

# The lifelong health and wellbeing trajectories of people who have been in care

Findings from the Looked-after Children Grown up  
Project

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## Executive summary

The overarching aim of the Looked-after Children Grown Up Project (LACGro) was to use the unique data in the Office for National Statistics Longitudinal Study to build a comprehensive picture up to mid-life of the health and social functioning of care experienced members of the study.

To achieve that, we set ourselves a number of objectives:

- To determine whether children in residential care, kinship care and in foster care have different health and social experiences 10 to 40 years later compared to children in parental homes.
- To explore if children cared for in residential settings do better or worse than children in kinship or foster care, and if children in kinship care fare better than children in foster care.
- To understand if any differences in health and social difficulties vary by gender or ethnicity/migration status for those who have been looked after in childhood.
- To investigate if care experiences and their outcomes differ by the census in which children are observed.
- To find out what evidence there is for later resilience. Are there continuities or discontinuities in outcomes?
- To explore if there is evidence that a long-term experience of care predicts better or worse outcomes than a short-term experience.
- To consider if caregivers' children are affected in the long-term by living with a child in care.

Through the research, our goal was to describe the scale of inequalities in outcomes for children cared for in different places, of different ages and identities, and to begin to understand how these factors interact to produce inequalities.

## Methods

The project used data from the ONS Longitudinal Study (LS). The LS contains linked census and life events data for a 1% sample of the population of England and Wales. It contains records on over 500,000 people usually resident in England and Wales on the day of the census and it is largely representative of the whole population. The LS has linked records at each census since 1971 for people with a birthdate on one of four selected dates in the year. Life events data are also linked for LS members, including births to sample mothers, deaths and cancer registrations. New LS members enter the study on 1981, 1991, 2001 and 2011 through birth and immigration if they are born on one of the four selected birthdates. Data on approximately 1 million sample members have been collected since its inception.

Our study identified 353,601 LS members, including 5681 who had spent time in care, in one or two of the 1971 to 2001 censuses and with information on health and social outcomes when they were adults in 1981 to 2011. We classified children as living in one of the following four settings on the census day:

- i) with a parent

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- ii) With a relative, hereafter called kinship care. The relative, most commonly a grandparent, had to be over 18 to qualify as a 'relative carer'. The child could have been living with a relative under a care order or through an informal arrangement.
- iii) With a non-relative family, hereafter foster care. The carer could have been a foster carer unknown to the child or a friend of the family. It is safe to assume that the overwhelming proportion of children would have been with a carer previously unknown to them through a formal care order.
- iv) In residential care. This includes living in a children's home or place of detention.

Those living in other types of communal establishment (e.g. hotel, hostel, hospital) at the time of the census were excluded from all analyses. Also excluded were those under 18 years of age who had been married or were living alone or independently.

We investigated adult outcomes across four domains of wellbeing: health, education and work, living arrangements, and family formation and relationships:

- i) Health: self-rated health; limiting long-standing illness; all-cause mortality; cause of death.
- ii) Education and work: National Vocational Qualifications; employment status at the time of the census; social class measured using the 3-category version of the National Statistics Socioeconomic Classification (NS-SEC); long-term non-employment.
- iii) Living arrangements: housing tenure; overcrowding; living alone.
- iv) Family formation and relationships: marital status, number of children (women only); age at first child (women only).

We took account of measures of individual characteristics and household circumstances in censuses during childhood in all our analyses. However, we acknowledge that we were not able to control for other unmeasured circumstances in care or that precede being placed in care that could account for the differences across care settings that we report below.

## Findings and conclusions from the study

The research has produced robust evidence about the scale of inequalities, and their consistency over time, and by ethnicity, migration status and gender. This lays the foundations for developing policy, practice and further research and ultimately reducing inequalities for cared for children.

Our findings support recommendations to improve the experience and outcomes for children placed into care away from their parents, and the carers and families that support them. However, accounting for the full breadth of this study's findings, the prevailing recommendation for policy makers, practitioners, and carers alike is that **placing children in the type of care that will benefit them the most in the long-term, where feasible, should be the default action.**

Our research clearly shows that the type of child placement matters. There are stark gradients in the impact of different placements into care. The **inequalities within the cared-for population are as great as the inequalities between the cared-for population and the population in parental care.** There are highly consistent impacts on health, socioeconomic circumstances, family life and living arrangements depending on care arrangements with kinship care having the best outcomes, residential care the least, and foster care lying midway between the two extremes. These outcomes might be a consequence of the early life experiences that led children to being in care and/or could be consequential to their experience of the care system.

The European Convention on Human Rights 1998 and UK's Children Act 1989 underpin the legal framework that when non-parental care is required, priority be given to non-residential care, especially with the child's extended relatives and friends. Our research strongly supports the latter recommendation: **Kinship care was associated with better adult outcomes than foster care**, which in turn was related to better outcomes than residential care. **Promoting kinship care is a public health measure, not just a social welfare concern.** Placement decisions also need to consider prior experiences and family circumstances that are related to adult outcomes and might counter the potential benefit from kinship care.

Research from the US where, like the UK, informal kinship care is common, suggests that there are few differences between formal and informal kinship families with the children having similar needs for health and social services (Strozier and Krisman, 2007, Stein et al., 2014). If kinship care is to become a more integral part of child welfare services, policies need to encompass all relatives and the children in their care, including those with informal arrangements.

## Key findings and recommendations from the research

### *1. There are large inequalities in adulthood for the care experienced*

The **chances of cared for children enjoying the same social and economic advantages in adulthood as other children are deeply unequal.** Differences can be measured in terms of 10s of percentage points. This has long-term consequences, extending beyond mid-adulthood into older age since less privileged socioeconomic circumstances in mid-adulthood predict circumstances in retirement.

These **consequences not only affect their own individual well-being, but also have implications for society.** The need for public expenditure on health and welfare benefits such as the NHS, Universal Credit and Housing Benefit will be a life-long reality for many care leavers, coupled with a lower contribution to the public purse. Fewer qualifications and poor mental health are the most probable drivers of the inequalities and remedying these could in-turn narrow the inequalities we have observed.

Inequalities are not static and have changed over time. Worryingly, while there was some narrowing of inequalities, there were some very notable widening inequalities. **Falling rates of premature mortality in the general population have not been mirrored in the care experienced population. Rather, the opposite is the case,** with higher rates of premature mortality for care leavers.

Among children who survived to adulthood the risk of premature mortality from non-parental care was greater than the risk among our full sample. Together with an excess of unnatural deaths, this suggests that it is unlikely that pre-existing physical health problems account for all the risk associated with non-parental care.

Inequalities in employment and consequential social class widened between 1981 and 2001 and then narrowed between 2001 and 2011. This suggests that the inequalities widen during benign economic periods and narrow during recessionary periods. The latest UK gross domestic product (GDP) estimates show the fastest monthly growth since July 2020 as Covid-19 restrictions affecting economic activity eased and the UK adjusted to leaving the European Union (Office for National Statistics, 2021). Although the future remains uncertain, this could herald further increases in inequalities for the cared for population.



Decisions about pregnancy are also known to be affected by the economic cycle (Schmitt, 2012), with less advantaged women choosing parenthood in preference to unemployment: women who had been in care disproportionately had more children after the Great Recession, reversing the reverse gradient seen 30 years earlier.

On a more positive note, **adults who have been in care are more likely to return to education and gain further qualifications.**

**Supporting care-leavers needs to remain a priority and not be waylaid by other priorities for national and local government that the Covid-19 pandemic has highlighted.**

## *2. Ethnicity matters but not in the way that we thought*

The widespread assumption that there are more negative adult outcomes among ethnic minority groups following care in childhood was not supported by our study. Previous reports of the negative impact of care on Black people's lives appear to have been misattributed to the experience of care when it is a feature of all Black people's lives. We found no interaction between Black ethnic identity and experiences of care affecting adult outcomes: the disparities seen for children in care were the same as those pervasive in society for the wider Black population.

We also saw that an experience of care in childhood does not affect South Asian adults as much as Black people who have been in care. Compared to others, White children are more likely to be affected by experiences of being in care in the realm of qualifications and subsequent life chances.

Ethnic inequalities differ across the lifespan from early to mid-adulthood as work and family lives evolve. There are small signs of care gaps narrowing with adult age for ethnic minorities, but also signs that some gaps widen.

**Lifecourse trajectories are not the same for all ethnic minority children in care. The fate of migrants to the UK who find themselves in care does not mirror that of ethnic minority groups.** Findings should not be extrapolated from one situation to the other.

There is little evidence of inequalities in employment for adults born outside the UK who had been in care. UK-born adults who have been in care are predicted to be in less advantaged social positions later. But for adults born outside the UK, those previously in care are predicted to be in more advantaged social positions than their peers, even though they have a lower probability of reaching the managerial and professional social classes.

First generation migrants who have been in care have more stable family lives compared to other care-experienced adults.

## *3. Children of kinship and foster parents need support too*

Children of kinship and foster parents often make the transition to adulthood sooner than their peers. This is often measured by the achievement of the "big 5" transition milestones: leaving full-time education, entering paid employment, leaving the parental home to live independently, forming a committed relationship and parenthood (Shanahan, 2000), which children of kinship and foster parents were found to reach earlier in adulthood.

But they have a less successful transition: having poorer health, fewer qualifications, more unemployment, a less privileged social position, lower chance of owning their own home, and are more likely to divorce.

From our data, it appears that by mid-adulthood, any impact of an early transition disappears. By their 40s, no differences between carers' children and non-carers' children were seen. Other measures of outcomes in mid-adulthood might reveal longer term economic scarring from early achievement of transition milestones.

Supervising social workers provide both supervision and support to foster carers, and act as an intermediary between the fostering household and the cared for child's social worker. A notable omission in job specifications is to support the pre-existing children in a household when a child is placed with them.

## Recommendations for policy and practice

### ***1. Developing policies to reduce inequalities for cared for children needs joined-up working between government departments***

- Like the Care Leaver Covenant, made by private, public and voluntary organisations, which promises to provide support for care leavers aged 16-25 to help them to live independently, there is a need for cross-government working for a reduction in inequalities to be achieved. Only by the Department for Education, Department for Work and Pensions, Department of Health and Social Care, and the Ministry of Housing, Communities and Local Authorities working together with private and voluntary organisations will inequalities narrow.

### ***2. Statutory requirements for children in care need to be improved***

- Despite a legal duty to inform the Local Authority at least six weeks before an arrangement is due to start, it is known that private fostering often goes "under the wire".
- With the rise in informal kinship care arrangements, these arrangements should also be registered with the Local Authority.
- This would allow informal caregivers and care experienced adults to access, when needed, support that is available to those known to the health, education, and social care systems because of a Care Order.

