



Department
for Education

Children in need of help and protection

CIN review: final data and analysis

June 2019

Contents

| | |
|--|----|
| Introduction | 3 |
| Main points | 4 |
| Data and definitions | 5 |
| 1. Children in social care between 2012-13 to 2017-18 | 6 |
| 1.1 Number of children in need between 2012-13 and 2017-18 | 6 |
| 1.2 Characteristics of children in need | 7 |
| 1.3 Factors of need identified in assessments between 2014-15 to 2017-18 | 9 |
| 1.4 Domestic violence, mental health and alcohol and drug misuse | 10 |
| 1.5 Looked after children rates and indicators of mental ill-health and substance misuse in wider population | 11 |
| 2. Children's journeys through social care | 13 |
| 2.1 Frequency of referrals and episodes in need, on a protection plan or looked after | 14 |
| 2.2 Sequence of referrals and episodes in need, on a protection plan or looked after | 15 |
| 2.3 Social care journeys of children referred in 2012-13 | 18 |
| 2.4 Social care histories of children in need in 2017-18 | 21 |
| 3. Educational experiences of children in need | 23 |
| 3.1 Number of 'Ever-CIN' in schools | 24 |
| 3.2 Ofsted rating of schools attended by 'Ever-CIN' pupils | 25 |
| 3.3 Absences | 27 |
| 3.4 Exclusions | 28 |
| 3.5 Attainment in Early Years, Key Stage 2 and Key Stage 4 | 29 |
| 3.6 Attainment distribution and pupil characteristics | 30 |
| 3.7 Social care history and attainment at Key Stage 4 | 32 |
| 3.8 Educational outcomes post-16 | 34 |
| 4. Next steps in data and analysis | 36 |
| 5. Annex: datasets and analysis methodology | 37 |
| 5.1 Creation of the longitudinal CIN dataset | 37 |
| 5.2 Analysing educational outcomes of 'Ever-CIN' pupils | 38 |
| 5.3 Data, methodology and outputs for regression analysis | 39 |
| Glossary of terms | 47 |

Introduction

In March 2018, to launch the Children in Need (CIN) review, we published a [data and analysis report](#) looking at a range of educational outcomes for children in the social care system. The evidence showed CIN on average have poorer outcomes at every stage of education than their peers. They start behind other children in the early years and have a widening attainment gap throughout school. They are also more likely than other children not to be in education, employment or training (NEET) after age 18.

In December 2018, we published [preliminary analysis](#) of a new longitudinal dataset, which linked children's social care records between 2014-15 and 2016-17, and matched it to their education records. This showed there were at least 1.2 million children who were in need of social care services over the three year period, and those who had been in need, even if no longer in need at the point of their exams, had worse attainment than pupils who had not been in need.

This publication presents analysis on an expanded longitudinal dataset, which links social care records between 2012-13 and 2017-18. We analyse the characteristics and interactions of children receiving social care services over this period and their educational outcomes from early years through to higher education. We present regression analysis exploring the association between their social care history and GCSE attainment, controlling for a range of other factors.

This evidence is published alongside the concluding publication of the CIN review, and together they develop an understanding of the number of CIN who have been in the social care system, in schools and in the wider population. It identifies their needs, the challenges they face, and what can make a difference to their educational outcomes in practice.

Figures published in this report are not [official statistics](#) and should be treated as experimental.

Main points

| | |
|---|---|
| Number of children in the social care system | There were at least 1.6 million children in need of social care services between 2012-13 and 2017-18. This equates to around 1 in 10 children in 2018 who were in need at some point in the previous 6 years. |
| Pupil population | Pupils who have been in need of social care services at some point between 2012-13 to 2017-18 are present in 98% of state schools; less than 500 schools do not have a single pupil known to have been in need since 2012-13. |
| Educational outcomes | <p>Children who have needed a social worker do significantly worse than others at every stage of education.</p> <p>After controlling for other factors associated with attainment, children who were in need of social care services were 50% less likely to achieve a strong pass in English and maths GCSEs, with the likelihood for those on a child in need plan or a child protection plan almost as low as looked after children.</p> <p>Pupils who were in need at some point in the 4 years leading up to exams, but not in need in the year of exams, were between 25%-50% less likely to achieve a strong pass.</p> |
| Post-16 outcomes | Pupils who were in need at the end of Key Stage 4 were around 3 times less likely to go on to study A levels at age 16, and almost 5 times less likely to enter higher education at age 18. By age 21, half of these pupils had not achieved Level 2 qualifications (GCSE or equivalent). |
| Escalation into care | Almost two-thirds of children who were looked after in 2017-18 had spent some time on a child in need plan in the previous 5 years (62%), and 39% had spent some time on a child protection plan. |

Data and definitions

Child in Need (CIN) is a broad definition spanning a wide range of children and adolescents, in need of varying types of support and intervention, for a variety of reasons. A child is defined as 'in need' under section 17 of the Children Act 1989, where:

- they are unlikely to achieve or maintain, or to have the opportunity of achieving or maintaining, a reasonable standard of health or development without the provision for them of services by a local authority
- their health or development is likely to be significantly impaired, or further impaired, without the provision for them of such services; or
- they are disabled

The overall group of CIN is made up of children who are receiving different social care interventions:

- **Child in Need Plan (CINP):** a child who needs services to achieve a reasonable level of health or development. The local authority is responsible for determining what services should be provided
- **Child Protection Plan (CPP):** support for a child where there is reasonable suspicion that child is suffering, or likely to suffer, significant harm
- **Looked After Children (LAC):** child is placed outside the home, likely to be with relatives, in foster care, a children's home or placed for adoption. Also includes children in respite care

Overview of dataset

Data on the above children are collected from local authorities in the annual [CIN](#) and [LAC](#) census. The longitudinal CIN dataset links these datasets together from 2012-13 to 2017-18. For each child, the dataset contains details of every referral, child in need plan, child protection plan and episodes of being looked after across the six years. This dataset was then linked to the National Pupil Database via each child's Unique Pupil Number where available to obtain the attainment and other characteristics of children who are in schools in 2017-18. For more detail on the linking methodology see [Section 5.1](#).

1. Children in social care between 2012-13 to 2017-18

Section 1 looks at the number and characteristics of children in need of social care services between 2012-13 and 2017-18 in our dataset. It also looks at the factors of need recorded in assessments between 2014-15 to 2017-18. Assessment factor data are not available prior to 2014-15.

There were at least 1.6 million children in need of social care services between 2012-13 and 2017-18. This equates to around 1 in 10 children in 2018 who were in need at some point in the previous 6 years.

Over a third of pupils in 2017-18 who were in need at some point in the previous 6 years have Special Educational Needs (35%), and nearly two-thirds have claimed Free School Meals in the last 6 years (65%).

Over 771,000 children in need between 2014-15 to 2017-18 were assessed with at least one of domestic violence, mental ill-health or substance misuse (62%).

1.1 Number of children in need between 2012-13 and 2017-18

Figure 1: Number of children who have been in need between 2012-13 and 2017-18

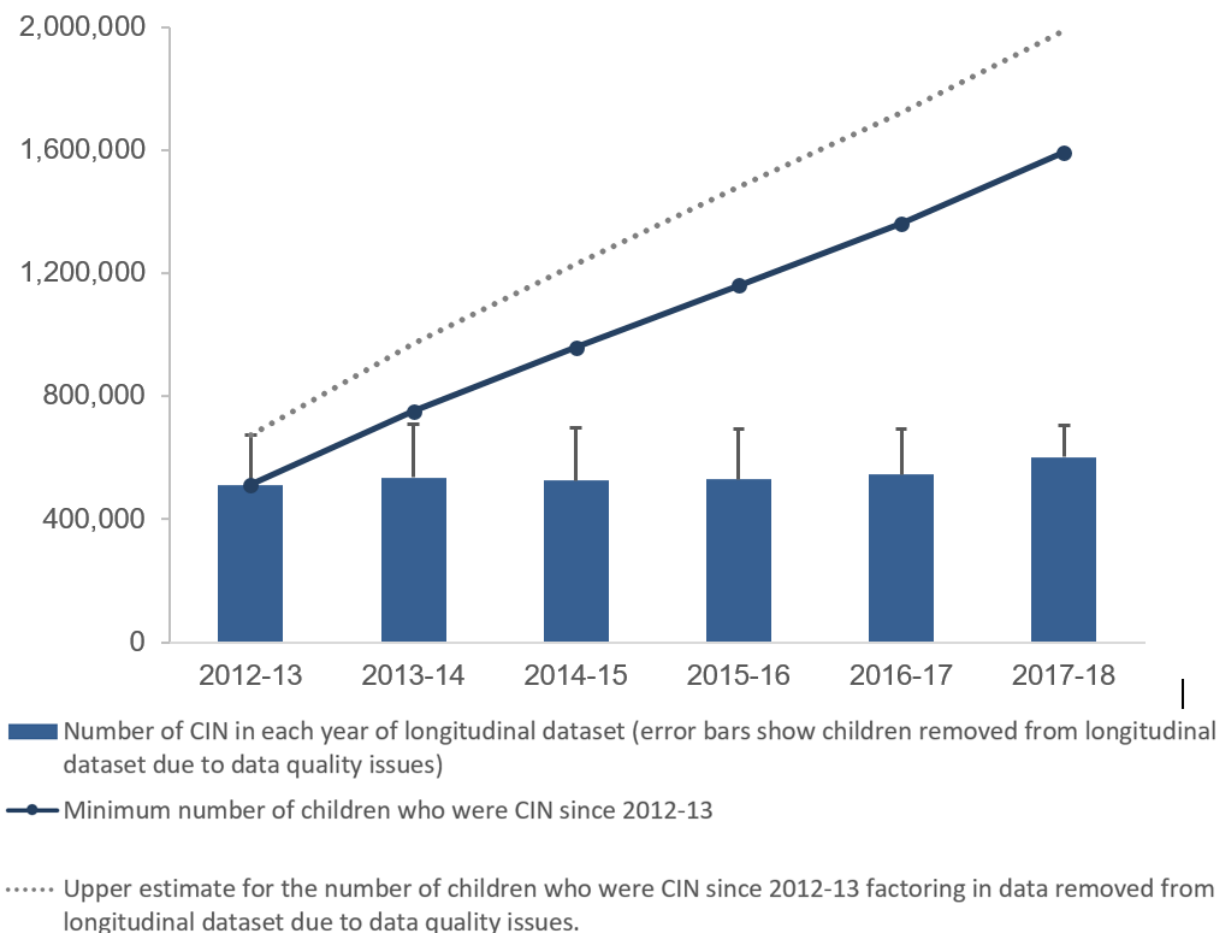
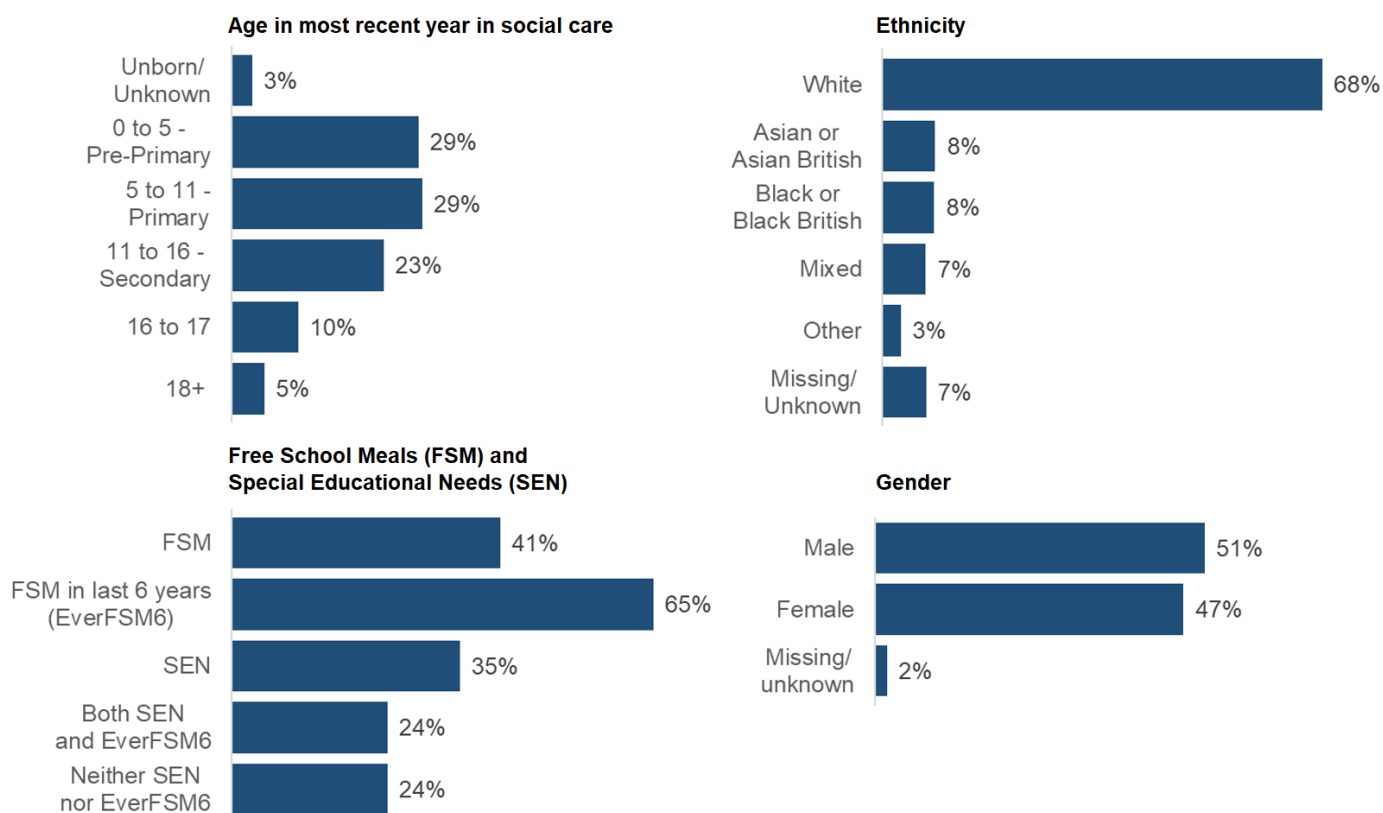


Figure 1 shows there were at least 1.6 million children in need of social care services between 2012-13 and 2017-18 in our dataset. This does not include children who have records with substantial data issues or where linking is not possible, and will therefore be an underestimate (see [Section 5.1](#)).

