identification in primary school that were three times those of children who had one or more CPP, and odds of identification for an EHCP that were 1.6 times those of children who had one or more CPPs. Given that for many children a CPP precedes becoming looked after, and is preceded by assessment of needs, taken together these findings suggest that there was some delay in the recognition of their SEND needs after concerns initially arose, and that their educational needs were not prioritised until after they had been placed in care. This is not suggestive of a system that intervenes early to prevent the escalation of SEND needs and minimise delays to children's learning.

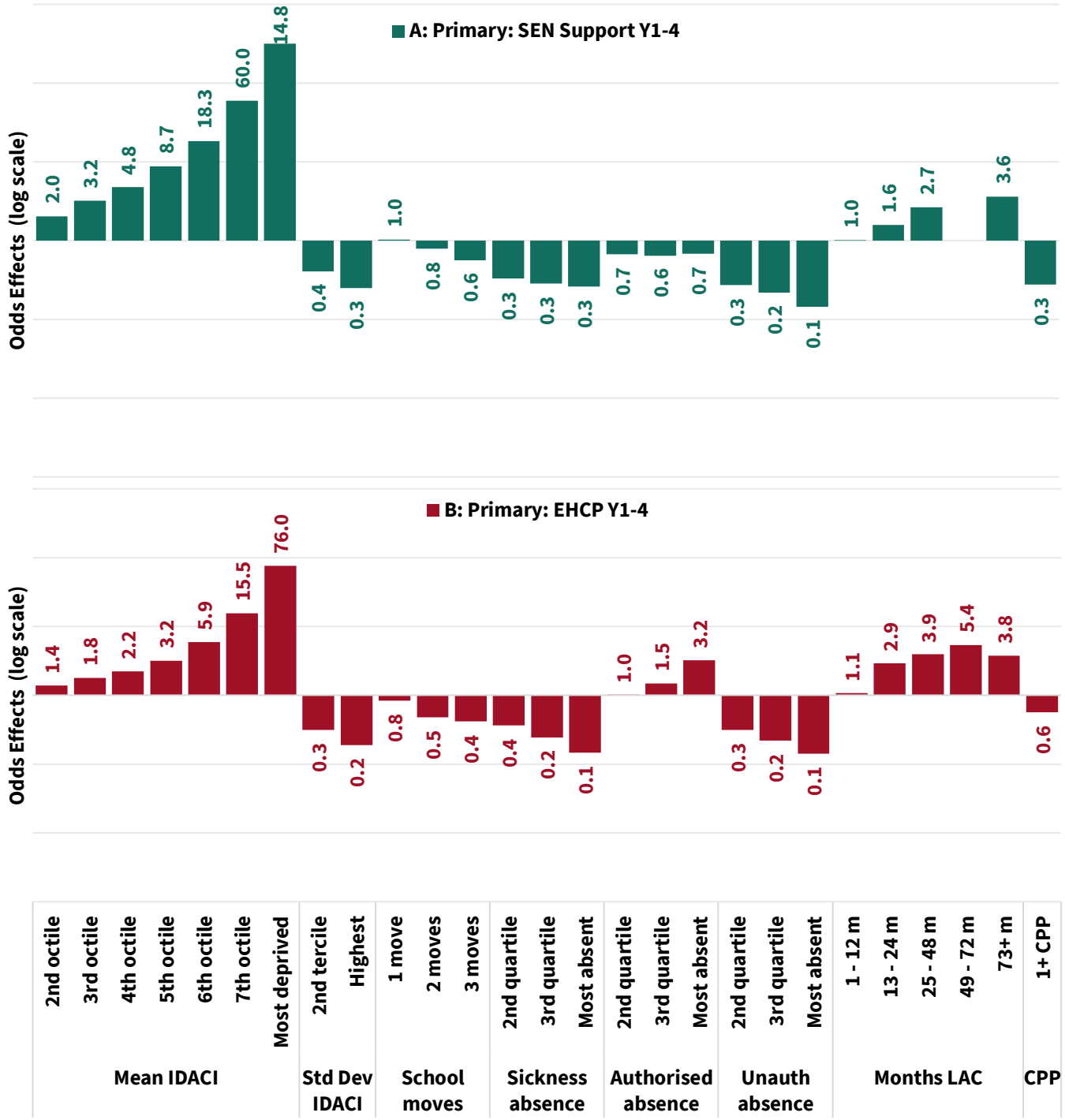
Children who were **looked after by their local authority for over six years** had odds of **SEN Support** identification that were over three times those of children who had not been looked after, and odds of identification for an **EHCP** that were almost four times those of children who had not been looked after. This is what we would expect to see given that children are looked after to safeguard their health and development from risks they experienced in their birth families, so by definition this population is expected to have a high prevalence of SEND.

The effects of living in a **deprived neighbourhood** on the odds of SEND identification were very large at both levels of SEND. Children living in the most deprived eighth of neighbourhoods had odds of **SEN Support** identification in primary school that were over 300 times those of children living in the least deprived eighth of neighbourhoods. For **EHCP** identification, children living in the most deprived areas had odds of receiving an EHCP in primary school that were 76 times those of children living in the least deprived areas.

Children who **did not move schools during primary school** had 1.6 times the odds of being identified for **SEN Support**, and 2.5 times the odds of being identified for an **EHCP**, of those for children who moved schools three or more times, suggesting that school mobility is an obstacle to the visibility and assessment of SEND.

Children with the **least sickness absence** (lowest quartile) had odds of being identified for **SEN Support** in Years 1-4 that were three times those of children with the most sickness absence (highest quartile), and odds of being identified for an **EHCP** that were 10 times those of children with the most sickness absence. The chances of SEN Support identification were slightly reduced for children with higher levels of authorised absence, but their chances of identification for an EHCP were slightly raised. Children with the **lowest levels of unauthorised absence** had odds of identification that were 10 times those of children with the highest levels of unauthorised absence for **SEND identification at both levels**. These findings suggest that lack of visibility in in school due to school mobility or frequent absences reduced the chances of SEND identification.

Figure 4.1: School, neighbourhood and care experiences odds effects on Primary SEND identification



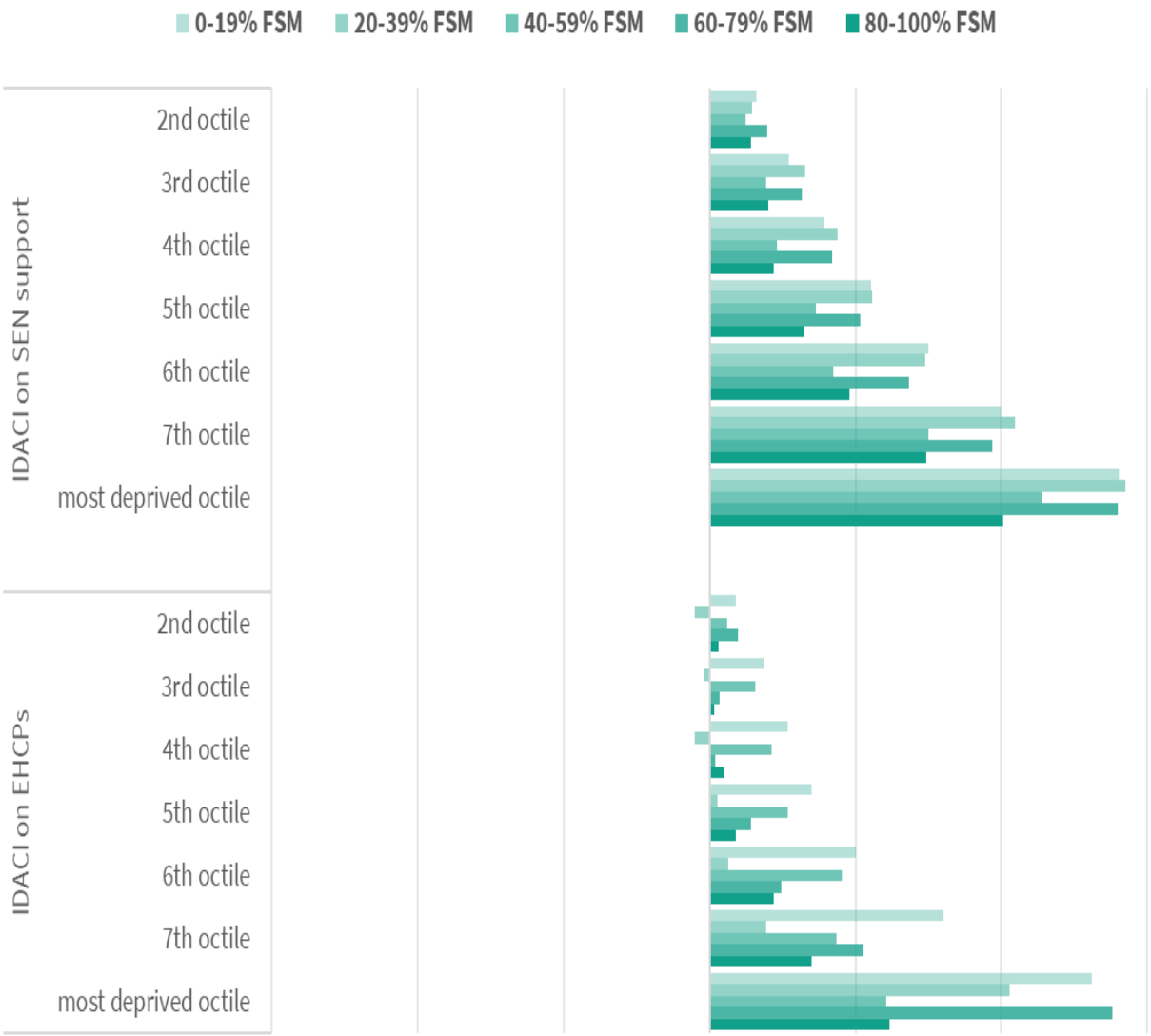
We examined the effects of neighbourhood deprivation on primary SEND identification in more detail, breaking this down by the length of time for which children were eligible for free school meals as a proxy measure for persistence of disadvantage. The patterns were affected by the small sample sizes, but it was clear that neighbourhood deprivation increased the odds of SEND identification more sharply for children with less persistent disadvantage living in deprived areas than for their counterparts in the same areas with more persistent disadvantage.

From these patterns we can discern that, while children always have increased chances of being identified with SEND if they live on a more **deprived area**, the **raised chances of identification are most pronounced for children who are not themselves the most disadvantaged**. This suggests that either neighbourhoods have a very large effect on child development due to some risk that it is especially difficult for wealthier families to avoid or mitigate, or more affluent families are more able to secure identification of their children's needs in spite of rationed support.

It is possible that something like pollution could be playing a role in the neighbourhood deprivation effects, but the differential effects according to individual disadvantage are suspiciously large and it is difficult to see why the least disadvantaged children should suffer greater effects from this kind of risk than their neighbours.

On balance it is probably **more likely than not** that there is some misidentification here, and that the **most disadvantaged children may be under-identified** within the most deprived neighbourhoods.

Figure 4.2: Odds effects for pupils eligible for FSM for different percentages of school years, and by mean IDACI deprivation of the neighbourhood they lived in



In secondary school, **neighbourhood deprivation** was associated with increased chances of identification in **Years 7-11 for SEN Support**, but not with increased odds for an EHCP.

Mobility between primary schools was positively associated with SEND being first identified in secondary school. Children who attended **three or more different primary schools** (suggesting at least one school move that was not part of a planned transition from infant to junior school) had odds of identification for both **SEN Support** and **EHCPs**, and of identification with **SEMH**, during Years 7-11 that were each 1.3 times those of children who attended a single primary school. This supports earlier findings suggesting that **school moves may delay identification** of SEND.

School absence had a more **nuanced relationship** with SEND identification in **secondary school** than in primary school. A one percentage point increase in **authorised absence during Key Stage 2** (Years 3-6) was associated with a 50 per cent increase in the odds of identification for **SEN Support in Years 7-11**, twice the odds of identification for an **EHCP**, and a 30 per cent increase in the odds of being identified with **SEMH** needs. Unlike the pattern observed in primary school SEND identification, this is as we would expect given that children who have already been identified with SEND are more absent from school.

However, while a one percentage point increase in **unauthorised absence in KS2** was associated with a 10 per cent increase in the odds of identification for **SEN Support** in Years 7-11 and a 20 per cent increase in the odds of identification with **SEMH** needs, it was also associated with a 10 per cent **decrease in the odds** of identification for an **EHCP**. Further, a one percentage point increase in **unauthorised absence in KS1** (Years 1-2) was associated with a 10 per cent **decrease in the odds** of identification for **SEN Support** in secondary school and a 20 per cent decrease in the odds of identification with **SEMH** in secondary school. Sickness absence in primary school made little difference to the odds of SEND identification in secondary school, except that a one percentage point increase in sickness absence in KS2 was associated with a 40 per cent decrease in the odds of identification for an EHCP in Years 7-11.

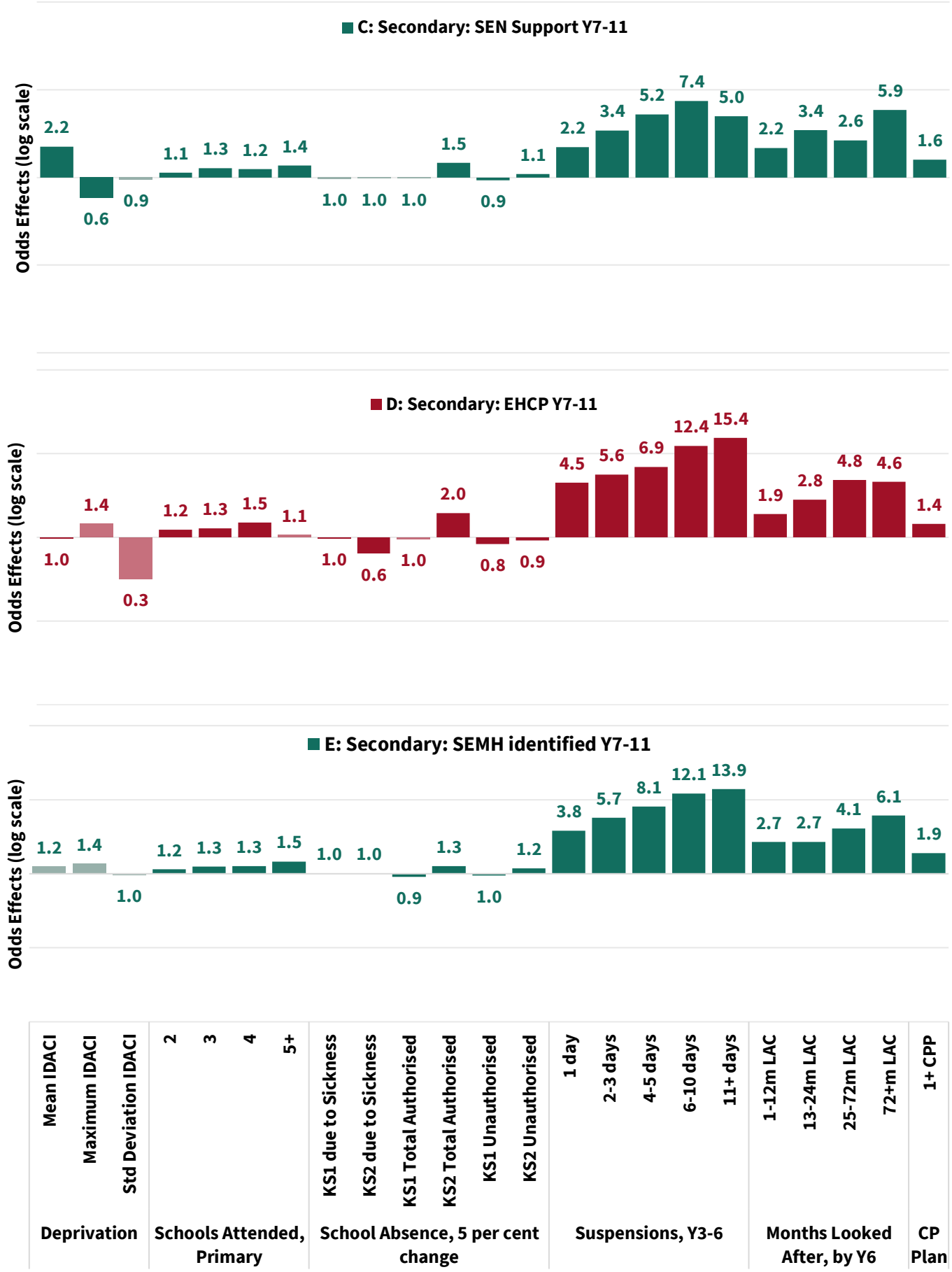
The **mixed positive and negative** effects of primary absence on the odds of SEND identification in secondary school are likely to reflect two different types of effect. On one hand, there is the **'reduced visibility of needs'** effects of missing time at school, which may be reflected in the negative relationships between absence and identification for an EHCP. On the other hand, the raised odds of SEND identification at secondary school for children who had more authorised absences in KS2 seems likely to reflect **frequent medical appointments** related to their SEND that affected their attendance.

Suspensions from school for behavioural reasons in KS2 (previously known as fixed period exclusions) had medium to large positive effects on the odds of SEND identification in secondary school. Children with **4-5 days of suspensions in Years 3-6** had odds of identification for **SEN Support** that were five times those of children with no suspensions, odds of identification for an **EHCP** that were around seven times those of children with no suspensions, and odds of identification with **SEMH** needs that were eight times those of children with no suspensions in KS2. For children with **11 or more days of suspensions in KS2**, the odds of **SEN Support** identification in Years 7-11 were five times those of children with no suspensions, the odds of **EHCP** identification were 15 times those of children with no suspensions, and the odds of identification with **SEMH** needs were 14 times those of children with no suspensions. This raises the question of whether these children should have had their SEND needs identified earlier, while they were still in primary school.

Secondary school SEND identifications were more likely for children who were looked after by Year 6. This is as expected, but the pattern of positive effects of having been looked after were greatest for children who had been

looked after for between two and six years by Year 6, which suggests that some SEND needs which should have been identified much earlier were not identified until children reached secondary school. A similar point can be made about children who had one or more **Child Protection Plans** during primary school, which was also associated with increased odds of being identified with SEND for the first time in secondary school, and with being identified with SEMH needs in secondary school. **Delayed identification of SEND for children with CPPs** would be consistent with the finding, described earlier, that children with CPPs had reduced chances of SEND identification in primary school compared with otherwise similar children.

Figure 4.3: School, neighbourhood and care experiences odds effects on Secondary SEND identification



Neighbourhood, school and care experiences had fewer and smaller effects on our indicators of additional SEND identification and CAMHS use. Having lived in a **neighbourhood with high deprivation** during primary school was associated with increased odds of having **SEMH identified in Years 7-11 in addition to other types of SEND that were identified earlier than this**. Positive effects of having ever lived in a high-deprivation neighbourhood in primary school were not statistically significant for moving from mainstream school to special school in Years 7-11, nor for contact with CAMHS, among those identified with SEND.

Frequent moves between primary schools were associated with **reduced chances of moving to a special school** in Years 7-11. Children who attended a single primary school had odds of moving to a special school in Years 7-11 that were twice those of otherwise similar children who had attended at least five different primary schools. Conversely, for children who attended five or more primary schools, the odds of SEMH being identified in Years 7-11 additional to other earlier-identified needs, were 1.3 times those of children who attended a single primary school. Changes of school are likely to impede access to special school places because they would reset the clock on the **time taken to complete evidence gathering** by schools to demonstrate that accommodations within mainstream school were not sufficient to meet the child's needs, and result in the **process being restarted** when a change of LA takes place.

A one percentage point increase in **sickness absence in KS2** was associated with a 20 percent increase in the odds of having **SEMH needs identified in addition to other need types identified earlier** in Years 7-11, and with a 10 per cent increase in the odds of **joining a special school** for the first time in Years 7-11. However, sickness absence in KS1 was not associated with greater odds of contact with CAMHS among children identified with SEND.

A one percentage point increase in **unauthorised absence in KS2** was associated with a 10 per cent increase in the odds of having **SEMH identified in addition to other need types identified earlier** in Years 7-11, but a 10 per cent **decrease in the odds of moving from mainstream school to special school** in Years 7-11. A one percentage point increase in unauthorised absence in KS1 was associated with a 68 per cent **increase in the odds of contact with CAMHS** among children identified with SEND. The findings again suggest that sufficient uninterrupted time in school may be a pre-requisite for securing a special school place.

Being **suspended from school** for up to 10 days during KS2 was associated with increases of between 50 per cent (six-10 days suspended) and 90 per cent (one day suspended) in the odds of having **SEMH identified in addition to other SEND identified earlier in Years 7-11**, compared with children with no suspensions. More total days of suspensions was not associated with larger increases in identification, however.

Children who were **suspended for more than a week during KS2** had up to eight times the chances of those with no KS2 suspensions of **moving from a mainstream school to a special school** in Years 7-11. Further emphasising suspensions in primary school as an indicator of need, children with SEND who received a suspension in KS2 had five times the odds of **using CAMHS services** of children with no KS2 suspensions.

Looked after children experienced greater chances of being **identified with SEMH in addition to other need types identified earlier** in Years 7-11, and of **moving to a special school** in Years 7-11, with those in care for the longest having the largest odds of these outcomes. While these children's development was highly vulnerable by definition, and adolescence is a sensitive phase of social and emotional development in which many children experience SEMH, in a well-functioning care system, one would hope to see the chances of additional SEMH identification get smaller the longer that care was in place. It may be systematic of the instability of the care system that children looked after for six years or more by Year 6 are more likely than children who have been in

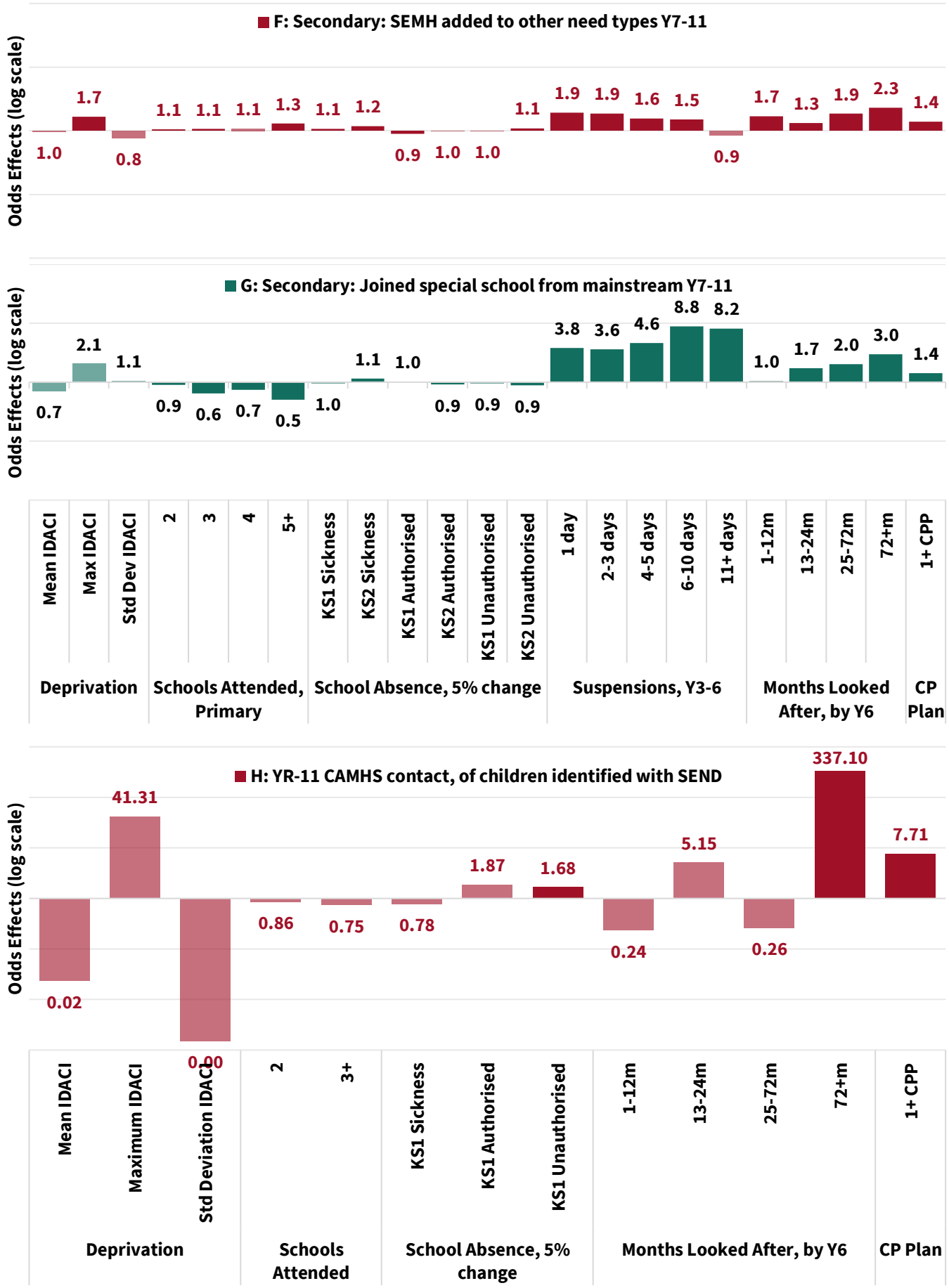
care for 1-2 years to be identified with SEMH needs during secondary school in addition to other SEND identified earlier.

For looked after children **identified with SEND** in South London, those who had been **looked after for six or more years** by age seven (most of their lives) had odds of **contact with CAMHS** that were 300 times greater than children who had not been looked after by Year 6. Only these long-term looked-after children identified with SEND had chances of contact with CAMHS that were statistically significantly different from children with SEND who had not been looked after.

Children with **Child Protection Plans during primary school** were more likely to experience additional SEND identification and CAMHS use than children with no CPPs. The odds of being **identified with SEMH in addition to other SEND identified earlier** in Years 7-11, and of **moving to a special school** in Years 7-11, were each raised by 40 per cent for a child who had a CPP in primary school. Children with CPPs by age seven and identified with SEND had odds of **contact with CAMHS** that were almost eight times those of children identified with SEND but without CPPs by that age.

While the job of protecting children from mental ill health consequent to abuse or neglect is inherently extremely challenging, these findings suggest that increased resources should be planned for children in contact with children's social care services in terms of both additional places in special schools for secondary-aged children and CAMHS services.

Figure 4.4: School, neighbourhood and care experiences odds effects on additional identification and CAMHS use



5. School factors

We saw earlier that the odds of a child being identified as having SEND varied considerably depending on the primary school they attended. Certain characteristics of primary schools help to explain this. The factor with the most significant influence was the school's own rate of SEND identification for an earlier cohort of children.

Children attending primary **schools with the highest levels of SEND identification for the earlier cohort** had odds of identification for **SEN Support** that were around 1,000 times those of children attending schools with the lowest record of SEND identification for the earlier cohort. The effect was smaller, but still of medium size, for identification for an **EHCP**: children attending primary schools with the highest levels (top septile) of SEND identification for the earlier cohort had odds of being identified for an EHCP that were seven times those of otherwise similar children attending schools with the lowest levels of earlier SEND identification.

It was expected that the effect of the school on EHCPs would be smaller than its effect on SEN Support, because the school itself decides on which children are identified for SEN Support. The school also plays a role in the identification of children for EHCPs, providing evidence of the child's needs and of the support it has provided that has not fully met those needs, but the decision of whether to issue an EHCP belongs to the Local Authority.