### ***3. Using the evidence, including from this study, to assess the economic impact of care experience, and support interventions***

- This research clearly demonstrates the long term sequelae of being cared for in childhood. It provides an evidence base for policy makers and analysts to factor into any cost-benefit analyses of proposed interventions aimed at the downstream health and socioeconomic benefits for children in care.

### ***4. Offering regular mental health MOTs to care leavers throughout their adult lives should become a core objective for local health authorities***

- Ensuring care leavers' mental health needs are recognised and they are offered the appropriate support.

- The most efficient way to do this would be to provide mental health MOTs administered by general practitioners in a similar way to the NHS Health Check scheme.

### ***5. Extending support during the transition to adulthood should be rolled out for all care-leavers***

- The Staying Put programme for former fostered children is currently being implemented but does not extend to residential care nor to older teenagers in care who have been placed in semi-independent and independent settings. The newer Staying Close arrangements aimed at enabling young people leaving residential care to live near their former care home are not yet implemented. Our evidence of the enduring negative legacy of being a child in care, going well beyond the transition to adulthood phase, should add impetus to speedily implementing these programmes nationwide and extending them to all care leavers.
- Current guidelines for transitions from child to adult health services should be expanded to well beyond the initial young adult period.

### ***6. Monitoring the outcomes for care-leavers should be an explicit policy and a priority for all government sectors***

- Inequalities between care-leavers and the general population are widespread and long-lasting, as are inequalities within cared-for groups. This should be monitored and acted on as a priority.
- Without the evidence from a monitoring system, there is no impetus to change policy. Monitoring the immediate outcomes of non-parental care in terms of school qualifications and initial destinations is insufficient to quantify what could potentially be permanent damage to life chances and well-being for this vulnerable group. A start would be to extend the existing annual Children Looked-after Return (SSDA903) data collection to at least age 25, in line with statutory support for care leavers continuing to age 25 following the DfE Children and Social Work Act (2017).

### ***7. Supporting foster parents to keep their children in education for longer should become part of the role of child protection services***

- Social work education and training needs to include knowledge and skills development relevant to foster carers' own children.
- Part of the role of social workers should be to explore with foster carers what barriers may prevent their own children from staying in school, and what is prompting them to want to leave school and go out to work.

### ***8. The role of a supervising social worker should be extended to supporting children of foster parents, especially during adolescence***

- Explicit time to talk with and support adolescent children of foster parents should be built into the social worker's visits to the family.
- Fostering services need to provide caseload management that ensures that supervising social workers have the time to work directly with foster carers' children.

## Recommendations for research

### ***1. Findings concerning ethnicity need to be presented in the context of broader ethnic disparities***

- This study suggests that while ethnicity does matter when comparing adult outcomes for care experienced children, this disparity may be attributed to wider social inequality. We therefore recommend that research contextualise findings within the lens of general ethnic disparities.

### ***2. An intersectional approach to research on the long-term impacts of care needs larger sample sizes***

- Replication is needed on the intersection between ethnicity and being in care and the specific needs of migrant children in care.
- Linkage to health and social data for research is already available in some countries of the UK (subject to strict ethical and safeguarding oversight), and slowly being made possible in the others. But research into the lives of cared for children will be immeasurably improved if linkage of routine data is speeded up.
- Greater access to routine data, exemplified in the Nordic countries, could help move research forward.

### ***3. A broader investigation of foster carers' households is warranted***

- Several new areas of research are suggested by the findings.
- The processes leading to an earlier transition to adulthood for biological children need elucidating. Does the benefit of maturity or the challenge of sharing their home drive these processes?
- Does the lack of longer-term differences suggest that maturity is the main driver or is there longer-term scarring that was not revealed with our data?
- Do cared for children fare better or worse if placed with a kinship or foster parent with children of their own?

# Chapter 1. Introduction and background

“If we can get it right for the most vulnerable, such as looked after children and care leavers, then it is more likely we will get it right for all those in need.”  
(Department of Health and NHS England, 2015)

## Aims and objectives

The overarching aim of the Looked-after Children Grown Up Project (LACGro) was to use the unique data in the Office for National Statistics Longitudinal Study to build a comprehensive picture up to mid-life of the health and social functioning of care experienced members of the study.

To achieve that we set ourselves a number of objectives:

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- To investigate if care experiences and outcome relationships differ by the census in which children are observed.
- To find out what evidence there is for later resilience. Are there continuities or discontinuities in outcomes?
- To explore if there is evidence that a long-term experience of care predicts better or worse outcomes than a short-term experience.
- To consider if caregivers’ children are affected in the long-term by living with a child in care.

Through the research, we aimed to describe the scale of inequalities in outcomes for children cared for in different places, of different ages and identities, and to begin to understand how these factors interact to produce inequalities. A longer-term goal is that remedies can subsequently be developed by policy makers and service providers to reduce these inequalities.

We carried out the project over the period end-2017 to mid-2021. We developed and tested a set of models and methods and obtained a breadth of evidence that we hope will be the baseline for subsequent research in other countries of the UK and internationally.

If we take as a given the World Health Organisation’s definition of holistic health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" then we aspire to reduce health inequalities between those who are and are not able to spend their childhood living with their parents.

By unveiling the long-term outcomes for children who are looked after, we want the evidence about the children and the families who are involved with the children’s social care system to facilitate

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policy and service change that will reduce inequalities, not just while in care but also throughout their lives.

Amartya Sen's (1999) capability approach focused our minds on the actual capability of persons to achieve their well-being. People who are subject to care orders deserve supports so that they can achieve the same quality of life throughout their lives as everybody else.

## How did we come to do this study?

Thirty years ago, as an early career researcher working on the antecedents of schizophrenia and affective disorders using data from the British Birth Cohorts, Amanda Sacker observed a striking correlation between major psychiatric disorder and time in care in childhood. At that time, children left care and started independent living at 16 years of age, a difficult experience for many. Years later in 2015, The Nuffield Foundation funded the project "The long-term consequences of domestic infant adoption" led by Barbara Maughan (2015), which found very few indicators of mental health difficulties following adoption. Amanda Sacker sat on the advisory committee. A chance attendance at a workshop on the ONS Longitudinal Study germinated the idea that here at last were the data which would make it possible to extend the adoption study to people who had been cared for by the state. The ONS Longitudinal Study contains linked census and life events data for a 1% sample of the population of England and Wales. Its size and coverage allow for extensive robust research into subgroups of the population of England and Wales – and so the LACGro project was born.

## A brief history of children's social care in the UK

On 31<sup>st</sup> March 1971, 87,377 children were in the care of local authorities in England and Wales. Just over 40 percent were fostered, with the remainder in residential care (Meltzer et al., 2008). This represents a rate of ~65 per 10,000 children under 16 years.

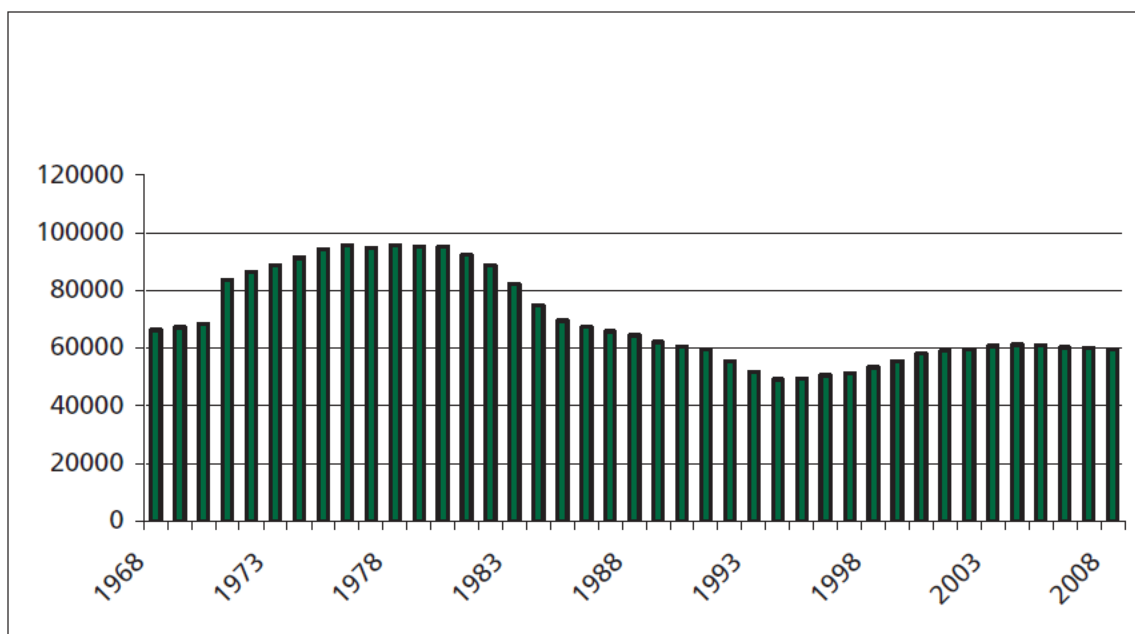
Despite an overall decline since 1971, the absolute number of children in care has been increasing in more recent years and is now higher than at any point since 1985 (80,080 children in care on 31<sup>st</sup> March 2020). The reasons for this are complex and are suggested to be the result of fewer children entering care, but those that do tending to stay longer.

Several policy and practice changes affecting children in care have taken place between the 1970s and the turn of the century. The 1969 Children and Young Persons Act stipulated the duty of care of children under 17 years old by local authorities. Using the ONS Longitudinal Study, we can first observe children in care in 1971, a time when social work services and social care provision for children were unified in social services departments. However, the tragic death of Maria Cowell at the hands of her stepfather highlighted a serious lack of coordination within child protection services. The report from the subsequent inquiry (Department of Health and Social Security, 1974) led to the setting up of local area child protection committees to coordinate decisions by agencies responsible for children's safety when at risk.

Following this, being looked after by a local authority was enshrined in the United Kingdom Children Act 1989 when a court had granted an order to place a child in care, or a council's children's services department had cared for the child for more than 24 hours. In practice, this took many forms: it could be a voluntary arrangement in partnership with parents, when a child was remanded to the care of the local authority, when a child was subject to a full care order, when a child was subject to

an Interim Care Order or when an Emergency Protection Order was made. The 1989 Act recommended that placement priority be given to a child’s extended relatives and friends, in arrangements known as kinship care. Since then, new placements into residential care have decreased and placements into foster and kinship care increased. Furthermore, many children were, and still are, informally cared for full-time by relatives, friends, and other people with a prior connection to the family, who have no legal obligation to inform the State. The 1989 Children Act also legislated that local authorities had a duty to prepare children for leaving care, which came into effect in 1991 – too early to have had an impact on children in care recorded in the 1991 census, but we might expect children in care at the time of the 2001 to benefit from this provision, potentially improving their long-term well-being.