Of these children, an estimated 1.3 million are still aged under 18 in 2018. Given there were an estimated 12 million children in England in 2018¹, this equates to around 1 in 10 children who were in need at some point in the previous 6 years.

1.2 Characteristics of children in need

Figure 2: Age, ethnicity, gender, Special Educational Needs and Free School Meals status of children in need of social care services between 2012-13 and 2017-18



Notes:

1. Academic age is calculated as at 31st August in the last census year a child was in the system. This includes being referred with no further action, CINP, CPP or LAC.
2. SEN and FSM status is of children who were in schools in 2017-18 who were CIN at any point since 2012-13. Data from School census but not the the AP census. Children aged between 5 and 15 at the start of the academic year.

¹ [ONS population projections, 2017](#)

Figure 2 shows that, of the children in need of social care services between 2012-13 and 2017-18:

- the largest group of children were primary school aged (29%) in their most recent year in the social care system, followed by the pre-primary and secondary school ages (29% and 23% respectively). Children aged above secondary school age made up 15% of children, with those aged 18 and over usually only receiving services due to disability or special educational needs.
- the majority of children were of white ethnicity (68%), followed by asian and black (both 8%)
- half of these children were male (51%) and 47% were female
- over a third of pupils in schools in 2017-18 who had been in need at any point since 2012-13 had SEN (35%), 41% had FSM and 65% had received FSM in the last 6 years (EverFSM6). Almost a quarter of children had both SEN and EverFSM6 (24%)

Disabilities of children

The legal definition of Children in Need includes all disabled children. Unlike other children who must be assessed as in need, disabled children are classed as Children in Need by virtue of having a disability.

Of children referred to or in need of social care services between 2012-13 and 2017-18, 7% were disabled. This is less than the percentage of children who are known to be disabled in a single year. This is likely due to disabled children staying in need for longer, so the same children tend to make up the cohort of disabled children in each year.

1.3 Factors of need identified in assessments between 2014-15 to 2017-18

There were 1.2 million children in need who were assessed a total of 1.8 million times between 2014-15 to 2017-18. Data on assessment factors was not recorded prior to 2014-15.

Figure 3: Percentage of children assessed between 2014-15 and 2017-18 for whom each assessment factor was identified

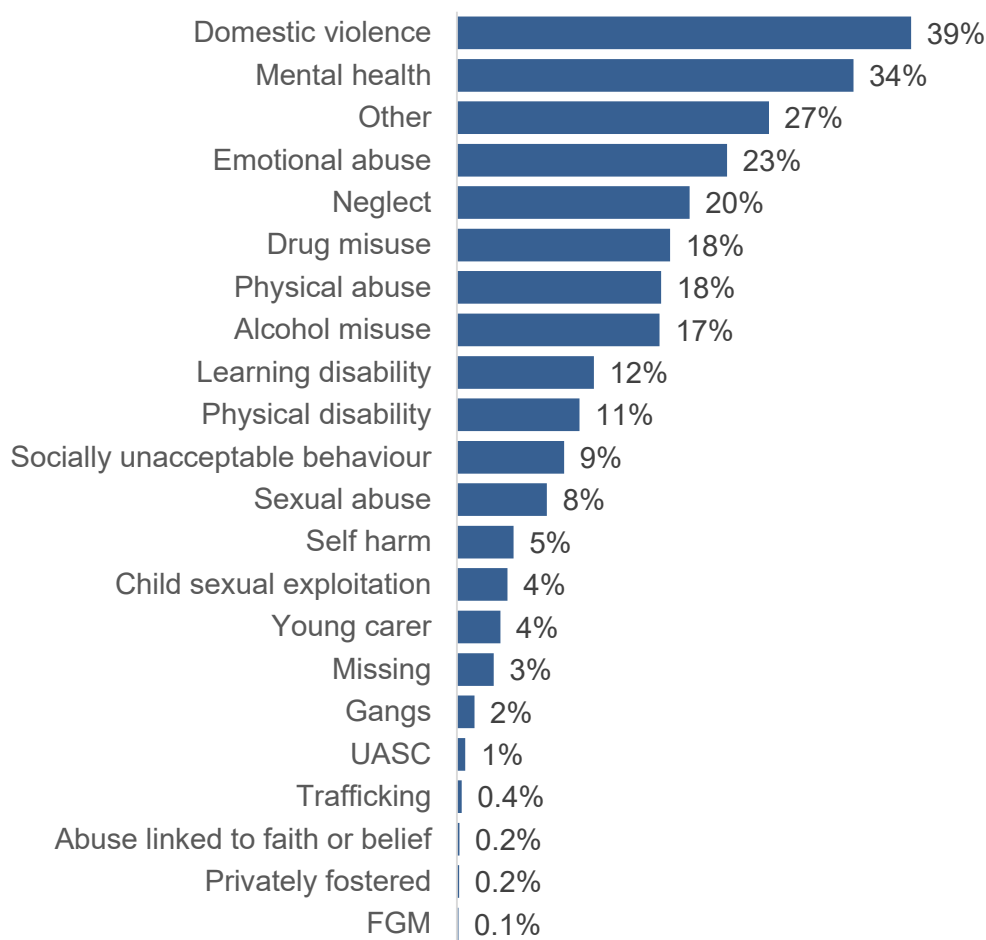


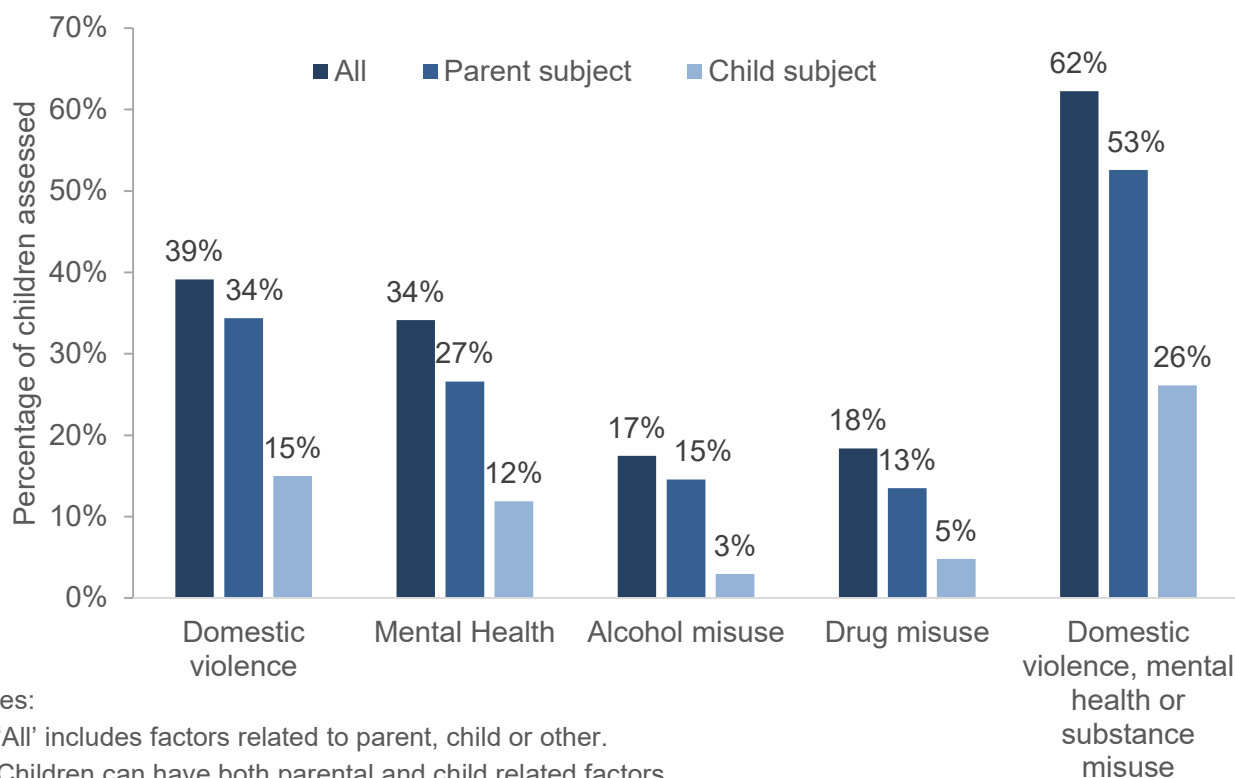
Figure 3 shows, for all CIN who were assessed between 2014-15 to 2017-18:

- domestic violence was the most common factor, identified in 485,000 children, or 39%
- mental health was the next most common factor, identified in 423,000 children, or 34%
- of the different types of abuse (emotional, physical, sexual abuse and neglect), emotional abuse was most often identified as a factor in 288,000 children, or 23%

1.4 Domestic violence, mental health and alcohol and drug misuse

The connection between child abuse and neglect, and parental problems such as mental ill-health, domestic abuse and substance misuse, is well-established^{2,3,4,5,6}. Research consistently highlights the negative, long-term impact living in these circumstances can have⁷, reinforced by the findings from Serious Case Reviews⁸.

Figure 4: Percentage of children assessed with domestic violence, mental health and alcohol and drug misuse between 2014-15 to 2017-18



² Munro, 2011: [The Munro Review of Child Protection: Final Report \(2011\)](#)

³ Cleaver et al, 2011: [Children's needs – Parenting Capacity. Child abuse: Parental mental illness, learning disability, substance misuse and domestic violence](#)

⁴ Bramley and Fitzpatrick, 2015: [Hard Edges: Mapping severe and multiple disadvantage](#)

⁵ Stanley and Cox, 2009: [Parental mental health and child welfare: reviews of policy and professional education](#)

⁶ Guy et al, 2014: [Early Intervention in Domestic Violence and Abuse](#)

⁷ Hedges and Kenny, 2018: [Parental Alcohol Misuse and Children, Parliamentary Office of Science and Technology](#)

⁸ Sidebotham et al, 2014: [Pathways to harm, pathways to protection: a triennial analysis of serious case reviews 2011 to 2014 \(2016\)](#)

The factors associated with being a CIN can be related to the child, parent or other individuals around the child. Figure 4 shows parental factors were more common than child factors for each of the assessment factors shown. Almost two-thirds of children assessed between 2014-15 to 2017-18 had at least one of domestic violence, mental health or substance misuse recorded in assessments (62% or 771,000 children).

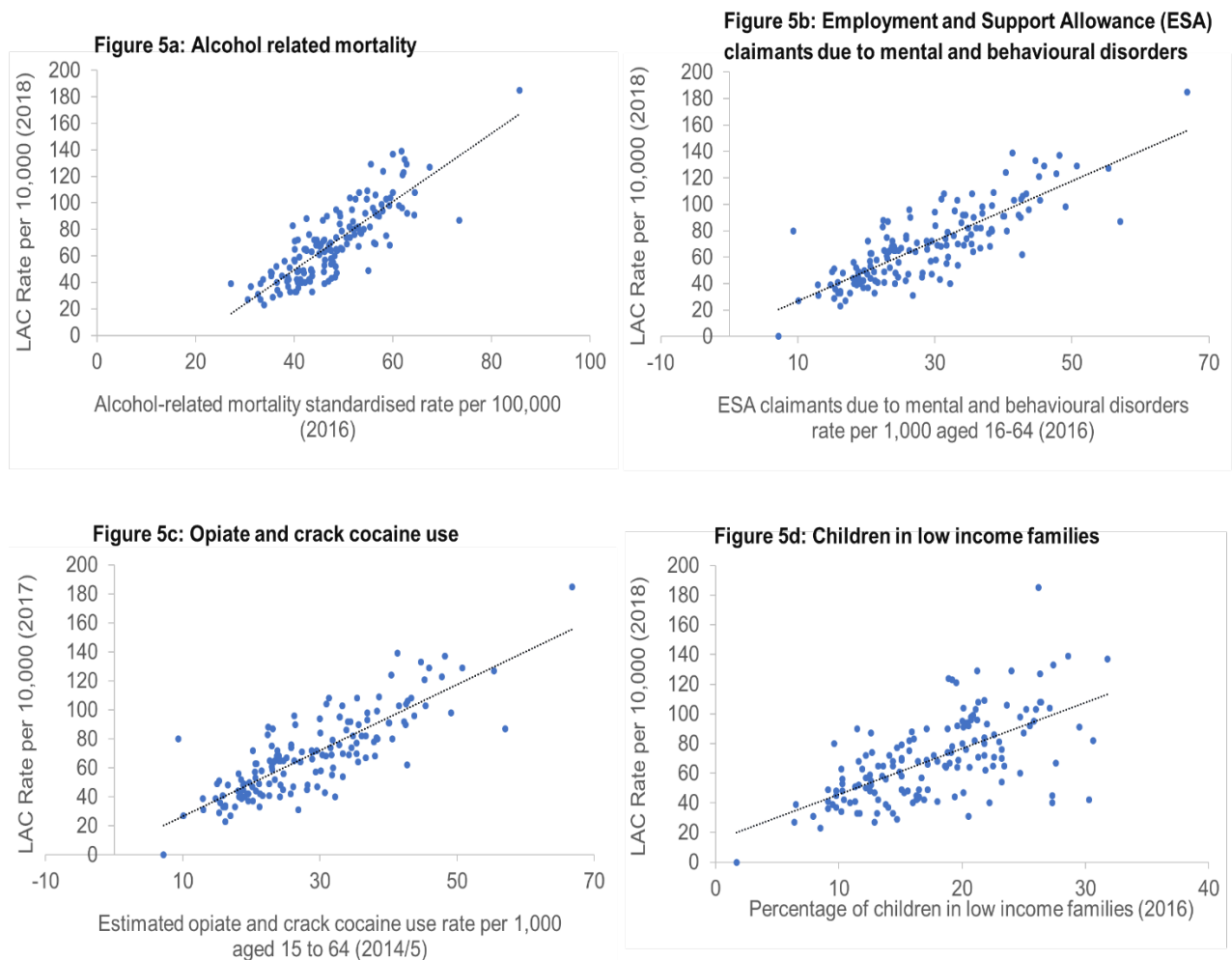
1.5 Looked after children rates and indicators of mental ill-health and substance misuse in wider population

This analysis explores bivariate relationships between LAC rates and potential indicators of mental ill-health and substance misuse at local authority level. These correlations are not intended to be interpreted as causal. Data directly measuring these factors is difficult to obtain, so proxy indicators are used. A two-year lag was used with the rationale that changes in potential drivers of demand would not have an immediate impact.