The most recent **inspection grade** of the primary school attended was also an important factor in predicting the odds of SEND identification, but did not have a linear relationship between how good or poor the inspection grade was and the odds of identification. Children attending primary schools graded **'outstanding' (grade 1)** had the **lowest chances of identification** at both levels of SEND.

Children attending schools graded **'requires improvement' (grade 3) or its predecessor 'satisfactory'** had the **greatest odds of SEND identification** out of those schools with an inspection result under the relevant Ofsted Framework. Their odds of identification for SEN Support were 13 times, and for an EHCP five times, those of children in 'outstanding' schools.

Children attending primary schools graded 'inadequate' (grade 4) had the next greatest odds of identification with SEND, with odds of identification for SEN Support three times, and for an EHCP two times, those of children in 'outstanding' schools. Children attending schools graded 'good' (grade 2) had smaller odds of identification with SEND at both levels, but still greater than those of children attending 'outstanding' schools (1.6 times the odds for SEN Support and 1.5 times the odds for EHCPs).

It's difficult to interpret these findings with confidence as the relationship between school intakes and inspection outcomes is very likely endogenous (i.e. schools with more advantaged intakes receive better inspection outcomes, and schools with better inspection outcomes subsequently have more advantaged intakes). Previous research has found that schools with the least disadvantaged intakes and fewest children with low prior attainment were more likely to be judged 'outstanding', and that there was a systematic association between intakes and inspection outcomes (Hutchinson, 2016). Both **school quality** and the nature of the **pupil intake** may affect levels of SEND identified.

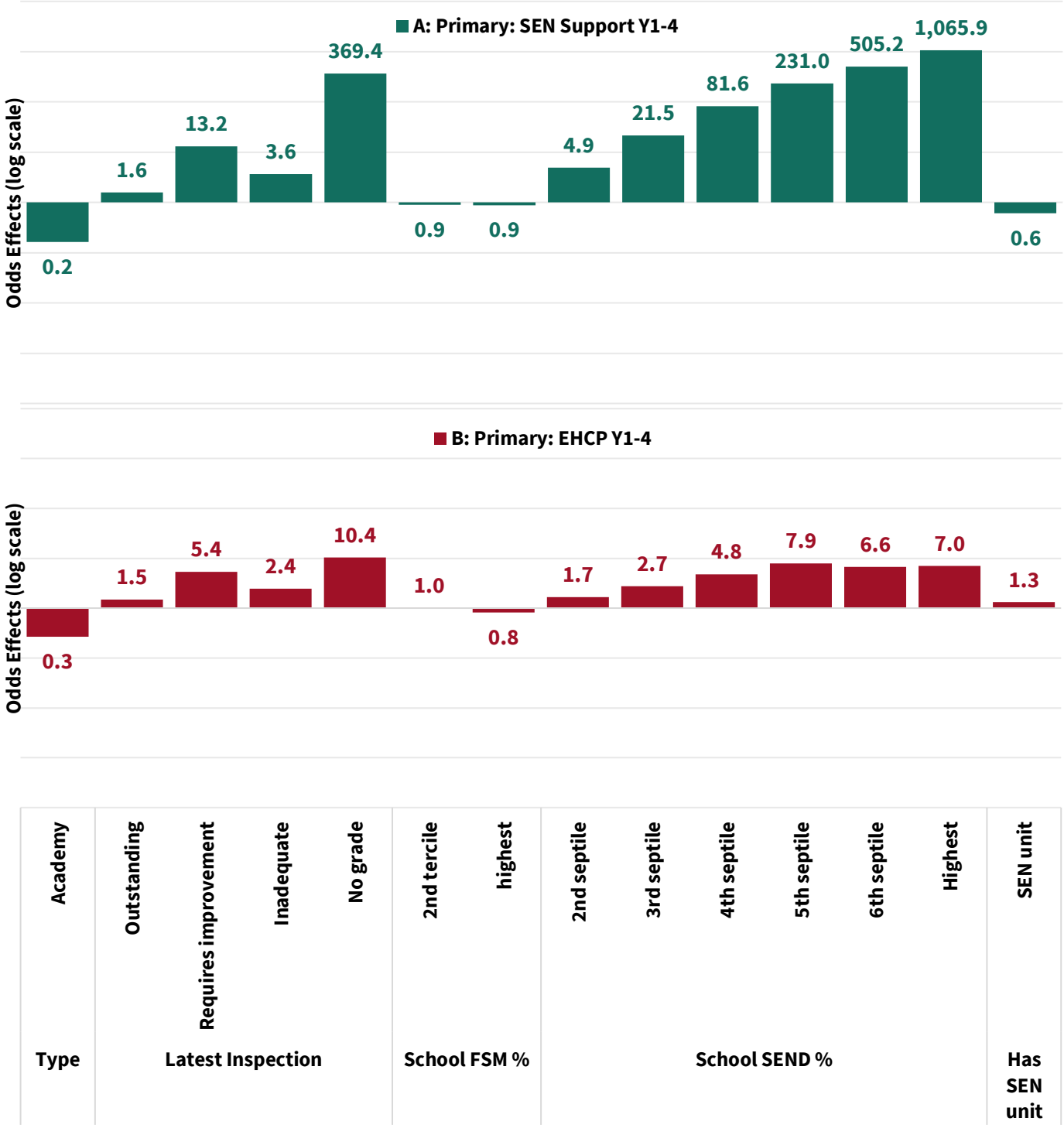
After our initial models indicated that children attending primary schools that had academised had reduced odds of being identified with SEND at both levels, we fitted further models specifically designed to test this relationship fairly, given that the timing of both academisation and SEND identifications varied. We selected SEND identifications in Year 3 to hold the timing of this constant in the academy effects models; this choice was made to maximise the identification cases within academies, since academisation of primary schools was at an early stage

but fewer SEND identifications are made in Year 4 than in the earlier school Years. This meant we were able to test the **effect of a school becoming an academy** on SEND identification up to 2 years later.

There were no statistically significant effects of academisation in the year of academy conversion. But **in the year following academy conversion**, the odds of **EHCP** identification in Year 3 for children attending **local authority schools** were 1.3 times those of children in schools that had converted or opened as academies in the previous school year. Children in **local authority schools** had odds of being identified for an **EHCP** in Year 3 that were 1.8 times those of children in **academies that had converted or opened 2 years earlier**.

Children in **schools without a SEN unit** had odds of being identified for **SEN Support** in Years 1-4 that were 1.6 times those of children in schools with a SEN unit. But children in **schools with a SEN unit** had odds of identification for an **EHCP** in Years 1-4 that were 1.3 times those of children in schools without a SEN unit. This pattern suggests that children are likely to be **identified for SEN Support earlier, in Reception, in schools with SEN units**, since those receiving an EHCP in Years 1-4 will often have had SEN Support identified at an earlier point in time, and this may explain the lower levels of identification for SEN Support in Years 1-4. Additional analysis confirmed this was the case. Children already suspected of having SEND in pre-school may also have been more likely to be enrolled at primary schools with SEN units.

Figure 5.1: School factors odds effects on Primary SEND Identification



School factors had smaller effects on SEND identification in secondary schools than in primary schools, although a few were statistically significant. Having attended a primary school that had academised by the time the child was in Year 3 did not have a statistically significant effect on identification in secondary school, but attending a **secondary school that had academised** by the time they were in Year 7 was associated with **reduced chances** of identification for **SEN Support** and **SEMH**.

Children attending local authority schools in Year 7 had odds of identification for SEN Support in Years 7-11 that were around 1.6 times those of children in academies in Year 7, and around 1.2 times the odds of identification with SEMH needs in Years 7-11 of children in academies in Year 7. These effects were after controlling for the full range of individual child factors and the other school factors including Ofsted inspection grades.

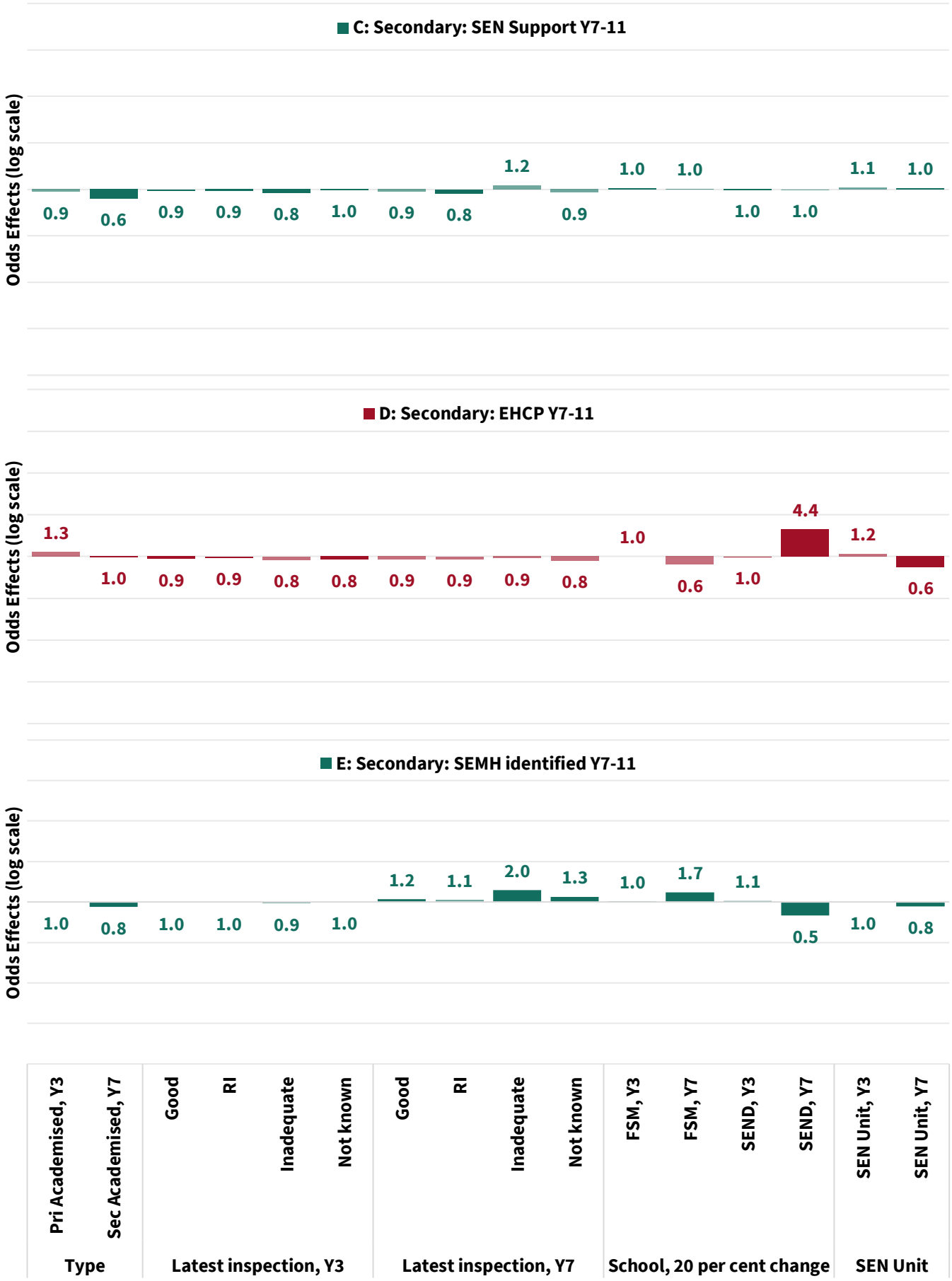
Ofsted judgements of the primary and secondary schools attended had only limited effects on the odds of being identified with SEND in Years 7-11. Both primary schools graded 'inadequate' and secondary schools graded 'requires improvement' conferred reduced chances of identification for SEN Support. The odds of identification for **SEN Support in Years 7-11** for children in **'outstanding' schools** were 1.2 times those of children in these lower graded schools. Conversely, children in secondary **schools graded 'inadequate'** had twice the odds of children in 'outstanding' secondary schools of being identified with **SEMH in Years 7-11**.

An *increase* in the **percentage of children in the school who were eligible for Free School Meals (FSM)** of 20 percentage points was associated with odds of being identified with SEMH that were 1.7 times greater.

An *increase* of 20 percentage points in the **percentage of children in the school identified as having SEND** was associated with odds of being identified for an **EHCP** in Years 7-11 that were four times those of children in schools with SEND rates that were 20 percentage points lower. However, **a *decrease* of 20 percentage points in the percentage of children identified with SEND** was associated with twice the odds of **identification with SEMH**.

Children in **secondary schools with SEN units** were **less likely to be identified for EHCPs** in Years 7-11 than those in schools without, possibly because they were more likely to have already received an EHCP before Year 7. Attending a secondary school with a SEN unit also **reduced the odds of being identified with SEMH** in Years 7-11, with children in schools without a unit having odds of being identified with SEMH that were 1.2 times those of otherwise similar children attending schools with a SEN unit. This may suggest that the additional support provided in SEN units fostered better wellbeing for children in the school.

Figure 5.2: School factors odds effects on Secondary SEND identification



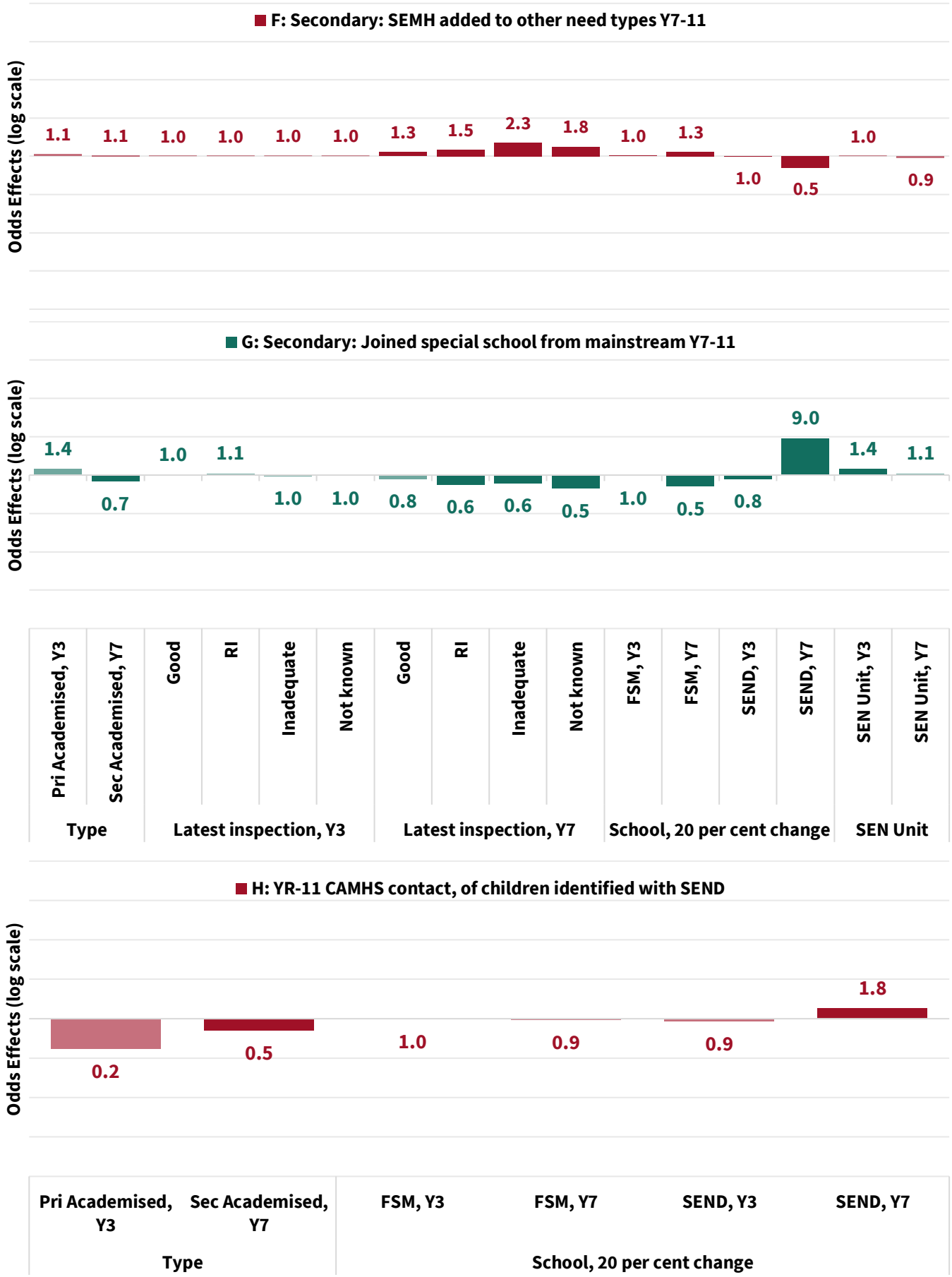
Children attending **local authority secondary schools** had odds of **moving to a special school** that were 1.4 times those of similar children in academies. Children identified with SEND attending local authority secondary schools had twice the odds of children identified with SEND attending secondary academies of having **contact with CAMHS**. These comparisons are after holding the full range of factors at child, school and local authority level constant, including the school intakes of children identified with SEND and children eligible for FSM. This is as near 'like-for-like' as feasible given the inevitable limitations of the administrative data and the non-causal nature of the analysis.

School intakes were also associated with the odds of additional SEND identification and CAMHS use. A 20 percentage point increase in the **percentage of pupils identified with SEND** by Year 7 was associated with nine times the odds of **joining a special school in Years 7-11**, and 1.8 times the odds of **contact with CAMHS**.

Again, it is not possible to interpret these outcomes as the causal result of the school intake differences. But it does suggest a **segregated system** in which some secondary schools shoulder intakes with greater SEND needs, and experience more escalation of those needs, than other schools.

There were **mixed effects** of attending a **secondary school with a higher proportion of children eligible for FSM** on additional SEND identification. An increase of 20 percentage points in the percentage of children who were eligible FSM was associated with 1.3 times the odds of being identified with **SEMH in Years 7-11 in addition to earlier-identified SEND**, but only **half the odds of moving to a special school** in Years 7-11. The latter finding suggests that social advantage is associated with better chances of accessing a special school place, which is often appropriate to meet children's needs. School FSM rates were not statistically significantly related to contact with CAMHS for children in South London identified with SEND.

Figure 5.3: School factors odds effects on additional identification and CAMHS use



6. Local authority factors

In the top quarter of **local authorities with the highest proportions of academised primary schools**, the chances of being identified for an **EHCP** were just one tenth of those in the bottom third of local authorities with the fewest primary academies. This was not explained by deprivation levels, ethnic mix or a range of other factors. This effect was found after controls for the academy status of the school attended, and represents **effects on LA SEND functions of structural change in the school system**. We did not find any equivalent effect on identification for SEN Support.

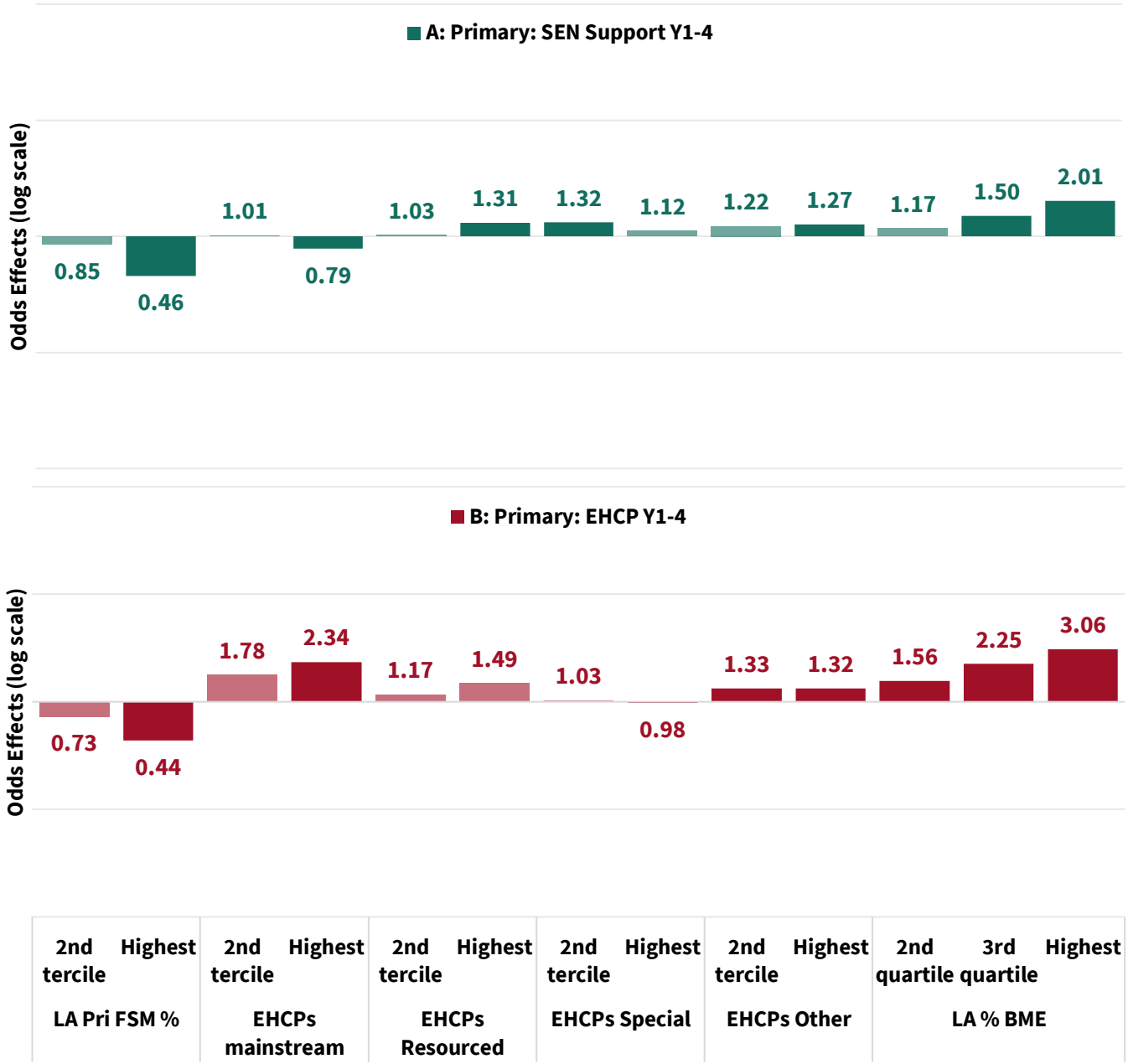
Although only a small proportion of the variation in SEND identification was explained at the local authority level, there were some other LA factors associated with the chances of SEND identification. The largest LA odds effect for SEN Support was for the proportion of children in the local authority area with black and minority ethnicities (BME, i.e. all ethnicities other than White British). Children living in local authorities in the **top quartile for BME children in the population** had odds of being identified for **SEN Support** in primary school that were twice those of children living in LAs with bottom-quartile BME rates. Children living in LAs with the highest BME rates also had odds of being identified for an **EHCP** that were three times those of children living in LAs with the lowest BME rates.

In contrast, children living in LAs with the highest (top third) FSM rates had reduced chances of identification at both levels of SEND. Children living in the **least deprived third of LAs** had twice the odds of being identified with SEND in primary school of children living in the most deprived third of LAs, at **both levels of SEND**. *Deprived* children living in deprived neighbourhoods are more likely to be identified with SEND, but all else being equal, *children in deprived schools and deprived LAs* were less likely to be identified with SEND, presumably because the thresholds are higher where there is greater prevalence of need in the population, so a child with less pronounced needs may be identified where their needs are relatively more unusual, but the same child may not be identified where their needs are common.

Unsurprisingly, there were some effects of the local authority rate of EHCPs issued on the identification of SEND in primary school. The largest of these was for the proportion of children with EHCPs and attending mainstream schools. Children living in **LAs in the highest third for rates of issuing mainstream EHCPs** had odds of receiving an **EHCP** in primary school that were twice those of children living in LAs in the bottom third for rates of issuing mainstream EHCPs. However, children living in the top-third of LAs for rates of issuing mainstream EHCPs had **reduced odds** of identification for **SEN Support** in primary school.

Other factors that were tested in the models but did not have any statistically significant effects on SEND identification included **local authority high needs budgets** and the **proportions of specialist places in the local authority** for children with EHCPs. That is not to say that these are not extremely important factors in the provision of high-quality support that meets children's SEND needs, but that their effects were not seen in rates of primary school SEND identification.

Figure 6.1: LA factors odds effects on Primary SEND identification

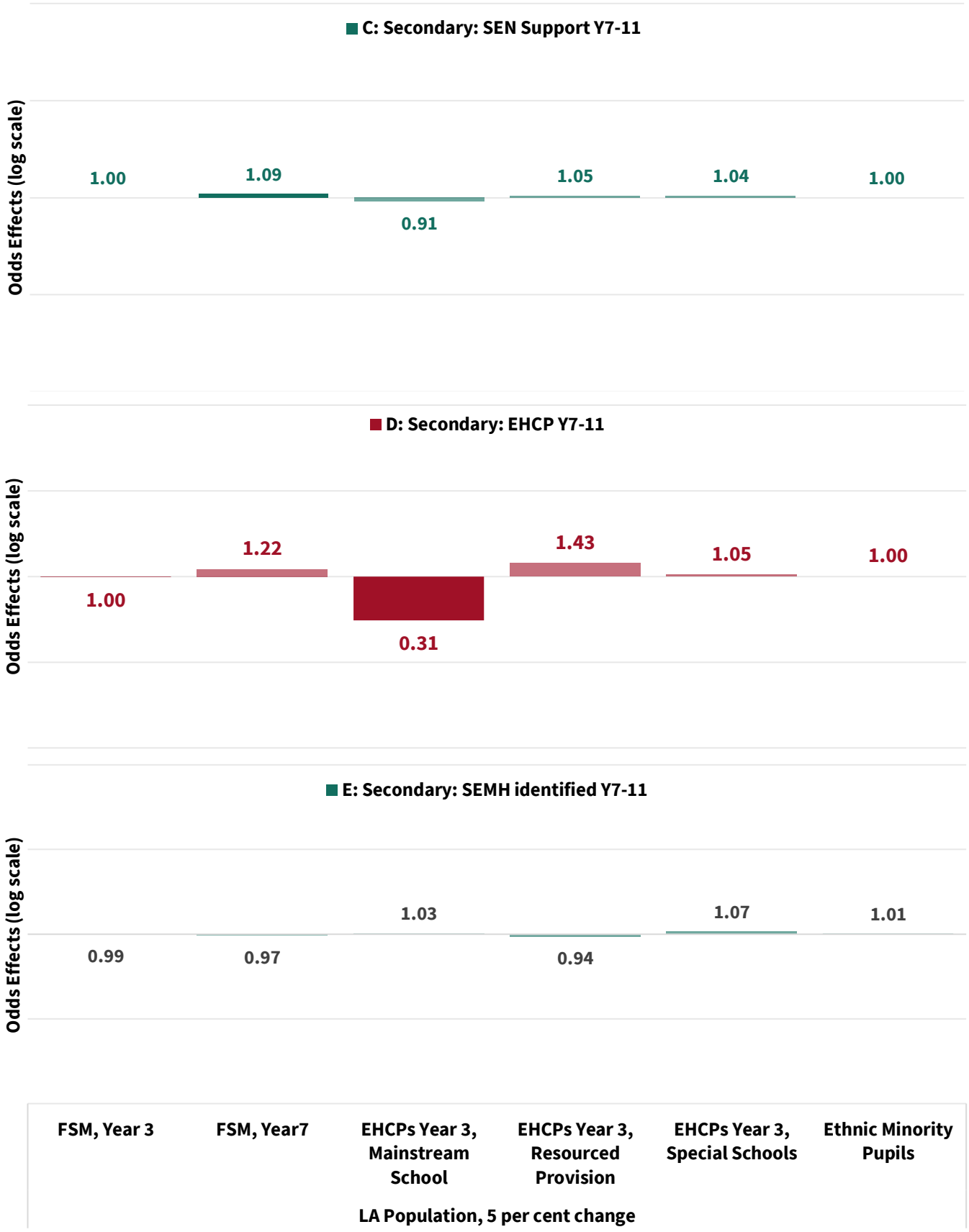


For the most part, the effects of LA factors on identification of SEND in Years 7-11 were extremely small and often not statistically significant. Two effects of importance emerged that were statistically significant.