**Figure 1. Number of children in care on 31<sup>st</sup> March, 1968-2008**



Source: Health Committee, *Second Report of Session 1997–98, Children looked after by local authorities, HC 319-I*; DH, *Children Looked After by LAs, year ending 31 March 1998*; DCSF, *Statistical First Release 40, November 2004*; DCSF, *Statistical First Release 23, September 2008*.

Finally, the Children Leaving Care Act 2000 laid down guidelines for better support during the transition to independent living. A review of transition support services found those who received these services were more likely to complete compulsory education with formal qualifications, be in current employment and living independently and less likely to be young parents (Everson-Hock et al., 2011). Thus, we might hope for improved adult outcomes for more recent cohorts of children in care, tempered by the review’s caution of “limited evidence of long-term outcomes”. Gaining some understanding of the potential long-term impact of changes in child protection legislation is one theme of LACGro.



## What was already known

### *Health and functioning of children in care during childhood*

There is a considerable body of research showing that children in care compared poorly with children from the general population regarding health and education. Unsurprisingly, chronic conditions such as epilepsy, cystic fibrosis and cerebral palsy were more common among children in care, however lower rates of asthma, eczema and hay fever were found (Martin et al., 2014). Serious chronic illnesses may lead to a child being placed in care (Ward and Skuse, 2000), but the latter health conditions are unlikely to be predictors of entry into care. Children in care were more likely to be overweight and obese compared with International Obesity Task Force Paediatric norms, with some children gaining weight while in care (Hadfield and Preece, 2008). At the same time, dental checks and immunisation coverage were still lower among those cared for by local authorities, despite the statutory requirement for annual checks (Rodrigues, 2004, Williams et al., 2001). But the case control study by Williams and colleagues, also found that those looked after reported significantly less physical ill health than matched children at home. These mixed results suggested that there may be failures to identify health problems and that there might be an unmet need for preventative care, raising concerns about their legacy in the long-term.

Mental health was consistently worse for children in care. A review article reported the rate of diagnosable mental health disorders to be 45 percent for children in care in England compared with 10 percent in the general population (McAuley and Davis, 2009). The result from studies that have taken account of background factors are contradictory with one suggesting that out-of-home placement *per se* had little effect on children's behaviour problems (Berger et al., 2009) and another suggesting the opposite (Williams et al., 2001). In the latter study unmet need was again highlighted, with a worryingly large number of children in care waiting for appointments with mental health professionals. A meta-analysis found children in residential care had slightly worse psychosocial outcomes than children receiving foster care, unless the children in residential care were receiving an evidence-based treatment programme (Strijbosch et al., 2015). Protective factors promoting resiliency were regular contact with a parent and mainstream school attendance (Rees, 2013), suggesting that kinship care should be beneficial for children in care.

The evidence on cognitive and educational outcomes was also mixed. Children in care had lower mean cognitive and literacy scores than general population norms (Rees, 2013), and children in residential care had lower educational attainment scores than children placed in private households (Simkiss, 2012). Although it is unknown whether children were statemented for cognitive or behavioural difficulties, 25 percent of school-aged children in care were found to have a statement of special, educational needs compared with 3 percent of children who were not in care (Rodrigues, 2004). Heath et al (1994), compared children in foster care with children in the family home receiving social work support in the community and found that disappointingly, given the social advantage of the foster carers on average, there was no effect on educational attainment associated with escaping from disadvantage. By contrast, the caregiver's educational aspirations for the young person, likely associated with greater social advantage, were a consistent predictor of educational success (Flynn et al., 2013). Moreover, a meta-analysis found no evidence for differences in cognitive deficits for children in care in residential care compared with those in non-residential care (Strijbosch et al., 2015), neither did a US study that adjusted for selection bias report deficits in



children in care's cognitive skills (Berger et al., 2009). However, a comparison of children in care with children in need and children neither cared for nor in need found children in care who were in care for short periods of time did least well (Sebba et al., 2015), suggesting duration in care to be an important moderator.

### *Health and functioning of care experienced young people during the transition to adulthood*

The transition to adulthood can be a time of much turmoil for all young people but research underscores the additional problems faced by care experienced young people entering adulthood. A small but in-depth 5-year follow-up study of young people leaving the care system in Australia found care experienced young people were much less likely to have completed their education, were more often living independently in shared accommodation or in transitional housing, more likely to be unemployed or in unskilled work, earning lower gross income, more likely to be a parent and more likely to have had mental health problems (Cashmore and Paxman, 2006). Interestingly, given the unmet need for preventative health care highlighted above, they were also more likely to go without treatment. Follow-up of the 1958 and 1970 British birth cohorts confirms these findings: higher rates of psychological problems, depression, convictions, homelessness, poor self-rated health, unemployment, manual occupations and lower levels of educational qualifications were found at age 30 among those who had been cared for compared with their general population peers (Cheung and Buchanan, 1997, Viner and Taylor, 2005, Dregan et al., 2011). However, even in the much larger British birth cohort studies, sample attrition was very high among the care experienced group, potentially leading to an underestimation of the extent of their difficulties during the transition to adulthood. Despite these consistent findings of poor outcomes into early adulthood, data on different experiences of care are still lacking, especially for the "hidden" group of children in kinship care.

Outcomes for care experienced young people were more mixed when compared with other disadvantaged groups. A study comparing care experienced men with men who had been permanently excluded from school found that care experienced men by 24 years of age had lower offending rates (especially violent crimes) than excluded men although they were more likely to be the victims of crime, especially fatally (Pritchard and Williams, 2009). Yet for care-experienced women (compared with the women who had not been in care), the risk of teenage pregnancy was high, combined with decisions not to abort despite high rates of non-consensual sex (Craine et al., 2014).

### *Health and functioning of care experienced people in mid-adult life*

The limited research on longer-term outcomes tends to reinforce the message of poorer outcomes for care experienced people. A study of children in care using the ONS Longitudinal Study, prospectively followed up children in residential care from 1971 to 2001 (Meltzer et al., 2008). They found cared-for children were three times more likely to have died than the comparison sample of children living in private households, mainly from accidents, violence, injury and poisoning. Those surviving to 2001 were more often living in rented accommodation than their peers and still more likely to have no qualifications and less likely to be employed, although many were permanently sick or disabled. Care experienced women over 40 years of age also had more children.

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A retrospective study of mothers in the Millennium Cohort Study not only confirmed the poorer socio-demographic profiles of mothers who had been in care but also emphasised adverse outcomes seen in their children (Botchway et al., 2014). The inter-generational transmission of disadvantage is a significant concern and underlines the importance of investigating long-term outcomes. A study of children in foster care in the US compared 101 children in care with the same number matched on socio-demographic characteristics (Buehler et al., 2000). They found very few differences in aspects relating to childcare quality and outcomes between the foster care and matched groups, suggesting that fostering of children by an unrelated adult may protect the next generation of children. However, this needs corroboration with larger British samples.

Finally, a US cross-sectional study investigated the life-course functioning of individuals who had been fostered as a child by stratifying by adult age-group (Zlotnick et al., 2012). They found that even after stratifying by age-group and adjusting for socioeconomic and demographic characteristics, those who had been cared for had poorer mental and physical health and were more likely to be out of the labour force because of disability or inability to work. There was no suggestion that associations were stronger for younger or older adults – the odds ratios were remarkably similar across age strata. This consistency might be obscuring heterogeneity in life course trajectories, with some individuals managing to “beat the odds” and others finding it difficult to overcome their early life experiences.

Although some of these studies took account of socio-demographic background, few were able to account for the impact of negative pre-placement experiences, such as abuse and neglect, that many of children in care are likely to have experienced – and that are themselves are known to contribute to a broad range of negative life course outcomes.

### *What is now known*

Since the LACGro project started, research evidence on outcomes in adulthood has continued to grow. Yet none of the evidence fills all the gaps found in our original review of the literature. First, most studies originated in North America, necessitating replication in a UK setting. Looking further into the studies emanating from the UK, none report on experiences of care broken down by placement type.

Cameron and colleagues (2018) investigated outcomes in three countries at age 30 after having been in care, including using data from a large well-established British survey – the 1970 British Birth Cohort (BCS70). Their study did not concentrate on within country differences but on between country differences. But the British data indicated that people who had ever been in care had lower qualifications, were more likely to be unemployed or out of the labour force, more often had children and were teenage parents, were twice as likely to have depression, and occurrences of homelessness and on benefits were higher. While these results are a useful comparator for our findings for children in 1971 and 1981 censuses, still missing from the picture are details on children born more recently, any longer-term outcomes, differences by type of care, and whether other social and demographic differences could have influenced the findings.

A second large well-established follow-up survey, the Avon Longitudinal Study of Parents and Children (ALSPAC) features in the work of Teyhan et al. (2018). This study used a retrospective design, based on answers by mothers-to-be and their partners on whether they had ever been in care. The outcomes they were interested in were substance use, mental health, social support and criminal offences, so do not directly overlap with our work. But they did provide data on the

characteristics of the ALSPAC parents before the birth of their child. Mothers with a history of having been in care were less likely to be married, to be having an unintended pregnancy, were more poorly educated, less commonly owned their home, and were in a more disadvantaged social class. ALSPAC started in 1991–1992 meaning that they might have been in care anytime in the previous 40 years. Extrapolating from their study to ours could be hampered by the different time frame and the local rather than national sample design, as well as the lack of a longitudinal perspective on their adult lives.

The most recent work (Xie et al., 2021), used yet another birth cohort study, this time the 1958 National Child Development Study. It shared the disadvantage with ALSPAC and BCS70 of relying on parental reports of their child having been in care, using data about children born in one week of a single year as for BCS70. An advantage was the long-term outlook with a large number of outcomes measured when the cohort were 42 years old. Virtually all markers of socio-demographic, anti-social, psychological and physical health, and health behaviours were found to be worse for adults who had been in care. There were no better markers for care experienced adults. When null findings were seen, they were scattered across the domains of functioning in adulthood. Of note, cognitive test results did not differ, which will be an interesting contrast to educational achievement in our study.

## What about the children of parents who offer kinship or foster care to another child?

The impact on biological children of living with a fostered child has been largely ignored until recently. The work in this area has been mainly qualitative, giving a voice to biological children's experiences of fostering or investigated from the perspective of the parents (Poland and Groze, 1993, Younes and Harp, 2007)(Poland and Groze, 1993, Younes and Harp, 2007)(Poland and Groze, 1993; Younes and Harp, 2007). A review of this body of work found that the evidence for the UK is amassed, with the exception of papers from one research group, from a small number of individuals (Höjer et al., 2013). Nevertheless, the review highlighted three major negative impacts on foster caregivers' children: Responsibility and worry; feelings of loss of their role in the family and separation when the foster child leaves the family; and the need to compete for parental attention.