The analysis in figure 5 shows:

- Strong correlation was found between LAC rates in 2018 and alcohol-related mortality in 2016 (correlation 0.84, r-squared 0.70). See figure 5a.
- Strong correlation was found between ESA claimants due to mental and behavioural disorders in 2016 and looked after children's rates in 2018 (correlation 0.83, r-squared 0.68). The rate of ESA claimants who claim due to mental and behavioural disorders (per 1,000 aged 16-64) likely reflects the intersection of deprivation and other factors so extra caution is advised in interpretation. See figure 5b.
- Moderate correlation was found between LAC rates in 2017 and the estimated rate of opiate and crack cocaine users (correlation 0.66, r-squared 0.43). See figure 5c.
- Moderate correlation was found between LAC rates in 2018 and the percentage of children in low-income families in 2016 (correlation 0.63, r-squared 0.40). See figure 5d.

Figure 5: Bivariate relationships between local authority LAC rates (per 10,000 children aged under 18) and potential indicators of mental ill-health and substance misuse



Notes:

1. Figure 5a excludes the City of London and Isles of Scilly due to figures not being available. Alcohol-related mortality rates were derived from the Public Health England fingertips database. [Link.](#)
2. The estimated rate of opiate and crack cocaine use for Cornwall and the Isles of Scilly is combined so the combined rate is used for both of those authorities
3. Rates of ESA claimants due to mental and behavioural disorders were derived from the Public Health England fingertips database. [Link.](#)
4. Low income children figures are produced and published by HMRC and DWP. [Link.](#)

2. Children's journeys through social care

Section 2 looks at the contact children made with social care between 2012-13 to 2017-18. We explored:

- the frequency and sequence of referrals and episodes in need over the period
- the cohort of children referred in 2012-13 who went on to be CIN in the next 6 years, split by children's characteristics
- the social care history of the cohort of children in need in 2017-18 over the previous 5 years

Of the 1.6 million children in need of social care services over the period, the majority had a single referral (61%), with 39% being re-referred. Over half of children had a single CIN episode over the period (54%), around 1 in 5 were CPP at some point (19%) and 1 in 10 were LAC at some point (11%).

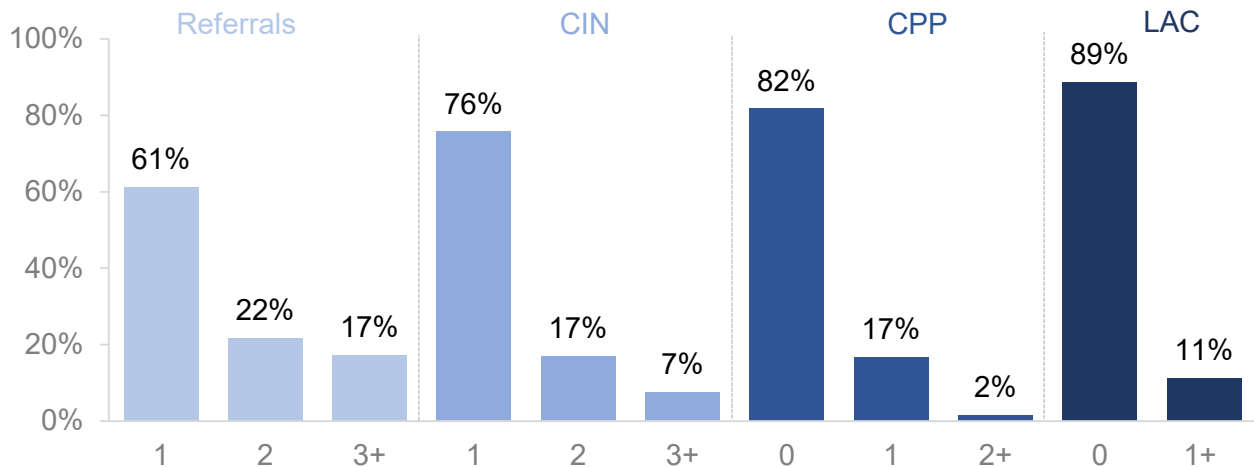
There was also 74,000 children, or 5%, who were in need for at least one day in all six years. These children are more likely to be male, of white or mixed ethnicity, or to be recorded as disabled.

Of the cohort of children who were referred to social care in 2012-13, over three-quarters of these children went on to be CIN at some point in the next 6 years. Children of mixed ethnicity appear to be slightly more likely to become CIN, while children of Asian ethnicity were slightly less likely.

Of the cohort of children who were LAC in 2017-18, 62% had spent some time on a CINP in the previous 5 years, 39% had spent some time on a CPP, and 13% had not been in need.

2.1 Frequency of referrals and episodes in need, on a protection plan or looked after

Figure 6: Number of referrals, CIN, CPP and LAC episodes per child who was in need between 2012-13 and 2017-18



Notes:

Referrals and episodes of CIN, CPP and LAC can include those that started before 2012-13 and continued into 2012-13 where applicable.

Figure 6 shows, of all 1.6 million children who were in need of social care services between 2012-13 and 2017-18:

- 61% were referred once, 22% were referred twice and 17% were referred three or more times
- 76% experienced one CIN episode over the period and 24% experienced two or more
- 17% experienced one CPP episode and 2% experienced two or more. 82% of children did not have a single CPP over the period.
- 11% experienced one or more episodes of care, including respite care. 89% were not LAC.

2.2 Sequence of referrals and episodes in need, on a protection plan or looked after

A child can move between various stages of the social care system within and between years, including into and out of need. To gain an initial insight into the complexities of these journeys, each child was assigned a yearly activity label in the analysis based on the following hierarchy:

- **LAC:** if a child has been looked after for at least one day in the year then their yearly activity label is 'LAC'.
- **CPP:** if a child is not labelled as LAC and has been on a child protection plan for at least one day in the year, then their yearly activity label is 'CPP'.
- **CINP:** if a child is not labelled as LAC or CPP and has been in need for at least one day in the year, then their yearly activity label is 'CINP' (child in need plan).
- **CIN:** a child in any of the above three categories.
- **Referred not in need:** if a child is not labelled as LAC, CPP or CINP and has had a referral in the year, then the child yearly activity label is 'referred not in need'. This includes referrals that resulted in no further action with or without an assessment.
- **Not CIN:** if a child is not in any of the above categories and is not unborn or an adult.
- **Unborn/Adult:** specific labels of 'unborn' and 'adult' are used where a child is labelled 'not CIN' and is ineligible due to age. For example, a child who becomes in need at birth in 2016-17 will be labelled as 'unborn' in all previous years.

Figure 7a shows that the most common journeys of the 2.2 million children who were referred to or in need of social care between 2012-13 and 2017-18 had contact in only one year out of six. Individual journeys for the remainder of children in our data have more contact and are less common, with the exception of children who were CINP or LAC in all six years.

Figure 7b shows the most common journeys of the 74,000 children who were in need for at least a day in all six years. Those on a CINP or LAC in all six years accounted for nearly half of these children (21% and 24% respectively).

Figure 7: Most frequent journeys for children referred to or in need of services between 2012-13 and 2017-18

Figure 7a: Referred to or in need of social care in any of the 6 years

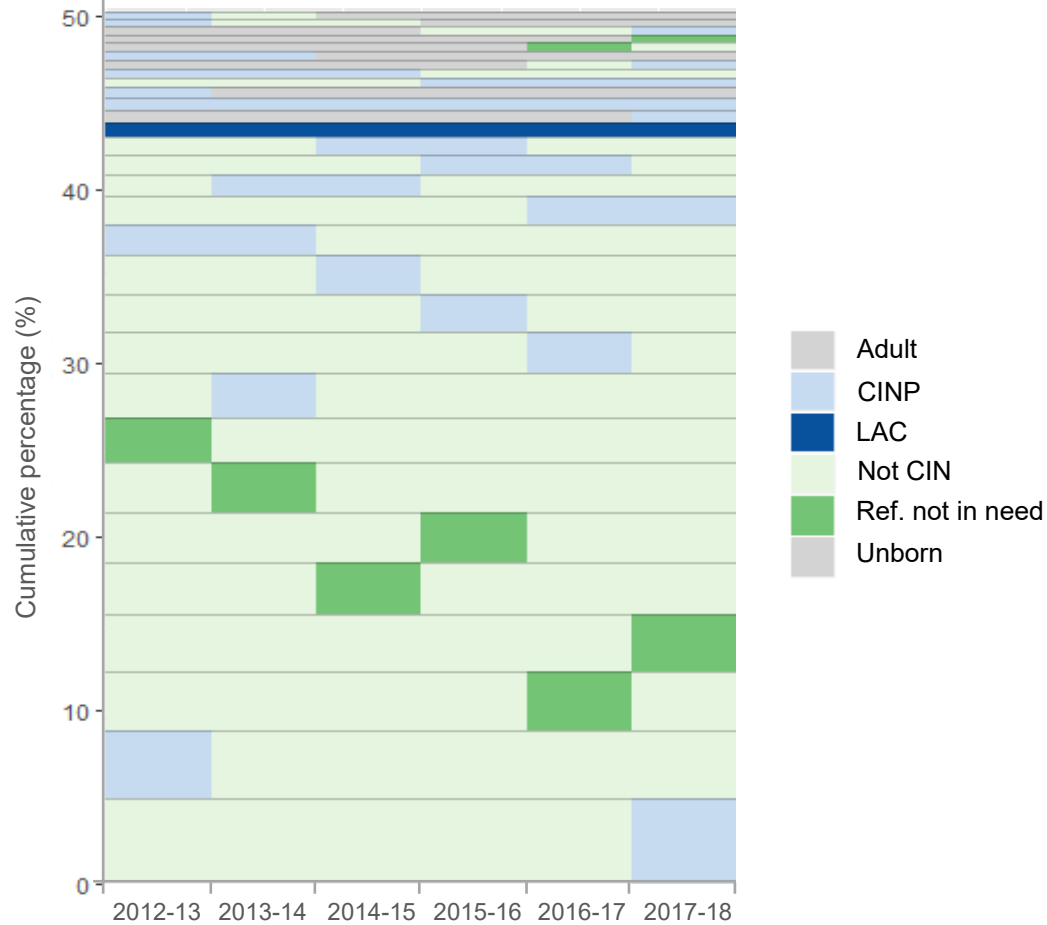


Figure 7b: In need of social care in all of the 6 years

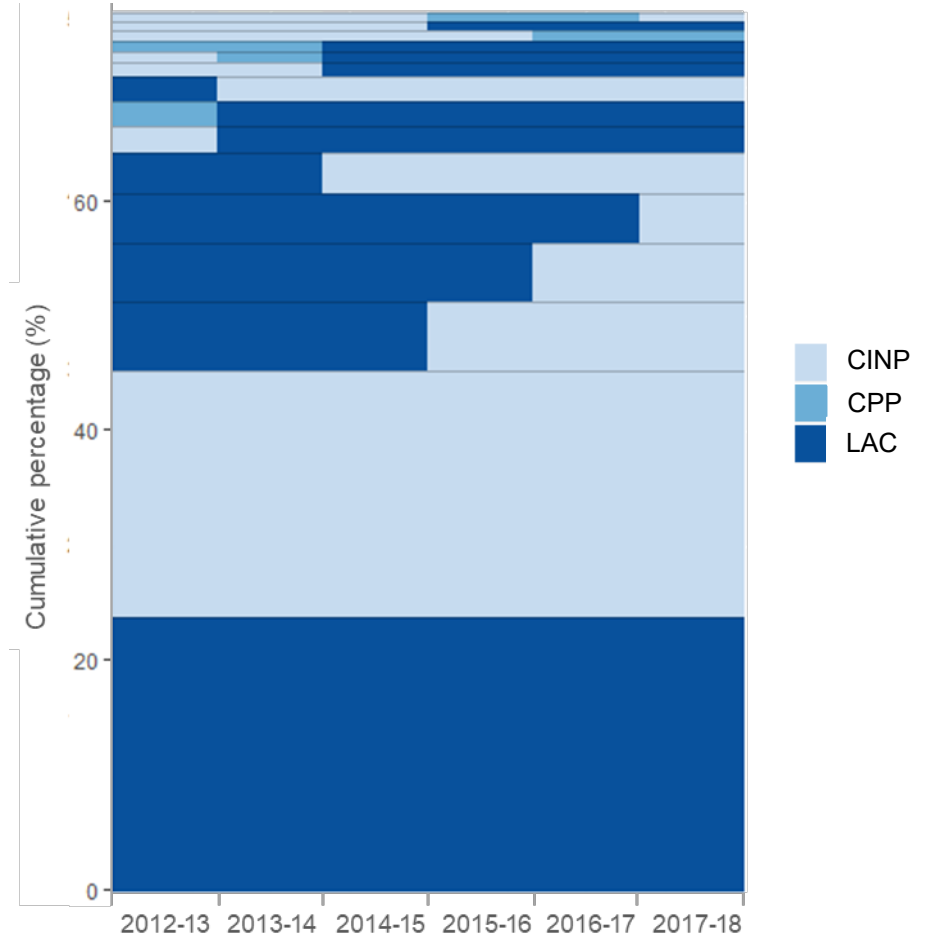


Table 1: Demographic breakdown of children by the number of years they are present in the dataset as in need

| | Number of years the child is in need for at least a day | | | | | |
|--------------------|---|---------|---------|--------|--------|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Number of children | 773,000 | 413,000 | 183,000 | 97,000 | 55,000 | 74,000 |
| Male | 49% | 51% | 52% | 54% | 54% | 57% |
| Female | 48% | 48% | 48% | 46% | 46% | 43% |
| White | 62% | 69% | 74% | 76% | 77% | 78% |
| Asian | 9% | 8% | 7% | 6% | 6% | 5% |
| Black | 9% | 8% | 7% | 7% | 7% | 7% |
| Mixed | 6% | 7% | 8% | 8% | 8% | 8% |
| Other | 3% | 3% | 2% | 2% | 2% | 2% |
| Unknown | 11% | 5% | 2% | 1% | 0% | 0% |
| Disabled | 3% | 5% | 9% | 13% | 18% | 30% |

Table 1 shows that of the 74,000 children who were in need in all 6 years, 57% were male, 78% were of white ethnicity, and 30% were disabled. Also, children who were in need in more years were increasingly likely to be male, of white or mixed ethnicity, or to be disabled.

2.3 Social care journeys of children referred in 2012-13

This analysis tracks the cohort of children who were referred in 2012-13 in our data and calculates the overall proportion who became CIN at some point in the next 6 years by demographics. The number of children referred to social services in the longitudinal dataset in 2012-13 was 415,500.