A five percentage point increase in the **proportion of Year 7 pupils eligible for FSM in the LA** was associated with a nine per cent increase in the odds of being identified for **SEN Support** during secondary school.

A reduction of five percentage points in the **number of EHCPs held by children in mainstream primaries in the LA** was associated with three times the odds of identification for an **EHCP during secondary school**. LAs that identified more children for EHCPs early, in primary school, identified fewer for EHCPs in secondary school; and vice versa.

Figure 6.2: LA factors odds effects on Secondary SEND identification

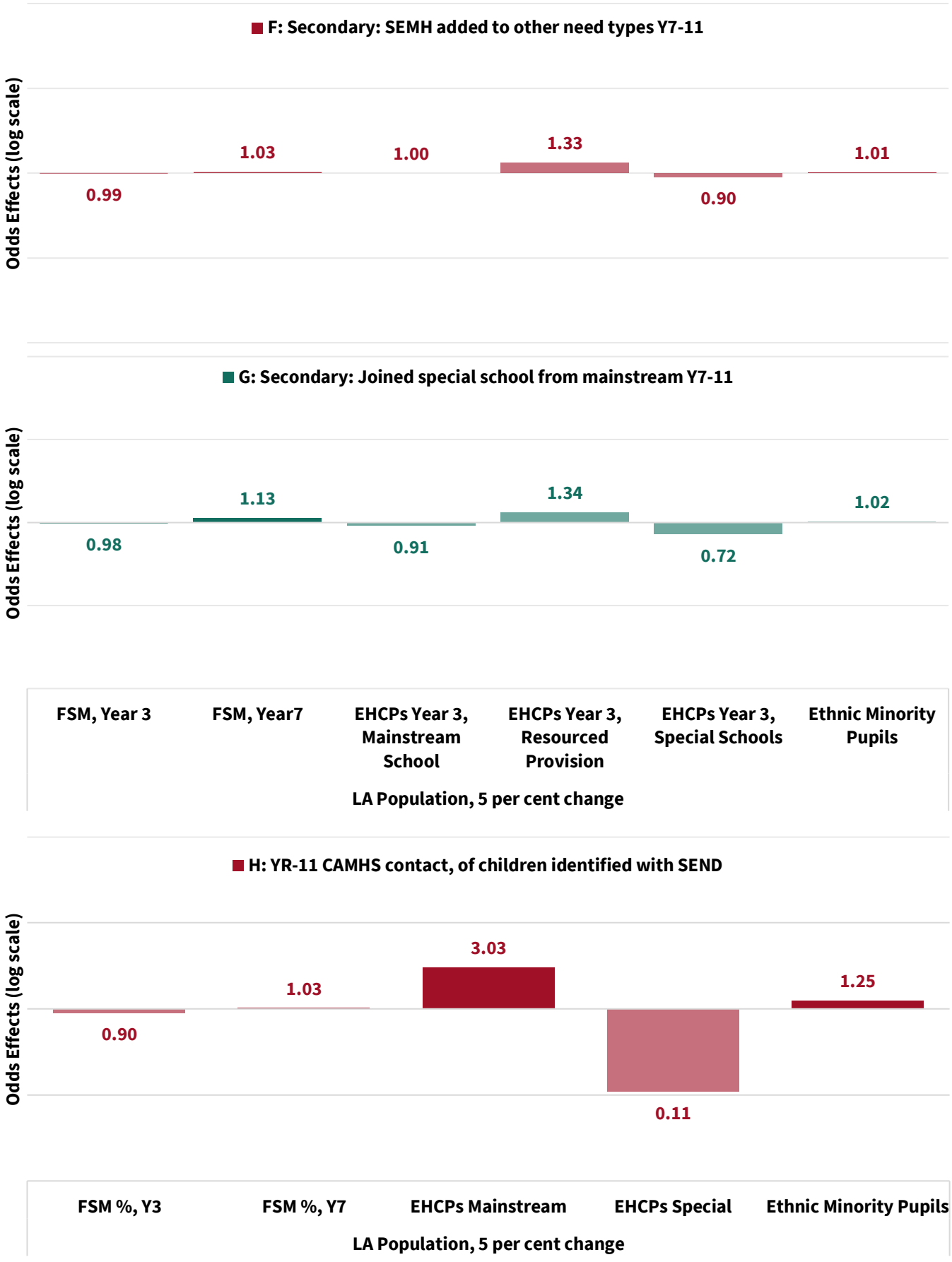


A five percentage point increase in the **proportion of Year 7 pupils eligible for FSM in the LA** was associated with a 13 per cent increase in the odds of **moving into special school** during secondary school.

A five percentage point increase in the **proportion of BME children in the LA** was associated with a 25 per cent increase in the odds of having **contact with CAMHS** among children identified with SEND in South London.

We also found a link between specialist provision in the education and mental health systems. Children identified with SEND and living in an LA with a five percentage points **higher rate of EHCPs held by children in mainstream schools** had three times the odds of **contact with CAMHS**, compared with children identified with SEND but living in an LA with a five percentage points lower rate of EHCPs held by children in mainstream schools.

Figure 6.3: LA factors odds effects on additional identification and CAMHS use



The overlap between CAMHS and SEND

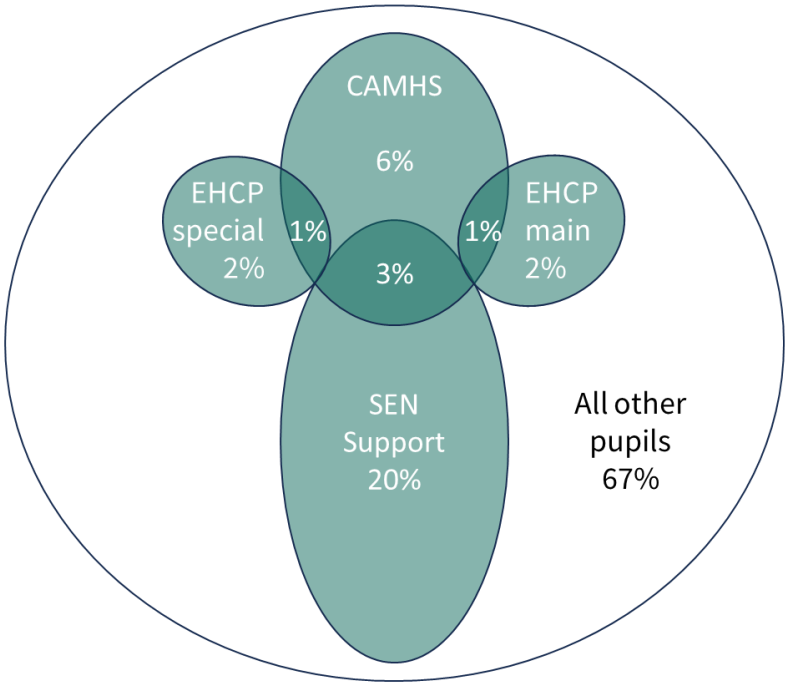
We investigated the overlap between children who used CAMHS by Year 11 and children who were ever identified with SEND by Year 11. Here we describe some important features of the overlap between the two.

Any SEND

Overall, of those children identified with SEND, 14 per cent had also used CAMHS (both by Year 11). But notably, of those children who used CAMHS by Year 11, only 41 per cent had ever been identified with SEND. This suggests that children with mental health needs in the cohort who reached Year 11 in 2019 were not routinely considered to have SEND that would require some support or adaptation in school. This is at odds with the designation of social, emotional and mental health (SEMH) needs as one of the four broad areas of SEND, and with the reality that thresholds for accessing CAMHS are high and most psychiatric diagnoses (essentially all those common among children and adolescents) require there to be impairment of children's functioning in school and in important areas of their lives.

Figure 7.1 is a venn diagram showing the interaction of SEND and CAMHS for the population covered by the South London and Maudsley NHS Foundation Trust, in the 2019 Year 11 cohort. Percentages in the diagram are of all children living in the service area.

Figure 7.1: Venn diagram of pupils in the South London and Maudsley Trust area by CAMHS use and highest level of SEND identification

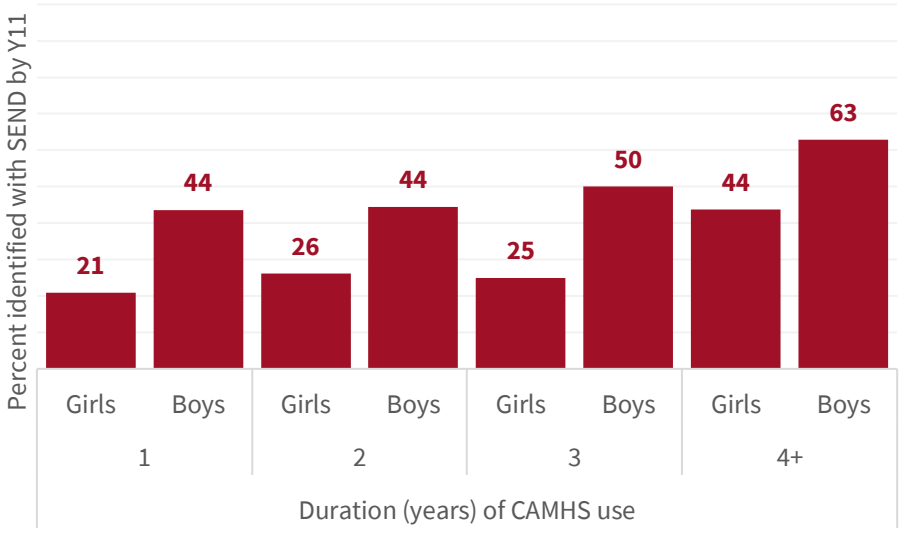


Two thirds of children had neither been identified with SEND nor used CAMHS services. One fifth were identified for SEN Support but had not used CAMHS. Six per cent of children had used CAMHS but were never identified with SEND and three per cent had both a SEN Support identification and had used CAMHS services. Two per cent of children had an EHCP and attended special school but had not used CAMHS, and two per cent had an EHCP and attended a mainstream school but had not used CAMHS. One per cent had an EHCP and attended special school, or had an EHCP and attended mainstream school, and had used CAMHS services by Year 11.

While schools may not always have been informed about a child's mental health diagnosis, the degree of non-overlap between the two systems suggests that there is a lack of clarity about what schools can and should do to support children with mental health disorders. These findings may also suggest that CAMHS services could improve their communication with schools about what types of support or adaptation the children receiving their services will need to be able to access their education, attend school regularly, and achieve in line with their abilities.

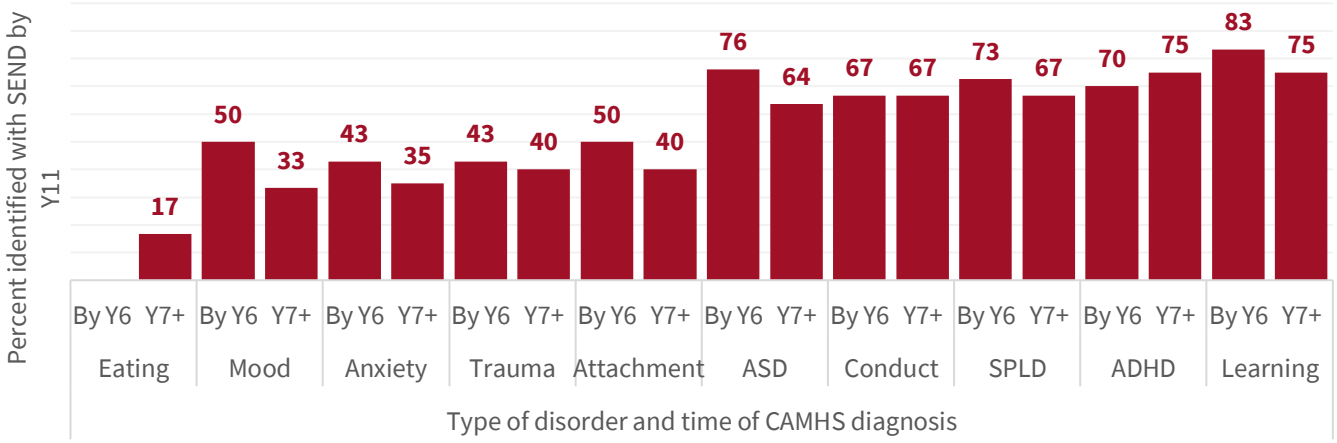
We have probed this finding through descriptive analysis to provide further insight into which children who use CAMHS are least likely to be identified with SEND. As shown in Figure 7.2, just 44 per cent of girls who were under CAMHS care for four or more years, suggesting they experienced long-term functional impairment, were identified with SEND by Year 11. This was even lower, between 21 and 26 per cent, for girls under CAMHS care for less than four years. Boys were significantly more likely to be identified with SEND by Year 11 than girls, but they were still only as likely as not to be identified with SEND (50 per cent) if they were under CAMHS care for three or more years, rising to 63 per cent for four years or more.

Figure 7.2: Per cent identified with SEND by Year 11 of those using CAMHS, by gender and duration of care



We also examined the percentage of children who used CAMHS who were also identified with SEND by Year 11 according to their CAMHS diagnoses; all children who ever received a particular diagnosis are included under that diagnosis, meaning children with more than one diagnosis appear more than once in Figure 7.3. Children are included once for each diagnosis, according to the earliest recording of that diagnosis in their clinical records, either as having been diagnosed by Year 6, or later.

Figure 7.3: Percent identified with SEND by Year 11 of those using CAMHS, by diagnosis and time of diagnosis



Children diagnosed with eating disorders were the least likely group to have been identified with SEND by Year 11; results are only shown for those diagnosed from Year 7-11 as the numbers diagnosed earlier were too small to report. Functional impairment in school is not a requirement for an eating disorder diagnosis since these are dangerous conditions medically as well as psychiatrically. It is therefore not surprising that this group has lower SEND identification than others, although an eating disorder may still impact on a young person's functioning in school. Mood, anxiety, post-traumatic stress and attachment disorders were each associated with 50/50 chances of SEND identification or lower, with children diagnosed by the end of primary school having slightly better chances of being identified with SEND than those diagnosed after Year 6.

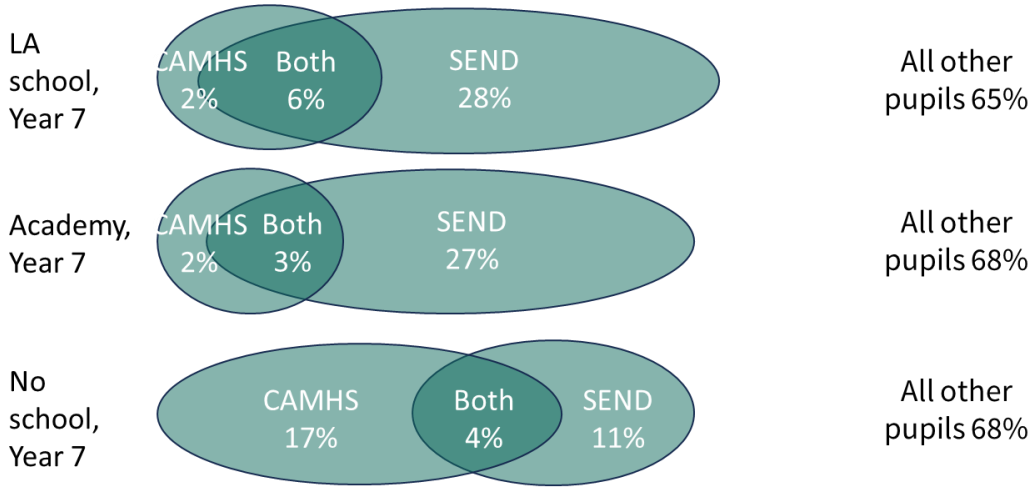
Most common diagnoses require there to be functional impairment of children's normal activities including at school, therefore the assessment of CAMHS is at odds with the assessment of schools and LAs of these children's needs. This may suggest inconsistent communication between CAMHS services and schools concerning what support and adaptation is needed in school to help children to manage their mental health condition, support their recovery, or minimise negative impacts on schooling. CAMHS professionals should seek consent to share information that should be taken account of in school, and instigate this discussion when a young person is under their care, since they are the specialist service.

Between 64 and 83 per cent of children diagnosed by CAMHS with learning difficulties, ADHD, autism, or conduct disorder were also identified as having SEND by Year 11. This represents the majority of children identified with SEND and may partly reflect the previous SEND Code of Practice, which framed primarily non-cognitive needs as 'Behavioural, Emotional and Social Disorders (BESD)'. It is still notable, though, that substantial minorities with these diagnoses were not identified with SEND by Year 11.

Variation in the overlap between any SEND identification and CAMHS service uses

Differences in the overlap between SEND identification and CAMHS service use between groups of pupils were examined to reveal whether those groups with lower SEND identification, possibly indicating under-identification, were also less likely to access CAMHS services, or both services. Simplified versions of the Venn diagram in Figure 7.1 are presented in Figures 7.4 to 7.6, illustrating the overlap of services by the type of school enrolled at in Year 7, major ethnic groups, and selected other risk factors for low or high chances of SEND identification. Figure 7.7 presents the overlap for pupils with a history of being eligible for free school meals (FSM), for whom we found evidence suggestive of rationing of SEND identification within highly deprived schools, neighbourhoods and LAs.

Figure 7.4: Venn Diagram of pupils in South London and Maudsley Trust area by CAMHS use, SEND identification, and school enrolment in Year 7



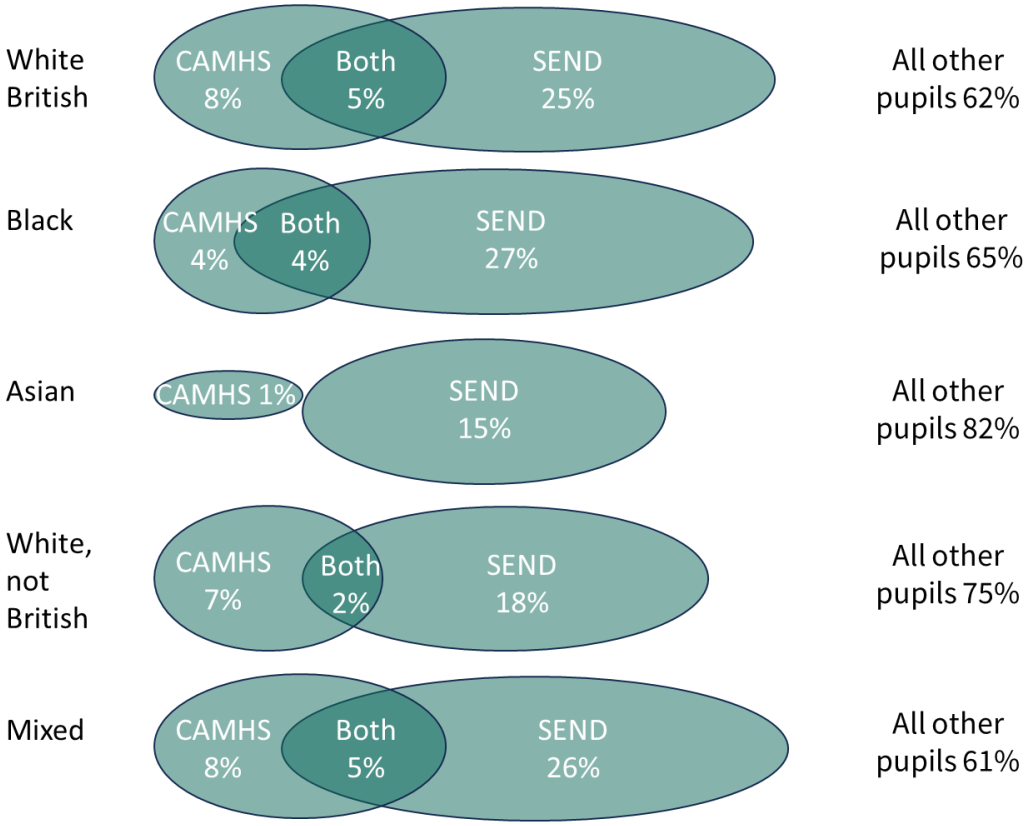
Children enrolled at either LA schools or academies in Year 7 had smaller chances of having used CAMHS than children with no school enrolment in Year 7. A total of eight per cent of children in LA schools and five per cent of children in academies had used CAMHS by Year 11. Children with no enrolment in Year 7 accounted for around 4,000 of the 18,000-pupil population of the South London and Maudsley NHS Trust area for this age cohort; they included small numbers of children enrolled in Pupil Referral Units, but predominantly children who were geographically mobile and had moved into the area after Year 7. This group had very high chances of using CAMHS, with one in five (21 per cent) having done so by Year 11.

Six per cent of all children enrolled in LA schools in Year 7 had used CAMHS *and* been identified with SEND by Year 11, compared with three per cent of children enrolled at academies, and four per cent of children with no school enrolment in Year 7. This meant that as a proportion of children who had used CAMHS by Year 11, 76 per cent in LA schools and 62 per cent in academies had been identified with SEND by Year 11. In contrast, just 19 per cent of children with no school enrolment in Year 7 who had used CAMHS by Year 11 had also been identified with SEND by Year 11.

Compared with attending an LA school, attending an academy in Year 7 was therefore associated with somewhat lower chances of using CAMHS *and* being identified with SEND, while having no school enrolment in Year 7 was associated with drastically lower chances given the high rate of CAMHS use by this group. This contrasts with our earlier finding (see section 3) that children who were mobile between primary schools were more likely to have SEND identified in secondary school. It is possible that mobility during secondary school resulted in assessment being delayed, with insufficient time to identify SEND by Year 11.

Children had similar chances of being identified with SEND by Year 11, but not having any contact with CAMHS if they attended an LA school (28 per cent), compared with an academy (27 per cent), in Year 7. This contrasted with much lower chances of identification for children not enrolled at a school in Year 7, with just 11 per cent being identified as having SEND but no contact with CAMHS, by Year 11. Overall, being mobile or out of school during secondary school reduced the chances of SEND identification, whilst increasing the chances of using CAMHS.

Figure 7.5: Venn Diagram of pupils in South London and Maudsley Trust area by CAMHS use, SEND identification, and ethnicity



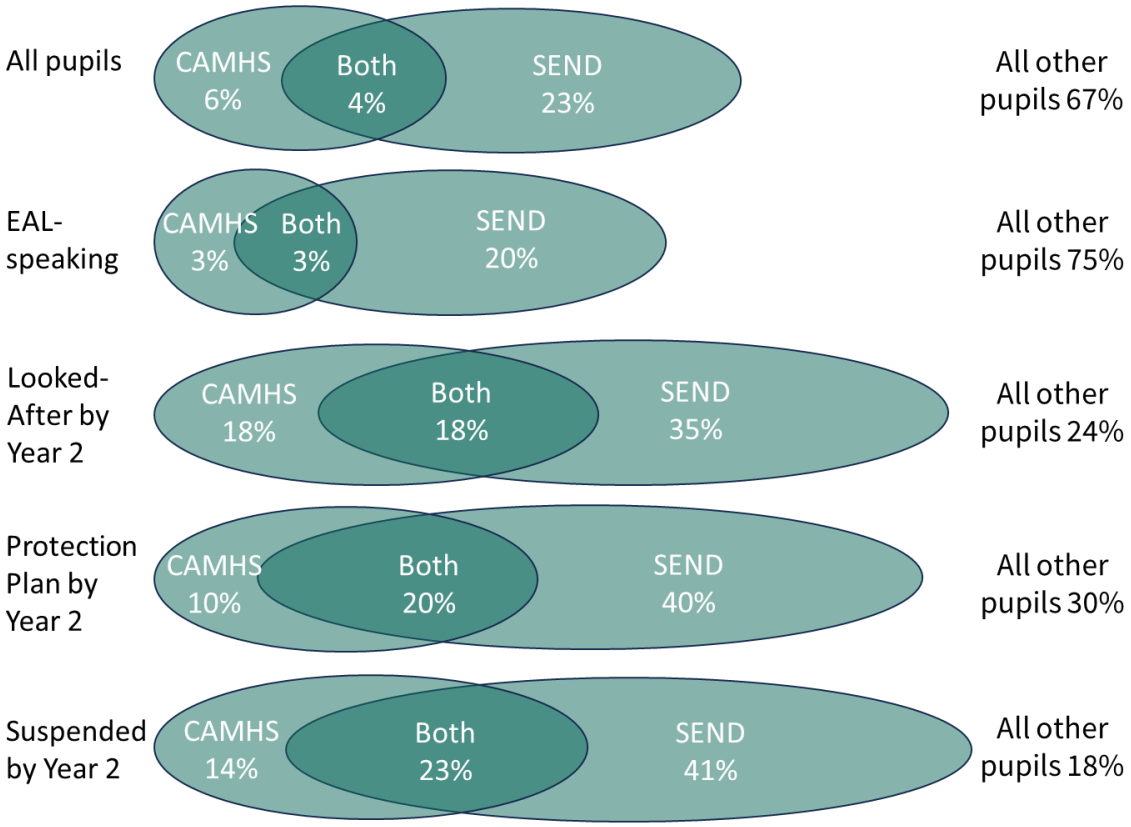
Among the population of school pupils in the South London and Maudsley Trust area who reached Year 11 in 2019, Asian pupils (including Indian, Pakistani, Bangladeshi, and Other Asian ethnicities) were much less likely than White British pupils to use CAMHS by Year 11. One per cent of Asian pupils compared with 13 per cent of White British pupils did so. There was also no overlap between Asian pupils using CAMHS and those identified with SEND in this cohort, in addition to reduced chances of being identified as having SEND by Year 11 (15 per cent of Asian pupils compared with 30 per cent of White British pupils). There are competing possible explanations for the low prevalence of CAMHS use and SEND identification by Asian pupils, since they may have been less likely to have needed CAMHS or SEND provision, or have been less likely to have their needs identified. In either case, this is a striking difference in use of services.

Pupils with White ethnicities other than White British (including White Irish, Gypsy/Roma, Irish Traveller and Other White ethnicities) also had lower chances of having used CAMHS or having been identified with SEND than White British pupils by Year 11, but this was not as marked as for Asian pupils. A total of nine per cent of White (other than White British) pupils had used CAMHS and 20 per cent had been identified as having SEND, by Year 11. The overlap between CAMHS use and identified SEND was also smaller than for White British pupils, accounting for two per cent of White (other than White British) pupils compared with five per cent of White British pupils. Of those pupils who had used CAMHS by Year 11, 26 per cent of White (other than White British) pupils had been identified with SEND, compared with 38 per cent of White British pupils.