It is plausible that the negative impacts highlighted above could result in poorer educational outcomes with consequential knock-on effects on life chances. This might lead to an accelerated transition to adulthood. Alternatively, carers' children may be at psychological risk from these negative impacts resulting in higher rates of limiting illness and poor general health in adulthood.

Counterbalancing this, there were also reports that foster caregivers' children had learned from the fostering experience and believed themselves more sensitive, responsible and caring people. It has been said that carers' children learn responsibility and good parenting practices by observing their parent(s)' interactions with a cared for child, potentially leading to more responsible choices about education, work and family formation, thereby delaying the timing of transitions to adulthood. Their greater maturity and more developed emotional literacy could underpin well-being in adulthood.

## What were the gaps in the evidence base thus far?

There were six main concerns about the evidence base:

- We did not know whether disadvantage continues throughout adulthood since most research examines outcomes at one stage in adulthood, with the immediate post care period or at best early adulthood predominating. The rare exceptions extend the follow-up period to mid adulthood, but only cover a limited range of outcomes.
- Children in care are a hard-to-reach group for research. Like many other disadvantaged subgroups of the population, they were less likely to take part in surveys and more likely to drop out of studies or be untraceable. This can lead to unintended bias, especially when sample sizes are small, and the sample is not representative of all children in care. Retrospective data is sometimes collected instead, which is known to be prone to recall bias, especially of distressing or sensitive information.
- Designs that did not include a comparator group of children living with parent(s) were common. The extent to which this might bias conclusions is unknown. Attributing differences to the experience of care might be invalid if the demographic profile of children in care differs from the general population.
- In a similar vein, even basic sociodemographic data in childhood were not always measured, prohibiting the ability to take account of other factors associated with poorer adult outcomes.
- Finally type of out-of-home care was not always considered when previous work suggests very different risks for adverse outcomes can be found when type of care is disaggregated.
- To our knowledge, no research to date has considered the longer-term effect on caregivers' children.

Our use of the ONS Longitudinal Study enabled us to overcome these limitations by:

- Following up the same individuals into their 20s, 30s and 40s and documenting the findings on a broad spectrum of outcomes. This avoided making incorrect inferences based on different studies of people with outcomes at diverse ages in adulthood.
- Reducing unreliability associated with tracing and reaching people. For example, the 2011 census achieved its target of a 94 percent response for England and Wales overall. Linkage to the following census in the ONS Longitudinal Study averaged 88 percent. At that level, even in the worst-case scenario (non-random drop out due to factors unknown to the researcher), a simulation study found that findings were reliable (Kristman et al., 2004).
- We used all children living with one or more parent as the comparator group, resulting in a very high level of confidence in reported differences.
- We used information about children's socioeconomic and demographic circumstances in all our analyses to avoid results being spuriously attributed to having been in care when the "true" mechanism was due to these circumstances.
- We could report differences in outcomes between those who had been in residential care, foster care, kinship care and parental care, due to the large sample size and census data making disaggregation possible. This enabled us to extend our knowledge in ways that have so far been impossible.
- We investigated how experiencing living in a family with a cared-for child affected caregivers' children throughout their adult lives.

## Chapter 2. Methods

### The ONS Longitudinal Study

The LS contains linked census and life events data for a 1 percent sample (over 500,000 people) of the population of England and Wales. The LS has linked records at each census since the 1971 Census, for people born on one of four selected dates in the calendar year. These four dates were used to update the sample at the 1981, 1991, 2001 and 2011 Censuses. Life events data are also linked for LS members, including births to sample mothers and deaths. New LS members enter the study through birth and immigration (if they are born on one of the four selected birth dates). Data on approximately 1 million sample members have been collected over the 40 years of the study, making it the largest longitudinal data set in England and Wales. This size makes it possible to research small subgroups of the population such as those people who have been cared for in childhood by someone other than a parent. To ensure confidentiality, the data can only be accessed in secure settings at ONS offices, after researchers and their project have been approved.

### Identifying children with different care experiences

Our first task was to find a common definition of a 'dependent child' since the ONS definition changed over time. In 1971 the ONS defined a dependent child as a child in a family either: (a) aged under 15 or, (b) aged under 25 years and a student. To accommodate the change in legislation in September 1972 that raised the school leaving age to 16, the definition changed for the 1981 census to a person: a) under 16 years of age, or b) under 25 years of age, never married and classified from the question on economic activity last week as a 'student'. This was amended again in 1991 to persons aged 0-15 in a household; or persons aged 16-18, never married, in full time education and economically inactive; and again in 2001 to a person aged 0-15 in a household (whether or not in a family) or aged 16-18, in full-time education and living in a family with his or her parent(s).

We used a standard definition of dependence for the LACGro study that only included dependent children who could potentially be placed in non-parental care. The LACGro definition is individuals aged less than 18 years, of single marital status, not living alone/independently. This fits well with the social policies on duty-of-care as few children in care in 1971 continued in education beyond the statutory school leaving age.

For each census from 1971 to 2001, we excluded any children who were visiting in the household/residential setting on the census date, before using the household grid and residential type data to classify dependent children as living in one of the following four settings on the census day:

- With a parent
  - The child could be living with other people for example, in a multigenerational household but they were included if one or more parent was also living with them.
  - The parent could be the biological or adoptive parent – the ONS used information given about people's surnames to decide on what constituted a family, although this information is not available to researchers.
  - Children placed with their own parent(s) under the supervision of Children's Social Care are also included in this group.

- With a relative, aka kinship care
  - The relative, most commonly a grandparent, had to be over 18 to qualify as a ‘relative carer’.
  - The dependent child could have been living with a relative under a care order or through an informal arrangement.
- With a non-relative family, aka foster care
  - The carer could have been a foster carer unknown to the child or a friend of the family.
  - Unlike kinship care, private foster carers must inform the State. But it is safe to assume that the overwhelming proportion of children would have been with a carer previously unknown to them through a formal care order.
- In residential care
  - Includes a children’s home or place of detention
  - Those living in other types of communal establishment (e.g. hotel, hostel, hospital) at the time of the census were excluded from this group and from all analyses.

Note that dependent children could be observed in two consecutive censuses and their care arrangements could differ across censuses. For example, a child could have been observed with their parents in 1971 and then in residential care in 1981.

## Data on adult outcomes

We investigated adult outcomes across four domains of wellbeing: health, education and work, living arrangements, and family formation and relationships.

### Health

- Self-rated health (good vs. poor)
- Limiting long-standing illness (yes vs. no)
- All-cause mortality (month and year using data from death certificate data)
- Cause of death
  - “Unnatural” (mental or behavioural, accidents, self-harm)
  - “Circulatory” (ischemic heart disease, stroke, pulmonary disease)
  - “Cancer” (lung cancer, other cancers, benign neoplasms)
  - “Other” (all other causes).

### Education and work

- National Vocational Qualifications (NVQ 3-5 vs. NVQ 0-2)
- Employment status at the time of the census
  - Working full or part-time
  - Unemployed and seeking work
  - In education or training
  - Otherwise out of the labour force, i.e economically inactive

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- Social class measured using the 3-category version of the National Statistics Socioeconomic Classification (NS-SEC)<sup>1</sup>:
  - Managerial/professional
  - Intermediate occupations
  - Routine occupations
  - Unclassifiable
- Long-term OLF (i.e. out of the labour force  $\geq$  10 years or not).

### *Living arrangements*

- Housing tenure (owner occupier, renting, or other)
- Overcrowding (ratio of number of persons in the household to number of rooms  $>1.5$ )
- Living alone (yes/no).

### *Family formation and relationships*

- Marital status (married, divorced/widowed, single)
- Number of children (from the Births Registration form, women only)
- Age at first child (from the Births Registration form, women only)

## Data on individual and family circumstances in childhood

- Age in years
- Gender (male or female)
- Ethnicity (White, Black, South Asian, Other)
- Country of birth (UK, elsewhere)
- Migration status (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> or more generation in the UK)
- Childhood census year identified which census the child was observed (from 1971 to 2001)
- Number of children in the household
- Head of household/ mother's / father's social class (3-category version of the NS-SEC, described above)
- Head of household/ mother's / father's educational level (18+ years qualifications or not)
- Head of household/ mother's / father's employment (in work or not)
- Head of household/ mother's / father's marital status (legally married or not)

Information on the socioeconomic environment in childhood was available for children living in private households only.

Most models used the same set of data on circumstances in childhood. The exceptions were the models for health, mortality, and carers' children. All results in the following chapters indicate the covariates used.

The distribution of childhood circumstances used in most models is shown in table 1 below.

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<sup>1</sup> The derivation of 1971 and 1981 NSSEC & Goldthorpe classes is provided in Bukodi and Neuburger (2009) "Data Note. Job and occupational histories for the NSHD 1946 Birth Cohort" as part of the ESRC Gender Network Grant, Project 1 'Changing occupational careers of men and women', Reference: RES-225-25-2001. The code was kindly provided by Erzsebet Bukodi and adapted for use in the LS by Buscha and Sturgis as part of the ESRC grant 'Inter-cohort Trends in Intergenerational Mobility in England and Wales: income, status, and class (InTIME)', Reference: ES/K003259/1.



**Table 1. Childhood circumstances<sup>1</sup> by care type and follow-up age group**

	Age 20-29		Age 30-39		Age 40-49	
	Parental care	Non-parental care	Parental care	Non-parental care	Parental care	Non-parental care
N	223,007	2,126	162,017	1,599	109,481	1,070
Ethnicity (%)						
White	94.35	84.94	95.45	84.63	96.20	84.08
Black	1.77	6.47	1.44	6.37	1.64	7.05
South Asian	3.52	7.45	2.82	7.80	1.88	7.24
Other	0.36	1.15	0.28	1.20	0.28	1.63
UK-born (%)						
Yes	97.55	92.56	97.46	91.25	97.44	90.23
No	2.45	7.44	2.54	8.75	2.56	9.77
Gender (%)						
Male	49.56	49.10	48.89	48.61	48.86	49.65
Female	50.44	50.90	51.11	51.39	51.14	50.35
Childhood census year (%)						
1971	33.48	29.87	45.62	38.37	68.44	53.08
1981	27.14	31.80	38.28	45.12	31.56	46.92
1991	25.84	19.51	16.10	16.51	0.00 <sup>2</sup>	0.00 <sup>2</sup>
2001	13.54	18.82	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>
HoH social class (%)						
Managerial/prof	30.92	19.01	28.87	17.77	26.68	15.60
Intermediate	34.20	26.67	34.04	24.09	33.45	21.46
Routine	34.88	37.82	37.09	38.02	39.87	40.14
N/A	0.00 <sup>2</sup>	16.50	0.00 <sup>2</sup>	20.12	0.00 <sup>2</sup>	22.70
HoH qualifications (%)						
≥ 18-year qual	16.70	9.57	13.45	7.19	11.11	5.33
< 18-year qual	83.30	73.93	86.55	72.69	88.89	71.97
N/A	0.00 <sup>2</sup>	16.50	0.00 <sup>2</sup>	20.12	0.00 <sup>2</sup>	22.70
HoH employment (%)						
In work	91.28	66.10	93.39	65.98	94.87	66.20
Unemployed	4.63	5.16	4.84	6.05	4.02	4.88
OLF	4.09	12.23	1.78	7.84	1.11	6.21
N/A	0.00 <sup>2</sup>	16.50	0.00 <sup>2</sup>	20.12	0.00 <sup>2</sup>	22.70
HoH marital status (%)						
Married	91.29	58.50	94.59	58.41	95.61	58.34
Divorced/widowed	6.04	14.06	4.56	11.37	3.87	9.83
Single	2.67	10.93	0.85	10.10	0.53	9.13
N/A	0.00 <sup>2</sup>	16.50	0.00 <sup>2</sup>	20.12	0.00 <sup>2</sup>	22.70
Childhood age (mean)	9.46	11.42	9.72	11.50	10.21	12.37