Figure 8: The proportion of children who were referred in 2012-13 who went on to be CIN between 2012-13 and 2017-18 (cohort size: 415,500 children)

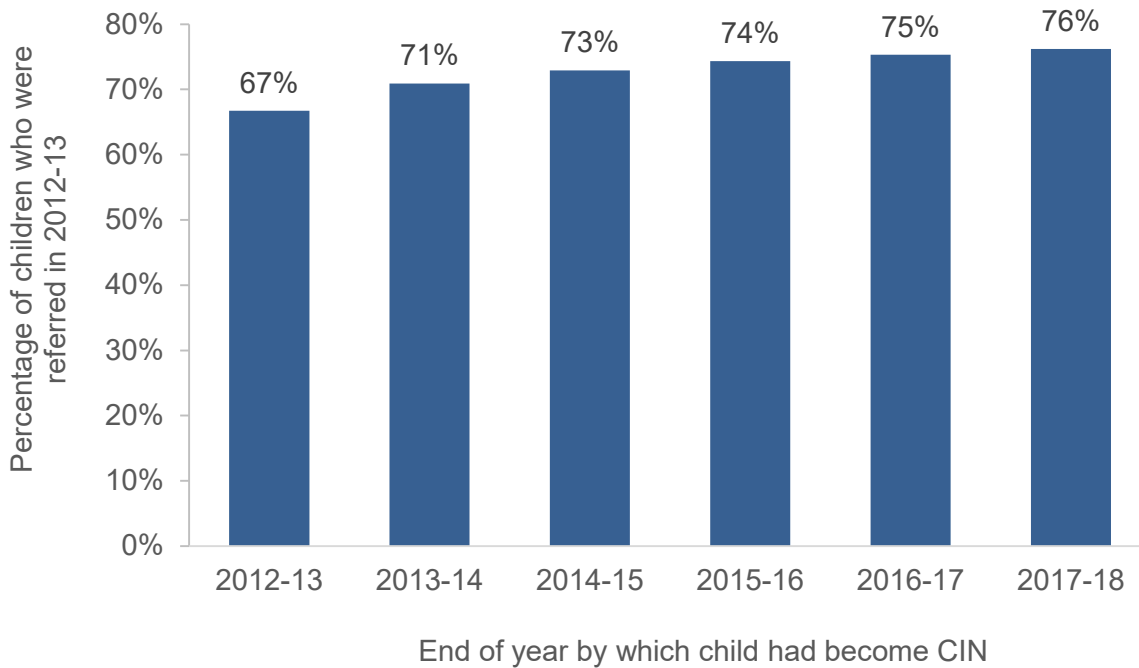


Figure 8 shows, of the group of children who were referred in 2012-13:

- overall, three-quarters of these children were CIN at some point in the next 6 years (76%)
- the majority became CIN within the year they were referred (67%)

Table 2: The proportion of children referred in 2012-13 who went on to be CIN between 2012-13 and 2017-18, by gender and ethnicity (cohort size: 415,500 children)

| | Number of children referred in 2012-13 | Percentage who were CIN at some point by the end of 2017-18 | Percentage point difference to all other children | Percentage point difference to all other children in same ethnic group |
|-----------------------------|--|---|---|--|
| Gender | | | | |
| Male | 208,400 | 77% | 1 | - |
| Female | 201,400 | 76% | -1 | - |
| White | 295,100 | 78% | 0 | - |
| White British | 275,100 | 78% | 1 | 2 |
| White Irish | 1,200 | 78% | -1 | -1 |
| Traveller of Irish Heritage | 600 | 76% | -2 | -2 |
| Gypsy / Roma | 1,700 | 79% | 1 | 1 |
| White - other | 16,600 | 76% | -2 | -2 |
| Black | 26,700 | 78% | -1 | - |
| Black African | 14,200 | 77% | -1 | -2 |
| Black Caribbean | 6,500 | 80% | 2 | 3 |
| Black - other | 6,000 | 78% | -1 | 0 |
| Asian | 27,100 | 75% | -3 | - |
| Asian Bangladeshi | 3,900 | 81% | 3 | 7 |
| Asian Indian | 4,200 | 72% | -6 | -4 |
| Asian Pakistani | 11,700 | 75% | -3 | -1 |
| Asian - other | 7,400 | 75% | -4 | -1 |
| Mixed | 25,500 | 81% | 3 | - |
| White and Asian | 4,600 | 82% | 3 | 0 |
| White and Black African | 3,200 | 81% | 3 | 0 |
| White and Black Caribbean | 8,200 | 82% | 4 | 1 |
| Mixed - other | 9,500 | 81% | 3 | -1 |
| Other | 8,300 | 77% | -1 | - |
| Chinese | 800 | 74% | -5 | - |
| Any Other Ethnic Group | 7,500 | 78% | -1 | - |

Notes:

1. Numbers of children rounded to nearest 100. Percentages and percentage point differences calculated from unrounded figures.
2. Figures shown for children with known gender or ethnicity. Percentages taken out of total children with known gender or ethnicity.

Table 2 shows, of the children who were referred in 2012-13:

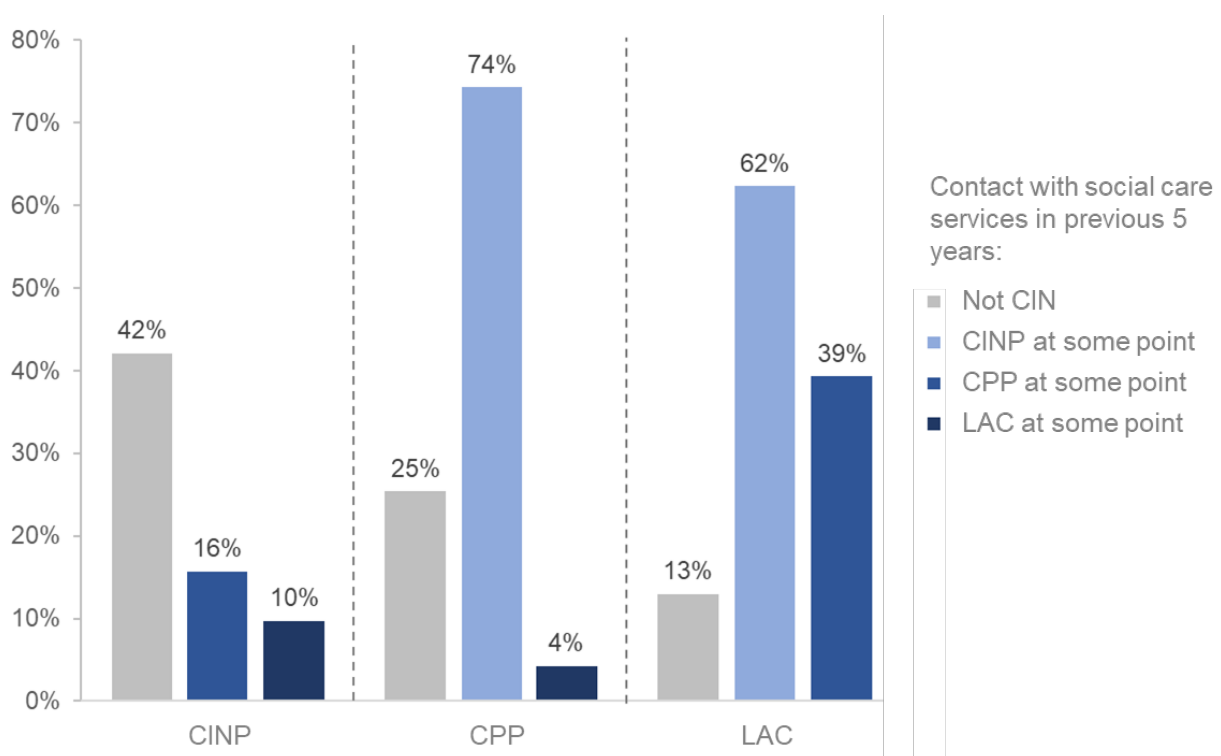
- Males were as likely as females to go on to be in need at some point in the next 6 years (+1ppt)
- Asian children were slightly less likely to go on to be in need (-3ppt), with Indian and Chinese children the least likely of all ethnicities when compared to all other children (-6ppt and -5ppt respectively). Bangladeshi children were more likely than other Asian children to go on to be in need (+7ppt)
- Children of mixed ethnicity were slightly more likely than other children to go on to be in need (+3ppt)

2.4 Social care histories of children in need in 2017-18

This analysis looks at the social care history of the cohort of children who were CIN at any point in 2017-18 to calculate:

- the proportion of children who had been on a CINP, CPP or LAC at any point in the previous 5 years
- the total time spent in need, either as a CINP, CPP or LAC, in the previous 5 years

Figure 9: Social care history of children who were CINP, CPP or LAC in 2017-18 (cohort size: 602,600 children)



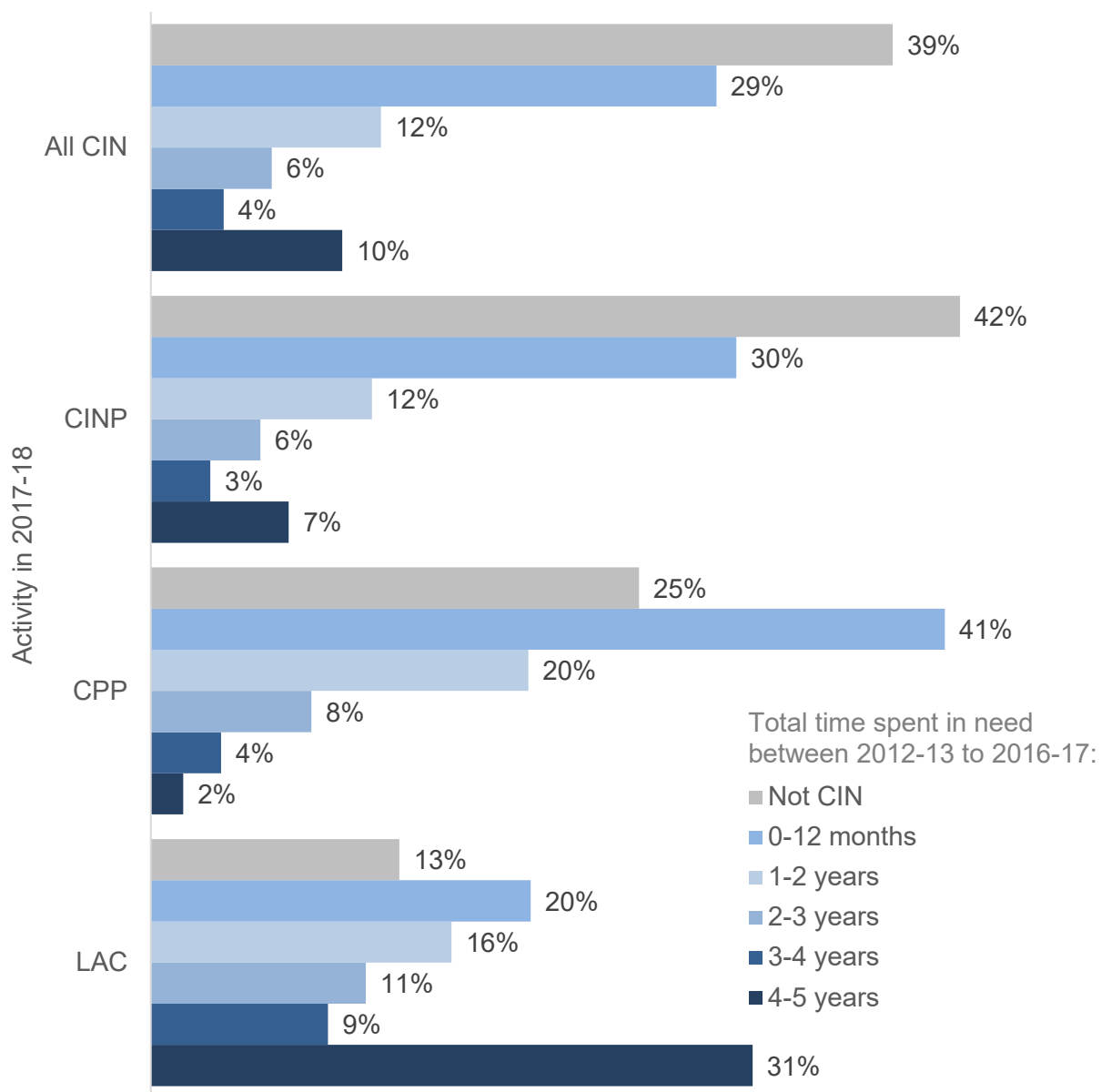
Notes:

If a child was in more than one category in the previous 5 years, each of these is counted.

Figure 9 shows:

- 16% of children on a CINP in 2017-18 had been on a CPP at some point in the previous 5 years, 10% had been LAC and 42% had not been in need
- Three-quarters of children on a CPP in 2017-18 were on a CINP at some point in the previous 5 years (74%), 4% had been LAC and 25% had not been in need
- Almost two-thirds of children who were LAC in 2017-18 had spent some time on a CINP in the previous 5 years (62%), 39% had spent some time on a CPP and 13% had not been in need

Figure 10: Total time spent in need between 2012-13 and 2016-17 by children who were in need in 2017-18 (cohort: 602,600 children)



Notes:

1. Time in need categories include lower bound and exclude upper bound.
2. A child may have had more than one type of activity in 2017-18.

Figure 10 shows, of the cohort of children who were CIN at some point in 2017-18:

- Over a third had not been CIN at any point in the previous 5 years (39%)
- 1 in 10 had spent a total number of days equivalent to 4 years or more in need (10%)
- Over 10% of those on a CPP at some point in 2017-18 had spent a total number of days equivalent to 2 years or more in need (14%)

3. Educational experiences of children in need

Section 3 looks at the proportion of pupils in 2017-18 who have been CIN at some point in the last 6 years ('Ever-CIN'), their representation in different types of schools and the Ofsted rating of these schools.

This section also looks at the absence and exclusion rates for Ever-CIN, and their outcomes in early years through to higher education. A regression analysis looks at the association between social care histories and attainment at GCSEs.

We see that 1 in 10 pupils in state schools in 2017-18 have been in need at some point in the last 6 years and these pupils are present in 98% of state schools⁹ across England. These pupils are less likely to be in good or outstanding schools, around 3 times more likely to be persistently absent and between 2-4 times more likely to be excluded.

After controlling for other factors associated with attainment, children who were in need of social care services in the year of exams were around 50% less likely to achieve a strong pass in their English and maths GCSEs, with the likelihood for those on a child in need plan or a child protection plan almost as low as looked after children. Pupils who were in need at some point in the 4 years leading up to exams, but not in need in the year of exams, were between 25%-50% less likely to achieve a strong pass.