Overall, black pupils had similar chances of being identified as having SEND by Year 11 to White British pupils (31 per cent compared to 30 per cent), but lower chances of having used CAMHS by Year 11 (8 per cent compared with 13 per cent of White British pupils). The overlap of CAMHS use and SEND identification was smaller in absolute

terms for black pupils than White British pupils (four per cent compared with five per cent of pupils). Pupils of Mixed ethnicity had similar chances of having used CAMHS or having been identified as having SEND by Year 11, and there was a similar overlap in use of these services.

Figure 7.6: Venn Diagram of pupils in South London and Maudsley Trust area by CAMHS use, SEND identification, and risk factors for SEND identification



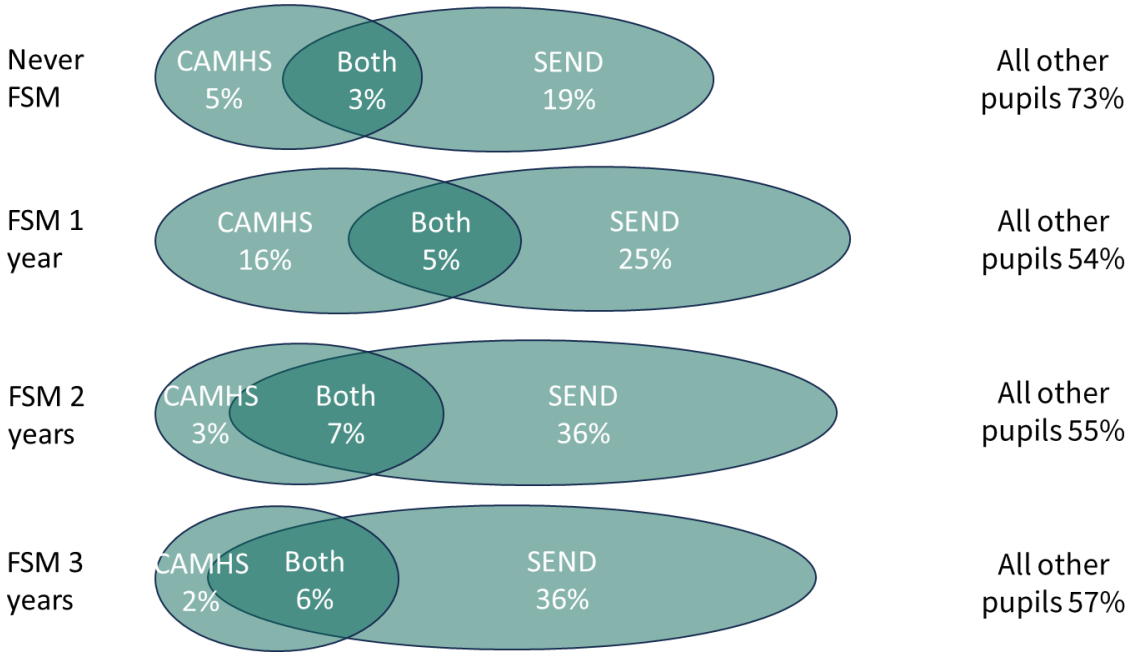
Pupils who speak English as an additional language (EAL) had smaller chances of having used CAMHS or having been identified as having SEND by Year 11, compared with all pupils (six per cent versus 10 per cent had used CAMHS and 23 per cent versus 27 per cent had been identified as having SEND). Three per cent of pupils who speak EAL had used CAMHS *and* been identified as having SEND by Year 11, compared with four per cent of all pupils. It is possible that language barriers may have contributed to lower service use by children who speak EAL.

In contrast, children who were Looked-After (CLA), had a Child Protection Plan (CPP), or had been suspended from primary school, by Year 2, were more likely to have used CAMHS and more likely to have been identified as having SEND, by Year 11. In each case, the overlap between the two services was also larger than average, with 18 per cent of CLA, 20 per cent of children with a CPP and 23 per cent of children suspended by Year 2 having used CAMHS *and* been identified as having SEND by Year 11. As a proportion of those who had used CAMHS by Year 11, 50 per cent had been identified as having SEND by Year 11 among CLA and children who had been suspended by Year 2, and 67 per cent had been identified as having SEND among children with a CPP.

Higher levels of need translating to higher service use among CLA, children with a CPP, and children with suspensions is not surprising since contact with children's social care and suspensions during primary school are clear markers of vulnerability. The fact these vulnerable groups had greater-than-average chances of using both services is likely to reflect an appropriate use of resources, although substantial proportions of children in these groups who had used CAMHS by Year 11, were not identified as having SEND. There may be opportunities to

further improve the response to high levels of need among these groups at risk of SEND identification by increasing the proportion of children in contact with CAMHS who are identified as having SEND.

Figure 7.7: Venn Diagram of pupils in South London and Maudsley Trust area by CAMHS use, SEND identification, and history of Free School Meals eligibility in Years R-2



Children who were never eligible for Free School Meals (FSM) during Years R-2 had the lowest chances of being identified as having SEND by Year 11, among groups categorised by FSM history. Of the never-FSM group, 22 per cent were identified as having SEND, and eight per cent used CAMHS, by Year 11. Three per cent of the never-FSM group used CAMHS *and* had been identified as having SEND. This meant that, of those who had used CAMHS, 38 per cent had been identified as having SEND by Year 11, among the never-FSM group.

Children who were eligible for FSM for one year during Reception to Year 2 had the greatest chances of having used CAMHS by Year 11, with one in five (21 per cent) having done so. They were also more likely than the never-FSM group to have been identified with SEND by Year 11, with 30 per cent having done so. However, as a proportion of those who used CAMHS, just 23 per cent were identified as having SEND, among those eligible for FSM for one out of the three years.

Among children who were eligible for FSM for two of the three years during Year R-2, the proportion who had used CAMHS by Year 11 was smaller than for children eligible for FSM for just one year (10 per cent compared with 21 per cent). This is counter-intuitive since one would expect children who were deprived for a longer duration to have greater chances of needing CAMHS services. Furthermore, for children eligible for FSM in all three years during Years R-2, the chances of having used CAMHS by Year 11 were even smaller, at eight per cent (the same as for children who were never eligible in Years R-2).

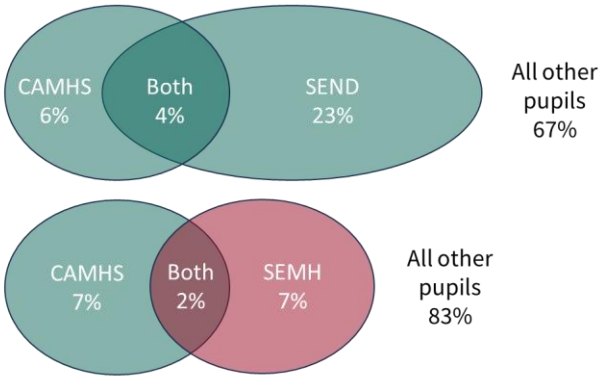
In contrast to their lower chances of CAMHS use, children who were eligible for FSM for longer had increased chances of having been identified as having SEND by Year 11 (43 per cent for those eligible for FSM for two years, and 42 per cent for those eligible for FSM for three years, compared with 30 per cent for those eligible for FSM for one year and 22 per cent for those never eligible for FSM in Years R-2). The overlap between the two services was larger for children who were deprived for longer; six per cent of children eligible for FSM for three years, seven per cent of those eligible for FSM for two years, five per cent of those eligible for FSM for one year and three per cent of

those never eligible in Years R-2, had used CAMHS *and* been identified as having SEND by Year 11. The higher service overlap in spite of lower use of CAMHS reflected the very high chances of having been identified as having SEND for children with the longest duration of eligibility for FSM. It seems very likely that the need for CAMHS has been under-recognised among children who were persistently eligible for FSM, since it would not make sense for the most deprived children to have better average mental health than those with transient or no deprivation. This raises questions about the referrals process for CAMHS and how equitable this is.

Social, Emotional and Mental Health

We also considered how the overlap between any SEND and CAMHS discussed above compares with the overlap for children with social, emotional and mental health (SEMH) as their primary or secondary need type with use of CAMHS services. As previously, this related to the population covered by the South London and Maudsley NHS Foundation Trust, in the 2019 Year 11 cohort. Percentages in Figure 7.8 are of all children living in the service area. Overall, of those children who used CAMHS by Year 11, 27 per cent were ever identified with SEMH.

Figure 7.8: Venn diagram of pupils in the South London and Maudsley Trust area by CAMHS use, SEND identification and SEMH identification



Four fifths of children were neither identified with SEMH nor used CAMHS services. Seven per cent were identified as having SEMH but had not used CAMHS, and the same percentage had used CAMHS but were never identified as having SEMH. The overlap between identified SEMH and CAMHS use was therefore smaller than that between identified SEND of any need type and CAMHS use.

The current SEND Code of Practice, which was in force when the CAMHS diagnoses from Year 7+ were made in our South London sample, replaced the BESD need type with 'Social, Emotional and Mental Health (SEMH)' needs to emphasise that mental health conditions including emotional disorders are included within the scope of SEND, and that SEND which presents as 'behavioural' may mask underlying emotional needs. However, our findings strongly suggest that this change had not yet resulted in parity of identification for mental health conditions as a type of SEND by 2019.

There is a pressing need to communicate clearly to education professionals that emotional disorders are, on their own, a form of SEND need, which should be identified and met in school.

Discussion and recommendations

In this section we discuss the results of our analysis with a focus on factors that predict SEND in ways that are unlikely to represent real differences in underlying need or may reflect unintended or perverse policy effects. We then consider the policy and practice implications of our findings.

Factors that behave counter-intuitively

Month of birth

It has long been recognised in the research literature that summer-born children, or more accurately children who are the youngest within their school Year - which happen to be those born in the summer in England - have increased chances of being identified with SEND compared with the older children in the same school cohort.

The consensus from previous research is that differences in cognitive ability and related special needs are overwhelmingly explained by the age difference itself, and that assessments such as the EYFSP and teacher's assessments of SEND need have simply failed to take into account the normal development differences between children for the twelve months over which a school Year group varies in age (Crawford, Dearden, and Greaves 2013).

Only minimal effects have been found relating to other sources such as differences in the length of schooling experienced, and suggestions of difference in underlying need based on exposure to colder climates during the early stages of pre-natal development have been largely discredited, at least as far as the most prevalent types of SEND needs are concerned (Department for Education 2010).

Season of birth differences between children when assessed at the same age (rather than the same point in time) suggest there is some greater remaining variation in socio-emotional assessments than in cognitive assessments (Crawford, Dearden, and Greaves 2013). However, since the socio-emotional assessments this is based on are somewhat subjective observational assessments by adults, it is just as plausible that these measured socio-emotional differences simply reflect normal developmental differences between children who are older or younger within their Year group, in the same way that differences in SEND identifications do.

All told, it is generally accepted that differences in overall SEND identification rates by month of birth are largely an aberration resulting from failure to correctly adjust for normal rates of development in SEND assessment processes. Indeed, there is emerging evidence that misperceptions of child ability based on relative age may in fact perpetuate unequal and harmful outcomes, in terms of both attainment and socio-emotional development, through the medium of practices such as ability grouping in primary school (Campbell 2015).

The month of birth differences reduce in later assessments at older ages as children mature and the age difference of up to twelve months becomes a smaller proportion of children's total lifespan at the time of assessment (Department for Education, 2010), so this is partially self-correcting over the course of primary and secondary school. However, while it is generally conceived of as 'over-identification of summer-born children', the pattern could equally be consistent with an interpretation of 'under-identification of autumn-born children', or possibly their delayed identification. In either case it represents an inefficient allocation of support based on need.

Gender

A review of gender and education in 2007 reported that, in 2006, boys were around 2.7 times as likely as girls to be given an EHCP, and 1.6 times as likely to be identified for SEN Support (Department for Education and Skills 2007).

These raw gender differences had increased slightly by 2017, with our analysis finding boys to have three times the odds of receiving an EHCP and twice the odds of being identified for SEN Support.

Controlled analysis using data from 2005 found that gender explained more of the variation in SEND status than free school meal eligibility, area deprivation, ethnicity or Year group (Strand and Lindsay 2009). In some contrast, our analysis of primary school SEND identification suggests that the size of the effects for persistent disadvantage are similar to the gender effect for SEN Support and a little larger than the gender effect for EHCPs.

Our models indicate that some but not all of the over-representation of boys is mediated by lower assessment scores in the Early Years Foundation Stage Profile. As these assessments are made by the same teachers who are involved in assessing SEND needs, this is unsurprising, and it is unclear whether or to what extent the SEND differences reflect real differences in underlying need as opposed to bias in the assessments.

Some older studies suggest that there is likely to be an element of over-identification of boys and/or under-identification of girls based on differences in the severity of need observed between boys and girls identified with the same type of need (Dockrell, Peacey, and Lunt 2002).

We can gain further insights into gender effects by comparing our findings on the identification of social, emotional and mental health needs (SEMH) in secondary school with the NHS Children and Young People's Mental Health (CYPMH) Survey for 2017, which looked at 11-15 year olds. We chose this edition of the survey as it most nearly matches the timing of our analysed cohort, who reached Year 11 in 2019, and it also provides more detailed results than the follow-up surveys since the Covid-19 pandemic struck in 2020.

The CYPMH Survey found that girls aged 11-15 were as likely as boys to have any mental health disorder, and more likely to have a clinical emotional disorder (i.e. depression or anxiety: 9.4 per cent of girls versus 6.9 per cent of boys).

However, our analysis showed that, as with all types of SEND identification, boys were more likely than girls to be identified with SEMH in secondary school: specifically, boys had one-and-a-half times the odds of girls of being identified with SEMH for the first time in Years 7-11. This may reflect differences in how distress is presented by boys and girls, with girls being more likely to internalise their distress (Gutman and Codiroli McMaster 2020). Gendered differences in the presentation of needs is a pattern that goes wider than SEMH, as girls are also more likely to mask or camouflage the behavioural traits of autism (Hull, Petrides, and Mandy 2020).

Ethnicity and English as an additional language

Relationships between ethnicity and SEND identification are complex and open to competing interpretations. We found over- and under-representation of some ethnic groups in primary school SEND identification, and under-representation of some groups in secondary school SEND identification. However, these findings could reflect numerous factors, including:

- Bias in the process for identifying children with SEND
- Rational parental response to historical discriminatory bias in identification
- Selective migration resulting in different family health and cognitive endowments
- Differential parenting behaviours and home learning environments
- Differential experiences of deprivation between ethnic groups

Bias and parental response to historical bias could plausibly be part of the explanation for the disparities experienced by ethnic groups that have taken the brunt of racial discrimination. Historically, prior to the

mainstreaming of most children with SEND following the Warnock Review in 1978, Black Caribbean children were over-identified with SEND and segregated from other children in schools for the 'educationally subnormal', to the clear detriment of their educational and broader life outcomes (Coard 1971).

Indeed, Strand & Lindsay's analysis of 2005 data indicated the continued over-representation of Black Caribbean children among those with SEND at the 'School Action Plus' and 'Statemented' levels at that time (Strand & Lindsay, 2009). The richer control variables available for our analysis have helped us explore some of the possible mechanisms behind this pattern and suggest that, while a proportion of the over-representation is due to greater levels of poverty, most is associated with attending schools that identify more children with SEND, or is mediated through lower attainment assessments at age five.

A possible explanation for the under-representation of Asian ethnic groups among those children identified with SEND include these groups of children having greater cognitive and physical health endowments than White British children with similar socio-economic backgrounds due to selective immigration. Selective immigration refers to the fact that within a given country, those who emigrate are not a random selection from the overall population; they may be more socially and educationally advantaged in some cases, such as families arriving with work visas, and more disadvantaged in others such as refugees and asylum seekers.

Trends in raw school attainment by ethnicity have shown gaps for most minority groups reduced, and in many cases reversed, over the last ten years. For example, in 2013, Pakistani pupils had GCSE English and maths attainment that was on average the equivalent of three months behind that of White British pupils (Hutchinson et al. 2020), but by 2023 Pakistani pupils had attainment equivalent to one month better than White British pupils (Tuckett, Robinson, and Hunt 2024). Furthermore, progress in attainment once schooling has begun and after controlling for deprivation has been positive for these ethnic groups for many years as evidenced in contextualised value-added models of academic progress.

There is also evidence that positive attitudes to education, and parenting that prioritises regular sleep, family mealtimes and encouragement of homework, are associated with better learning outcomes for children in certain minority ethnic groups than their White British counterparts (Department for Children, Schools and Families 2010; Strand 2008). However, the evidence on this tends to focus on the later primary and secondary school Years, and there are larger ethnic attainment disadvantages for some groups at age five, shortly before we measure SEND identification in primary school.

Parenting explanations are less convincing for SEND prevalence than for academic attainment as SEND are often not 'solvable' through parenting interventions. While it may be the case that some forms of developmental delay are associated with parental neglect or adversity faced by families, it is not the case that a child with severe autistic spectrum disorder or hearing impairment, for example, could achieve to their potential at school without specialist support.

It is possible that under-representation of some ethnic groups among children identified with SEND reflect a degree of stigma surrounding SEND, which may reduce acceptance of SEND diagnoses or labels.

Gypsy/Roma and Irish Traveller children are over-represented at both levels of SEND in primary school but under-represented among children receiving EHCPs during secondary school after controlling for all factors. The Early Years Foundation Stage Profile (EYFSP) attainment assessments were more important in explaining the over-representation at primary than the school attended. This leaves open the possibility that there could be some under-identification of needs for EHCPs among this group, depending on how accurate and unbiased the EYFSP assessments are.

Gypsy/Roma and Irish Traveller children often experience discrimination and bullying, and also face practical barriers to navigating the systems of support in schools due to their greater-than-average school mobility rates (Dockrell, Peacey, and Lunt 2002). Mobility is associated with under-representation at both levels of SEND, in addition to the under-representation of GRT children for EHCPs received in secondary school that our models found remains after controlling for mobility.

Local authorities could plausibly be reluctant to allocate rationed EHCP resources to children who they may view as 'belonging' to another area, creating potential disputes over financial responsibility even where there is a clear need for support. This sort of problem would be consistent with some older research which found that mobile GRT families are more likely to miss out on health services including hearing and vision checks (Wilkin et al. 2010).

Children who have ever been recorded as having English as an Additional Language have lower odds of being identified with SEND at both levels in primary and secondary school. If there is under-identification, a possible explanation is that language barriers impede the assessment of SEND needs. This could plausibly lead to delayed or missed SEND identifications. Historically, cases have been reported of the reverse of this situation, whereby children whose first language was Caribbean Creole were mis-identified with SEND after teachers mistook the use of another language containing elements of English for speech and language difficulties (Coard 1971).

School absence rates

There is clear evidence that once children are identified with SEND they then experience higher average levels of absence from school: in 2018/19, the percentage of school sessions missed due to absence by children without SEND was 4.3 per cent, compared with 6.5 per cent for children identified for SEN Support and 8.7 for those with an EHCP (Department for Education 2020).

In contrast, our findings associating greater absence from school in Reception with reduced chances of SEND identification in Years 1-4 imply that prior to identification, children identified with SEND had lower levels of absence from school. It seems implausible that children with SEND should have lower rates of absence before they are identified but higher rates once they have been assessed and support has been put in place. Given that some children with SEND have physical disabilities or health conditions related to their SEND or require therapeutic appointments, it is suspect that children with higher rates of sickness absence, authorised absence, or unauthorised absence are under-represented among children subsequently identified for SEN Support, and that sickness and unauthorised absence are negatively associated with EHCP identification. The pattern of effects observed is highly suggestive of under-identification of SEND for children who for one reason or another are present in school less regularly.

Looked-after children and children subject to child protection plan(s)

Looked-after children faced a strong risk of being identified with SEND, but importantly, they were unlikely to have their SEND needs identified in primary school until they had been looked-after for more than a year. Indeed, their chances of identification did not peak until six years after they had been taken into care for SEN Support and 4-6 years after for EHCPs. Given that many would have been subject to a Child Protection Plan (CPP) for a period of time before they became looked-after children, this suggests that there are delays to SEND identification after it is apparent that children are at elevated risk of SEND due to abuse or neglect.

Another counterintuitive finding is the reduced odds of identification with SEND in primary school for children who had been the subject of one or more child protection plans (CPPs). By definition, children who are made the

subject of a CPP have suffered serious harm or are at risk of suffering serious harm and action is required to protect them and promote their welfare, health and development.

It is not conceivable that this group of children really has a lower prevalence of SEND during primary school than children who have never been the subject of a plan. In secondary school, levels of identification for SEN Support, EHCPs and SEMH are moderately higher among children who had one or more CPPs during primary school.

School governance type

Our models indicate that children attending mainstream academy primary schools are less likely to be identified with SEND at both levels. At first sight this could be due to the selective nature of academy conversions in their early stages, and our analysis does indeed cover the early phase of primary school academisation. However, these effects remained highly significant after controlling for pupil characteristics in detail, and also in the presence of a range of other school factors, including the school's history of SEND identification, deprivation and ethnicity of the pupil intake and the latest Ofsted grade. Reception Year identifications were also similarly depressed, so this isn't a case of earlier identification in academies.

We examined these effects further by restricting the analysis to identifications for our cohort in Year 3, by which time greater numbers of primary academies existed, and replacing the school type terms with a variable that identified the number of years since academisation for those schools for which this applied. This revealed that after having become academies, schools subsequently became lower identifiers of SEND compared with local authority mainstream schools. In the case of SEN Support this happened one year after academisation / opening and in the case of EHCPs it happened two years after.

These findings represent short-term effects from the beginning of the primary academisation programme. In the case of SEN Support, identification rates were not lower in the second year following academisation than prior to academisation, but it should be noted that this analysis only captures one year's cohort of academy conversions that happened two years earlier.

For EHCPs (but not SEN Support), the proportion of primary schools in the local authority that had converted to academy status by the end of the period analysed was also negatively associated with levels of identification, over and above the effect of whether the actual school attended was an academy or not. These effects were by far the largest of the local authority factors we tested, suggesting a substantial knock-on effect on access to funded support for SEND for schools remaining under local authority control when others in the same area had become academies.

Taking into account all these findings, our research strongly suggests that academy status results in lower chances of identification with SEND all other factors being equal, at least in the short term. In addition to their role in explaining school to school variation, school governance changes are very likely an important part of the story of how SEND identification varies so much from area to area, even for children who do not attend academies.

Policy implications and recommendations

Beneath the striking headline finding that which primary school a child attends makes more difference to their chances of being identified with SEND than the characteristics and experiences of the individual child, this research has uncovered a complex set of risk factors for SEND identification at individual, school and local authority levels in primary and secondary schools, and for additional identification of needs during secondary school.

While some of the risk factors behave exactly as one might expect, the patterns of effects for those that don't raise many policy questions. These span the quality and consistency of SEND assessment, equality between different groups of children and accessibility for minority groups, the absence of effective accountability for SEND provision and failures to fully understand the need levels in different school populations, and the resourcing of support for SEND in schools and local authorities. The following paragraphs outline the implications of our findings for policy, practice and further research in each of these spheres.

Quality and consistency

The dominance of school effects in explaining which children are most likely to be identified with SEND clearly points to school practices as a key locus for reducing the 'postcode lottery' and improving the allocation of support for SEND to the children who need it. This applies to secondary schools as much as primary schools. An obvious lever for improving assessment is specialist training for teachers covering child development and different types of SEND needs.

Recommendation: in response to large between-schools differences in SEND identification, we recommend that training in child development and different types of SEND should be mandatory in initial teacher training and early career development, and prioritised in development for experienced teachers. Such training is not currently part of the core content framework requirements.

Recommendation: in response to large between-schools differences in SEND identification, we recommend that further research into differences in school identification and recording practices is undertaken, to understand the role played by recording practices in the differences between schools, and the implications of this for the provision children receive.

Further suggestions for improving the quality and consistency of SEND identification might include reinforcing the team of professionals around the school. Better access to educational psychologists for schools when providing early support and when making a case for an EHCP would reduce the reliance on teachers to be able to disentangle more complex profiles of SEND and understand the root causes of difficulties that have built up over time.

Some of our findings suggest that advice and guidance is needed to help teachers to make better-informed assessments of SEND, or to instigate those assessments promptly when certain circumstances arise, particularly for children with characteristics we found to be associated with counter-intuitive or questionable reduced or delayed chances of SEND identification.

Recommendation: in response to the differences in identification for summer-born children and boys, we recommend that awareness is promoted among school staff of the importance of considering the progress children are making over time as well as their current ability and behaviour, and of how SEND can manifest differently in girls.

Recommendation: in response to lower chances of SEND identification for children who speak English as an additional language, the response to low attainment for children in this group should consider both language and SEND as possible contributory factors.

Recommendation: in response to lower chances of SEND identification for children with greater levels of absence from school, we recommend that the response to emerging school attendance problems should include consideration of whether the child may have unidentified SEND.

Recommendation: in response to the finding that suspensions are a marker of risk for later SEMH identification, children with suspensions during Key Stage 2 should have their needs assessed to consider what support they will need at the transition to secondary school. For those not identified with SEND, consideration should be given to whether they have unidentified SEND, and for those already identified with another SEND consideration should be given to whether they have SEMH.

Previous research on unexplained school mobility including unofficial exclusions suggests that schools have very different conceptions of what needs can be met in mainstream settings (Hutchinson & Crenna-Jennings, 2019). There is no clear national understanding of what support needs mainstream schools should be able to accommodate, and in what circumstances specialist placements are needed.

In order to raise the quality and consistency of SEND assessment, a clear framework of national expectations could begin to define what kinds of adjustment and support any mainstream school should make available as a matter of course. While this would need to be detailed and specific to make an impact, and there are some tensions between this and current concepts of school autonomy, it is hard to envisage a meaningful national upward shift in levels of school inclusion without increasing the level of shared understanding and expectations around SEND provision.

Especially in the early primary years, but also during adolescence, personal, social and emotional development (PSED) is a critical dimension of child development. Our results show that PSED difficulties at age five are heavily associated with receiving an EHCP during primary school.

Recommendation: in response to the lack of any universal national assessment of PSED after age five, and in a context of rising numbers of EHCPs associated with PSED, we recommend that the National Curriculum Review considers whether to introduce national PSED assessments in early KS2 and early secondary school to assist timely and consistent identification.

Some children's needs may not be met in mainstream schools, and special schools are a critical part of the SEND system that deserves greater policy attention. However, the proportion of variation in SEND identification explained by which school a child attends is so high that it suggests at the margins some mainstream schools need to become more inclusive. National policy could enable this through attention to the funding available to schools to meet needs, school admissions policy, and through a new national curriculum that is paced and includes flexibility to accommodate children with SEND.

Equality and accessibility

Our findings identify several groups of children who are possibly or likely under-identified with SEND and therefore do not access SEND provision as readily as other children. We found discrepancies between population surveys of child and adolescent mental health and children identified with SEND who used CAMHS services in South London, as well as the identification of SEMH needs in secondary schools. Girls appeared to be under-identified with SEMH, as did children in some ethnic groups. Strengthening the team around the school through more proactive outreach from CAMHS to schools could improve understanding of what support is needed in school for children with psychiatric conditions.

Recommendation: in response to the under-recognition of girls' needs, particularly mood and anxiety disorders, we recommend that CAMHS should seek consent and share information and advice with schools about support in school to minimise the risks of lost academic potential due to working memory problems,

to enhance attendance and participation, and to respond to school-based risks to recovery such as exam stress.