Source: ONS Longitudinal Study

<sup>1</sup> Averaged across all observations; <sup>2</sup> Cell count zero by design

Obs: observations; HoH: head of household; OLF: out of the labour force (e.g. homemaker/carer; permanently sick, other); N/A: not applicable



Table 2 below gives the number of times we observe children in childhood. Given the 10 years between censuses, we can expect a maximum of two census records during childhood. There were more children with only one record than two. There were several reasons for this: 1) if a child no longer fulfilled the criteria for a dependent child at the subsequent census, for example if they are 18 years or older; 2) if a child was older than 10 in the 1971 census, then there is no information from an earlier census; 3) if a child was younger than 11 in the 2001 census, then there would be no further information while they were still a child; 4) if the child migrated into or out of England and Wales before they took part in one of the 1971 to 2001 censuses; 5) if there was a failure to link their census information over time; or 6) if they were lost to the census for some other reason.

To understand whether children who had been in non-parental care fared better or worse in adulthood if they were in non-parental care earlier or later in childhood or both, we analysed the data for the 106,081 individuals in the ONS Longitudinal Study who participated in two censuses while they were dependent children.

Of these, 98.49 percent were living with a parent at both censuses, 0.97 percent moved from parental to non-parental care, 0.42 percent moved back to parental care and 0.12 percent were in non-parental care at both censuses.

**Table 2. Number (percent) of observations in parental and non-parental care**

Observation 1	Observation 2	N	%
Parental care	None	134,885	55.55
	Parental care	104,481	43.02
	Non-parental care	1,027	0.42
Non-parental care	None	1,877	0.77
	Parental care	447	0.18
	Non-parental care	126	0.05

Source: ONS Longitudinal Study

## Analysis

The ONS Longitudinal Study data enabled us to analyse the associations between experiences of non-parental care and longer-term well-being. The specific approach varied, depending on the outcomes. For the investigation of mortality, there was no loss-to-follow-up as all children could be linked to the annual ONS Death Registers for England and Wales. For the other health outcomes, we examined findings up to 10-, 20- and 30-years after the first occasion that a dependent child was observed in a census in order to get a longer-term perspective on potential continuities and changes in health. For all other adult outcomes, we report on findings in adulthood when aged 20-29, 30-39 and 40-49 years old. Tying the analysis to specific ages across the life provided a more nuanced understanding of life trajectories after being in care in childhood.

The number of individuals' data analysed varied for each outcome, with least data on self-assessments of health as these questions were only asked about in more recent censuses and, to a lesser extent, on women's fertility. Table 3 gives a summary of the number of children observed in

the ONS Longitudinal Study in the years 1971 to 2001. Overall, 98.6 percent of children were in parental care. Of the remaining 1.4 percent, there were 53 percent in kinship care, 33 percent in foster care and 14 percent in residential care. The table also shows that care placements changed over time, with a decline in the proportion of children placed in residential care, and a consequent increase in kinship and foster care.

**Table 3. Number of children by census year in each of the care situations**

Year	Parental care	Kinship care	Foster care	Residential care	Total
1971	134,347	595	479	399	135,820
1981	124,319	1,094	684	262	126,359
1991	114,008	490	660	186	115,344
2001	112,182	1,363	401	65	114,011
Total	484,856	3,542	2,224	912	491,534

Source: ONS Longitudinal Study

Taking a longitudinal perspective, table 4 shows the number of children followed up into adulthood. These numbers compare very favourably with the longitudinal sample sizes for the whole Longitudinal Study population (Lynch et al., 2015), where ~400,000 people in the study can be followed-up across two censuses and ~250,000 people in the study can be followed-up across four censuses. Excluding deaths and migrations out of England and Wales, ~90% of the sample are successfully linked from one census to the next (see Appendix table A1 for more detail on numbers followed up into adulthood).

However, the longitudinal samples do highlight that children in care are more prone to being lost to follow-up. The causes of loss to follow-up, after excluding those who are known to have died or migrated out of England and Wales, are mainly due to migration that has not been reported to their GP, not filling in the census or discrepancies in the date of birth given in one of the censuses.

**Table 4. Number of children and observations by care type in each of the adult follow-up samples**

	Age 20-29		Age 30-39		Age 40-49	
	N	Obs	N	Obs	N	Obs
Parental care	223,007	321,122	162,017	225,559	109,481	146,869
Kinship care	960	1,543	708	1,024	477	747
Foster care	763	1,093	541	810	309	472
Residential care	403	521	350	462	284	358
Total	225,133	324,279	163,616	227,855	110,551	148,446

Source: ONS Longitudinal Study

In the chapters that follow, we describe the samples of children in more detail, before showing the results of the statistical modelling. Where there are comments in the text about group differences in the descriptive tables, these have all been subject to statistical testing and shown to be reliable and unlikely to differ by chance.

The results chapters that follow all report on the associations between experiences of care and adult outcomes using a statistic known as the ‘average marginal effect’, which is calculated following regression models that include the care categories together with data on individual and family circumstances in childhood (described above).

For quantitative outcomes (age at first birth, number of children), the average marginal effect is found by predicting values of the outcome from the model estimates for all children assuming they had been in each of the care categories, leaving all other covariate values for the child unchanged. The average marginal effect of each care setting is found by taking the mean of the predicted values for each care category.

For categorical outcomes (e.g. living alone), average marginal effects give the average of the difference in the probability of the outcome if each child had been in each of the care categories, again leaving all other covariate values unchanged.

Finally, average marginal effects are reported as average relative hazard ratios for mortality. The hazard ratios give the risk of dying in the next year relative to the risk for someone with all variables set at baseline values. In our case, baseline values represent a girl who was born in the UK and was aged 0-5 and living with one or more parent at the time of the 1971 census.

By reporting average marginal effects, we can get closer to a pivotal understanding from non-experimental data than is usually possible. Indeed, it would be hard to understand how one could manipulate non-parental care in a randomised controlled study. But the logic of average marginal effects is like a matching study, since we estimate the associations for each individual four times – assuming them in parental care, kinship care, foster care and residential care, each time with all their other characteristics the same. Since the only difference between the four estimates is whether they were in one type of care or another, when we average over all individuals, the average marginal effect as a realistic estimate of the size of the differences in outcomes after having been in differing care situations.

We show the reliability of the estimates by reporting 95% confidence intervals (in brackets for tables and using error bars in figures). A 95% confidence interval shows the upper and lower values for the range that you can be 95% certain contains the true value for the population. In our case, the population is all children in England and Wales who were cared-for in the years 1971 to 2001.

In Chapters 4 and 5, we report on differences in outcomes split by gender, ethnicity and time. Because this involved a very large number of statistical tests, increasing the probability of finding differences purely by chance, we applied a correction to the criterion for a reliable difference.

Chapter 6 presents findings on outcomes for the children of kinship and foster parents. For these analyses, a different sample has been selected after selecting all biological dependent children living in families headed by two parents. We then identified whether there were any other children in the household, who could be related to them (kinship care) or not (foster care). Table 5 shows the sample sizes for these analyses.

**Table 5. Number (%) of dependent children with data at follow-ups in the children of carers study**

Carer's child	Age 20-29 year follow-up		Age 30-39 year follow-up		Age 40-49 year follow-up	
	N	%	N	%	N	%
No	209,479	98.76	154,052	98.58	103,131	98.55
Yes	2,630	1.24	2,221	1.42	1,513	1.45
Total	212,109	100.00	156,273	100.00	104,644	100.00

Source: ONS Longitudinal Study

## Chapter 3. Findings on adult outcomes for care-experienced children

### Education and work

Table 6 gives a snapshot of the relationships between different types of care in childhood and later socioeconomic indicators in adulthood. Across the board, adults raised by their parent(s) had the most favourable outcomes. Within children in care, we found a history of kinship care was associated with the most favourable outcomes, and those with experiences of residential care had the least favourable outcomes.

Non-parental care was associated with poorer qualification levels, especially for adults who had been in residential care. Averaged over the follow-up age groups only 14 percent achieved NVQ level 3 or higher ( $\geq$  A-level qualifications or equivalent) compared with 32 percent for the parental care group. Residential care was related to a less than 50 percent chance of being in employment at the time of subsequent censuses, and a high probability (16 percent) of being unemployed or out of the labour force for reasons other than education (29 percent). Being out of the labour force long-term was particularly high for this group, with 11 percent out of the labour force for 10 years or more. Consistent with this picture, those who had been in residential care had a more disadvantaged social class, with routine occupations the most likely social location (39 percent).