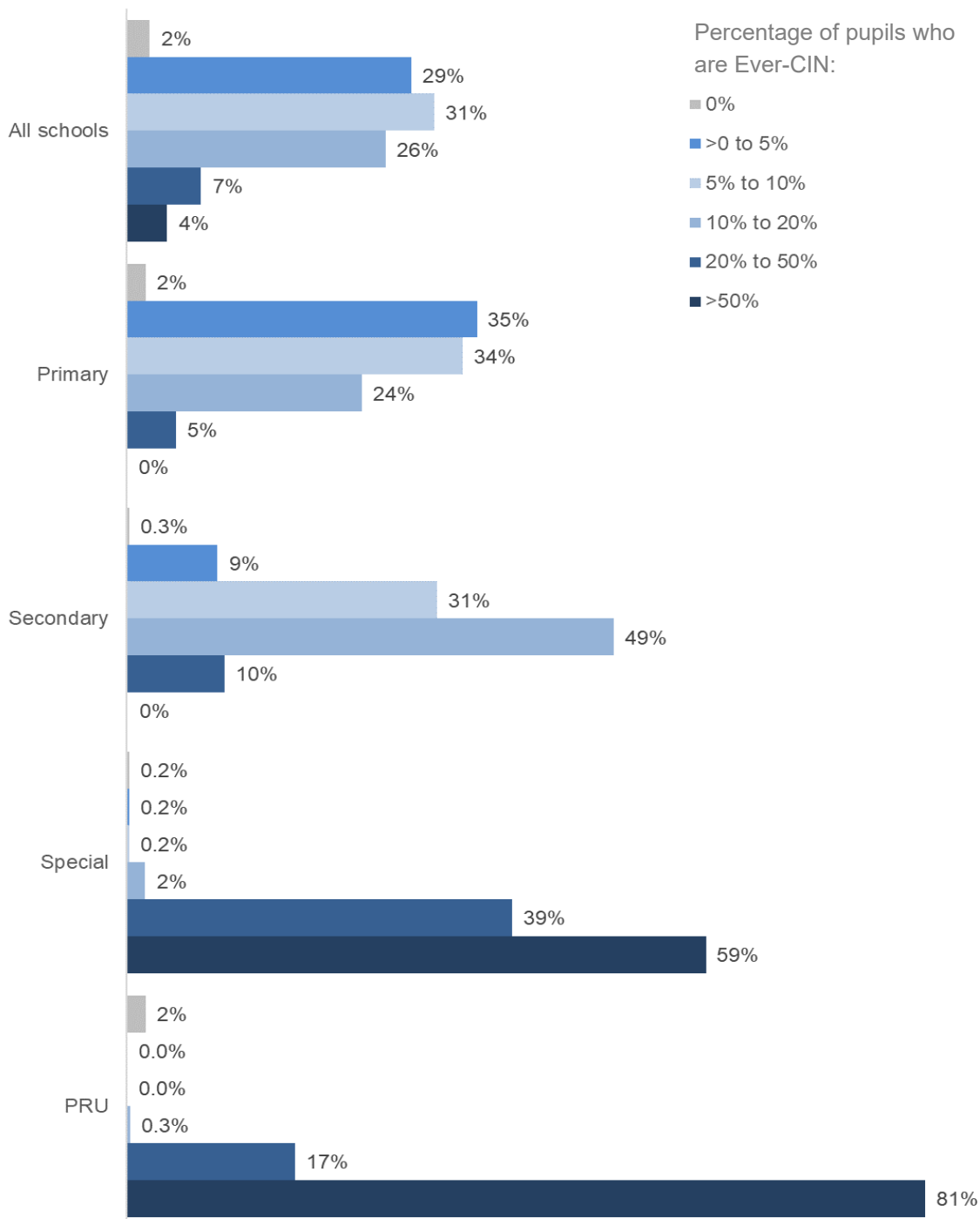
Looking beyond Key Stage 4, pupils who were in need were around 3 times less likely to go on to study A levels at age 16, and almost 5 times less likely to enter higher education at age 18. By age 21, half of these pupils had not achieved Level 2 qualifications (GCSE or equivalent).

⁹ Pupils aged 4-15 at the start of academic year 2017-18 in state-funded school provision.

3.1 Number of 'Ever-CIN' in schools

In 2017-18, there were 760,000 'Ever-CIN' pupils in state schools. This equates to around 1 in 10 pupils in 2017-18 that are known to have been in need at some point since 2012-13.

Figure 11: Percentage of school populations in 2017-18 that are 'Ever-CIN'



Notes:

1. Data from school census. Includes pupils aged between 4 and 15 years of age at start of the academic year.
2. Categories for percentage of pupils who are Ever-CIN include lower bound and exclude upper bound.

Figure 11 shows, of all state schools in England in 2017-18:

- only 2% of schools (499) do not have a single pupil known to have been in need since 2012-13
- in almost a third of schools (31%), 'Ever-CIN' make up between 5%-10% of the pupil population
- in 12% of schools, 'Ever-CIN' make up 20% or more of the pupil population
- special schools and PRU's tend to have a higher density of 'Ever-CIN' pupils than secondary and primary. In 81% of PRUs, 'Ever-CIN' make up more than 50% of the pupil population

3.2 Ofsted rating of schools attended by 'Ever-CIN' pupils

This analysis looks at the Ofsted rating of state-funded mainstream schools attended by 'Ever-CIN' pupils in 2017-18. It also compares the proportion of 'Ever-CIN' pupils attending each school against the proportion estimated to be living in the proxy catchment area (PCA).

Figure 12: Ofsted rating of schools attended by 'Ever-CIN' pupils in 2017-18

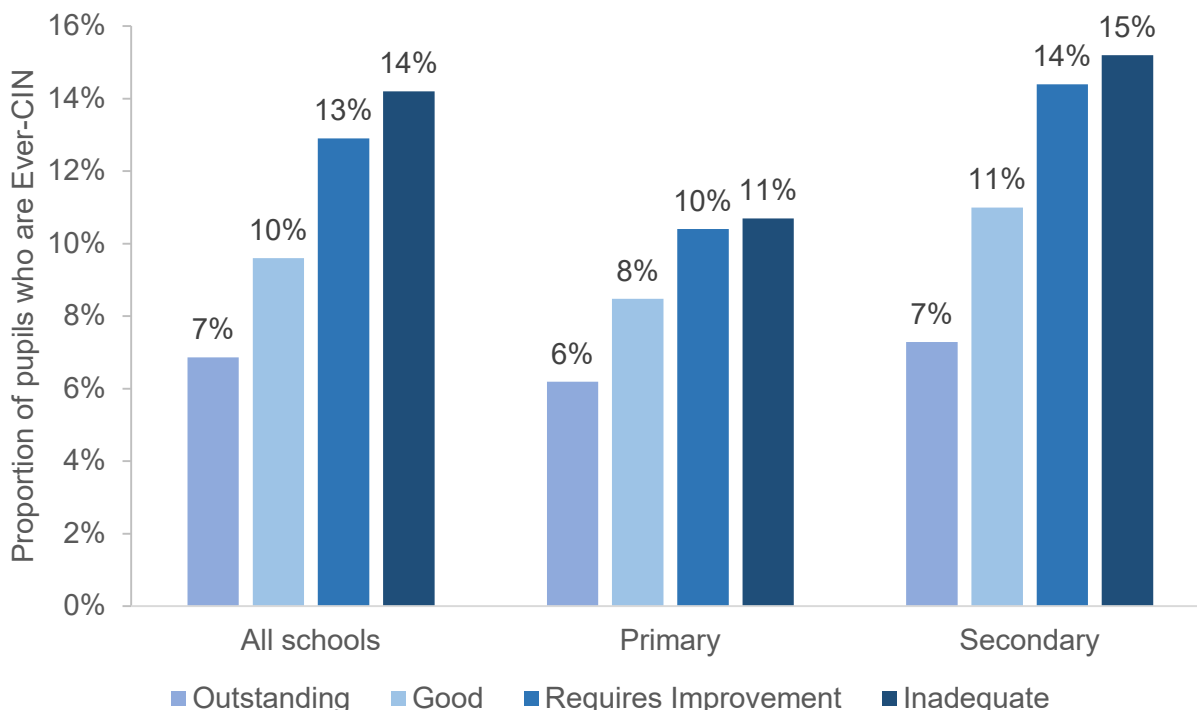
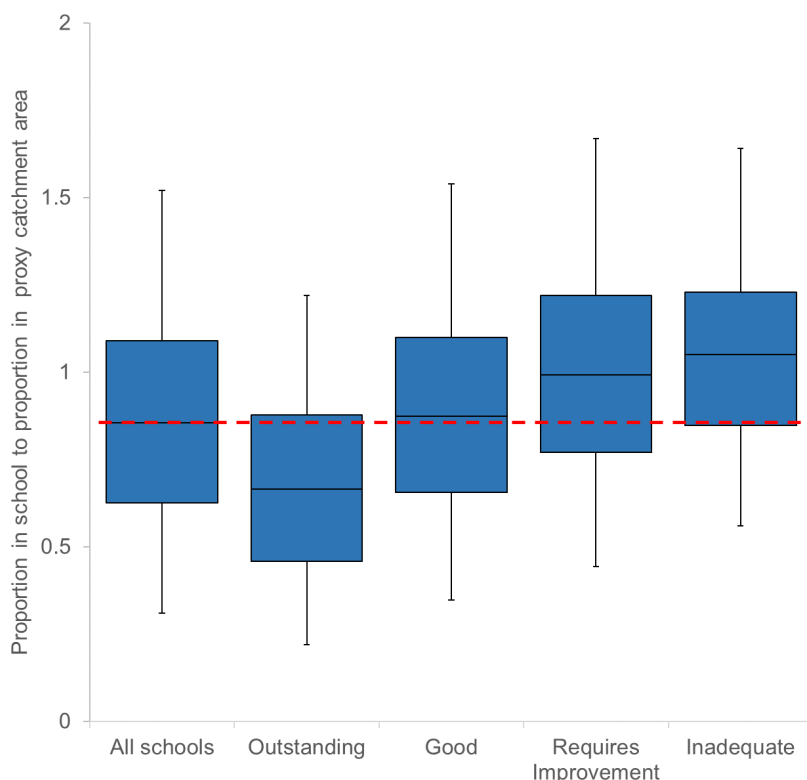


Figure 12 shows, on average, schools rated as Good or Outstanding by Ofsted have a lower proportion of 'Ever-CIN' pupils compared to schools rated Requires Improvement or Inadequate.

Figure 13: Proportion of ‘Ever-CIN’ in schools relative to proportion in proxy catchment area



Notes:

1. The vertical axis is the ‘representation ratio’ – this is calculated by dividing the number of ‘Ever-CIN’ pupils in a school by the number in the local area of the school, as defined by the pupil catchment area (PCA). A ratio of less than one indicates that the proportion of pupils with that characteristic in the school is less than the proportion in the catchment area.
2. The box shows the 25th, 50th and 75th percentiles and the whiskers show the 5th and 95th percentiles, for all schools and by Ofsted rating.
3. The ‘All schools’ plot shows the ratio for all state-funded mainstream schools, i.e. the national average. The horizontal red line corresponds to this average.
4. Schools with fewer than 200 pupils and with PCAs of fewer than 1,000 pupils have been excluded to attempt to limit the frequency of extreme ratios in the analysis. Removing these schools does not change the inference of the results.

Figure 13 shows, that on average:

- schools are unrepresentative of the ‘Ever-CIN’ pupils in their area, as these pupils are not spread evenly across all schools (see figure 11)
- outstanding schools are less representative of the ‘Ever-CIN’ pupils living in their proxy catchment areas than the national average
- schools rated as Requires Improvement or Inadequate are more representative of the ‘Ever-CIN’ pupils in their proxy catchment areas than the national average and

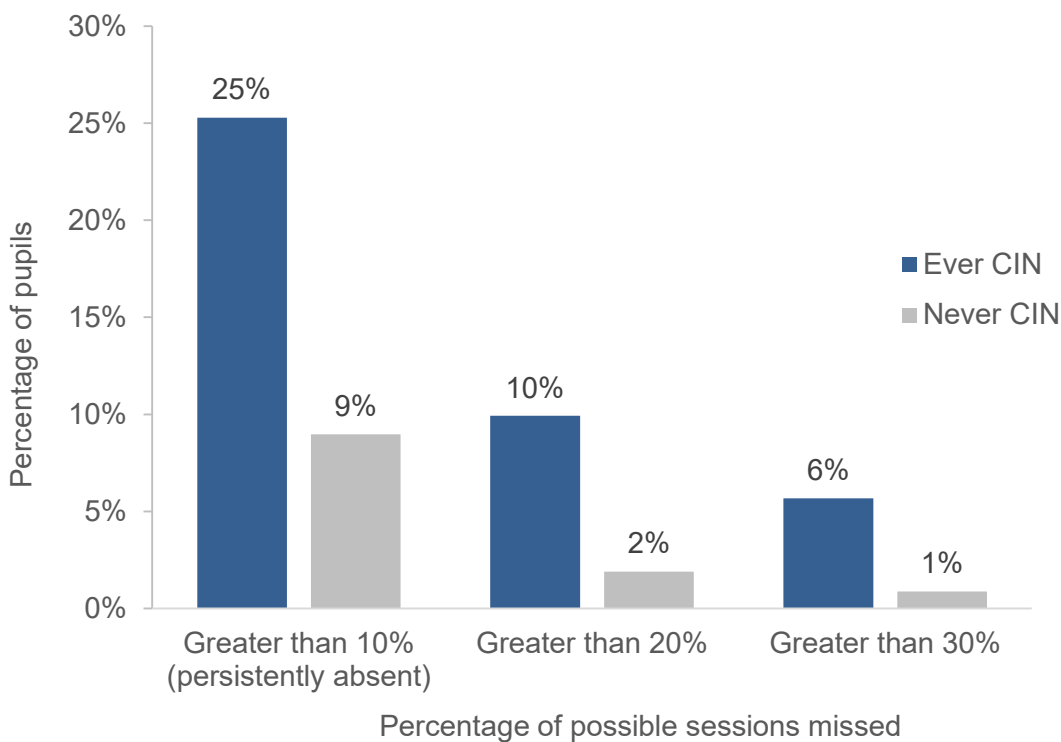
Requires Improvement schools are also more representative than the catchment area as a whole (ratio greater than 1).