Children who experience higher-than-average levels of school mobility or miss substantial amounts of school due to absence also present challenges to SEND assessment. This is particularly relevant in the wake of the Covid lockdowns, which kept children out of school for substantial and varying periods of time, and meant that even those with EHCPs temporarily lost the legal enforceability of their agreed SEND provision. The time is right to consider how children's SEND needs can be assessed effectively if they are out of school for a period or move between schools. Local authorities need services that can engage with children at home effectively to ensure that the right to education is not compromised.

Recommendation: in response to lower chances of SEND identification for children who are mobile between schools, effective information sharing systems between schools and LAs should be established and schools should share the evidence they have gathered in SEND assessments to this when a child moves.

We found some evidence of rationing in favour of the least disadvantaged families living in areas of high deprivation, and lesser identification of the poorest children in various groups and circumstances. It is challenging to recognise under-identification of the poorest against a backdrop where disadvantaged children do have generally raised chances of being identified with SEND, but one way that schools and local authorities can guard against this is by monitoring the assessments and outcomes of children with the most persistent histories of free school meal eligibility, and ensuring that circumstances that may make their needs less visible in school are used as triggers for SEND assessment.

Recommendation: in response to under-identification of children whose needs are less visible and apparent rationing of provision within deprived areas, we recommend that the government establishes effective oversight of local Joint Strategic Needs Assessments and joint planning by LAs and Integrated Care Boards to ensure these processes are conducted in line with the SEND Code of Practice.

Recommendation: in response to the findings that SEND identification is strongly associated with childhood deprivation at the individual, school and neighbourhood levels, we recommend that the government pursues its priority of developing an effective cross-government poverty strategy; this must reduce the level of need in the population by reducing the proportion of children living in poverty.

Recommendation: in response to the findings suggestive of missed opportunities to identify SEND early for looked-after children, we recommend that children's educational needs should be prioritised from the beginning of the social care assessment process, and that the probability of SEMH for this group should be recognised by making the need for SEN support a presumption to be ruled out.

Accountability and funding

Accountability for SEND provision is currently the domain of the SEND tribunal and local authority ombudsman, which are not accessible to all families. The lack of accountability within the school system itself is a consequence of a lack of harmonisation of SEND policy and wider schools and children's policy. Children with SEND were often sidelined or forgotten when school organisation and accountability systems were designed (Education Select Committee 2019; Andrews 2025).

A broader consideration of support for personal, social and emotional development is needed within any assessment of school quality. This should include the regular collection of student voice on experiences at school, not just at the time of inspection which may be infrequent, and consider details of children's perceptions of safety,

belonging and engagement in learning, and the times and places in schools where these are most and least secure; as well as longer-term outcomes including post-16 and post-19 destinations.

Recommendation: in response to the under-recognition of mood and anxiety disorders as SEMH potentially needing support in school, we recommend strengthening the use of 'pupil voice' in schools particularly concerning pupils' perceptions of safety, inclusion and engagement at school, and using this evidence to support SEND provision, safeguarding and pastoral support.

Broader outcomes should be complemented by a more nuanced picture of needs and challenges faced by the school's intake for the purpose of contextualising the outcomes. These should include the key predictors of SEND we have documented in this research, such as individual and neighbourhood-level deprivation, gender, ethnicity, child protection plans and looked-after status, and for secondary schools the absence and suspensions of the intake when they were in primary school. This is essential context for understanding school outcomes such as attainment and academic progress.

Recommendation: in response to the lower odds of SEND identification for children attending academies, we recommend that further research is undertaken into the causes of these differences and whether there are positive or negative consequences of different approaches to identifying children's needs. Finally, schools and other local services should be jointly accountable for the educational outcomes of children with SEND. Where the capacity of local authority teams to undertake their SEND duties has been eroded over time, this is likely to require additional funding alongside more equal school accountability concerning pupil admissions as well as broader contextualised outcomes for schools, irrespective of whether they are academies or LA schools.

Recommendation: in response to the markedly reduced chances of receiving an EHCP for primary school children living in the most-academised LAs, we recommend that the government makes targeted investment ensuring local allocations of the high needs budget are sufficient to meet needs and to staff the education, health and care needs assessment (EHCNA) function.

Annex

Appendix A: Summary reference table of odds effects on SEND identification

The following reference table summarises the size and direction of statistically significant odds effects from the models of SEND identification.

Effects are classified by size into large, medium and small effects according to the odds ratio for the coefficient for each factor (table rows) and by the outcome of SEN Support or Education, Health and Care Plan (table columns).

Each factor predicting SEND identification may appear once for primary school identification (Pri) and once for secondary school identification (Sec).

The plus and minus symbols indicate whether the factor is associated with increased (+) or decreased (-) chances of SEND identification.

	SEN Support	EHCP
Large effects **(odds raised by 10 times or more)**	Age 5 Communication score (Pri -) Neighbourhood deprivation (Pri + Sec +)	Age 5 Personal, Social & Emotional Development score (Pri -) Neighbourhood deprivation (Pri +) LA with more primary academies (Pri -) Traveller of Irish Heritage (Sec -) Suspended during Key Stage 2 (Sec +)
Medium effects **(odds raised by 3 times or more)**	Free school meals history (Pri +) Age 5 Personal, Social & Emotional Development score (Pri -) Age 5 Numeracy score (Pri -) Age 11 Writing score (Sec -) Gypsy/Roma/Traveller (Pri +) Academy school attended (Pri -) Moved neighbourhoods (Pri -) Frequently absent from school (Pri -) Child protection plan (Pri -) Child Looked-After > 1 year (Pri + Sec +) Suspended during Key Stage 2 (Sec +)	Boys (Pri +) Age 5 Communication score (Pri -) Age 5 Physical Development score (Pri -) Age 11 Writing score (Sec -) Age 11 Maths score (Sec -) Asian (Sec -) Black African (Sec -) Academy school (Pri -) Child Looked-After > 1 year (Pri +) Moved neighbourhoods (Pri -) Frequently absent from school (Pri -) LA Black and Minority Ethnic pupils % (Pri +)

	SEN Support	EHCP
Small effects **(odds raised above 1)**	Later birth month (Pri + Sec +) Boys (Pri + Sec +) Free School Meals history (Sec +) Age 5 Physical Development score (Pri -) Age 11 Reading score (Sec -) Age 11 Maths score (Sec -) Asian (Pri – Sec -) Black African (Sec -) Black Caribbean (Pri + Sec -) Black Other (Pri + Sec -) Mixed White and Black Caribbean (Pri +) Mixed White and Black African (Sec -) Gypsy/Roma (Sec +) Other White (Sec -) Chinese (Sec -) English as an additional language (Pri – Sec -) Moved schools (Pri – Sec +) Child protection plan (Sec +) Authorised absence % in Key Stage 2 (Sec +) Academy school attended (Sec -) Pupil teacher ratio / larger classes (Pri +) LA Free School Meals % (Pri – Sec +) LA Black and Minority Ethnic pupils % (Pri +)	Boys (Sec +) Free School Meals history (Pri + Sec +) Later birth month (Pri + Sec +) Age 5 Numeracy score (Pri -) Asian (Pri -) Black Caribbean (Pri + Sec -) Mixed White and Black Caribbean (Pri + Sec +) Black Other (Sec -) Mixed White and Black African (Sec -) Gypsy/Roma (Pri + Sec -) Mixed Other (Pri +) Other White (Sec -) Chinese (Sec -) English as an additional language (Pri - Sec -) Moved schools (Pri – Sec +) Child protection plan (Pri – Sec +) Authorised absence % in Key Stage 2 (Sec +) Sickness absence % in Key Stage 2 (Sec -) Child Looked-After > 1 year (Sec +) Pupil teacher ratio / larger classes (Pri -) LA Free School Meals % (Pri -) More mainstream or resourced provision in the LA (Pri +)

Appendix B: Model factors

Factors analysed alongside SEND identification, transitions and CAMHS contact

Factor	Specification	Categorisation	Models
EYFSP Communication	Teacher-assessed scale score for communication, language & literacy, age 5	Deciles	Primary
EYFSP PSR Numeracy	Teacher-assessed scale score for problem solving, reasoning & numeracy, age 5	Deciles	Primary
EYFSP Personal, Social, Emotional	Teacher-assessed scale score for personal, social & emotional development, age 5	Deciles	Primary
EYFSP Physical Development	Teacher-assessed scale score for physical development, age 5	Deciles	Primary
EYFSP Knowledge	Teacher-assessed scale score for knowledge & understanding of the world, age 5	Deciles	Primary
EYFSP Creative Development	Teacher-assessed scale score for creative development, age 5	Deciles	Primary
Gender	Male in any census return = 1	Binary	All
Birth Month	Sourced from most recent record; for SEND-CAMHS analysis, derived from age in months at start of school year	12 calendar months	All
Ethnicity	Sourced from most recent NPD census record	18 category ONS classification	All
Language	First language believed or known to be other than English in any census = 1	Binary	All
Free School Meals - a	Proportion of all relevant terms with valid FSM data in which the pupil was eligible for FSM, prior to ID	0-19% / 20-39% / 40-59% / 60-79% / 80-100%	Primary

Factor	Specification	Categorisation	Models
Free School Meals - b	Proportion of Years Reception to Y6 with valid FSM data in which the pupil was eligible for FSM	0-19% / 20-39% / 40-59% / 60-79% / 80-100%	Secondary
Free School Meals - c	Number of Years Reception to Y2 in which the pupil was eligible for FSM	0 / 1 / 2 / 3	SEND-CAMHS
Mean IDACI - a	Mean average IDACI score across terms prior to ID	Octiles	Primary
Mean IDACI - b	Mean average IDACI score across Years R-6	Continuous	All Secondary
Mean IDACI - c	Mean average IDACI score across Years R-2	Continuous	SEND-CAMHS
Maximum IDACI	Maximum IDACI score across terms, time scope as per Mean IDACI	Deciles / Continuous	All
Variability of IDACI	Standard Deviation of IDACI score across terms, time scope as per Mean IDACI	Deciles / Continuous	All
School Moves	Number of (/ changes of) Unique Reference Number after discounting cases due to school governance changes	0 – 3+ changes prior to ID (Primary) 1 – 5+ schools in Years R-11 (Secondary) 1 – 3 schools in Years R-2 (SEND-CAMHS)	All
Sickness Absence - a	Termly average of % possible sessions missed due to illness prior to ID	Quartiles	Primary
Sickness Absence - b	% of possible sessions missed due to illness in Years 1-6	Continuous	Secondary
Sickness Absence - c	% of possible sessions missed due to illness in Years 1-2	Continuous	SEND-CAMHS
Authorised Absence	% of possible sessions missed due to authorised reasons, time scope as per Sickness Absence	Continuous	All
Unauthorised Absence	% of possible sessions missed due to unauthorised reasons, time scope as per Sickness Absence	Continuous	All
Suspensions	Total number of days suspended in Years 3-6	Interval	Secondary SEND-CAMHS

Factor	Specification	Categorisation	Models
Permanent Exclusions	One or more permanent exclusions in Years 3-6 = 1	Binary	Secondary SEND-CAMHS
Months Looked After - a	Total months in which the child was LAC prior to ID	0 / 1-12 / 13-24 / 25-48 / 49-72 / 73+	Primary
Months Looked After - b	Total months in which the child was LAC by Year 7	0 / 1-12 / 13-24 / 25-48 / 49-72 / 73+	Secondary
Months Looked After - c	Total months in which the child was LAC by Year 3	0 / 1-12 / 13-24 / 25-48 / 49-72 / 73+	SEND-CAMHS
Child Protection Plans	One or more CPP within the time scopes as per Months Looked After = 1	Binary	All
Type of School	At time of ID, Academy = 1	Binary	Primary
Type of School in Year 3	Academy in January of Y3 = 1	Binary	Secondary SEND-CAMHS
Type of School in Year 7	Academy in January of Y7 = 1	Binary	Secondary SEND-CAMHS
Latest Inspection	Ofsted grade from most recent Section 5 inspection at time of ID	Outstanding / Good / Requires Improvement / Inadequate / None	Primary
Latest Inspection Year 3	Ofsted Grade from most recent Section 5 inspection in Y3, for school attended	Outstanding / Good / Requires Improvement / Inadequate / None	Secondary
Latest Inspection Year7	Ofsted Grade from most recent Section 5 inspection in Y7, for school attended	Outstanding / Good / Requires Improvement / Inadequate / None	Secondary
School FSM Rate Reception	% of children eligible for FSM in the school attended in Reception	Terciles	Primary
School FSM Rate Year 3	% of children eligible for FSM in the school attended in Y3	Continuous	Secondary SEND-CAMHS
School FSM Rate Year 7	% of children eligible for FSM in the school attended in Y7	Continuous	Secondary SEND-CAMHS
School SEND Rate Reception	% of children with any SEND in the school attended in Reception	Septiles	Primary
School SEND Rate Year 3	% of children with any SEND in the school attended in Y3	Continuous	Secondary SEND-CAMHS
School SEND Rate Year 7	% of children with any SEND in the school attended in Y7	Continuous	Secondary SEND-CAMHS

Factor	Specification	Categorisation	Models
School SEND Unit ID	School attended at time of ID has a SEN unit = 1	Binary	Primary
School SEND Unit Y3	School attended in Y3 has a SEN unit = 1	Binary	Secondary
School SEND Unit Y7	School Attended in Y7 has a SEN unit = 1	Binary	Secondary
LA FSM Rate Reception	% of children eligible for FSM in the LA in Reception	Terciles	Primary
LA FSM Rate Year 3	% of children eligible for FSM in the LA in Y3	Continuous	Secondary SEND-CAMHS
LA FSM Rate Year 7	% of children eligible for FSM in the LA in Y7	Continuous	Secondary SEND-CAMHS
LA EHCP Mainstream	% of all children who had ECHPs and attended mainstream schools, timing as per LA FSM Rate	Terciles (Primary) / Continuous	All
LA EHCP Resourced	% of all children who had ECHPs and attended schools with Resourced Provision, timing as per LA FSM Rate	Terciles (Primary) / Continuous	All
LA EHCP Special	% of all children who had ECHPs and attended special schools, timing as per LA FSM Rate	Terciles (Primary) / Continuous	All
LA EHCP Other	% of all children who had ECHPs and were not in school, timing as per LA FSM Rate	Terciles (Primary) / Continuous	All
LA BME Rate	% of all children who had ethnicities other than White British, timing as per LA FSM Rate	Terciles (Primary) / Continuous	All
Primary Academisation - a	Proportion of primary schools in the LA that were academies, as of Y6	Quartiles	Primary
Primary Academisation - b	Proportion of primary schools in the LA that were academies, as of Y3	Continuous	Secondary SEND-CAMHS
Secondary Academisation	Proportion of primary schools in the LA that were academies, as of Y7	Continuous	Secondary SEND-CAMHS

Appendix C: Full technical details of models

Stata version 16 was used to implement all final versions of the primary school models, and Stata version 17 was used to implement all final versions of the secondary school and SEND-CAMHS models. A range of other software was used to test and develop earlier versions of the modelling.

The melogit function was used to fit mixed effects models with three levels in child, school, and local authority hierarchies with random effects for school and local authority identity. In the final versions of the models all other factors were fitted as fixed effects.

The logistic function was used to implement the multiple regression (non-multi-level) versions of the models without school and LA effects. These versions are reported for comparison purposes to reveal where child factor effects were influenced by the school attended or LA of residence.

The units of analysis for the dependent variables describing identification with SEND were defined as an event rather than a status — the first incidence where a child was recorded with SEND at that level during their school life. In the case of the SEND-CAMHS models, sample size constraints meant that the units of analysis needed to be defined more broadly as a status. The models focus on:

- For the primary models, identifications in Year 1 or later, so that a rich range of covariate factors measured prior to identification, including Early Years Foundation Stage Profile scale scores, were included.
- For the secondary SEN Support and EHCP models, first identifications in Years 7-11, controlling for covariate factors during primary school, including Key Stage 1 and Key Stage 2 assessments, and school factors pertaining to Year 7 so that the context of the secondary school attended was included.
- For the secondary Social, Emotional and Mental Health (SEMH) models, first identifications in Years 7-11, which encompasses the period of adolescence when this type of SEND need increases substantially in prevalence.
- For the additional identification models, changes to identification and provision during Years 7-11 for children with pre-existing SEND needs identified during Years Reception-6, whereby a new need type of SEMH was added to other previously recorded need types, or whereby a child moved from mainstream school to special school.
- For the SEND-CAMHS models, of children who were identified with SEND in Years Reception-11, those who also had any contact with CAMHS in any Year up to Year 11, controlling for covariate factors in Years Reception-Year 2.

Additional models predicting which children were identified with SEND out of those children who had contact with CAMHS were tested but not included in the final models because of convergence problems. This is explored further in the descriptive statistics.

Identifications were assigned a time based on the first term (primary models) or year (January census, secondary models) in which the school census recorded SEND status at that level or of that need type or provision, and these identification times were used to derive factor variables that took into account longitudinal records over the course of schooling.

For example, in the primary models, if an identification took place in the spring term of Year 2, the sickness absence variable was defined to give the average termly sickness absence rate across the six terms in Reception and Year 1 plus the autumn term of Year 2. If a child was never identified with SEND, their sickness absence was measured across all terms from Reception up until the end of the modelled period, in Year 4.

In the secondary models, irrespective of whether they were ever identified with SEND or of which of Years 7-11 the child was first identified with SEND in, the sickness absence variable was defined to give the sickness absence rate calculated across Years 1-6 (Reception is excluded as school is not compulsory until a child reaches the age of five).

Final sets of models were fitted for lettered outcomes, as follows:

a. Primary identification during Y1-4 for SEN Support (then codes A or P)

b. Primary identification during Y1-4 for EHCPs (then code S)

c. Secondary identification during Y7-11 for SEN Support (codes A, P or K)

d. Secondary identification during Y7-11 for EHCPs (codes S or E)

e. Secondary identification type SEMH during Y7-11 at either level (codes A, P, K, S, E)

f. Secondary identification of SEMH in addition to other SEND types identified earlier at either level in Y7-11

g. Secondary move from mainstream (codes A, P or K) to special school in Y7-11

h. Of children with any identified SEND in YR-11, also having any contact with CAMHS

Model specification was conducted primarily on the primary models. Independent variables were entered to the models in seven numbered steps:

1. Child: gender, month of birth, ethnicity
2. Child: gender, month of birth, ethnicity **plus** free school meals
3. Child: gender, month of birth, ethnicity **plus** early years foundation stage profile
4. Child: gender, month of birth, ethnicity **plus** free school meals **and** EYFSP
5. All child factors
6. All child factors **plus** school-level factors
7. All child **and** school factors **plus** LA-level factors

In determining what factors should be retained in the primary models reported and how these should be defined and reset as categorical factor variables, four things were considered:

- The effect on model convergence and empty cells.
- The coherence and significance of the pattern of odds effects for factors under consideration. As there were considerable convergence challenges and a large number of potential factors of interest, more parsimonious specifications were preferred.
- The classification success properties of the model were assessed using the 'roctab' command to estimate the area under the curve.
- The likelihood ratio test was used to evaluate the effect on model fit of adding variables that were related to others already in the model.

Additional to the main suite of primary models, two subsidiary full models were fitted for each of 'a' (lower-level SEND) and 'b' (higher-level SEND) as follows:

- With reception Year identifications as the outcome, to test for distortions in the main models due to the timing of identification effects
- With Year 3 identifications as the outcome and timing of academisation as a predictive factor, to test for selection effects in academy schools

Further model specification was then undertaken for the secondary and SEND-CAMHS models by retaining all covariates from the primary models, subject to minor differences in data and variable construction noted in Table 1, then adding further covariates for school exclusions during Key Stage 2, and further covariates to reflect the context of the secondary school attended in Year 7. Covariates added at this stage were all retained in the final models irrespective of their effect on the model fit, since we wished to report on whether secondary school factors had important relationships with the SEND and CAMHS outcomes or otherwise.

Appendix D: Primary model results

'A' models: Odds Effects on initial 'action' or 'action plus' identification received in years 1-4																										
	Model 1a: Gender, birth month & ethnicity				Model 2a: 1a factors + Free School Meals				Model 3a: 1a factors + EYFSP attainment				Model 4a: 1a factors + FSM + EYFSP				Model 5a: All child factors				Model 6a: All child & school factors				Model 7a: All child, school & LA factors			
School & LA random effects	i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No	
Gender																										
ref=female																										
male	2.150	***	1.976	***	2.210	***	2.050	***	n/a		1.570	***	n/a		1.614	***	1.574	***	1.529	***	1.640	***	1.632	***	1.640	***	1.629	***
Ethnicity																										
ref=white british																										
chinese	0.446	***	0.564	***	0.504	***	0.599	***	n/a		0.373	***	n/a		0.396	***	0.317	***	0.413	***	0.334	***	0.454	***	0.334	***	0.434	***
black other	0.845	***	1.178	***	0.791	***	0.957		n/a		0.946		n/a		0.877	**	0.646	***	0.806	***	0.624	***	0.936		0.622	***	0.816	***
black caribbean	1.011		1.436	***	0.977		1.179	***	n/a		1.233	***	n/a		1.154	***	0.821	***	1.135	***	0.803	***	1.287	***	0.800	***	1.060	
black african	0.596	***	0.938	***	0.572	***	0.765	***	n/a		0.705	***	n/a		0.666	***	0.360	***	0.507	***	0.364	***	0.571	***	0.363	***	0.490	***
pakistani	0.648	***	0.987		0.729	***	0.939	***	n/a		0.579	***	n/a		0.585	***	0.828	***	0.982		0.838	***	1.073	*	0.835	***	0.973	
asian other	0.455	***	0.629	***	0.500	***	0.639	***	n/a		0.449	***	n/a		0.464	***	0.503	***	0.659	***	0.481	***	0.744	***	0.479	***	0.634	***
indian	0.383	***	0.501	***	0.451	***	0.549	***	n/a		0.446	***	n/a		0.471	***	0.562	***	0.674	***	0.563	***	0.796	***	0.560	***	0.701	***
bangladeshi	0.432	***	0.781	***	0.484	***	0.690	***	n/a		0.456	***	n/a		0.449	***	0.569	***	0.772	***	0.551	***	0.867	***	0.551	***	0.796	***
roma	4.822	***	4.372	***	4.035	***	3.434	***	n/a		1.190	**	n/a		1.097		2.193	***	2.422	***	1.951	***	2.283	***	1.947	***	2.116	***
white other	0.819	***	1.052	***	0.919	***	1.106	***	n/a		0.535	***	n/a		0.568	***	0.709	***	0.937	**	0.685	***	0.943	*	0.683	***	0.856	***
irish traveller	4.594	***	5.505	***	2.696	***	3.003	***	n/a		1.740	***	n/a		1.290	*	1.762	**	2.574	***	1.285		2.122	***	1.279		1.840	***
irish	0.903		0.943		0.864		0.920		n/a		1.134		n/a		1.101		1.122		1.278	**	1.057		1.384	***	1.055		1.200	*
other	0.735	***	1.065	**	0.734	***	0.907	***	n/a		0.623	***	n/a		0.596	***	0.622	***	0.807	***	0.621	***	0.882	**	0.619	***	0.767	***
white & black caribbean	1.097	**	1.287	***	0.965		1.022		n/a		1.171	***	n/a		1.053		1.052		1.180	***	1.100	*	1.292	***	1.096		1.141	***
white & black african	0.851	***	1.053		0.788	***	0.899	**	n/a		0.953		n/a		0.894	**	0.814	***	0.964		0.797	***	1.032		0.795	***	0.941	
white & asian	0.648	***	0.738	***	0.631	***	0.696	***	n/a		0.729	***	n/a		0.703	***	0.720	***	0.838	***	0.720	***	0.879	**	0.718	***	0.812	***
mixed other	0.775	***	0.952	*	0.750	***	0.863	***	n/a		0.891	***	n/a		0.857	***	0.844	***	1.027		0.813	***	1.097	**	0.811	***	0.985	
Month of Birth																										
ref=september																										
october	1.072	***	1.053	**	1.073	***	1.055	***	n/a		0.976		n/a		0.981		0.932	**	0.965		0.929	**	0.963		0.929	**	0.961	
november	1.205	***	1.171	***	1.202	***	1.169	***	n/a		1.012		n/a		1.015		0.963		0.999		0.968		0.996		0.968		0.993	
december	1.280	***	1.255	***	1.286	***	1.258	***	n/a		0.984		n/a		0.992		0.922	**	0.975		0.910	***	0.968		0.910	***	0.966	
january	1.377	***	1.347	***	1.381	***	1.355	***	n/a		0.959	*	n/a		0.974		0.886	***	0.952	*	0.881	***	0.960		0.881	***	0.957	
february	1.484	***	1.447	***	1.500	***	1.465	***	n/a		0.957	*	n/a		0.977		0.850	***	0.941	**	0.841	***	0.941	**	0.841	***	0.934	**
march	1.489	***	1.439	***	1.518	***	1.465	***	n/a		0.846	***	n/a		0.867	***	0.720	***	0.818	***	0.705	***	0.815	***	0.705	***	0.809	***
april	1.641	***	1.589	***	1.662	***	1.616	***	n/a		0.860	***	n/a		0.884	***	0.691	***	0.823	***	0.678	***	0.823	***	0.678	***	0.815	***
may	1.813	***	1.701	***	1.855	***	1.749	***	n/a		0.844	***	n/a		0.874	***	0.691	***	0.807	***	0.678	***	0.819	***	0.678	***	0.812	***
june	2.015	***	1.882	***	2.061	***	1.943	***	n/a		0.850	***	n/a		0.885	***	0.678	***	0.816	***	0.657	***	0.823	***	0.657	***	0.811	***
july	2.118	***	2.011	***	2.173	***	2.069	***	n/a		0.819	***	n/a		0.853	***	0.630	***	0.783	***	0.619	***	0.790	***	0.619	***	0.779	***
august	2.393	***	2.199	***	2.463	***	2.285	***	n/a		0.812	***	n/a		0.853	***	0.619	***	0.775	***	0.594	***	0.776	***	0.594	***	0.763	***
Free School Meals, % of time in school before ID																										
ref=less than 20%																										
20% -					0.833	***	0.894	***	n/a				n/a		0.625	***	0.991		1.000		0.996		0.971		0.997		0.973	
40% -					0.981		1.026		n/a				n/a		0.712	***	1.376	***	1.333	***	1.330	***	1.319	***	1.330	***	1.323	***
60% -					1.896	***	2.132	***	n/a				n/a		1.313	***	2.089	***	2.122	***	2.087	***	2.092	***	2.088	***	2.080	***
80% - 100%					3.533	***	3.672	***	n/a				n/a		2.190	***	3.881	***	3.643	***	3.789	***	3.484	***	3.790	***	3.478	***