**Table 6. Description of education and work in adulthood averaged over all follow-ups, by care status in childhood**

	Parental care	Kinship care	Foster care	Residential care
< NVQ level 3 (%)	67.57	75.74	80.08	85.61
Employment status (%)				
Employed	76.30	68.59	59.12	48.10
Unemployed	6.50	10.47	11.16	15.51
In education	3.71	4.04	6.82	7.38
Other OLF	13.49	16.90	22.91	29.01
Long-term OLF (%)	3.39	4.74	7.84	11.17
Social class (%)				
Managerial/professional	31.57	22.80	18.10	15.60
Intermediate/technical	28.67	27.64	24.60	18.80
Routine occupations	29.53	35.48	39.96	38.90
Not known	10.23	14.08	17.34	26.60

Source: ONS Longitudinal Study

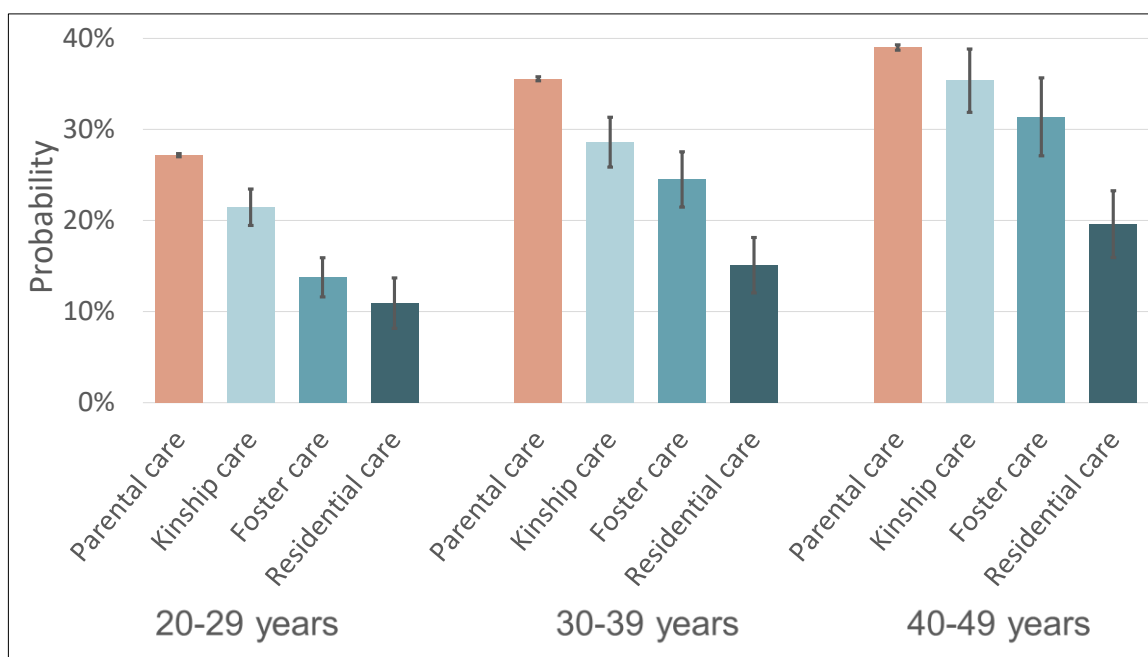
Experiences of kinship care were associated with the best outcomes amongst the three non-parental care groups. Sixty-nine percent were in work compared with 76 percent for those who had been in parental care, with unemployment and being out of the labour force (OLF) being the most likely alternatives. Their rate of long-term OLF was much lower than for residential care and only slightly

higher than for parental care. Yet even so, people who had been in kinship care were less likely to be in the most advantaged social classes compared with those in parental care in childhood.

There was a suggestion of a couple of anomalies for those with a history of foster care. Encouragingly, they had a higher probability of being in education than the parental care group. But their social class distribution was much like that for the residential care group, despite the other indicators being more favourable. However, this snapshot is a view of differences averaged over the adult life course. We have data at multiple time points, and table 6 may hide informative details about trajectories over time. We next modelled the relationship between care experiences and later outcomes split by their age at follow-up. A selection of findings is given below with full details in appendix table A2.

Figure 2 below shows the modelled association between type of care in childhood and having few qualifications (< NVQ level 3) at ages 20-29, 30-39 and 40-49 years. The graded inequalities across the care groups are clear. Moreover, there is no indication that the slope of the gradient reduced with age. However, more positively, the estimated probability of few qualifications did decrease with age, and there is a hint that those who had been in kinship or foster care were able to benefit from the opportunities for lifelong learning.

**Figure 2. Predicted probability of achieving NVQ level 3 qualifications or higher at adult follow-ups by type of care in childhood**



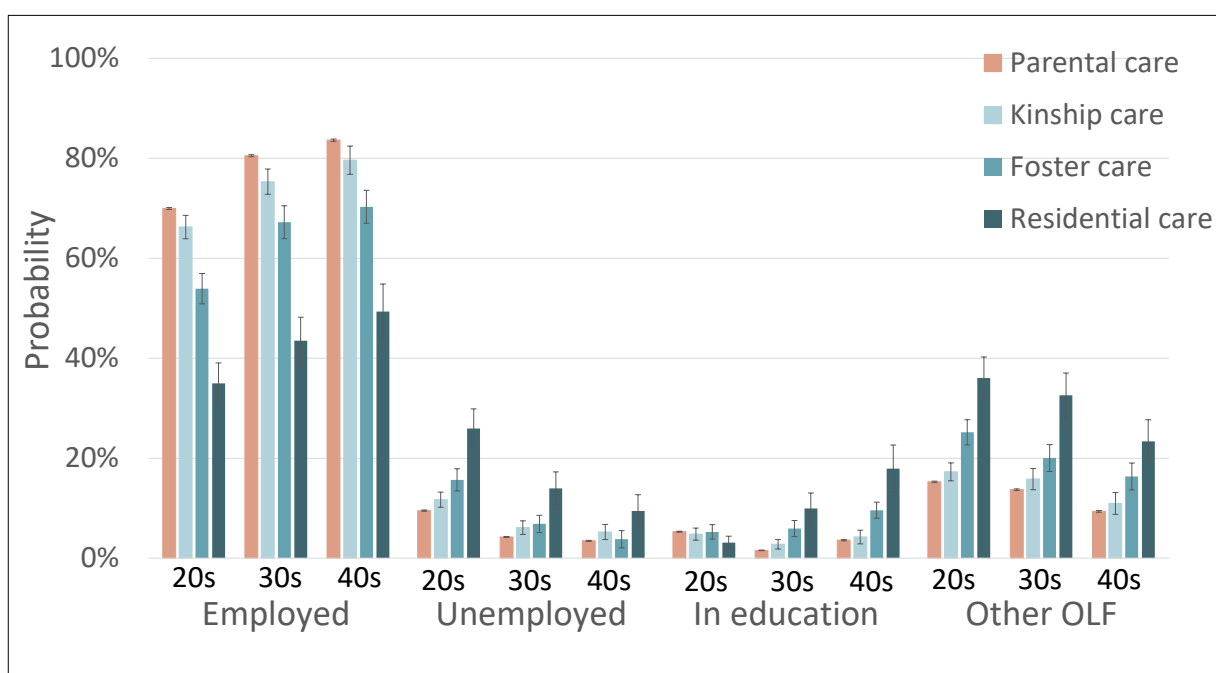
Source: ONS Longitudinal Study

Accounting for gender, age, childhood census year, ethnicity, country of birth, and childhood head of household's qualifications, marital status, social class and employment status

Moving on to employment, we report on the modelled relationship between being in different types of care and later employment status in figure 3. On the left-hand side of the figure are the results for employment in people's 20s, 30s and 40s. The findings mirror those for education. Graded inequalities across the care groups are evident at all three follow-ups. There is some evidence to

support the hypothesis that the inequalities reduced with age. Adults in their 20s were twice as likely to be employed if in the parental care group than if they had been in the residential care group (70 percent vs. 35 percent). There was little difference in their 30s, but by their 40s, this had reduced to a 70 percent increased advantage linked to parental care (83 percent employed vs. 49 percent). Examination of the detail shows that there was a larger increase in employment associated with residential care than that associated with foster care or kinship care.

**Figure 3. Predicted employment status at adult follow-ups by type of care in childhood**



Source: ONS Longitudinal Study. OLF: out of the labour force.

Unemployment has a different pattern across care types and over time (see 2<sup>nd</sup> panel from left). Levels of unemployment decline with age. This is consistent with the general literature on unemployment which typically affects the young or those close to retirement. People in their 40s are more protected from the swings in redundancies and closures across economic boom and bust years. The shape of the inequalities also changes with age: again, there is a non-linear gradient across care types with residential care associated with an excess risk of unemployment compared to that related to kinship and foster care. Yet, in contrast to employment, the chances of being unemployed are the same whether in parental, kinship or foster care.

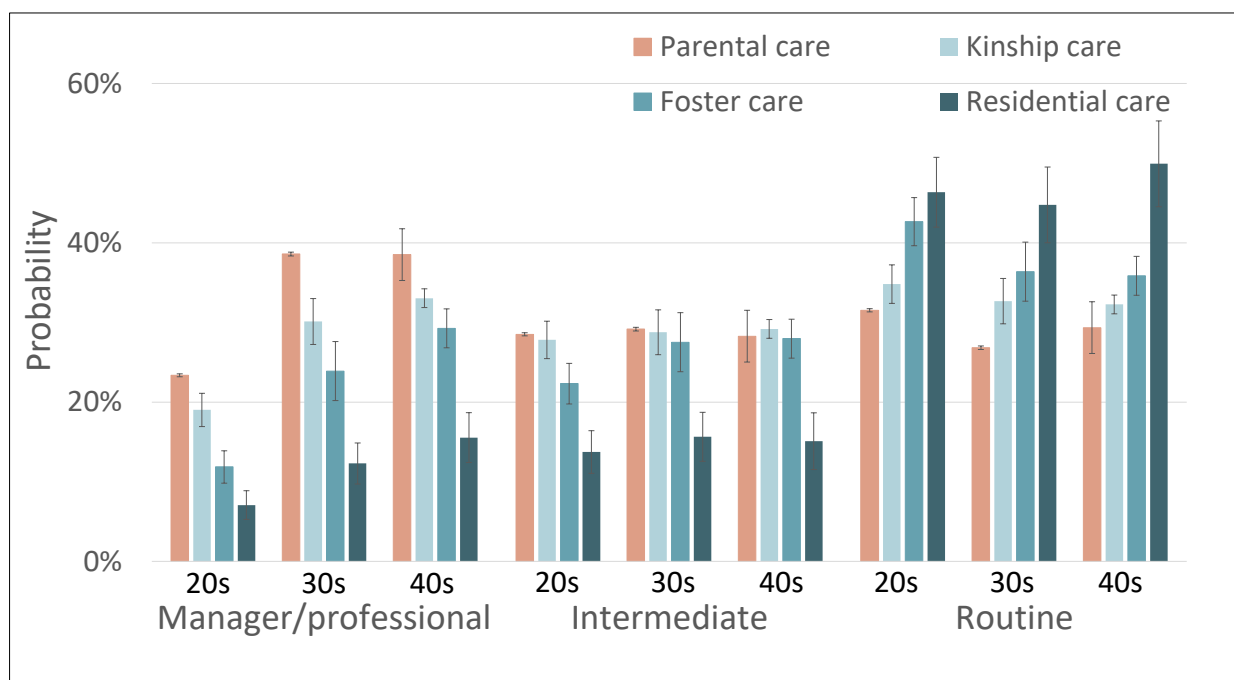
Yet another pattern is observed for the link between care type and returning to education in the 3<sup>rd</sup> panel. This time we see a shallow gradient across care types for the 20-29 year follow-up, with only residential care being associated with a lower probability of being in education than parental care. Thereafter, the gradient swaps round so that non-parental care is related to a greater chance of being in education. The gradient is also much steeper in the 40s follow-up than the 30s follow-up.