- across all Ofsted ratings there are schools with larger intake of 'Ever-CIN' pupils than the national average or what would be expected from their local area – top whiskers exceed ratio of 1

3.3 Absences

Absences can be authorised or unauthorised. Our data shows 'Ever-CIN' pupils are almost twice as likely as 'Never-CIN' pupils to have had an authorised absence (5% compared to 3%), and three times as likely to have have an unauthorised absence (3% compared to 1%).

Figure 14: Distribution of absence rates for pupils in 2017-18



Notes:

1. Data from school census, including pupils in pupil referral units.
2. Pupils with academic age 5 to 15.
3. Analysis aggregates enrolment level data to pupil level.

Figure 14 shows:

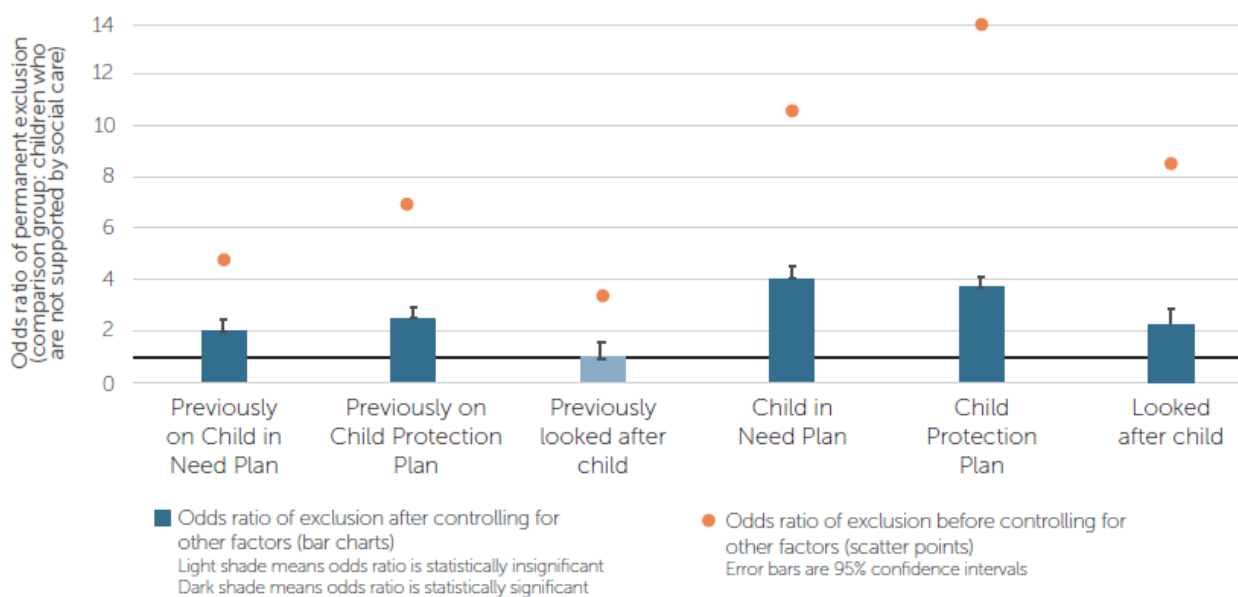
- ‘Ever-CIN’ are almost three times as likely to have been persistently absent (an absence rate of greater than 10%): 25% of ‘Ever-CIN’ were persistently absent compared to 9% of ‘Never-CIN’ pupils
- Nearly 1 in 10 ‘Ever-CIN’ pupils had missed more than 20% of their possible sessions, compared to 3% of ‘Never-CIN’ pupils

3.4 Exclusions

Annual published data¹⁰ on exclusions shows LAC are more than five times more likely to have a fixed period exclusion than children who are not, while those who are CIN are about three and a half times more likely to be excluded than those who were not.

The Exclusions review has found that children who have received social care services remain more likely to be excluded after controlling for other characteristics on which we hold data, often with a strikingly high chance of exclusion¹¹.

Figure 15: Odds ratio of permanent exclusion by social care classification (comparison group: children who were not supported by social care)



¹⁰ [Children in need outcomes, 2018](#)

¹¹ [School exclusions review: call for evidence, 2018](#)

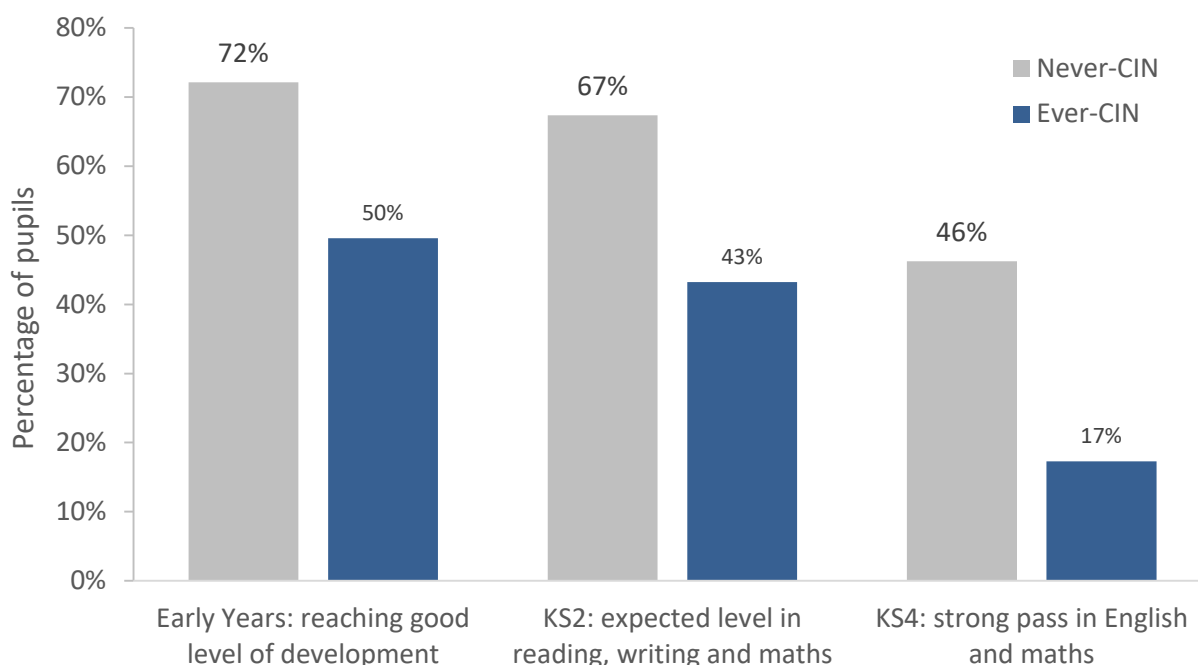
The analysis from the Exclusions review (figure 15) shows, comparing those who received social care support to those who did not, and controlling for other factors:

- CINP are around four times more likely to be permanently excluded
- CPP are around 3.5 times more likely to be permanently excluded
- LAC are around 2.3 times more likely to be permanently excluded
- Children who have been previously classified as a CINP or CPP have a much lower chance of exclusion than those who are currently receiving support. The increased likelihood of exclusion does persist in comparison to children who have not been supported by social care at all

3.5 Attainment in Early Years, Key Stage 2 and Key Stage 4

[Previous analysis](#) has shown 'Ever-CIN' pupils have lower average attainment at Key Stage 2 and Key Stage 4 than pupils who were not CIN. This analysis expands on this to look at attainment in Early Years and the difference in the underlying distributions of pupils attainment at Key Stage 4.

Figure 16: 'Ever-CIN' attainment at Early Years, Key Stage 2 (KS2) and Key Stage 4 (KS4) in 2017-18



Notes:

1. Includes pupils in all state-funded schools, hospital schools and alternative provision including academy and free school alternative provision. Excludes pupils from independent schools.
2. A strong pass in KS4 is grades 5-9.

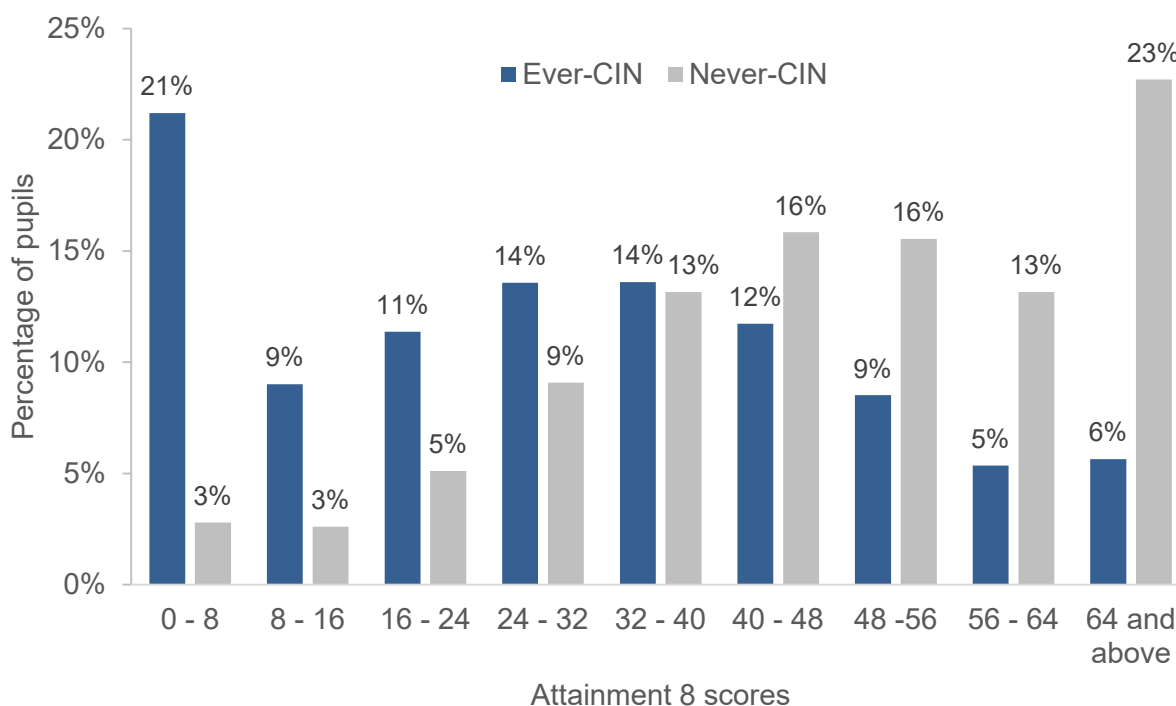
Figure 16 shows:

- Half of 'Ever-CIN' pupils achieve a good level of development at early years (50%), compared to 72% of 'Never-CIN' pupils
- Less than half of 'Ever-CIN' pupils achieve the expected level of reading, writing and maths at Key Stage 2 (43%), compared to 67% of 'Never-CIN' pupils
- Almost 1 in 5 of 'Ever-CIN' pupils achieve a pass in GCSE English and maths (17%), compared to 46% of 'Never-CIN' pupils

3.6 Attainment distribution and pupil characteristics

The Attainment 8 score reflects the attainment of pupils in GCSEs in a wide range of subjects. The average Attainment 8 score for 'Ever-CIN' was 28, compared to 48 for 'Never-CIN'.

Figure 17: Distribution of Attainment 8 scores of pupils in 2017-18



Notes:

1. Includes pupils in all state-funded schools, hospital schools and alternative provision including academy and free school alternative provision. Excludes independent schools.
2. Attainment 8 score categories include lower bound and exclude upper bound.

Figure 17 shows that while the average Attainment 8 score for 'Ever-CIN' pupils is lower than 'Never-CIN' pupils, almost 1 in 5 'Ever-CIN' pupils do manage to attain higher than the average for 'Never-CIN' (21%).

Table 3: Attainment 8 scores of 'Ever-CIN' pupils by pupil characteristics

| 'Ever-CIN' pupils with Attainment 8 score: | Characteristics of pupils in group: | | | |
|---|-------------------------------------|-----|----------|---------------------|
| | SEN | FSM | EverFSM6 | CIN in year of exam |
| Above the average for 'Never-CIN' (48 and above) | 9% | 24% | 45% | 30% |
| Between the averages for 'Ever-CIN' and 'Never-CIN' (28 - 48) | 18% | 33% | 59% | 34% |
| Below the average for 'Ever-CIN' (0 - 28) | 57% | 40% | 64% | 52% |

Notes:

1. Includes pupils in all state-funded schools, hospital schools and alternative provision including academy and free school alternative provision. Excludes independent schools.
2. Where pupils characteristics data is found in both school and AP census, data was taken from school census.
3. Attainment 8 score categories include lower bound and exclude upper bound.

Table 3 shows 'Ever-CIN' pupils who achieve higher than the 'Never-CIN' average were less likely to be SEN (9%), FSM (24%) or EverFSM6 (45%). They were also less likely to be in need in the year of their exams (30%). However, this also shows there are pupils with overlapping disadvantages who managed to achieve above average Attainment 8 scores.

3.7 Social care history and attainment at Key Stage 4

Section 3.2 shows that pupils who were ‘Ever-CIN’ had on average lower attainment than other pupils, and those who do poorly were more likely to have SEN, FSM or to be in need in the year of their exams.