'A' models: Odds Effects on initial 'action' or 'action plus' identification received in years 1-4																								
	Model 1a: Gender, birth month & ethnicity				Model 2a: 1a factors + Free School Meals				Model 3a: 1a factors + EYFSP attainment				Model 4a: 1a factors + FSM + EYFSP				Model 5a: All child factors				Model 6a: All child & school factors				Model 7a: All child, school & LA factors			
School & LA random effects	i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No	
EYFSP scores																								
Communication Language & Literacy																								
ref=lowest decile																								
2nd decile									n/a		0.571	***	n/a		0.574	***	0.509	***	0.570	***	0.479	***	0.548	***	0.479	***	0.549	***
3rd decile									n/a		0.369	***	n/a		0.374	***	0.307	***	0.383	***	0.275	***	0.350	***	0.275	***	0.349	***
4th decile									n/a		0.226	***	n/a		0.229	***	0.170	***	0.231	***	0.151	***	0.204	***	0.151	***	0.204	***
5th decile									n/a		0.166	***	n/a		0.171	***	0.113	***	0.165	***	0.102	***	0.143	***	0.102	***	0.143	***
6th decile									n/a		0.118	***	n/a		0.122	***	0.077	***	0.114	***	0.070	***	0.098	***	0.070	***	0.098	***
7th decile									n/a		0.083	***	n/a		0.086	***	0.051	***	0.080	***	0.046	***	0.068	***	0.046	***	0.069	***
8th decile									n/a		0.056	***	n/a		0.058	***	0.031	***	0.050	***	0.029	***	0.043	***	0.029	***	0.043	***
9th decile									n/a		0.037	***	n/a		0.039	***	0.020	***	0.032	***	0.019	***	0.028	***	0.019	***	0.028	***
highest decile									n/a		0.028	***	n/a		0.030	***	0.014	***	0.024	***	0.014	***	0.021	***	0.014	***	0.021	***
Problem-solving, Reasoning & Numeracy																								
2nd decile									n/a		0.588	***	n/a		0.591	***	0.514	***	0.590	***	0.491	***	0.556	***	0.491	***	0.552	***
3rd decile									n/a		0.390	***	n/a		0.397	***	0.321	***	0.399	***	0.300	***	0.370	***	0.300	***	0.365	***
5th decile									n/a		0.323	***	n/a		0.329	***	0.248	***	0.328	***	0.228	***	0.304	***	0.228	***	0.299	***
6th decile									n/a		0.282	***	n/a		0.289	***	0.205	***	0.284	***	0.190	***	0.261	***	0.190	***	0.257	***
7th decile									n/a		0.268	***	n/a		0.274	***	0.184	***	0.263	***	0.169	***	0.238	***	0.168	***	0.233	***
8th decile									n/a		0.252	***	n/a		0.258	***	0.175	***	0.250	***	0.158	***	0.230	***	0.158	***	0.224	***
9th decile									n/a		0.242	***	n/a		0.247	***	0.159	***	0.236	***	0.144	***	0.214	***	0.144	***	0.209	***
highest decile									n/a		0.222	***	n/a		0.228	***	0.138	***	0.213	***	0.127	***	0.197	***	0.127	***	0.193	***
Personal, Social & Emotional																								
2nd decile									n/a		0.804	***	n/a		0.802	***	0.754	***	0.841	***	0.721	***	0.845	***	0.721	***	0.837	***
3rd decile									n/a		0.725	***	n/a		0.725	***	0.629	***	0.757	***	0.600	***	0.754	***	0.600	***	0.743	***
4th decile									n/a		0.696	***	n/a		0.697	***	0.573	***	0.735	***	0.545	***	0.737	***	0.545	***	0.725	***
5th decile									n/a		0.663	***	n/a		0.666	***	0.535	***	0.701	***	0.507	***	0.703	***	0.507	***	0.688	***
6th decile									n/a		0.641	***	n/a		0.645	***	0.488	***	0.686	***	0.468	***	0.688	***	0.468	***	0.674	***
7th decile									n/a		0.621	***	n/a		0.627	***	0.445	***	0.661	***	0.418	***	0.664	***	0.418	***	0.649	***
8th decile									n/a		0.560	***	n/a		0.566	***	0.376	***	0.594	***	0.353	***	0.598	***	0.353	***	0.581	***
9th decile									n/a		0.562	***	n/a		0.569	***	0.355	***	0.603	***	0.332	***	0.598	***	0.332	***	0.572	***
highest decile									n/a		0.485	***	n/a		0.490	***	0.278	***	0.511	***	0.260	***	0.514	***	0.260	***	0.486	***
Physical Development																								
2nd quintile									n/a		0.755	***	n/a		0.753	***	0.730	***	0.803	***	0.700	***	0.774	***	0.700	***	0.773	***
3rd quintile									n/a		0.723	***	n/a		0.718	***	0.643	***	0.782	***	0.611	***	0.745	***	0.611	***	0.744	***
4th quintile									n/a		0.726	***	n/a		0.723	***	0.624	***	0.793	***	0.585	***	0.757	***	0.585	***	0.751	***
highest quintile									n/a		0.739	***	n/a		0.737	***	0.606	***	0.806	***	0.563	***	0.782	***	0.563	***	0.766	***
Knowledge & Understanding of the World																								
2nd sextile									n/a		1.222	***	n/a		1.219	***	1.155	***	1.134	***	1.197	***	1.160	***	1.197	***	1.157	***
3rd sextile									n/a		1.332	***	n/a		1.341	***	1.343	***	1.260	***	1.416	***	1.307	***	1.416	***	1.301	***
4th sextile									n/a		1.582	***	n/a		1.602	***	1.611	***	1.477	***	1.715	***	1.565	***	1.715	***	1.553	***
5th sextile									n/a		1.920	***	n/a		1.949	***	1.895	***	1.790	***	2.004	***	1.893	***	2.004	***	1.868	***
highest sextile									n/a		2.347	***	n/a		2.390	***	2.180	***	2.144	***	2.254	***	2.241	***	2.254	***	2.209	***
Creative Development																								
2nd sextile									n/a		1.187	***	n/a		1.182	***	1.144	***	1.129	***	1.171	***	1.144	***	1.170	***	1.145	***
3rd sextile									n/a		1.299	***	n/a		1.297	***	1.229	***	1.224	***	1.280	***	1.279	***	1.280	***	1.273	***
4th sextile									n/a		1.473	***	n/a		1.486	***	1.413	***	1.406	***	1.475	***	1.503	***	1.475	***	1.486	***
5th sextile									n/a		1.708	***	n/a		1.737	***	1.625	***	1.651	***	1.696	***	1.756	***	1.696	***	1.735	***
highest sextile									n/a		1.951	***	n/a		1.997	***	1.876	***	1.902	***	1.970	***	2.074	***	1.969	***	2.039	***

'A' models: Odds Effects on initial 'action' or 'action plus' identification received in years 1-4																								
	Model 1a: Gender, birth month & ethnicity				Model 2a: 1a factors + Free School Meals				Model 3a: 1a factors + EYFSP attainment				Model 4a: 1a factors + FSM + EYFSP				Model 5a: All child factors				Model 6a: All child & school factors				Model 7a: All child, school & LA factors			
School & LA random effects	i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No	
English as an Additional Language																								
ref=never EAL																								
Ever recorded EAL																	0.661	***	0.863	***	0.635	***	0.845	***	0.635	***	0.800	***
Mean IDACI before ID																								
ref=least deprived octile																								
2nd octile																	2.025	***	2.065	***	2.044	***	1.957	***	2.045	***	1.943	***
3rd octile																	3.254	***	3.486	***	3.231	***	3.193	***	3.232	***	3.143	***
4th octile																	4.918	***	5.272	***	4.781	***	4.601	***	4.788	***	4.561	***
5th octile																	9.215	***	9.418	***	8.714	***	7.969	***	8.733	***	7.909	***
6th octile																	21.082	***	20.075	***	18.284	***	15.375	***	18.338	***	15.322	***
7th octile																	70.479	***	56.438	***	59.760	***	41.910	***	60.011	***	42.412	***
most deprived octile																	339.150	***	241.382	***	313.105	***	176.345	***	314.836	***	179.102	***
Maximum IDACI before ID																								
ref=least deprived decile																								
2nd decile																	0.712	***	0.741	***	0.655	***	0.661	***	0.656	***	0.659	***
3rd decile																	0.611	***	0.584	***	0.541	***	0.498	***	0.541	***	0.499	***
4th decile																	0.481	***	0.439	***	0.423	***	0.366	***	0.423	***	0.370	***
5th decile																	0.348	***	0.312	***	0.307	***	0.258	***	0.307	***	0.263	***
6th decile																	0.219	***	0.198	***	0.195	***	0.156	***	0.196	***	0.160	***
7th decile																	0.131	***	0.114	***	0.120	***	0.094	***	0.120	***	0.098	***
8th decile																	0.061	***	0.052	***	0.059	***	0.044	***	0.059	***	0.046	***
9th decile																	0.032	***	0.027	***	0.032	***	0.025	***	0.032	***	0.027	***
most deprived decile																	0.018	***	0.016	***	0.017	***	0.016	***	0.017	***	0.017	***
Variability of IDACI before ID																								
ref=lowest standard deviation																								
2nd tercile																	0.400	***	0.485	***	0.409	***	0.488	***	0.408	***	0.485	***
highest standard deviation																	0.237	***	0.328	***	0.251	***	0.348	***	0.250	***	0.341	***
School moves before ID																								
ref=no moves																								
1 move																	1.031		1.062	***	1.034		1.023		1.034		1.032	*
2 moves																	0.784	***	0.872	***	0.787	***	0.846	***	0.787	***	0.856	***
3 moves																	0.511	***	0.576	***	0.561	***	0.538	***	0.563	***	0.552	***
Sickness absence rate before ID																								
ref=least absent quartile																								
2nd quartile																	0.336	***	0.343	***	0.329	***	0.347	***	0.329	***	0.344	***
3rd quartile																	0.285	***	0.308	***	0.285	***	0.314	***	0.285	***	0.308	***
most absent quartile																	0.258	***	0.288	***	0.261	***	0.303	***	0.260	***	0.293	***
Authorised absence rate before ID																								
ref=least absent quartile																								
2nd quartile																	0.674	***	0.638	***	0.670	***	0.645	***	0.670	***	0.652	***
3rd quartile																	0.657	***	0.604	***	0.643	***	0.606	***	0.643	***	0.617	***
most absent quartile																	0.701	***	0.633	***	0.682	***	0.618	***	0.682	***	0.640	***
Unauthorised absence rate before ID																								
ref=least absent quartile																								
2nd quartile																	0.280	***	0.321	***	0.273	***	0.318	***	0.273	***	0.315	***
3rd quartile																	0.223	***	0.268	***	0.218	***	0.267	***	0.218	***	0.264	***
most absent quartile																	0.146	***	0.180	***	0.144	***	0.179	***	0.144	***	0.179	***

'A' models: Odds Effects on initial 'action' or 'action plus' identification received in years 1-4																										
	Model 1a: Gender, birth month & ethnicity				Model 2a: 1a factors + Free School Meals				Model 3a: 1a factors + EYFSP attainment				Model 4a: 1a factors + FSM + EYFSP				Model 5a: All child factors				Model 6a: All child & school factors				Model 7a: All child, school & LA factors			
School & LA random effects	i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No	
Months looked after																										
ref=never LAC																										
1 - 12 m																	0.993		1.094		1.004		1.145		1.005		1.169	
13 - 24 m																	1.710	***	1.699	***	1.574	**	1.708	***	1.575	**	1.713	***
25 - 72 m																	2.662	***	2.440	***	2.656	***	2.634	***	2.655	***	2.657	***
73+ m																	2.925	***	1.949	***	3.633	***	2.165	***	3.638	***	2.265	***
Child Protection Plans																										
ref=no CPP before ID																										
1 or more CPP																	0.226	***	0.219	***	0.276	***	0.249	***	0.276	***	0.245	***
Type of School at ID																										
ref=LA mainstream																										
academy mainstream																					0.162	***	0.336	***	0.163	***	0.329	***
Latest Inspection Grade at ID																										
ref=good																										
outstanding																					1.587	***	1.603	***	1.587	***	1.589	***
requires improvement																					13.189	***	2.951	***	13.192	***	2.952	***
inadequate																					3.645	***	1.442	***	3.640	***	1.430	***
no grade yet																					368.940	***	7.963	***	369.399	***	8.081	***
School FSM rate at ID																										
ref=lowest tercile																										
2nd tercile																					0.899	***	0.857	***	0.902	***	0.872	***
highest tercile																					0.871	***	0.695	***	0.876	***	0.730	***
School SEND rate at ID																										
ref=lowest septile																										
2nd septile																					4.931	***	2.428	***	4.931	***	2.405	***
3rd septile																					21.530	***	6.335	***	21.544	***	6.329	***
4th septile																					81.516	***	15.764	***	81.610	***	15.980	***
5th septile																					230.545	***	32.681	***	230.958	***	33.639	***
6th septile																					504.345	***	74.332	***	505.169	***	76.742	***
highest septile																					1063.741	***	131.214	***	1065.870	***	139.617	***
School has SEND unit																										
ref=no unit																										
has unit																					0.607	***	0.752	***	0.604	***	0.711	***
Pupil Teacher Ratio																										
ref=lowest quartile																										
2nd quartile																					1.272	***	1.128	***	1.266	***	1.126	***
3rd quartile																					1.583	***	1.196	***	1.570	***	1.209	***
highest quartile																					2.019	***	1.213	***	2.008	***	1.262	***

'A' models: Odds Effects on initial 'action' or 'action plus' identification received in years 1-4																								
	Model 1a: Gender, birth month & ethnicity				Model 2a: 1a factors + Free School Meals				Model 3a: 1a factors + EYFSP attainment				Model 4a: 1a factors + FSM + EYFSP				Model 5a: All child factors				Model 6a: All child & school factors				Model 7a: All child, school & LA factors			
School & LA random effects	i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No	
LA Primary FSM rate																								
ref=lowest tercile																								
2nd tercile																							0.850		0.998	
highest tercile																							0.456	***	0.747	***
LA rate of mainstream EHCPs																								
ref=lowest tercile																								
2nd tercile																							1.011		0.987	
highest tercile																							0.786	*	0.956	***
LA rate of resourced EHCPs																								
ref=lowest tercile																								
2nd tercile																							1.028		0.971	**
highest tercile																							1.310	**	1.125	***
LA rate of special EHCPs																								
ref=lowest tercile																								
2nd tercile																							1.319	**	1.176	***
highest tercile																							1.116		1.037	***
LA rate of other EHCPs																								
ref=lowest tercile																								
2nd tercile																							1.221		1.103	***
highest tercile																							1.269	*	1.095	***
LA rate of non white british pupils																								
ref=lowest quartile																								
2nd quartile																							1.168		0.991	
3rd quartile																							1.496	***	1.206	***
highest quartile																							2.015	***	1.552	***

'B' models: Odds Effects on initial 'statement' or 'education, health and care plan' identification received in years 1-4																										
	Model 1b: Gender, birth month & ethnicity				Model 2b: 1a factors + Free School Meals				Model 3b: 1a factors + EYFSP attainment				Model 4b: 1a factors + FSM + EYFSP				Model 5b: All child factors				Model 6b: All child & school factors				Model 7b: All child, school & LA factors			
School & LA random effects	i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No	
Gender																										
ref=female																										
male	3.136	***	3.102	***	3.167	***	3.124	***	1.656	***	1.629	***	1.651	***	1.624	***	1.629	***	1.598	***	1.639	***	1.604	***	1.447	***	1.454	***
Ethnicity																										
ref=white british																										
chinese	0.821		0.890		0.937		0.979		0.477	***	0.694		0.481	**	0.681		0.698		0.914		0.673		0.954		0.621		0.849	
black other	0.881		1.181		0.846		1.009		0.543	***	0.767	*	0.559	***	0.802		0.722	*	1.081		0.695	*	1.064		0.695	*	0.773	
black caribbean	0.981		1.413	***	0.926		1.192	*	0.774	*	1.111		0.794	*	1.157		0.841		1.429	***	0.794		1.397	***	0.786		0.895	
black african	0.749	***	1.014		0.733	***	0.875	**	0.378	***	0.661	***	0.396	***	0.699	***	0.482	***	0.853	*	0.478	***	0.853	*	0.466	***	0.610	***
pakistani	0.622	***	0.782	***	0.697	***	0.757	***	0.273	***	0.353	***	0.268	***	0.345	***	0.617	***	0.763	***	0.615	***	0.805	**	0.618	***	0.712	***
asian other	0.626	***	0.843		0.697	***	0.878		0.315	***	0.576	***	0.309	***	0.557	***	0.577	***	0.976		0.586	***	1.054		0.654	**	0.852	
indian	0.425	***	0.536	***	0.509	***	0.602	***	0.287	***	0.487	***	0.273	***	0.459	***	0.466	***	0.761	**	0.499	***	0.822		0.532	***	0.684	***
bangladeshi	0.443	***	0.742	***	0.494	***	0.677	***	0.212	***	0.385	***	0.213	***	0.387	***	0.546	***	0.866		0.540	***	0.890		0.551	***	0.672	***
roma	1.634	**	1.810	***	1.279		1.319		0.231	***	0.338	***	0.234	***	0.353	***	0.473	***	0.776		0.428	***	0.751		0.640		0.916	
white other	0.633	***	0.836	**	0.718	***	0.891	*	0.242	***	0.408	***	0.239	***	0.397	***	0.591	***	0.897		0.591	***	0.916		0.710	***	0.858	
irish traveller	1.917	*	2.311	***	1.082		1.254		0.310	***	0.473	**	0.292	***	0.458	**	0.475	*	0.763		0.495		0.822		0.616		0.677	
irish	1.186		1.320		1.143		1.297		1.297		1.619	**	1.325		1.655	**	1.328		1.765	**	1.402		1.921	**	1.526		1.466	
other	0.738	**	1.049		0.747	**	0.915		0.339	***	0.558	***	0.345	***	0.571	***	0.725	**	1.078		0.737	*	1.089		0.806		0.871	
white & black caribbean	1.122		1.351	***	0.974		1.094		1.082		1.193	*	1.096		1.230	**	1.265	*	1.524	***	1.304	**	1.624	***	1.346	**	1.313	**
white & black african	0.954		1.192		0.893		1.037		0.910		1.143		0.937		1.182		1.348		1.579	***	1.362		1.681	***	1.341		1.369	*
white & asian	0.617	***	0.677	***	0.609	***	0.649	***	0.523	***	0.676	***	0.517	***	0.677	***	0.643	**	0.857		0.647	**	0.895		0.689	*	0.803	
mixed other	0.935		1.181	**	0.917		1.097		0.827	*	1.063		0.840		1.086		1.118		1.465	***	1.117		1.503	***	1.154		1.247	**
Month of Birth																										
ref=september																										
october	0.958		0.966		0.947		0.960		0.844	**	0.881	*	0.844	**	0.882	*	0.829	**	0.874	*	0.834	*	0.881		0.848	*	0.868	*
november	1.112		1.130	*	1.093		1.117	*	0.897		0.929		0.894		0.923		0.885		0.921		0.897		0.930		0.906		0.921	
december	1.064		1.092		1.043		1.077		0.735	***	0.791	***	0.726	***	0.784	***	0.731	***	0.786	***	0.731	***	0.796	***	0.755	***	0.820	**
january	1.087		1.089		1.071		1.081		0.617	***	0.691	***	0.617	***	0.690	***	0.591	***	0.661	***	0.598	***	0.669	***	0.633	***	0.681	***
february	1.193	**	1.197	***	1.185	**	1.191	***	0.645	***	0.695	***	0.644	***	0.693	***	0.621	***	0.681	***	0.621	***	0.692	***	0.654	***	0.704	***
march	1.219	***	1.200	***	1.212	***	1.195	***	0.520	***	0.597	***	0.517	***	0.592	***	0.485	***	0.567	***	0.487	***	0.572	***	0.511	***	0.568	***
april	1.231	***	1.263	***	1.216	***	1.253	***	0.472	***	0.563	***	0.468	***	0.559	***	0.438	***	0.524	***	0.422	***	0.519	***	0.464	***	0.529	***
may	1.124	*	1.161	**	1.121		1.157	**	0.369	***	0.455	***	0.370	***	0.453	***	0.348	***	0.433	***	0.341	***	0.440	***	0.381	***	0.452	***
june	1.233	***	1.247	***	1.224	***	1.245	***	0.340	***	0.430	***	0.339	***	0.428	***	0.316	***	0.402	***	0.318	***	0.411	***	0.352	***	0.419	***
july	1.350	***	1.355	***	1.348	***	1.349	***	0.322	***	0.409	***	0.319	***	0.403	***	0.287	***	0.369	***	0.283	***	0.376	***	0.308	***	0.383	***
august	1.351	***	1.343	***	1.345	***	1.341	***	0.271	***	0.354	***	0.269	***	0.349	***	0.240	***	0.317	***	0.240	***	0.322	***	0.274	***	0.343	***
Free School Meals, % of time in school before ID																										
ref=less than 20%																										
20% -					0.944		0.942						0.495	***	0.508	***	0.827	**	0.837	**	0.809	**	0.838	**	0.813	**	0.833	**
40% -					1.021		1.025						0.478	***	0.492	***	0.877		0.880	*	0.886		0.873	*	0.822	**	0.840	**
60% -					1.685	***	1.722	***					0.757	***	0.734	***	1.434	***	1.356	***	1.424	***	1.354	***	1.342	***	1.285	***
80% - 100%					2.979	***	2.994	***					1.072		0.993		2.057	***	1.900	***	2.014	***	1.868	***	1.866	***	1.736	***

'B' models: Odds Effects on initial 'statement' or 'education, health and care plan' identification received in years 1-4																										
	Model 1b: Gender, birth month & ethnicity				Model 2b: 1a factors + Free School Meals				Model 3b: 1a factors + EYFSP attainment				Model 4b: 1a factors + FSM + EYFSP				Model 5b: All child factors				Model 6b: All child & school factors				Model 7b: All child, school & LA factors			
School & LA random effects	i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No	
EYFSP scores																										
Communication Language & Literacy																										
ref=lowest decile																										
2nd decile									0.465	***	0.500	***	0.461	***	0.496	***	0.430	***	0.471	***	0.424	***	0.474	***	0.494	***	0.538	***
3rd decile									0.368	***	0.402	***	0.363	***	0.395	***	0.323	***	0.359	***	0.322	***	0.369	***	0.427	***	0.461	***
4th decile									0.297	***	0.315	***	0.293	***	0.310	***	0.249	***	0.269	***	0.249	***	0.277	***	0.389	***	0.389	***
5th decile									0.264	***	0.281	***	0.259	***	0.275	***	0.215	***	0.239	***	0.211	***	0.247	***	0.364	***	0.384	***
6th decile									0.219	***	0.228	***	0.215	***	0.222	***	0.172	***	0.183	***	0.173	***	0.189	***	0.312	***	0.302	***
7th decile									0.243	***	0.248	***	0.238	***	0.241	***	0.183	***	0.196	***	0.179	***	0.202	***	0.345	***	0.344	***
8th decile									0.171	***	0.175	***	0.167	***	0.170	***	0.123	***	0.134	***	0.123	***	0.139	***	0.258	***	0.246	***
9th decile									0.135	***	0.135	***	0.132	***	0.130	***	0.096	***	0.101	***	0.097	***	0.105	***	0.220	***	0.204	***
highest decile									0.183	***	0.188	***	0.178	***	0.180	***	0.122	***	0.132	***	0.124	***	0.138	***	0.282	***	0.266	***
Problem-solving, Reasoning & Numeracy																										
2nd decile									0.439	***	0.503	***	0.436	***	0.498	***	0.409	***	0.470	***	0.404	***	0.468	***	0.444	***	0.497	***
3rd decile									0.415	***	0.476	***	0.412	***	0.469	***	0.359	***	0.414	***	0.355	***	0.408	***	0.413	***	0.462	***
5th decile									0.442	***	0.517	***	0.437	***	0.510	***	0.380	***	0.452	***	0.369	***	0.447	***	0.429	***	0.487	***
6th decile									0.496	***	0.601	***	0.489	***	0.589	***	0.423	***	0.504	***	0.420	***	0.498	***	0.503	***	0.571	***
7th decile									0.491	***	0.601	***	0.483	***	0.586	***	0.391	***	0.488	***	0.382	***	0.476	***	0.455	***	0.526	***
8th decile									0.638	***	0.811	*	0.633	***	0.795	**	0.546	***	0.677	***	0.538	***	0.673	***	0.639	***	0.768	**
9th decile									0.691	***	0.862		0.678	***	0.843		0.573	***	0.689	***	0.558	***	0.666	***	0.674	***	0.739	**
highest decile									0.800		1.100		0.783		1.071		0.650	***	0.856		0.640	***	0.837		0.705	**	0.880	
Personal, Social & Emotional																										
2nd decile									0.277	***	0.350	***	0.277	***	0.349	***	0.275	***	0.356	***	0.276	***	0.364	***	0.326	***	0.401	***
3rd decile									0.155	***	0.202	***	0.155	***	0.202	***	0.148	***	0.203	***	0.148	***	0.206	***	0.202	***	0.248	***
4th decile									0.103	***	0.142	***	0.103	***	0.142	***	0.098	***	0.143	***	0.098	***	0.147	***	0.141	***	0.184	***
5th decile									0.071	***	0.098	***	0.070	***	0.098	***	0.064	***	0.099	***	0.065	***	0.103	***	0.102	***	0.137	***
6th decile									0.051	***	0.073	***	0.050	***	0.073	***	0.047	***	0.074	***	0.047	***	0.077	***	0.076	***	0.103	***
7th decile									0.036	***	0.054	***	0.036	***	0.054	***	0.032	***	0.055	***	0.032	***	0.057	***	0.055	***	0.079	***
8th decile									0.021	***	0.033	***	0.020	***	0.032	***	0.018	***	0.033	***	0.018	***	0.034	***	0.035	***	0.050	***
9th decile									0.016	***	0.028	***	0.016	***	0.027	***	0.014	***	0.027	***	0.014	***	0.029	***	0.028	***	0.044	***
highest decile									0.004	***	0.008	***	0.004	***	0.008	***	0.004	***	0.008	***	0.004	***	0.008	***	0.008	***	0.013	***
Physical Development																										
2nd quintile									0.398	***	0.470	***	0.402	***	0.474	***	0.424	***	0.502	***	0.424	***	0.503	***	0.469	***	0.545	***
3rd quintile									0.288	***	0.375	***	0.292	***	0.378	***	0.312	***	0.406	***	0.300	***	0.401	***	0.368	***	0.451	***
4th quintile									0.251	***	0.335	***	0.254	***	0.337	***	0.272	***	0.362	***	0.262	***	0.360	***	0.351	***	0.422	***
highest quintile									0.195	***	0.274	***	0.198	***	0.277	***	0.217	***	0.302	***	0.214	***	0.312	***	0.295	***	0.372	***
Knowledge & Understanding of the World																										
2nd sextile									0.720	***	0.777	***	0.721	***	0.777	***	0.692	***	0.757	***	0.684	***	0.747	***	0.663	***	0.730	***
3rd sextile									0.889	*	0.948		0.890	*	0.946		0.897	*	0.960		0.894	*	0.955		0.843	***	0.920	
4th sextile									1.248	***	1.325	***	1.238	***	1.307	***	1.225	***	1.315	***	1.225	**	1.312	***	1.124	***	1.220	***
5th sextile									1.368	***	1.499	***	1.353	***	1.473	***	1.295	***	1.428	***	1.294	**	1.418	***	1.104	***	1.254	***
highest sextile									1.657	*	1.893	***	1.624	*	1.853	**	1.522		1.764	**	1.468		1.703	**	1.219	***	1.388	
Creative Development																										
2nd sextile									0.601	***	0.689	***	0.604	***	0.691	***	0.587	***	0.678	***	0.586	***	0.684	***	0.574	***	0.661	***
3rd sextile									0.693	***	0.785	***	0.695	***	0.786	***	0.669	***	0.767	***	0.679	***	0.782	***	0.660	***	0.740	***
4th sextile									0.747	***	0.875	**	0.752	***	0.879	**	0.748	***	0.860	**	0.768	***	0.889	*	0.756	***	0.834	***
5th sextile									0.813	*	0.983		0.819	*	0.986		0.830	*	0.973		0.837		0.992		0.802	*	0.855	
highest sextile									1.110		1.300		1.119		1.301		1.193		1.264		1.246		1.305		1.238		1.147	