Finally, in the right-hand panel of figure 3, the findings for being out of the labour force or economically inactive are shown. In essence, the panel mirrors the findings for employment on the left-hand side. Non-parental care is associated with a greater probability of being out of the labour force, with the typical gradient from kinship care to residential care and a widening difference as individuals age from their 20s to 40s.

Being out of the labour force long-term shows the familiar pattern across care types. In line with evolving family commitments over the life course, long-term OLF increased with age. There were no differences in the probability of long-term OLF for parental and kinship care at any of the three follow-ups, but differences linked to foster and residential care were already evident at the 20-29 year follow-up. The probability of long-term OLF was roughly 10 percentage points higher for residential care than parental care at all follow-ups. By contrast, there were widening differences with age associated with foster care. This suggests that the reasons for long-term OLF are likely to differ between residential and foster care, perhaps pointing to a greater commitment to family care if fostered but more diverse reasons, including health problems, if placed in residential care.

The picture for social class differences across follow-ups by care type (figure 4) show the progression of people’s occupational careers with age. Achievement of a managerial or professional position was more common by the 30s for parental care but took longer into the 40s for non-parental care. At the other end of the spectrum, those in foster or kinship care moved out of routine occupations as they aged but there appeared to be no progression linked to residential care.

**Figure 4. Predicted social class at adult follow-ups by type of care in childhood**



Source: ONS Longitudinal Study  
Accounting for gender, age, childhood census year, ethnicity, country of birth, and childhood head of household’s qualifications, marital status, social class and employment status



## Relationships and living arrangements

Table 7 describes the distribution of different indicators of relationship and living arrangements in adulthood according to the type of care experienced in childhood. Again, this snapshot is a view of differences early in the adult life course, based on the first observation of children in one of the 1971-2001 censuses and the first occurrence that adult relationships and living arrangements were measured in the 1981-2011 censuses. Taken together, it shows that parental care was associated with the greatest chance of owning one's own home, with both overcrowding and living alone being uncommon, despite a low probability of having entered marriage. Parental care for women was linked to the highest age at first child, but to more children on average than non-parental care.

On the other hand, renting was the most prevalent housing situation (58 percent) associated with residential care, although with an 11 percent chance of being in less stable accommodation and the highest probability of living alone. Residential care was also related to both a propensity to marry and to divorce. Among women, this type of care was linked to early parenthood but with few children.

Foster care and kinship care outcomes in the domain of relationship and living arrangements lay between the two extremes of advantage and disadvantage.

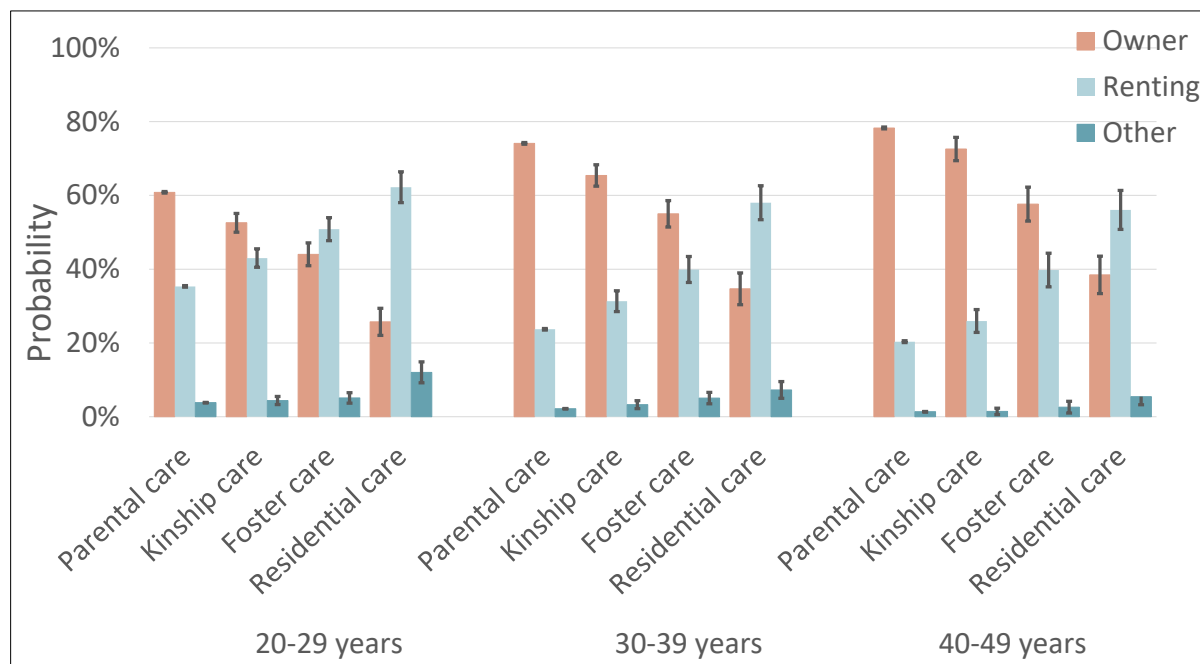
**Table 7. Description of relationships and living arrangements in adulthood, by care status in childhood**

	Parental care	Residential care	Non-relative care	Relative care
Housing tenure (%)				
Owner occupier	68.89	57.39	46.86	38.97
Renting	28.35	39.33	48.73	51.30
Other	2.77	3.27	4.42	9.72
Overcrowding (%)	2.73	6.01	5.42	4.98
Lives alone (%)	2.64	3.29	4.59	9.84
Marital status (%)				
Currently married	41.59	42.76	37.47	39.15
Previously married	6.09	7.45	9.05	9.99
Single	52.32	49.79	53.47	50.86
Number of children	1.02	0.60	0.81	0.47
Age at first child	25.26	23.52	22.48	22.49

Source: ONS Longitudinal Study

Consistent with the expected socioeconomic developmental trajectories by age group reported on above, parental care was associated with a reduction in the probability of living in rented or less optimal accommodation and an increase in home ownership with age (figure 5). This was repeated for non-parental care albeit with less advantaged trajectories. Residential care, in particular, was associated with the lowest chance of home ownership but on the other hand a trajectory out of the least secure 'other' category.

**Figure 5. Predicted housing tenure at adult follow-ups by type of care in childhood**



Source: ONS Longitudinal Study

Accounting for gender, age, childhood census year, ethnicity, country of birth, and childhood head of household’s qualifications, marital status, social class and employment status

Consistent with residential care’s negative impact on housing trajectories, it was also linked to overcrowding in the 20s and 30s with the excess risk resolved by the 40-49 year follow-up. An increased probability of living alone was evident at the 20-29 year and 40-49 year follow-ups, but not at the 30-39 year follow-up.

Housing arrangements associated with kinship care did not differ from parental care, with the exception of overcrowding being more likely for kinship care than for parental care.

Foster care was associated with a greater propensity to be living alone or in overcrowded accommodation than the tendency associated with parental care, although this had resolved in mid-adulthood at the 40-49 year follow-up.

Care type did not predict any differences in the predicted marriage rate at the 20-29 year follow-up. The noted differences in table 7 could be attributed to their differing background childhood demographic and socioeconomic characteristics. A marriage gradient emerged in the 30s, with some narrowing of the gradient evident in the 40s. However, marital breakdown was also seen to have increased with age (widowhood was very rare), so that the increased marriages in the non-parental groups might reflect second marriages instead. Low rates of marriage across adulthood among those with experience of residential care may have been due to less favourable economic circumstances or health reasons, as both were found to be more likely among this group.

The last outcomes we examined within this living arrangements and relationships domain were about women’s reproduction. By linking to birth registers, we could ascertain for each woman, the

number of live births they had and the age they were when they had their first child. We were hoping to also identify how many of their children were living with them as a proxy for how many children might have also been placed in non-parental care. Unfortunately, this proved beyond the scope of the data as there was too much uncertainty about the parentage of the children living with them.

We estimated the number of children women had and their age at the birth of their first child by the age 20-29, 30-39 and 40-49 follow-ups to understand how our results might fit with previous research that has had shorter follow-ups than we were able to achieve. By following up into their 40s, we could capture the total reproductive history of most women.

The estimated effect of different experiences of care in childhood on women’s reproductive history is shown in table 8. Looking at the 20-29 year follow-up, non-parental care was associated with being younger at the first birth than if they had been in parental care. There was a suggestion that residential care was particularly associated with teenage births since the mean age was less than 20 years. The mean age at first birth was estimated to be 21 years old if they had been in foster or kinship care, compared with 22 if in parental care. Despite premature parenthood’s association with all non-parental care types, kinship care was related to having fewer children on average than parental care, although foster care was linked with more children.

**Table 8. Modelled effect of care type on women’s reproduction**

		Parental care	Kinship care	Foster care	Residential care
<b>20-29</b>	Age at 1 <sup>st</sup> birth	21.80 (21.77, 21.83)	21.38 (21.02, 21.74)	20.61 (20.23, 20.99)	19.57 (18.56, 20.58)
	Number of children	0.42 (0.42, 0.43)	0.32 (0.27, 0.37)	0.48 (0.41, 0.55)	0.39 (0.26, 0.53)
<b>30-39</b>	Age at 1 <sup>st</sup> birth	25.91 (25.87, 25.95)	24.81 (24.20, 25.42)	23.92 (23.21, 24.64)	21.73 (20.01, 23.44)
	Number of children	1.37 (1.37, 1.38)	0.71 (0.62, 0.81)	0.94 (0.82, 1.07)	0.64 (0.45, 0.84)
<b>40-49</b>	Age at 1 <sup>st</sup> birth	26.96 (26.91, 27.01)	25.55 (24.74, 26.36)	24.08 (22.98, 25.17)	22.66 (20.59, 24.73)
	Number of children	1.76 (1.75, 1.77)	0.81 (0.68, 0.93)	1.04 (0.87, 1.22)	0.59 (0.37, 0.80)

Source: ONS Longitudinal Study

Accounting for gender, age, childhood census year, ethnicity, country of birth, and childhood head of household’s qualifications, marital status, social class and employment status

By their 30s, more women had started a family or added to their family. However, the same gradient was seen across care types: average age at first child was 26 for parental care, 25 for kinship care, 24 for foster care and 22 for residential care. Whilst parental care was associated with adding to women’s families (mean number of children increased from 0.4 at the age 20-29 follow-up to 1.4 at the 30-39 years follow-up), the same increase was not found for non-parental care. All non-parental care groups were related to fewer children by women’s 30s than parental care, but it was residential care that was now associated with fewest children, followed by kinship care, and then foster care.

At the end of women’s reproductive lives, we still see the care gradient in mean age at first birth, ranging from 27 for parental care to 23 for residential care. The greater number of children related to parental care, and the relative differences estimated for non-parental when followed up into their 30s is also noted for the 40-49 years follow-up, but with the magnitude of the differences magnified.