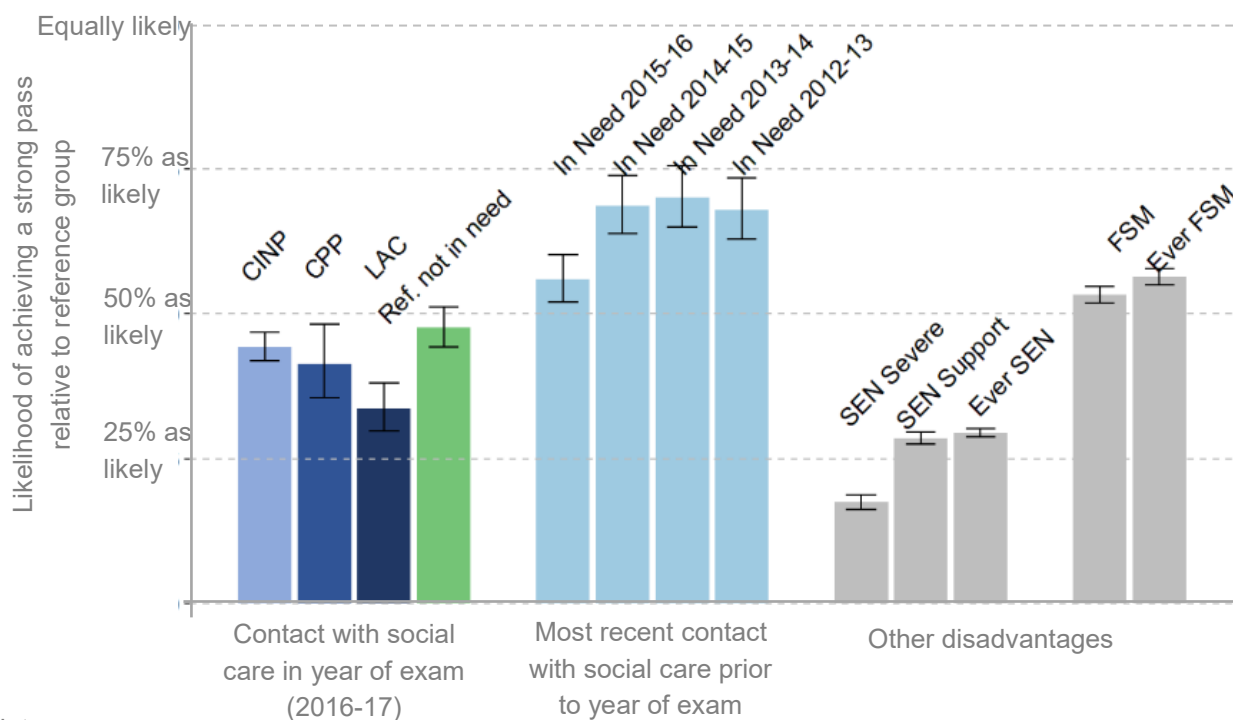
To explore more fully the relationship between social care histories and attainment, we conducted regression analysis estimating the likelihood of achieving a strong pass in GCSE English and maths controlling for other factors associated with attainment. We ran two main models:

Model 1: controlling for SEN, FSM, ethnicity, gender, region, term of birth, IDACI, EAL, attainment at KS2 and the history of school moves for each pupil.

Model 2: All the above, plus the histories of exclusions and persistent unauthorised absences for each pupil.

The estimates from the regression models cannot be interpreted as causal as not all variables that could explain differences in educational outcomes amongst pupils are controlled for. The control variables included in the models may also capture the influence of unobserved, confounding covariates. For further detail see [Annex 5.3](#).

Figure 18: Likelihood of pupils in 2016-17 achieving a strong pass (9-5) in GCSE English and math compared to reference groups (Model 1 outputs)



Notes:

1. The reference group for those with social care intervention is the group of pupils who were never in need between 2012-13 to 2016-17. The reference group for SEN are the group of pupils who were never SEN between 2011-12 and 2016-17. The reference group for FSM are the group of pupils never FSM between 2011-12 and 2016-17.
2. Error bars represent 95% confidence intervals.

Figure 18 shows, controlling for other factors:

- pupils who were in need in the year of exams were around 50% less likely to achieve a strong pass as those who were never in need
- pupils who were in need at some point in the previous 4 years, but not in need in the year of exams, were between 25%-50% less likely to achieve a strong pass as those who were never in need
- the likelihood of achieving a strong pass for those on a child in need plan or a child protection plan is almost as low as looked after children

Model 2 showed similar negative associations between both current and previous contact with the social care system and attainment. Adding exclusion and absence histories slightly decreased the strength of associations between social care status and attainment, as would be expected when dealing with mediating variables, and increased the uncertainty around point estimates (see [Section 5.3](#)).

3.8 Educational outcomes post-16

This analysis follows the cohort of pupils aged 15/16 in 2011-12, and tracks their participation in education up to the age of 21. There were approximately 574,000 pupils who were age 15/16 in 2011-12, of which 35,000 (7%) were identified as CIN.

Table 4: Highest study aim of learners from age 16 to 21 (cohort = learners aged 15/16 in 2011-12)

| | | Age | | | | |
|-------------------------------------|---------|-------|-------|-------|-------|-------|
| | | 16/17 | 17/18 | 18/19 | 19/20 | 20/21 |
| Higher Education | (%) | | | | | |
| | CIN | 0 | 0 | 6 | 9 | 10 |
| | Non CIN | 0 | 0 | 27 | 37 | 38 |
| Level 3: AS/A Levels | CIN | 15 | 11 | 3 | 0 | 0 |
| | Non CIN | 51 | 43 | 7 | 0 | 0 |
| Level 3: other | CIN | 11 | 17 | 14 | 9 | 6 |
| | Non CIN | 17 | 27 | 21 | 13 | 9 |
| Level 2: GCSE and equivalent | CIN | 28 | 25 | 19 | 12 | 8 |
| | Non CIN | 19 | 16 | 13 | 9 | 6 |
| Below Level 2 | CIN | 35 | 21 | 14 | 8 | 5 |
| | Non CIN | 9 | 4 | 3 | 2 | 1 |
| None of the above | CIN | 11 | 26 | 44 | 61 | 70 |
| | Non CIN | 4 | 10 | 29 | 39 | 46 |

Notes:

1. Based on data from DfE's Young Person's Matched Administrative Dataset (YPMAD) and the Higher Education Statistics Authority (HESA).
2. The 'highest study aim', is the highest level of qualification an individual is studying based on the hierarchy of categories presented in the table.
3. 'None of the above' means the individual was not in recorded funded education in the Matched Administrative Data. This is not the same as 'Not in Education' from the 'Not in Education, Employment or Training' (NEET) measure.
- 4.

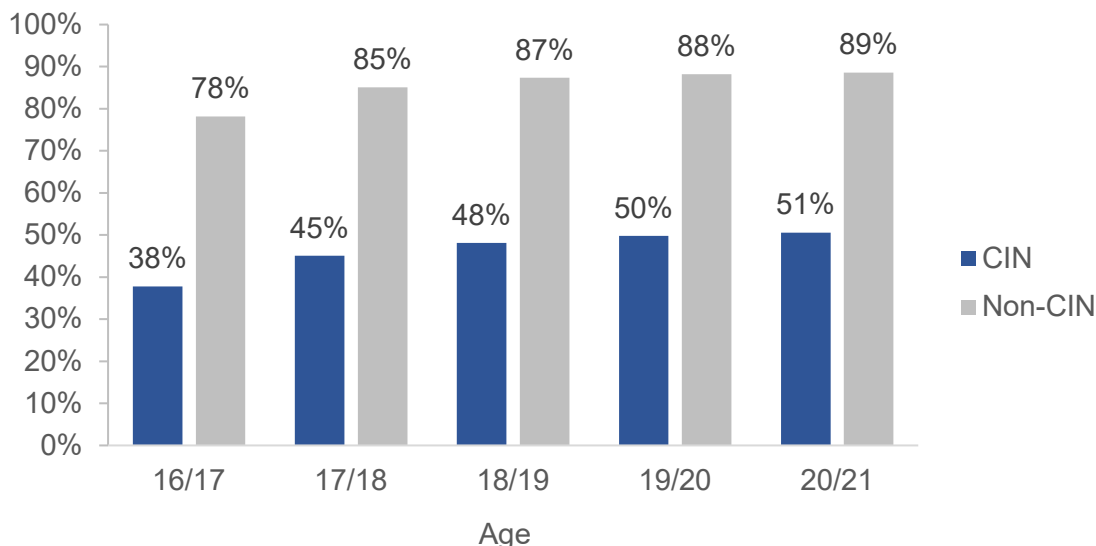
Table 4 shows that CIN pupils aged 15/16 were:

- More likely to continue to study GCSE and equivalent qualifications (level 2) at age 16/17 compared to non-CIN pupils (28% compared to 19%)
- around 3 times less likely than non-CIN pupils to go on to study A levels at age 16/17 (15% compared to 51%)
- almost 5 times less likely than non-CIN pupils to go on to enter higher education at age 18 (6% compared to 27%)

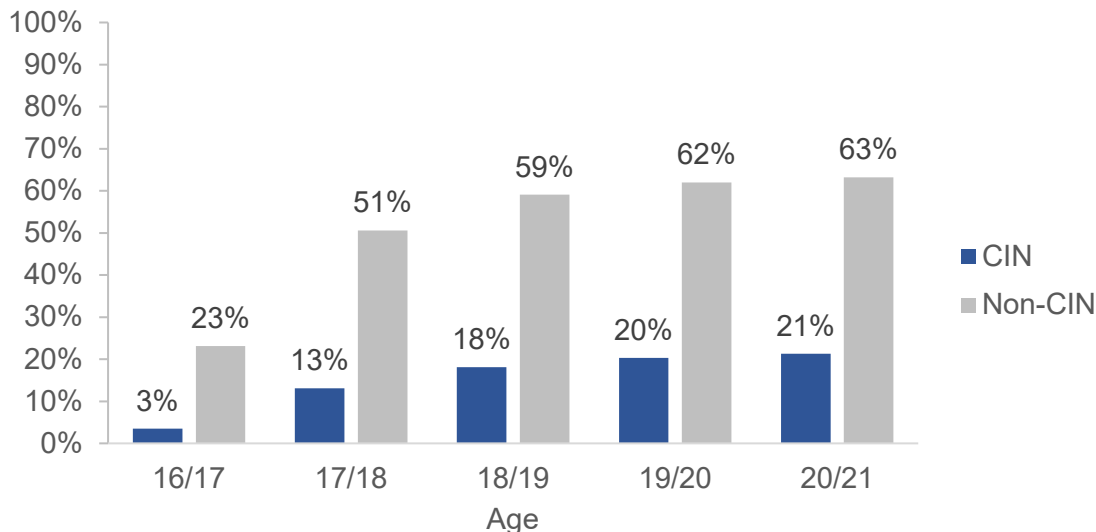
The analysis also looked at the age by which pupils in the cohort achieved Level 2 (GCSE and equivalent) and Level 3 (A level and equivalent) qualifications.

Figure 19: Age by which pupils who completed KS4 in 2011-12 achieved Level 2 and Level 3 qualifications

Achieved Level 2



Achieved Level 3



Notes:

Based on data from DfE's Young Person's Matched Administrative Dataset (YPMAD)

Figure 19 shows:

- Half of pupils who were CIN in 2011-12 have not achieved Level 2 by age 21 (51%), compared to 11% of non-CIN pupils
- 1 in 5 pupils who were CIN in 2011-12 achieved Level 3 by age 21 (21%), compared to 63% of non-CIN pupils

4. Next steps in data and analysis

This report offers significant new insights into children's experiences in the social care system by building a picture of their social care and education journeys since 2012-13. There is still more analysis and research needed to understand how social care journeys and educational attainment interact together.

Going forward we aim to:

- Continue to develop the longitudinal CIN dataset by adding more years and greater depth of detail
- Make these datasets available for researchers
- Improve the quality of data collected in the CIN census and the summaries reported in the annual CIN/LAC publications
- Include CIN data in other DfE statistical releases
- Continue to explore the relationship between child characteristics, social care journeys and educational outcomes
- Continue to explore post-16 outcomes, including non-educational outcomes, in more depth

5. Annex: datasets and analysis methodology

Section 5.1 outlines the method used to create the longitudinal CIN dataset.

Section 5.2 outlines how educational outcomes for 'Ever-CIN' pupils were derived.

Section 5.3 outlines the data, methodology and outputs for the regression analysis in Chapter 3.

5.1 Creation of the longitudinal CIN dataset

The annual CIN census for the years 2012-13 to 2017-18 were linked together using unique identifiers derived from local authority child identifiers. These identifiers were then used to track the social care events experienced by each child across the six-year period.

Linking the annual censuses underlined a number of known [data quality](#) issues where information was inconsistent from one year to the next, or within a single year. In order to create a robust iteration of the longitudinal dataset, any record with an issue was removed.

The main issues, which led to the removal of records, were:

- inconsistencies in the opening/closing dates; for instance where the closing date of an episode is before the start date
- inconsistencies in the duration of social care episodes, for instance where the time a child spent as LAC was greater than the total time spent in need
- missing data in the referral and/or CPP data
- children who moved between local authorities over the six-year period (both in-year and across years)
- erroneous child identifiers which did not allow matching across years. In records where this was the only issue, UPNs were used to match across years if possible

The final linked dataset contained 2.2 million children who were referred to or in need of social care services during the six years, representing 85% of all children identified during the data linking process. Removing records with data issues may have disproportionately affected children with more complex social care journeys. Consequently, the number and educational outcomes of children with complex journeys may be under represented in the analysis.

5.2 Analysing educational outcomes of ‘Ever-CIN’ pupils

As part of the annual CIN census, local authorities are required to return the Unique Pupil Number (UPN) of all CIN at any point in the year. This was used to match to the National Pupil Database (NPD) and identify as many CIN pupils as possible between 2012-13 and 2017-18. However, not all CIN cannot be identified using this method as usually: only school age children have UPNs, not all UPNs are completed by local authorities, or UPNs reported may be erroneous.

Figures in this publication are not comparable to other similar statistics on the educational outcomes of CIN, for example those found in DfE’s annual ‘[Outcomes for children looked after by LAs](#)’ statistical release, as those do not look at the outcomes of ‘Ever-CIN’ pupils.

Figures for attainment at Early Years, KS2, KS4, SEN status, FSM status, absences rates and school type were then calculated from these merged datasets using similar methodologies to how these figures are produced in annual statistical releases. Where the methodology is different, this is noted in the footnotes of tables and figures. Links to relevant published statistics can be found below.

Attainment statistics:

<https://www.gov.uk/government/statistics/early-years-foundation-stage-profile-results-2017-to-2018>

<https://www.gov.uk/government/collections/statistics-key-stage-2>

<https://www.gov.uk/government/collections/statistics-gcses-key-stage-4>

Absence statistics:

<https://www.gov.uk/government/statistics/pupil-absence-in-schools-in-england-2017-to-2018>

Special Educational Needs statistics:

<https://www.gov.uk/government/collections/statistics-special-educational-needs-sen>

Schools, pupils and their characteristics:

<https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2018>

5.3 Data, methodology and outputs for regression analysis

Data

We used five years of social care data between 2012-13 and 2016-17, out of the newly created six-year longitudinal CIN dataset, as data on exclusions for 2017-18 was not available at the time of analysis. This was then linked to the National Pupil Database and a subset of pupils sitting KS4 exams was taken, excluding pupils in pupil referral units. 97.5% of pupils in the data set attend state-funded mainstream schools and 99.5% attend state-funded schools.

Data on the number of school moves, absences and exclusions are based on school census data only. Where pupils do not have a school census record in one or more years (for instance if they have not yet entered the English education system) we assume that no exclusion, persistent absence or school move took place in those years.