'B' models: Odds Effects on initial 'statement' or 'education, health and care plan' identification received in years 1-4																								
	Model 1b: Gender, birth month & ethnicity				Model 2b: 1a factors + Free School Meals				Model 3b: 1a factors + EYFSP attainment				Model 4b: 1a factors + FSM + EYFSP				Model 5b: All child factors				Model 6b: All child & school factors				Model 7b: All child, school & LA factors			
School & LA random effects	i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No	
English as an Additional Language																								
ref=never EAL																								
Ever recorded EAL																	0.568	***	0.736	***	0.563	***	0.740	***	0.646	***	0.715	***
Mean IDACI before ID																								
ref=least deprived octile																								
2nd octile																	1.465	***	1.426	***	1.402	***	1.351	***	1.383	***	1.373	***
3rd octile																	1.992	***	1.924	***	1.831	***	1.775	***	1.780	***	1.724	***
4th octile																	2.522	***	2.444	***	2.263	***	2.255	***	2.217	***	2.143	***
5th octile																	3.939	***	3.587	***	3.358	***	3.260	***	3.191	***	3.004	***
6th octile																	7.797	***	7.121	***	6.495	***	6.240	***	5.939	***	5.471	***
7th octile																	20.193	***	14.324	***	17.180	***	12.190	***	15.481	***	11.062	***
most deprived octile																	112.572	***	71.969	***	84.431	***	54.090	***	75.998	***	48.628	***
Maximum IDACI before ID																								
ref=least deprived decile																								
2nd decile																	0.866		0.829	**	0.812	**	0.791	***	0.807	**	0.805	***
3rd decile																	0.827		0.746	***	0.763	**	0.705	***	0.747	**	0.732	***
4th decile																	0.745	**	0.611	***	0.690	**	0.580	***	0.666	***	0.609	***
5th decile																	0.573	***	0.460	***	0.529	***	0.433	***	0.504	***	0.480	***
6th decile																	0.467	***	0.349	***	0.445	***	0.332	***	0.442	***	0.377	***
7th decile																	0.266	***	0.211	***	0.254	***	0.206	***	0.253	***	0.233	***
8th decile																	0.134	***	0.118	***	0.122	***	0.115	***	0.122	***	0.134	***
9th decile																	0.080	***	0.070	***	0.079	***	0.074	***	0.078	***	0.094	***
most deprived decile																	0.060	***	0.044	***	0.068	***	0.056	***	0.066	***	0.068	***
Variability of IDACI before ID																								
ref=lowest standard deviation																								
2nd tercile																	0.330	***	0.415	***	0.324	***	0.416	***	0.312	***	0.394	***
highest standard deviation																	0.190	***	0.279	***	0.192	***	0.286	***	0.189	***	0.258	***
School moves before ID																								
ref=no moves																								
1 move																	0.813	***	0.921	**	0.786	***	0.901	**	0.832	***	0.934	
2 moves																	0.416	***	0.511	***	0.407	***	0.508	***	0.476	***	0.573	***
3 moves																	0.414	***	0.481	***	0.367	***	0.451	***	0.414	***	0.521	***
Sickness absence rate before ID																								
ref=least absent quartile																								
2nd quartile																	0.364	***	0.426	***	0.363	***	0.426	***	0.363	***	0.422	***
3rd quartile																	0.238	***	0.308	***	0.242	***	0.313	***	0.245	***	0.305	***
most absent quartile																	0.147	***	0.217	***	0.149	***	0.220	***	0.147	***	0.204	***
Authorised absence rate before ID																								
ref=least absent quartile																								
2nd quartile																	1.034	***	0.930		1.041		0.942		1.013		0.980	
3rd quartile																	1.609	***	1.294	***	1.572	***	1.277	***	1.491	***	1.326	***
most absent quartile																	3.358	***	2.327	***	3.308	***	2.296	***	3.217	***	2.515	***
Unauthorised absence rate before ID																								
ref=least absent quartile																								
2nd quartile																	0.316	***	0.375	***	0.312	***	0.378	***	0.310	***	0.370	***
3rd quartile																	0.214	***	0.271	***	0.212	***	0.276	***	0.218	***	0.274	***
most absent quartile																	0.134	***	0.182	***	0.131	***	0.182	***	0.142	***	0.189	***

'B' models: Odds Effects on initial 'statement' or 'education, health and care plan' identification received in years 1-4																						
	Model 1b: Gender, birth month & ethnicity				Model 2b: 1a factors + Free School Meals				Model 3b: 1a factors + EYFSP attainment				Model 4b: 1a factors + FSM + EYFSP				Model 5b: All child factors				Model 6b: All child & school factors				Model 7b: All child, school & LA factors			
School & LA random effects	i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No		i. Yes		ii. No	
Months looked after																												
ref=never LAC																												
1 - 12 m																	1.155		1.182		1.188		1.226		1.074		1.173	
13 - 24 m																	3.434	***	3.122	***	3.199	***	2.863	***	2.928	***	2.949	***
25 - 72 m																	4.751	***	3.986	***	4.818	***	4.138	***	3.917	***	3.624	***
73+ m																	6.306	***	4.456	***	6.639	***	4.708	***	5.390	***	4.379	***
Child Protection Plans																												
ref=no CPP before ID																												
1 or more CPP																	0.653	**	0.616	***	0.625	**	0.614	***	0.562	***	0.553	***
Type of School at ID																												
ref=LA mainstream																												
academy mainstream																					0.255	***	0.431	***	0.268	***	0.469	***
Latest Inspection Grade at ID																												
ref=good																												
outstanding																					1.591	***	1.396	***	1.498	***	1.304	***
requires improvement																					6.157	***	2.511	***	5.375	***	2.517	***
inadequate																					2.645	***	1.561	***	2.439	***	1.595	***
no grade yet																					9.765	**	2.756		10.383	**	4.707	**
School FSM rate at ID																												
ref=lowest tercile																												
2nd tercile																					1.065		0.975		1.012		0.986	
highest tercile																					0.913		0.829	***	0.815	***	0.827	***
School SEND rate at ID																												
ref=lowest septile																												
2nd septile																					1.793	***	1.425	***	1.675	***	1.381	***
3rd septile																					3.074	***	1.938	***	2.735	***	1.872	***
4th septile																					5.768	***	2.684	***	4.783	***	2.638	***
5th septile																					9.363	***	3.587	***	7.893	***	3.593	***
6th septile																					7.565	***	3.453	***	6.640	***	3.530	***
highest septile																					8.216	***	3.122	***	7.044	***	3.290	***
School has SEND unit																												
ref=no unit																												
has unit																					1.394	***	1.534	***	1.315	***	1.384	***
Pupil Teacher Ratio																												
ref=lowest quartile																												
2nd quartile																					0.774	***	0.909	**	0.782	***	0.899	***
3rd quartile																					0.718	***	0.843	***	0.736	***	0.853	***
highest quartile																					0.762	***	0.808	***	0.764	***	0.819	***

'B' models: Odds Effects on initial 'statement' or 'education, health and care plan' identification received in years 1-4																		
	Model 1b: Gender, birth month & ethnicity		Model 2b: 1a factors + Free School Meals		Model 3b: 1a factors + EYFSP attainment		Model 4b: 1a factors + FSM + EYFSP		Model 5b: All child factors		Model 6b: All child & school factors		Model 7b: All child, school & LA factors					
School & LA random effects	i. Yes	ii. No	i. Yes	ii. No	i. Yes	ii. No	i. Yes	ii. No	i. Yes	ii. No	i. Yes	ii. No	i. Yes		ii. No			
LA Primary FSM rate																		
ref=lowest tercile																		
2nd tercile													0.728		0.713	***		
highest tercile													0.436	***	0.571	***		
LA rate of mainstream EHCPs																		
ref=lowest tercile																		
2nd tercile													1.778	***	1.576	***		
highest tercile													2.339	***	1.899	***		
LA rate of resourced EHCPs																		
ref=lowest tercile																		
2nd tercile													1.166		1.162	***		
highest tercile													1.488	**	1.386	***		
LA rate of special EHCPs																		
ref=lowest tercile																		
2nd tercile													1.026		1.069	*		
highest tercile													0.976		0.830	***		
LA rate of other EHCPs																		
ref=lowest tercile																		
2nd tercile													1.334		1.241	***		
highest tercile													1.324		1.199	***		
LA rate of non white british pupils																		
ref=lowest quartile																		
2nd quartile													1.557	**	1.255	***		
3rd quartile													2.249	***	1.550	***		
highest quartile													3.064	***	2.234	***		
LA primary academisation rate																		
ref=lowest quartile																		
2nd quartile													0.125	***	0.20	***		
3rd quartile													0.049	***	0.10	***		
highest quartile													0.029	***	0.07	***		

Appendix E: Secondary model results

Secondary models	SEND Identification				SEMH identification				Special school		SEND & CAMHS
	Model C: Y7-11 at SEN Support		Model D: Y7-11 at EHCP		Model E: Y7-11 SEMH needs		Model F: Y7-11 from other need types to SEMH		Model G: Y7-11 from mainstream to special school		Model H: YR-11 CAMHS contact, of children identified with SEND
i. With school and LA random effects ii. Without school and LA effects	i.	ii.	i.	ii.	i.	ii.	i.	ii.	i.	ii.	i.
Gender											
Male	1.159 ***	1.080 ***	1.712 ***	1.637 ***	1.464 ***	1.396 ***	1.365 ***	1.323 ***	1.404 ***	1.195 ***	2.018 ***
Ethnicity											
Indian	0.469 ***	0.579 ***	0.499 ***	0.629 ***	0.384 ***	0.417 ***	0.518 ***	0.523 ***	0.640	0.834	1.094
Pakistani	0.536 ***	0.641 ***	0.578 ***	0.654 ***	0.504 ***	0.580 ***	0.675 ***	0.728 ***	0.718	0.749 *	0.223
Bangladeshi	0.490 ***	0.585 ***	0.485 ***	0.639 **	0.423 ***	0.488 ***	0.500 ***	0.571 ***	0.346 ***	0.565 **	0.914
Other Asian	0.393 ***	0.458 ***	0.288 ***	0.373 ***	0.413 ***	0.458 ***	0.644 ***	0.648 ***	0.969	0.977	0.720
White & Asian	0.745 ***	0.815 ***	0.566 ***	0.751 *	0.856 **	0.904	0.951	0.970	0.741	0.805	0.554
Black African	0.599 ***	0.639 ***	0.340 ***	0.395 ***	0.561 ***	0.569 ***	0.654 ***	0.638 ***	0.471 ***	0.641 ***	1.208
Black Caribbean	0.805 ***	0.974	0.715 **	0.713 ***	0.852 ***	0.930	0.850 **	0.895 **	0.694 **	0.679 ***	0.929
Other Black	0.731 ***	0.764 ***	0.558 ***	0.601 ***	0.680 ***	0.712 ***	0.679 ***	0.696 ***	0.840	0.903	0.358 **
White & Black African	0.751 ***	0.806 **	0.791	0.959	0.781 **	0.804 **	0.822 *	0.802 **	0.791	0.907	4.749 **
White & Black Caribbean	0.915	1.018	1.119	1.069	0.984	1.059	0.996	1.025	1.031	0.996	0.946
Chinese	0.733 *	0.796	1.053	1.105	0.609 **	0.577 ***	0.524 **	0.465 ***	0.976	1.128	0.559
Other Ethnicity	0.566 ***	0.631 ***	0.516 ***	0.535 ***	0.585 ***	0.605 ***	0.695 ***	0.649 ***	0.686	0.765	0.861
Irish	0.823	0.844	0.354 **	0.474 **	0.671 ***	0.722 **	0.744	0.777	0.597	0.964	0.547
Traveller Irish	0.612	0.616	0.042 ***	0.156 ***	0.812	0.726	1.212	1.099	0.319	0.651	20.990 **
Gypsy/Romany	0.532 ***	0.458 ***	0.377 ***	0.387 ***	0.766 *	0.875	0.989	1.075	0.802	1.047	4.577
Other White	0.680 ***	0.729 ***	0.619 ***	0.653 ***	0.666 ***	0.719 ***	0.706 ***	0.719 ***	0.512 ***	0.682 **	2.850 *
Unknown	0.909	0.985	0.829	0.843	0.812 **	0.845 **	0.871	0.865	0.357 **	0.449 ***	0.681

Secondary models	SEND Identification				SEMH identification				Special school		SEND & CAMHS
	Model C: Y7-11 at SEN Support		Model D: Y7-11 at EHCP		Model E: Y7-11 SEMH needs		Model F: Y7-11 from other need types to SEMH		Model G: Y7-11 from mainstream to special school		Model H: YR-11 CAMHS contact, of children identified with SEND
i. With school and LA random effects ii. Without school and LA effects	i.	ii.	i.	ii.	i.	ii.	i.	ii.	i.	ii.	i.
Birth month											
October	0.976	0.963	1.002	1.030	0.966	0.954	0.962	0.957	1.087	1.089	0.681
November	0.968	0.970	1.043	1.011	0.972	0.980	1.026	1.024	1.073	1.049	1.782
December	0.921 **	0.939 *	1.089	1.070	0.951	0.946	0.987	0.976	1.127	1.034	0.370 *
January	0.890 ***	0.910 ***	1.062	1.045	0.872 ***	0.867 ***	0.912 *	0.898 **	0.944	0.933	0.273 **
February	0.910 **	0.931 **	0.942	0.959	0.925 *	0.915 **	0.976	0.951	0.968	0.979	0.420
March	0.864 ***	0.901 ***	0.890	0.902	0.908 **	0.909 ***	0.975	0.954	1.049	1.017	1.393
April	0.830 ***	0.863 ***	0.894	0.920	0.897 ***	0.877 ***	0.986	0.956	0.936	0.928	0.757
May	0.835 ***	0.845 ***	0.826 **	0.855 **	0.836 ***	0.814 ***	0.893 **	0.868 ***	0.896	0.928	0.631
June	0.816 ***	0.848 ***	0.866 *	0.858 **	0.841 ***	0.825 ***	0.900 **	0.876 ***	0.878	0.891	0.868
July	0.782 ***	0.803 ***	0.802 ***	0.824 ***	0.894 ***	0.864 ***	0.966	0.933 *	0.843	0.904	0.605
August	0.786 ***	0.818 ***	0.845 **	0.844 **	0.894 ***	0.867 ***	0.971	0.939	0.771 **	0.833 *	0.933
Free School Meals eligibility, Percentage											
Less than 20% (/1 year model H)	0.724 ***	-	0.687 ***	-	0.540 ***	-	0.621 ***	-	0.627 ***	-	0.811
20% - (/2 years model H)	0.900 **	1.266 ***	0.745 ***	1.039	0.776 ***	1.479 ***	0.798 ***	1.331 ***	0.783 **	1.161 *	0.893
40% - (/3 years model H)	0.905 ***	1.279 ***	0.824 ***	1.174 ***	0.796 ***	1.525 ***	0.828 ***	1.374 ***	0.827 **	1.238 ***	0.937
60% -	0.981	1.382 ***	0.986	1.334 ***	0.952	1.843 ***	0.992	1.658 ***	0.913	1.307 ***	-
80%-100%	-	1.471 ***	-	1.400 ***	-	1.959 ***	-	1.693 ***	-	1.363 ***	-

Secondary models	SEND Identification				SEMH identification				Special school		SEND & CAMHS	
	Model C: Y7-11 at SEN Support		Model D: Y7-11 at EHCP		Model E: Y7-11 SEMH needs		Model F: Y7-11 from other need types to SEMH		Model G: Y7-11 from mainstream to special school		Model H: YR-11 CAMHS contact, of children identified with SEND	
i. With school and LA random effects ii. Without school and LA effects	i.	ii.	i.	ii.	i.	ii.	i.	ii.	i.	ii.	i.	
Key Stage 1 Reading Score												
3	2.632	3.107	0.540	0.804	0.412	0.624	0.513	0.769	0.145	0.296	-	
9 (/Level 1+ model G)	5.221	5.090	0.497	0.764	0.509	0.730	0.592	0.853	0.130	0.262	17.990	***
13	4.931	4.780	0.561	0.836	0.556	0.787	0.633	0.908	0.140	0.276	-	
15	3.892	3.850	0.610	0.930	0.555	0.776	0.641	0.918	0.190	0.351	-	
17	3.201	3.278	0.691	1.060	0.523	0.740	0.635	0.913	0.231	0.428	-	
21	3.005	3.134	0.736	1.143	0.556	0.752	0.628	0.895	0.244	0.471	-	
Key Stage 1 Writing Score												
3	0.605	0.425	1.526	1.897	1.347	1.284	1.037	0.831	4.600	2.963	-	
9 (/Level 1+ model G)	0.483	0.353	1.265	1.536	1.301	1.289	1.027	0.845	4.582	2.866	1.074	
13	0.429	0.331	0.976	1.170	1.083	1.119	0.934	0.789	3.547	2.303	-	
15	0.343	0.270	0.755	0.875	0.887	0.932	0.875	0.751	3.246	2.258	-	
17	0.261	0.215	0.461	0.548	0.766	0.814	0.847	0.717	2.419	1.787	-	
21	0.210	0.185	0.332	0.385	0.703	0.724	0.692	0.629	1.773	1.090	-	
Key Stage 1 Maths Score												
3	0.904	0.977	2.826	1.357	1.780	1.185	1.922	1.581	1.707	1.363	-	
9 (/Level 1+ model G)	0.710	0.869	2.095	1.037	2.032	1.448	2.014	1.681	1.035	0.983	118.900	***
13	0.686	0.861	1.699	0.890	1.942	1.394	1.906	1.600	0.856	0.795	-	
15	0.635	0.806	1.510	0.773	1.724	1.246	1.742	1.471	0.856	0.731	-	
17	0.569	0.746	1.188	0.630	1.453	1.089	1.591	1.380	0.836	0.737	-	
21	0.517	0.708	1.281	0.632	1.205	0.928	1.569	1.361	0.628	0.566	-	

Secondary models	SEND Identification				SEMH identification				Special school		SEND & CAMHS
	Model C: Y7-11 at SEN Support		Model D: Y7-11 at EHCP		Model E: Y7-11 SEMH needs		Model F: Y7-11 from other need types to SEMH		Model G: Y7-11 from mainstream to special school		Model H: YR-11 CAMHS contact, of children identified with SEND
i. With school and LA random effects ii. Without school and LA effects	i.	ii.	i.	ii.	i.	ii.	i.	ii.	i.	ii.	i.
Key Stage 2 Reading Outcome											
P Scales	-		2.669	2.739	0.561	0.613	0.576	0.558	1.061	0.801	-
Level 1-2	2.541 ***	2.372 ***	0.895	1.311	1.118	1.193	1.089	1.080	1.760	0.874	-
Level 3	1.548 **	1.679 ***	0.550	0.798	1.164	1.284	1.114	1.107	1.201	0.622	-
Level 4+	0.742	0.938	0.551	0.817	1.033	1.151	1.027	1.017	1.384	0.675	-
Key Stage 2 Writing Outcome											
P Scales	-		4.060	3.100	0.378 *	0.425 *	0.568	0.554	1.026	0.847	-
Level 1-2	7.525 ***	3.293 ***	5.084 ***	3.308 ***	1.351 *	1.196	1.070	0.985	1.504	1.302	-
Level 3	4.946 ***	2.621 ***	2.192 ***	1.522 *	1.408 **	1.298 *	1.140	1.085	0.753	0.945	-
Level 4+	1.961 **	1.247	1.052	0.743	0.922	0.905	0.880	0.856	0.473 **	0.591 ***	-
Key Stage 2 Maths Outcome											
P Scales	-		79.20 ***	25.40 ***	1.785	0.774	2.043	1.183	0.252 **	0.366 ***	-
Level 1-2	2.163 ***	1.907 ***	4.078 ***	2.903 ***	1.189	0.928	1.113	0.999	1.212	1.235	-
Level 3	1.692 ***	1.434 **	1.768	1.341	1.214	1.067	1.144	1.100	0.687	0.927	-
Level 4+	0.893	0.827	1.224	0.902	0.906	0.839	0.959	0.963	0.521	0.748	-
English as an Additional Language											
Ever EAL	0.626 ***	0.679 ***	0.447 ***	0.519 ***	0.571 ***	0.647 ***	0.666 ***	0.725 ***	0.632 ***	0.719 ***	0.581
Neighbourhood Deprivation											
Mean IDACI	2.246 ***	2.245 ***	0.974	0.743	1.248	1.056	0.963	0.805	0.706	0.331 **	0.020
Maximum IDACI	0.587 *	0.737	1.446	1.426	1.368	1.857 ***	1.667 *	2.190 ***	2.053	3.157 **	56.940
Standard deviation of IDACI	0.939	0.854	0.319	0.273 **	0.959	0.657	0.773	0.510 **	1.056	1.295	0.001
Number of Schools Attended											
2	1.129 ***	1.083 ***	1.237 ***	1.188 ***	1.150 ***	1.135 ***	1.055 **	1.052 ***	0.899 *	0.587 ***	0.889
3	1.279 ***	1.196 ***	1.285 ***	1.252 ***	1.254 ***	1.218 ***	1.064 *	1.058 *	0.644 ***	0.319 ***	0.706
4	1.239 ***	1.238 ***	1.499 ***	1.369 ***	1.268 ***	1.282 ***	1.081	1.081	0.746 *	0.375 ***	-
5+	1.361 *	1.335 **	1.063	0.953	1.462 ***	1.409 ***	1.300 **	1.320 ***	0.504 **	0.247 ***	-
School Absence, Percentage											
KS1 due to Sickness	0.992	0.991 *	0.996	1.011	1.003	1.002	1.013 **	1.011 *	0.992	1.000	0.983
KS2 due to Sickness	0.994	0.999	0.915 ***	0.915 ***	1.004	1.015 **	1.035 ***	1.046 ***	1.028 **	1.057 ***	-
KS1 Authorised	0.993	0.993	0.990	0.977 ***	0.982 ***	0.981 ***	0.978 ***	0.979 ***	1.004	1.004	1.101 ***
KS2 Authorised	1.079 ***	1.070 ***	1.144 ***	1.139 ***	1.049 ***	1.039 ***	0.995	0.987 **	0.982 *	0.950 ***	-
KS1 Unauthorised	0.984 ***	0.987 ***	0.965 ***	0.965 ***	0.990 ***	0.992 ***	0.998	1.000	0.989	1.001	1.108
KS2 Unauthorised	1.017 **	1.021 ***	0.984 *	0.986 **	1.035 ***	1.037 ***	1.018 ***	1.022 ***	0.977 ***	0.987 *	-

Secondary models	SEND Identification				SEMH identification				Special school		SEND & CAMHS
	Model C: Y7-11 at SEN Support		Model D: Y7-11 at EHCP		Model E: Y7-11 SEMH needs		Model F: Y7-11 from other need types to SEMH		Model G: Y7-11 from mainstream to special school		Model H: YR-11 CAMHS contact, of children identified with SEND
i. With school and LA random effects ii. Without school and LA effects	i.	ii.	i.	ii.	i.	ii.	i.	ii.	i.	ii.	i.
Suspensions, Y3-6											
1 day (/1-2 days model H)	2.216 ***	2.402 ***	4.504 ***	4.106 ***	3.831 ***	3.485 ***	1.925 ***	1.857 ***	3.831 ***	2.188 ***	4.672 **
2-3 days (/3-10 days model H)	3.431 ***	3.362 ***	5.645 ***	4.856 ***	5.736 ***	4.637 ***	1.864 ***	1.808 ***	3.630 ***	2.649 ***	2.275
4-5 days (/11+ days model H)	5.231 ***	4.616 ***	6.922 ***	6.544 ***	8.128 ***	5.850 ***	1.559 ***	1.543 ***	4.613 ***	3.159 ***	6.432
6-10 days	7.433 ***	6.673 ***	12.39 ***	10.18 ***	12.14 ***	8.737 ***	1.517 ***	1.470 ***	8.832 ***	4.415 ***	
11+ days	4.983 ***	6.069 ***	15.41 ***	13.03 ***	13.87 ***	8.664 ***	0.850	0.938	8.154 ***	4.245 ***	
Permanent Exclusions, Y3-6											
1+ PE	0.809	1.253	0.693	0.763	1.526	1.914 **	0.605 **	0.786	0.703	0.877	17.020
Period Looked After (LAC) in Primary											
1-12m LAC	2.168 ***	1.880 ***	1.905 ***	1.728 ***	2.672 ***	2.149 ***	1.686 ***	1.445 ***	1.039	0.966	0.280
13-24m LAC	3.445 ***	2.912 ***	2.804 ***	2.401 ***	2.696 ***	2.225 ***	1.326 **	1.235 **	1.718 **	1.417 *	5.780
25-72m LAC	2.643 ***	2.295 ***	4.831 ***	4.112 ***	4.089 ***	3.185 ***	1.854 ***	1.604 ***	2.008 ***	1.530 ***	0.236
72+m LAC	5.868 ***	4.892 ***	4.603 ***	4.408 ***	6.114 ***	4.915 ***	2.286 ***	2.093 ***	2.998 ***	1.995 ***	412.100 **
Child Protection Plans (CPP)											
1+ CPP	1.590 ***	1.502 ***	1.449 ***	1.486 ***	1.909 ***	1.799 ***	1.395 ***	1.405 ***	1.426 ***	1.415 ***	7.103 ***
School Academisation											
Primary/Junior Academised by Year 3	0.879	0.796	1.275	1.036	0.975	0.851	1.136	1.017	1.441	1.088	0.230
Secondary Academised by Year 7	0.630 ***	1.020	0.961	0.847 ***	0.763 ***	1.024	1.072	1.049 ***	0.684 ***	0.754 ***	0.518 ***
Ofsted Inspection Grades at Year 3											
Good	0.936 ***	0.907 ***	0.882 **	0.827 ***	0.968	0.928 ***	1.012	0.980	1.024	1.033	na
Requires Improvement	0.928 ***	0.888 ***	0.928	0.877 ***	0.967	0.937 ***	1.028	1.002	1.076	1.045	na
Inadequate	0.829 ***	0.781 ***	0.830	0.839 *	0.924	0.871 ***	1.033	0.980	0.953	1.158	na
Not known	0.955	0.915 ***	0.842 **	0.768 ***	0.978	0.927 ***	1.033	0.984	0.981	1.001	na
Ofsted Inspection Grades at Year 7											
Good	0.895	0.772 ***	0.850	0.910 **	1.160 *	0.969	1.289 ***	0.992	0.805 *	0.899 **	na
Requires Improvement	0.811 *	0.772 ***	0.860	0.841 ***	1.112	0.930 ***	1.467 ***	0.993	0.571 ***	0.775 ***	na
Inadequate	1.199	0.774 ***	0.910	0.751 ***	1.955 ***	0.944 *	2.254 ***	1.008	0.627 **	0.817 **	na
Not known	0.854	0.796 ***	0.790	0.829 ***	1.346 **	0.964	1.802 ***	1.037	0.458 ***	0.783 ***	na

Secondary models	SEND Identification				SEMH identification				Special school		SEND & CAMHS
	Model C: Y7-11 at SEN Support		Model D: Y7-11 at EHCP		Model E: Y7-11 SEMH needs		Model F: Y7-11 from other need types to SEMH		Model G: Y7-11 from mainstream to special school		Model H: YR-11 CAMHS contact, of children identified with SEND
i. With school and LA random effects ii. Without school and LA effects	i.	ii.	i.	ii.	i.	ii.	i.	ii.	i.	ii.	i.
School Intake Percentages											
FSM, Year 3	1.002 ***	1.004 ***	1.000	1.001 **	1.001 ***	1.002 ***	1.002 ***	1.002 ***	0.999	1.001	0.996
FSM, Year 7	1.001	0.990 ***	0.978	0.991 ***	1.028 ***	1.005 ***	1.013 ***	1.006 ***	0.967 ***	0.983 ***	0.995
SEND, Year 3	0.998 *	0.996 ***	0.999	0.995 ***	1.003 ***	1.002 ***	0.998 **	0.998 ***	0.989 ***	0.985 ***	0.989 *
SEND, Year7	0.999	1.026 ***	1.077 ***	1.038 ***	0.962 ***	1.006 ***	0.966 ***	0.997 ***	1.116 ***	1.064 ***	1.030 ***
Special Provision in School Attended											
SEN Unit, Year 3	1.089	1.008	1.158	1.154	0.988	0.967	1.004	0.995	1.411 ***	1.477 ***	na
SEN Unit, Year 7	1.041	0.952	0.556 ***	0.796 ***	0.769 *	0.939 *	0.885	0.914 **	1.078	0.858 *	na
LA Population Pecentages											
FSM, Year 3	1.000	0.994 ***	0.999 *	0.999	0.998	0.991 ***	0.997	0.993 ***	0.995	0.998	0.972
FSM, Year7	1.017 ***	1.007 ***	1.040	1.002	0.993	1.000	1.006	1.000	1.025 ***	1.005	1.006
EHCPs Issued, Mainstream School	0.981	1.015	0.791 ***	0.937 ***	1.005	1.009	1.000	0.990	0.982	0.933 **	1.168
EHCPs Issued, Resourced Provision	1.010	1.172 ***	1.074	1.151 ***	0.988	1.206 ***	1.059	1.174 ***	1.060	1.263 ***	na
EHCPs Issued, Special Schools	1.008	1.045 **	1.010	0.988	1.014	0.949 **	0.980	0.950 *	0.937	0.837 ***	0.696
EHCPs Issued, Other Settings	-	-	-	-	-	-	-	-	-	-	-
Ethnic Minority Pupils	1.000	1.006 ***	1.000	1.006 ***	1.002	1.008 ***	1.002 *	1.006 ***	1.004	1.005 ***	1.040 **
Constant	0.085 ***	0.040 ***	0.000 ***	0.004 ***	0.141 ***	0.019 ***	0.112 ***	0.045 ***	0.000 ***	0.017	0.000 ***

Appendix F: Descriptive statistics tables for secondary models

	Model C: Y7-11 at SEN Support													
	Total								Complete cases sample					
	SEND status								SEND status					
	Not identified		Identified		Ineligible		Total		Not identified		Identified		Total	
	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent
Gender														
Female	195,090	54.3	13,520	49.2	94,800	39.0	303,400	48.2	170,040	54.9	11,110	51.6	181,150	54.7
Male	164,290	45.7	13,980	50.8	147,990	61.0	326,270	51.8	139,470	45.1	10,440	48.4	149,910	45.3
Ethnicity														
White British	246,220	68.5	18,630	67.7	164,830	67.9	429,680	68.2	233,890	75.6	16,900	78.4	250,790	75.8
Indian	12,450	3.5	540	2.0	5,580	2.3	18,580	3.0	9,360	3.0	320	1.5	9,680	2.9
Pakistani	14,830	4.1	910	3.3	11,160	4.6	26,910	4.3	12,120	3.9	650	3.0	12,770	3.9
Bangladeshi	6,260	1.7	400	1.5	4,330	1.8	11,000	1.7	5,210	1.7	280	1.3	5,490	1.7
Other Asian	7,610	2.1	380	1.4	4,220	1.7	12,210	1.9	5,130	1.7	160	0.7	5,300	1.6
White & Asian	5,040	1.4	320	1.2	2,860	1.2	8,220	1.3	4,230	1.4	250	1.2	4,480	1.4
Black African	13,330	3.7	1,070	3.9	9,660	4.0	24,060	3.8	8,810	2.8	530	2.5	9,340	2.8
Black Caribbean	4,030	1.1	550	2.0	4,450	1.8	9,020	1.4	3,460	1.1	460	2.1	3,920	1.2
Other Black	2,810	0.8	270	1.0	2,250	0.9	5,330	0.8	1,750	0.6	150	0.7	1,900	0.6
White & African	2,420	0.7	180	0.7	1,720	0.7	4,320	0.7	1,910	0.6	140	0.6	2,050	0.6
White & Caribbean	4,720	1.3	520	1.9	4,190	1.7	9,430	1.5	4,410	1.4	480	2.2	4,890	1.5
Chinese	1,740	0.5	100	0.4	960	0.4	2,800	0.4	1,220	0.4	50	0.2	1,270	0.4
Other ethnicity	7,790	2.2	700	2.5	5,470	2.3	13,970	2.2	4,150	1.3	250	1.2	4,400	1.3
Irish	1,290	0.4	100	0.4	960	0.4	2,340	0.4	990	0.3	70	0.3	1,060	0.3
Traveller Irish	100	0.0	20	0.1	620	0.3	740	0.1	80	0.0	10	0.0	90	0.0
Gypsy/Romany	1,080	0.3	240	0.9	1,680	0.7	3,000	0.5	260	0.1	40	0.2	300	0.1
Other White	23,500	6.5	2,220	8.1	14,580	6.0	40,300	6.4	10,170	3.3	640	3.0	10,810	3.3
Not Known	4,160	1.2	350	1.3	3,270	1.3	7,780	1.2	2,340	0.8	180	0.8	2,520	0.8

	Model C: Y7-11 at SEN Support													
	Total								Complete cases sample					
	SEND status								SEND status					
	Not identified		Identified		Ineligible		Total		Not identified		Identified		Total	
	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent
Birth month														
September	33,890	9.4	2,600	9.4	16,890	7.0	53,380	8.5	29,500	9.5	2,100	9.7	31,600	9.5
October	33,780	9.4	2,540	9.2	17,450	7.2	53,770	8.5	29,420	9.5	2,040	9.5	31,460	9.5
November	30,490	8.5	2,330	8.5	17,320	7.1	50,130	8.0	26,400	8.5	1,880	8.7	28,270	8.5
December	30,590	8.5	2,380	8.6	18,220	7.5	51,190	8.1	26,480	8.6	1,870	8.7	28,350	8.6
January	30,940	8.6	2,380	8.6	19,080	7.9	52,390	8.3	26,430	8.5	1,850	8.6	28,280	8.5
February	27,150	7.6	2,110	7.7	17,710	7.3	46,960	7.5	23,480	7.6	1,680	7.8	25,160	7.6
March	29,460	8.2	2,280	8.3	20,180	8.3	51,910	8.2	25,360	8.2	1,810	8.4	27,170	8.2
April	28,810	8.0	2,180	7.9	20,540	8.5	51,530	8.2	24,980	8.1	1,700	7.9	26,680	8.1
May	29,430	8.2	2,230	8.1	22,260	9.2	53,920	8.6	25,370	8.2	1,710	7.9	27,080	8.2
June	27,860	7.8	2,160	7.8	22,580	9.3	52,600	8.4	23,810	7.7	1,630	7.6	25,440	7.7
July	29,590	8.2	2,170	7.9	25,050	10.3	56,810	9.0	25,120	8.1	1,670	7.7	26,790	8.1
August	27,400	7.6	2,160	7.8	25,530	10.5	55,080	8.7	23,170	7.5	1,610	7.5	24,780	7.5
Primary FSM history														
less than 20%	270,970	82.0	16,850	69.2	161,710	66.6	449,530	75.2	253,900	82.0	14,800	68.7	268,700	81.2
20% -	11,170	3.4	1,150	4.7	11,060	4.6	23,380	3.9	10,450	3.4	1,050	4.9	11,500	3.5
40% -	17,690	5.4	1,990	8.2	19,920	8.2	39,610	6.6	16,900	5.5	1,840	8.5	18,740	5.7
60% -	8,430	2.6	1,080	4.4	11,520	4.7	21,030	3.5	7,840	2.5	990	4.6	8,830	2.7
80% - 100%	22,220	6.7	3,270	13.4	38,490	15.9	63,980	10.7	20,420	6.6	2,870	13.3	23,290	7.0

	Model C: Y7-11 at SEN Support													
	Total								Complete cases sample					
	SEND status								SEND status					
	Not identified		Identified		Ineligible		Total		Not identified		Identified		Total	
	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent
KS1 Reading														
No result	16,830	4.7	2,520	9.2	7,810	3.2	27,160	4.3	1,170	0.4	130	0.6	1,300	0.4
3 points	32,230	9.0	3,480	12.6	49,150	20.2	84,860	13.5	1,640	0.5	230	1.1	1,870	0.6
9 points	5,810	1.6	1,230	4.5	59,340	24.4	66,370	10.5	5,670	1.8	1,210	5.6	6,880	2.1
13 points	20,490	5.7	3,190	11.6	41,740	17.2	65,410	10.4	20,230	6.5	3,150	14.6	23,380	7.1
15 points	71,600	19.9	6,630	24.1	44,460	18.3	122,690	19.5	70,820	22.9	6,530	30.3	77,350	23.4
17 points	97,890	27.2	5,780	21.0	23,910	9.8	127,580	20.3	96,790	31.3	5,700	26.5	102,490	31.0
21 points	114,550	31.9	4,680	17.0	16,370	6.7	135,600	21.5	113,180	36.6	4,600	21.3	117,780	35.6
KS1 Writing														
No result	16,820	4.7	2,520	9.2	7,830	3.2	27,160	4.3	1,170	0.4	130	0.6	1,300	0.4
3 points	32,300	9.0	3,510	12.8	54,420	22.4	90,220	14.3	1,700	0.5	260	1.2	1,960	0.6
9 points	10,030	2.8	1,890	6.9	69,120	28.5	81,050	12.9	9,860	3.2	1,860	8.6	11,720	3.5
13 points	48,370	13.5	5,960	21.7	56,260	23.2	110,590	17.6	47,770	15.4	5,870	27.2	53,640	16.2
15 points	106,720	29.7	7,680	27.9	35,310	14.5	149,700	23.8	105,600	34.1	7,590	35.2	113,180	34.2
17 points	88,630	24.7	4,020	14.6	13,280	5.5	105,930	16.8	87,600	28.3	3,950	18.3	91,550	27.7
21 points	56,520	15.7	1,930	7.0	6,580	2.7	65,020	10.3	55,820	18.0	1,890	8.8	57,710	17.4
KS1 Maths														
No result	16,850	4.7	2,520	9.2	7,840	3.2	27,210	4.3	1,190	0.4	140	0.6	1,330	0.4
3 points	31,910	8.9	3,430	12.5	45,480	18.7	80,830	12.8	1,350	0.4	190	0.9	1,540	0.5
9 points	3,380	0.9	700	2.5	41,970	17.3	46,050	7.3	3,280	1.1	680	3.2	3,960	1.2
13 points	26,410	7.3	3,670	13.4	55,170	22.7	85,250	13.5	26,030	8.4	3,620	16.8	29,650	9.0
15 points	83,590	23.3	7,260	26.4	50,790	20.9	141,640	22.5	82,670	26.7	7,170	33.3	89,830	27.1
17 points	107,910	30.0	6,210	22.6	27,050	11.1	141,160	22.4	106,730	34.5	6,100	28.3	112,830	34.1
21 points	89,340	24.9	3,700	13.5	14,490	6.0	107,530	17.1	88,260	28.5	3,650	16.9	91,910	27.8

	Model C: Y7-11 at SEN Support													
	Total								Complete cases sample					
	SEND status								SEND status					
	Not identified		Identified		Ineligible		Total		Not identified		Identified		Total	
	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent
KS2 Reading														
No result	32,580	9.1	3,480	12.7	36,380	15.0	72,440	11.5	1,950	0.6	230	1.1	2,180	0.7
PS	30	0.0	20	0.1	3,110	1.3	3,160	0.5	0	0.0	0	0.0	0	0.0
L1-2	2,500	0.7	1,210	4.4	21,170	8.7	24,880	4.0	280	0.1	210	1.0	490	0.1
Not achieved standard	5,930	1.7	1,720	6.3	26,610	11.0	34,260	5.4	4,520	1.5	1,330	6.2	5,850	1.8
Achieved standard	318,350	88.6	21,070	76.6	155,520	64.1	494,940	78.6	302,750	97.8	19,790	91.8	322,540	97.4
KS2 Writing														
No result	32,060	8.9	3,510	12.8	36,260	14.9	71,830	11.4	1,220	0.4	150	0.7	1,370	0.4
PS	30	0.0	20	0.1	3,260	1.3	3,310	0.5	0	0.0	0	0.0	0	0.0
L1-2	1,800	0.5	880	3.2	15,430	6.4	18,110	2.9	80	0.0	70	0.3	140	0.0
Not achieved standard	7,890	2.2	2,500	9.1	50,680	20.9	61,070	9.7	5,460	1.8	1,870	8.7	7,330	2.2
Achieved standard	317,600	88.4	20,580	74.9	137,170	56.5	475,350	75.5	302,750	97.8	19,470	90.3	322,220	97.3
KS2 Maths														
No result	33,040	9.2	3,520	12.8	36,640	15.1	73,200	11.6	2,350	0.8	260	1.2	2,610	0.8
PS	20	0.0	20	0.1	3,110	1.3	3,150	0.5	0	0.0	0	0.0	0	0.0
L1-2	1,470	0.4	790	2.9	15,880	6.5	18,140	2.9	150	0.0	100	0.5	240	0.1
Not achieved standard	10,420	2.9	2,670	9.7	42,200	17.4	55,290	8.8	8,850	2.9	2,170	10.1	11,020	3.3
Achieved standard	314,440	87.5	20,500	74.5	144,950	59.7	479,890	76.2	298,160	96.3	19,020	88.3	317,180	95.8
First language														
English	273,510	76.1	20,970	76.3	187,910	77.4	482,390	76.6	255,090	82.4	18,670	86.6	273,760	82.7
Other	85,880	23.9	6,530	23.7	54,880	22.6	147,280	23.4	54,420	17.6	2,880	13.4	57,300	17.3

	Model C: Y7-11 at SEN Support													
	Total								Complete cases sample					
	SEND status								SEND status					
	Not identified		Identified		Ineligible		Total		Not identified		Identified		Total	
	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent
Schools attended, Primary														
1	250,780	69.8	19,010	69.1	148,570	61.2	418,360	66.4	205,750	66.5	13,610	63.1	219,360	66.3
2	91,190	25.4	6,700	24.4	71,270	29.4	169,150	26.9	87,120	28.1	6,260	29.0	93,380	28.2
3	14,720	4.1	1,440	5.2	17,910	7.4	34,070	5.4	14,050	4.5	1,360	6.3	15,410	4.7
4	2,280	0.6	280	1.0	4,100	1.7	6,660	1.1	2,170	0.7	270	1.3	2,440	0.7
5+	430	0.1	70	0.3	940	0.4	1,440	0.2	410	0.1	70	0.3	470	0.1
Days suspended, KS2														
None	357,910	99.6	26,930	97.9	232,700	95.8	617,540	98.1	308,310	99.6	21,100	97.9	329,410	99.5
1	620	0.2	170	0.6	2,300	0.9	3,090	0.5	550	0.2	140	0.6	690	0.2
2-3	530	0.1	200	0.7	2,940	1.2	3,670	0.6	450	0.1	160	0.7	610	0.2
4-5	160	0.0	90	0.3	1,340	0.6	1,590	0.3	130	0.0	80	0.4	200	0.1
6-10	90	0.0	70	0.3	1,650	0.7	1,800	0.3	50	0.0	50	0.2	100	0.0
11+	70	0.0	40	0.1	1,870	0.8	1,980	0.3	20	0.0	20	0.1	40	0.0
Permanent Exclusions, KS2														
None	359,360	100.0	27,480	99.9	242,250	99.8	629,090	99.9	309,490	100.0	21,540	100.0	331,030	100.0
One or more	30	0.0	20	0.1	540	0.2	580	0.1	10	0.0	10	0.0	20	0.0
Months LAC, Primary														
Never LAC	358,310	99.7	27,180	98.8	237,370	97.8	622,850	98.9	308,560	99.7	21,280	98.7	329,850	99.6
1-12m LAC	410	0.1	120	0.4	1,560	0.6	2,090	0.3	350	0.1	100	0.5	450	0.1
13-24m LAC	210	0.1	70	0.3	960	0.4	1,240	0.2	180	0.1	70	0.3	250	0.1
25-72m LAC	370	0.1	90	0.3	2,220	0.9	2,680	0.4	320	0.1	80	0.4	400	0.1
72+m LAC	100	0.0	40	0.1	680	0.3	820	0.1	90	0.0	30	0.1	120	0.0
Child Protection Plans, Primary														
No CPPs	357,210	99.4	27,000	98.2	236,190	97.3	620,410	98.5	307,510	99.4	21,120	98.0	328,640	99.3
1+ CPPs	2,170	0.6	490	1.8	6,600	2.7	9,260	1.5	1,990	0.6	430	2.0	2,420	0.7

	Model C: Y7-11 at SEN Support													
	Total								Complete cases sample					
	SEND status								SEND status					
	Not identified		Identified		Ineligible		Total		Not identified		Identified		Total	
	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent	Pupils	Percent
School type, Year 3														
LA school	358,760	99.8	27,450	99.8	242,120	99.7	628,320	99.8	308,890	99.8	21,500	99.8	330,390	99.8
Academy	630	0.2	50	0.2	670	0.3	1,350	0.2	620	0.2	50	0.2	670	0.2
School type, Year 7														
LA school	151,010	42.0	11,730	42.7	131,750	54.3	294,490	46.8	117,030	37.8	8,170	37.9	125,200	37.8
Academy	208,370	58.0	15,770	57.3	111,040	45.7	335,180	53.2	192,470	62.2	13,380	62.1	205,850	62.2
Ofsted grade, Year 3														
Outstanding	51,770	14.4	3,390	12.3	33,170	13.7	88,330	14.0	50,730	16.4	3,290	15.3	54,020	16.3
Good	148,280	41.3	10,080	36.7	98,540	40.6	256,910	40.8	145,470	47.0	9,870	45.8	155,350	46.9
Requires Improvement	71,660	19.9	5,170	18.8	49,870	20.5	126,700	20.1	70,280	22.7	5,030	23.4	75,310	22.7
Inadequate	7,490	2.1	500	1.8	5,540	2.3	13,530	2.1	7,340	2.4	490	2.3	7,830	2.4
Not known	80,190	22.3	8,350	30.4	55,670	22.9	144,210	22.9	35,680	11.5	2,860	13.3	38,540	11.6
Ofsted grade, Year 7														
Outstanding	86,850	24.2	6,110	22.2	36,550	15.1	129,500	20.6	79,260	25.6	5,200	24.1	84,460	25.5
Good	158,990	44.2	11,540	42.0	93,690	38.6	264,220	42.0	147,910	47.8	9,830	45.6	157,740	47.6
Requires Improvement	53,220	14.8	4,360	15.9	36,020	14.8	93,600	14.9	49,350	15.9	3,740	17.3	53,080	16.0
Inadequate	14,580	4.1	1,390	5.1	11,250	4.6	27,210	4.3	13,530	4.4	1,170	5.4	14,700	4.4
Not known	45,750	12.7	4,100	14.9	65,290	26.9	115,140	18.3	19,470	6.3	1,620	7.5	21,080	6.4
School Unit, Year 3														
No SEN Unit	308,920	97.9	21,550	97.6	210,470	97.3	540,940	97.6	302,960	97.9	21,040	97.6	324,000	97.9
Has SEN Unit	6,670	2.1	520	2.4	5,880	2.7	13,070	2.4	6,540	2.1	520	2.4	7,060	2.1
School Unit, Year 7														
No SEN Unit	322,120	96.3	24,320	96.1	183,970	95.4	530,410	96.0	297,940	96.3	20,700	96.0	318,640	96.2
Has SEN Unit	12,470	3.7	980	3.9	8,900	4.6	22,350	4.0	11,560	3.7	860	4.0	12,420	3.8

Note: All pupil numbers have been rounded to the nearest 10 and percentages have been rounded to 1 decimal place

	Model C: Y7-11 at SEN Support																	
	Total							Complete cases sample										
	SEND status							SEND status										
	Not identified			Identified			Total			Not identified			Identified			Total		
	Pupils	Mean	Std Dev	Pupils	Mean	Std Dev	Pupils	Mean	Std Dev	Pupils	Mean	Std Dev	Pupils	Mean	Std Dev	Pupils	Mean	Std Dev
IDACI deprivation, Primary mean, Percent	330,210	21.3	16.8	24,310	25.6	17.8	596,930	23.3	17.4	309,500	21.0	16.6	21,550	24.9	17.7	331,060	21.30	16.7
IDACI deprivation, Primary maximum, Percent	330,210	25.3	19.1	24,310	30.0	20.0	596,930	27.6	19.8	309,500	25.1	19.0	21,550	29.6	20.0	331,060	25.40	19.1
IDACI deprivation, Primary Variability, Percent	325,200	3.6	4.6	23,340	4.1	5.0	578,280	3.9	4.9	309,500	3.6	4.5	21,550	4.2	4.9	331,060	3.60	4.5
Sickness absence, KS1 Percent	317,970	3.1	2.9	22,680	3.7	3.4	568,330	3.5	3.4	309,500	3.1	2.8	21,550	3.6	3.3	331,060	3.10	2.9
Sickness absence, KS2 Percent	331,100	2.4	2.2	24,860	3.0	2.8	579,630	2.7	2.6	309,500	2.4	2.1	21,550	3.0	2.7	331,060	2.40	2.2
Authorised absence, KS1 Percent	317,970	4.4	3.6	22,680	5.1	4.1	568,330	5.0	4.4	309,500	4.4	3.4	21,550	5.0	3.9	331,060	4.40	3.5
Authorised absence, KS2 Percent	331,100	3.2	2.7	24,860	3.9	3.3	579,630	3.7	3.4	309,500	3.2	2.5	21,550	3.9	3.1	331,060	3.20	2.5
Unauthorised absence, KS1 Percent	317,970	0.5	1.9	22,680	0.8	2.8	568,330	0.8	2.7	309,500	0.5	1.5	21,550	0.7	2.4	331,060	0.50	1.6
Unauthorised absence, KS2 Percent	331,100	0.5	1.5	24,860	0.9	2.5	579,630	0.7	2.3	309,500	0.5	1.1	21,550	0.8	1.8	331,060	0.50	1.2
School Percent FSM, by Year 3	359,390	20.7	18.3	27,500	22.8	20.3	629,670	23.1	19.7	309,500	22.9	18.3	21,550	27.4	20.1	331,060	23.20	18.5
School Percent FSM, by Year 7	359,390	27.3	16.5	27,500	31.2	18.4	629,670	28.7	17.6	309,500	28.3	16.1	21,550	32.1	17.7	331,060	28.50	16.2
School Percent SEND, by Year 3	359,390	24.0	13.7	27,500	23.4	14.4	629,670	27.0	16.3	309,500	26.4	12.8	21,550	27.4	13.1	331,060	26.40	12.8
School Percent SEND, by Year 7	359,390	32.5	11.6	27,500	35.8	13.3	629,670	34.4	14.5	309,500	33.6	10.9	21,550	36.9	12.2	331,060	33.80	11.1
LA Percent FSM, by Year 3	359,390	22.6	11.6	27,500	21.9	13.0	629,670	23.1	11.9	309,500	25.2	9.9	21,550	26.3	10.5	331,060	25.20	10.0
LA Percent FSM, by Year 7	359,390	29.3	11.4	27,500	30.5	12.4	629,670	28.7	12.2	309,500	30.4	10.4	21,550	31.7	11.2	331,060	30.50	10.5
LA Percent with EHCP, Mainstream by Year 3	359,390	1.1	0.7	27,500	1.0	0.7	629,670	1.1	0.7	309,500	1.2	0.6	21,550	1.2	0.6	331,060	1.20	0.6
LA Percent with EHCP, Resourced by Year 3	359,390	0.2	0.3	27,500	0.2	0.3	629,670	0.3	0.3	309,500	0.3	0.3	21,550	0.3	0.3	331,060	0.30	0.3
LA Percent with EHCP, Special by Year 3	359,390	0.6	0.4	27,500	0.6	0.4	629,670	0.7	0.4	309,500	0.7	0.3	21,550	0.8	0.3	331,060	0.70	0.3
LA Percent Black & Minority Ethnic, Year 3	359,390	34.8	32.6	27,500	42.1	36.0	629,670	35.7	32.7	309,500	25.6	23.1	21,550	27.7	24.2	331,060	25.80	23.2

Note: All pupil numbers have been rounded to the nearest 10; means and standard deviations have been rounded to 1 decimal place

Appendix G: Model fit statistics

The success of the models in classifying pupils into the 'identified' or 'not identified' groups for SEND is measured by the ROC area under the curve. The area under the ROC curve is a number between 0 and 1 which corresponds with the probability that the model will correctly classify a randomly selected pair of cases (pupils) of which one is positive, and one is negative. In this case, positive refers to the respective model outcomes, such as being identified with SEND and negative means not having those outcomes.

Model	Empty model ROC AUC	Full model ROC AUC
a. Primary SEN Support ID	0.86	0.97
b. Primary EHCP ID	0.37	0.99
c. Secondary SEN Support ID	0.80	0.85
d. Secondary EHCP ID	0.86	0.95
e. Secondary SEMH ID	0.82	0.88
f. Secondary: SEMH added to other earlier identified SEND	0.79	0.82
g. Secondary: move from mainstream to special school	0.94	0.97
h. CAMHS contact of children identified with SEND	0.90	0.99

Due to the high degree of correlation between pupils within the same school, even the empty models, which contained no information about the pupils, nor about schools or LAs other than how pupils are grouped within these, were able to discriminate between pupils identified with SEND and those who were not. These models had 'good' area under the curve values of 80-86 per cent, with the exception of the primary higher-level (EHCP) identification model, where the classification of the empty model was less accurate than flipping a coin.

For the empty model concerning identification of SEMH needs in secondary school, the value was 82 per cent, and for escalation of other need types during primary school to SEMH needs in secondary school, it was hovering just below 'good' at 79 per cent. The classification accuracy of the empty model for moving from a mainstream school in primary to a special school in secondary was 'excellent' at 94 per cent.

The full models with child, school and care factors all had 'good' or 'excellent' classification accuracy between 82 per cent and 99 per cent. The models are good at predicting which pupils are subsequently identified with SEND because knowing the school attended generally provides a strong signal and the addition of pupil and school level information corrects most cases that were not predicted correctly from the school and local authority alone.

Additional models reported in our first report examined SEND identifications in Year 3 with the purpose of understanding the role of the academisation of a minority of primary schools during the period included in the main models. The area under the ROC curve for these models was 99 per cent for identification at for both SEN Support and EHCPs.

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