Methodology

We carried out two logistic regressions exploring the relationships between attainment at KS4 and pupils' social care histories, controlling for a range of pupil-level variables known to relate to educational outcomes. In both models we use achieving a strong pass in English and Maths GCSEs (i.e. a grade 5 or above) as our target variable. This variable was chosen as virtually all pupils in mainstream school are entered for this.

We ran two models:

Model 1: controlling for SEN, FSM, ethnicity, gender, region, term of birth, IDACI, EAL, attainment at KS2 and history of school moves over the secondary school period.

Model 2: All the above, plus histories of exclusions and persistent unauthorised absences between exam year and the final year of primary school.

We use robust clustered standard errors to account for lack of independence between pupils attending the same school.

Explanatory variables

Full details of the variables included in the models are presented below.

| Variable | Definition | Possible values |
|--------------------------------------|--|---|
| Grade 5-9 in English and maths GCSEs | A grade 5 or above in maths and English (English and/or English literature) | Yes / No |
| Social care histories | Social care status in exam year, and if not in need or referred not in need in that year, whether in need in previous years up to 4 years back | Looked after in 2016-17, CPP in 2016-17, CINP in 2016-17, referred not need in 2016-17, in need 2015-16, in need 2014-15, in need 2013-14, in need 2012-13, never in need. |
| SEN provision | Special Educational Need provision in exam year, and if not SEN in that year whether SEN in the previous 6 years | Severe SEN in 2016-17, Support SEN in 2016-17, ever SEN (between 2011-12 and 2016-17), never SEN (between 2011-12 and 2016-17). |
| FSM | Eligible for claiming FSM in exam year, and if not whether eligible in the 5 years prior | FSM in 2016-17, ever FSM (between 2011-12 and 2016-17), never FSM (between 2011-12 and 2016-17). |
| Gender | Pupil's gender | Male/Female |
| Ethnicity | Pupil's ethnic group | ABAN = Bangladeshi AIND = Indian AOTH = Any Other Asian Background APKN = Pakistani BAFR = Black - African BCRB = Black Caribbean BOTH = Any Other Black Background CHNE = Chinese |

| | | |
|----------------------------|---|--|
| | | <p>INVA = Invalid value</p> <p>MISS = Missing value</p> <p>MOTH = Any Other Mixed Background</p> <p>MWAS = White and Asian</p> <p>MWBA = White and Black African</p> <p>MWBC = White and Black Caribbean</p> <p>OOTH = Any Other Ethnic Group</p> <p>Unknown = Refused or not yet obtained</p> <p>WBRI = White - British</p> <p>WIRI = White - Irish</p> <p>WIRT = Traveller of Irish Heritage</p> <p>WOTH = Any Other White Background</p> <p>WROM = Gypsy / Roma</p> |
| IDACIS | Income Deprivation Affecting Children Index Score of the pupil's home address, broken down into quintiles | 1 (least deprived) to 5 (most deprived) |
| Region | The region the pupil' school is in | London, North East, North West, Yorkshire and the Humber, East Midlands, West Midlands, East of England, South East, South West |
| EAL | Whether the pupil speaks English as an Additional Language | Yes / No |
| Number of schools attended | Number of schools attended in secondary i.e. period 2012-13 to 2016-17 | 1, 2, 3, more than 3 |

| | | |
|-----------------------------------|--|---|
| Key Stage 2 attainment | Whether the pupil achieved level 4 in English and maths at KS2 | Yes / No |
| Term of birth | In what school term the pupil was born | Autumn (September to December), Spring (January to April), Summer (May to August) |
| Exclusions (model 2 only) | Whether the pupil ever had a fixed term or permanent exclusion over the period 2011-12 to 2016-17 (i.e. from last year of primary school) | Yes / No |
| Persistent absence (model 2 only) | Whether the pupil ever missed over 10% of possible sessions in a year over the period 2011-12 to 2016-17 (i.e. from last year of primary school) | Yes / No |

Full model outputs from main logistic regression model

Model 1

Coefficients are expressed as log-odds. Odds ratio can be obtained by exponentiating estimates.

| Variable | Coefficient | Standard error | p-value |
|----------------------------------|-----------------|----------------|---------|
| (Intercept) | 1.475 | 0.037 | <0.001 |
| Never SEN | reference group | | |
| Ever SEN | -1.224 | 0.013 | <0.001 |
| SEN Severe | -1.748 | 0.038 | <0.001 |
| SEN Support | -1.254 | 0.019 | <0.001 |
| Never FSM | reference group | | |
| Ever FSM | -0.573 | 0.012 | <0.001 |
| FSM | -0.63 | 0.014 | <0.001 |
| Never in need | reference group | | |
| CIN plan in 2016-17 | -0.814 | 0.028 | <0.001 |
| Child Protection Plan in 2016-17 | -0.883 | 0.078 | <0.001 |
| Looked after in 2016-17 | -1.09 | 0.063 | <0.001 |
| Referred not in need in 2016-17 | -0.742 | 0.037 | <0.001 |
| In Need in 2012_13 | -0.385 | 0.04 | <0.001 |
| In Need in 2013-14 | -0.355 | 0.038 | <0.001 |
| In Need in 2014-15 | -0.376 | 0.037 | <0.001 |
| In Need in 2015-16 | -0.58 | 0.037 | <0.001 |

| | | | |
|--|-----------------|-------|--------|
| White British | reference group | | |
| Bangladeshi | 0.743 | 0.038 | <0.001 |
| Indian | 0.95 | 0.044 | <0.001 |
| Any other Asian background | 0.998 | 0.041 | <0.001 |
| Pakistani | 0.378 | 0.035 | <0.001 |
| African | 0.699 | 0.029 | <0.001 |
| Caribbean | -0.189 | 0.041 | <0.001 |
| Any other Black background | 0.211 | 0.051 | <0.001 |
| Chinese | 1.678 | 0.069 | <0.001 |
| Any other Mixed background | 0.465 | 0.03 | <0.001 |
| White and Asian | 0.569 | 0.036 | <0.001 |
| White and Black African | 0.45 | 0.05 | <0.001 |
| White and Black Caribbean | -0.181 | 0.032 | <0.001 |
| Any other ethnic group | 0.784 | 0.039 | <0.001 |
| Unknown | 0.215 | 0.066 | 0.0012 |
| White Irish | 0.526 | 0.061 | <0.001 |
| Traveller of Irish Heritage | -0.917 | 0.356 | 0.01 |
| Any other White background | 0.542 | 0.025 | <0.001 |
| Gypsy/Roma | -1.301 | 0.162 | <0.001 |
| Female | reference group | | |
| Male | -0.132 | 0.014 | <0.001 |
| London | reference group | | |
| North East | -0.424 | 0.054 | <0.001 |
| North West | -0.476 | 0.042 | <0.001 |
| Yorkshire & Humber | -0.415 | 0.044 | <0.001 |
| East Midlands | -0.464 | 0.047 | <0.001 |
| West Midlands | -0.474 | 0.044 | <0.001 |
| East of England | -0.402 | 0.043 | <0.001 |
| South East | -0.35 | 0.047 | <0.001 |
| South West | -0.44 | 0.05 | <0.001 |
| Term of Birth: Autumn | reference group | | |
| Term of birth: Spring | -0.04 | 0.008 | <0.001 |
| Term of birth: Summer | -0.063 | 0.008 | <0.001 |
| IDACI score quintile 1 | reference group | | |
| IDACI score quintile 2 | -0.354 | 0.015 | <0.001 |
| IDACI score quintile 3 | -0.61 | 0.017 | <0.001 |
| IDACI score quintile 4 | -0.847 | 0.019 | <0.001 |
| IDACI score quintile 5 | -1.016 | 0.021 | <0.001 |
| First language is English | reference group | | |
| English as an Additional Language | -0.01 | 0.022 | 0.6365 |
| Achieved level 4 in both English and Maths at KS2 | reference group | | |
| Did not achieve level 4 in both English and Maths at KS2 | -1.813 | 0.018 | <0.001 |
| Single school attended over the Secondary period | reference group | | |

| | | | |
|--|--------|-------|--------|
| Two schools attended over the Secondary period | -0.342 | 0.023 | <0.001 |
| Three schools attended over the Secondary period | -0.741 | 0.038 | <0.001 |
| More than three schools attended over the Secondary period | -1.087 | 0.114 | <0.001 |

Model 2

We considered separately control variables documenting exclusions and absences as they are potential mediating factors of the relationship between social care experiences and attainment at KS4, and may therefore be inappropriate controls. Introducing these variables in model 2 slightly lessens the estimated negative associations between social care experiences and attainment at KS4, but does not fully account for them, see Table 5 below.

Table 5: comparison of outputs for Model 1 and Model 2

| CSC interaction in year of exam | Model 1 | | Model 2 | |
|---------------------------------|-------------|----------------|-------------|----------------|
| | Coefficient | Standard error | Coefficient | Standard error |
| CINP | -0.81 | 0.03 | -0.57 | 0.03 |
| CPP | -0.88 | 0.08 | -0.49 | 0.08 |
| LAC | -1.09 | 0.06 | -0.87 | 0.07 |
| Ref. not in need | -0.74 | 0.04 | -0.55 | 0.04 |
| CIN in 2015-16 | -0.39 | 0.04 | -0.30 | 0.04 |
| CIN in 2014-15 | -0.35 | 0.04 | -0.24 | 0.04 |
| CIN in 2013-14 | -0.38 | 0.04 | -0.25 | 0.04 |
| CIN in 2012-13 | -0.58 | 0.04 | -0.42 | 0.04 |
| SEN severe | -1.75 | 0.04 | -1.70 | 0.04 |
| SEN support | -1.25 | 0.02 | -1.16 | 0.02 |
| Ever SEN | -1.22 | 0.01 | -1.18 | 0.01 |
| FSM | -0.63 | 0.01 | -0.50 | 0.01 |
| Ever FSM | -0.57 | 0.01 | -0.49 | 0.01 |

Robustness of findings

We explored ways to reduce the potential bias in model estimates linked to unobserved confounders by running alongside our main analysis an additional regression specification including local authority as a further control in place of region. This controls for differences in local characteristics that could influence attainment, including differences amongst children social care services. We find that model estimates for associations between social care experiences and the likelihood of achieving a strong pass in GCSE English and Maths are nearly unchanged when accounting for the LA the pupils' school is in (see Table 6).

We also ran our main regression model separately on multiple subsets of our data, to evaluate whether our conclusions are robust within specific subgroups.

We first considered a subset of data that only includes pupils present in every school census from the last year of primary school (year 6 in 2011-12) to the last year of secondary school (year 11 in 2016-17). Model estimates were stable compared to the full data set, indicating that records with partial secondary school histories do not unduly bias our results (see Table 6).

We also run our main regression model on a subset of data that includes pupils in state-funded mainstream schools only. This is because when the binary attainment measure equals zero it can mean either the pupil failed to achieve a strong pass in English and maths GCSEs, or the pupil was not entered to these GCSEs. Although failing to enter such key GCSEs can justifiably be regarded as detrimental to pupils' further life chances, it must be noted that pupils who do not enter GCSE English and maths can enter equivalent qualifications, and therefore still achieve good KS4 attainment. Published figures for 2016-17¹² show 96.7% of pupils in state-funded schools do enter both English and maths GCSEs. However, this is driven by very high entry rates in mainstream schools and the proportion of pupils entering both qualifications is much lower in special schools (12.5%). By focussing on mainstream state-funded schools we look more specifically at academic ability, rather than the factors that determine whether a pupil enters a given GCSE or not. Once more, estimated negative associations with attainment remain very similar for social care experiences (see Table 6).

¹² <https://www.gov.uk/government/statistics/revised-gcse-and-equivalent-results-in-england-2016-to-2017>

Table 6: summary of outputs for variations of Model 1

| CSC interaction in year of exam | Model 1 - LA instead of region | | Model 1 - full histories only | | Model 1 - mainstream statefunded schools only | |
|------------------------------------|-----------------------------------|-------------------|----------------------------------|-------------------|--|-------------------|
| | Coefficient | Standard error | Coefficient | Standard error | Coefficient | Standard error |
| CINP | -0.81 | 0.03 | -0.80 | 0.03 | -0.79 | 0.03 |
| CPP | -0.87 | 0.08 | -0.88 | 0.08 | -0.86 | 0.08 |
| LAC | -1.08 | 0.06 | -0.97 | 0.07 | -1.06 | 0.06 |
| Ref. not in need | -0.73 | 0.04 | -0.75 | 0.04 | -0.74 | 0.04 |
| CIN in 2015-16 | -0.38 | 0.04 | -0.36 | 0.04 | -0.39 | 0.04 |
| CIN in 2014-15 | -0.35 | 0.04 | -0.32 | 0.04 | -0.35 | 0.04 |
| CIN in 2013-14 | -0.38 | 0.04 | -0.37 | 0.04 | -0.37 | 0.04 |
| CIN in 2012-13 | -0.58 | 0.04 | -0.58 | 0.04 | -0.57 | 0.04 |
| SEN severe | -1.77 | 0.04 | -1.33 | 0.04 | -1.33 | 0.04 |
| SEN support | -1.29 | 0.02 | -1.12 | 0.02 | -1.24 | 0.02 |
| Ever SEN | -1.24 | 0.01 | -1.13 | 0.01 | -1.22 | 0.01 |
| FSM | -0.64 | 0.01 | -0.62 | 0.01 | -0.62 | 0.01 |
| Ever FSM | -0.58 | 0.01 | -0.56 | 0.01 | -0.57 | 0.01 |

Glossary of terms

AP: Alternative Provision

CIN: Children in Need

CINP: Child in Need Plan

CPP: Child Protection Plan

CSC: Children's Social Care

DfE: Department for Education

EAL: English as an additional language

FSM: Free School Meals

IDACI: Income deprivation affecting children index

KS2: Key Stage 2

KS4: Key Stage 4

LAC: Looked After Children

NEET: Not in Education, Employment or Training

NPD: National Pupil Database

PRU: Pupil Referral Unit

SEN: Special Educational Need

UPN: Unique Pupil Number



Department
for Education

© Crown copyright 2019

This publication (not including logos) is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

To view this licence:

visit www.nationalarchives.gov.uk/doc/open-government-licence/version/3

email psi@nationalarchives.gsi.gov.uk

write to Information Policy Team, The National Archives, Kew, London, TW9 4DU

About this publication:

enquiries www.education.gov.uk/contactus

download www.gov.uk/government/publications

Reference: DfE-00121-2019



Follow us on Twitter:
[@educationgovuk](https://twitter.com/educationgovuk)



Like us on Facebook:
facebook.com/educationgovuk