## Self-assessed morbidity

Table 9 shows the rates of poor self-rated health and limiting long-term illness 10-, 20- and 30-years after living in different care situations. The data for self-rated health show that i) the proportion in poor health increased markedly from the 10-year to the 30-year follow-up; ii) those in non-parental care had poorer health than those in parental care; iii) the rates of poor health increased across the care types from kinship care through to residential care; and iv) there was no evidence that self-rated health among those in non-parental care improved over time.

The table also shows the rates of limiting long-term illness, showing that i) the rates of limiting illness among those who had been in residential care remained stable over time at 32 percent; rates increased from the 10-year to the 30-year follow-up for all other groups; ii) those in non-parental care had more limiting illness than those in parental care; iii) the rates of limiting illness increased across the care types from kinship care through to residential care; and iv) there was no evidence that limiting illness among those in non-parental care improved over time.

**Table 9. Distribution of poor health at 10-, 20- and 30-year follow-up, by care status in childhood**

Outcome	Follow-up	Parental care	Kinship care	Foster care	Residential care
Self-rated health	10 year	9.4	14.0	21.7	29.3
	20 year	15.3	28.1	29.4	36.8
	30 year	20.2	26.4	32.2	42.4
Limiting long-term illness	10 year	5.3	9.6	12.6	31.7
	20 year	7.4	12.0	16.3	32.1
	30 year	10.8	15.8	21.4	31.9

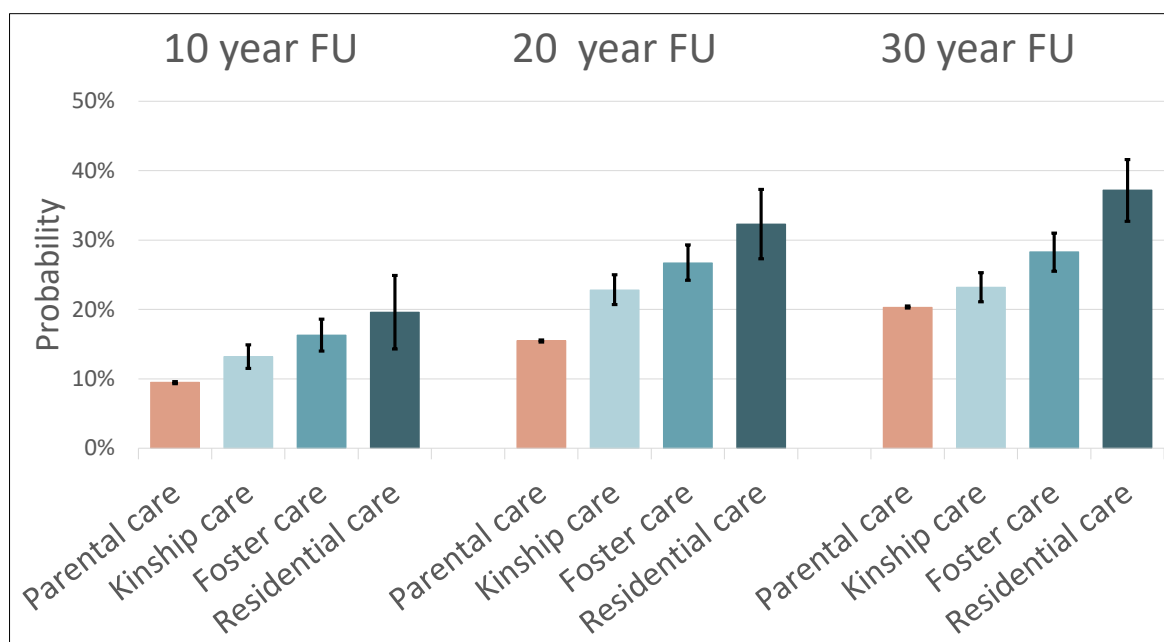
Source: ONS Longitudinal Study

These observations do not consider the other differences in childhood that might explain the higher rates of morbidity among those in non-parental care, including the higher probability that children with complex health conditions or disabilities are more likely to be in care. Figure 6 shows the results of modelling the association between type of care in childhood and the probability of poor self-rated health at follow-up.

The graph confirms that the comments made above still apply after taking account of the other differences in childhood. There is a gradient in the probability of poor self-rated health that the modelling attributes to the experience of care. But more than that, the gradient widened over time with a steeper slope across the care groups at the 20- and 30-year follow ups than the 10-year follow up.

The graph also indicates that only a small part of the differences across care groups was attributed to the childhood circumstances seen in table 1 for children in non-parental care. However, we had no data on the health conditions or disabilities of children in the study. If all the children in the study had been in parental care, the predicted probability of poor self-rated health remained the same on average as the observed probability in table 8, as we would expect. But if all children had been in non-parental care, the probability of poor self-rated health was estimated to be slightly lower than the observed probability for those who had actually been in kinship, foster or residential care. The differences can be attributed to the more favourable socioeconomic environment of children in parental care reducing the chances of poor self-rated health compared with those in non-parental care.

**Figure 6. Predicted probability of poor self-rated health at 10-, 20- and 30-year follow-ups, by care status in childhood**



Source: ONS Longitudinal Study  
Accounting for gender; age; childhood census year; childhood head of household’s qualifications, marital status, social class and employment status; and number of children in the household.

The results after modelling the association between experiences of different types of care and limiting long-term illness again show the increasing health inequalities linked to non-parental care. Furthermore, the models indicate more clearly than the raw data in table 8 that these inequalities worsened over time, increasing from the 10-year to the 20-year follow-up and then again from the 20-year to 30-year follow-up for children in kinship or foster care.

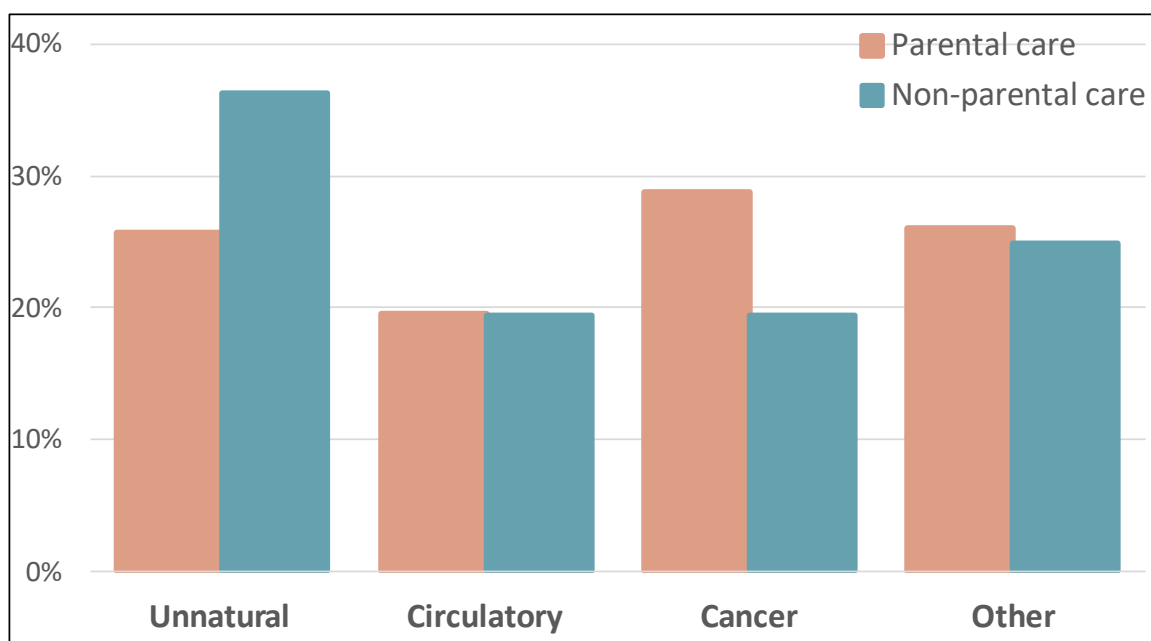
The stability of the association between residential care and limiting long-term illness remained and is likely to be due in part to pre-existing health conditions which resulted in children being placed in residential care rather than kinship or foster care. But even when we model hypothetical populations of all children living in each care type, we still find a large excess risk of limiting long-term illness associated with residential care.

## Mortality

We finally turn to the association between non-parental care and premature mortality. Because we are observing children who are only followed up for a maximum of 45 years (from 1971 to 2016, the last year that the Mortality Register was linked to the ONS Longitudinal Study at the time of analysis), the number of deaths is relatively small despite the size of the study. We therefore aggregated kinship, foster and residential care into one non-parental care group for analysis and reporting.

We first describe the causes of death for those in parental and non-parental care (see figure 7). Unlike children in parental care, people with a history of non-parental care were most likely to die prematurely from “Unnatural causes”. This category includes causes such as suicide, drug overdoses, alcoholism, car accidents, and assaults. In contrast, people who had been in parental care were most likely to die prematurely from cancer. The reason for the lower rates of cancer for those who had been in non-parental care are unclear.

**Figure 7. Cause of death by any care status**



Source: ONS Longitudinal Study

We then modelled the association of care experiences and premature all-cause mortality (Appendix table A3). The risk of premature mortality for the population of children in the 1971-2001 censuses (~25 per 1,000 children) was found to be 62 percent higher for the non-parental care group than the parental care group.

Several checks on the robustness of the findings were then carried out. First, we compared the mortality risk for children with experience of non-parental care with a socially disadvantaged comparison group, since we have already seen that children in non-parental care are living in more disadvantaged households and previous literature has found that their parents’ home is also more

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disadvantaged. The risk of premature mortality increased for the parental group, in line with removing the more socially advantaged from the analysis. The risk of premature mortality reduced to 43 percent higher for the non-parental care group compared with the disadvantaged parental care group, showing that even with a disadvantaged comparator population of children there still remained an excess risk associated with non-parental care.

We next explored whether the excess risk was confined to those who had been in residential care or a combined foster and kinship care group. The excess risk of premature death associated with residential care increased to 212 percent, while the risk of premature death for the kinship and foster care group reduced to 27 percent.

Finally, we removed anyone in the study who had died while still a child (i.e. < 18 years). The predicted risks were amplified but the general pattern of results remained the same with an increased risk (192 percent) associated with non-parental care. This last finding, together with the excess of unnatural deaths, suggests that it is unlikely that pre-existing physical health problems can account for all the risk from non-parental care in a population of children who survived to adulthood.

## Chapter 4. Unequal outcomes

### Gender

There was no evidence that the relationship between non-parental care and adult outcomes differed by gender once the correction for the large number of tests had been applied, although there was a suggestion of a few gender interactions before the correction was used. Average marginal effects are given in table A4 of the appendix, which agree with the first conclusion above that there were no gendered effects.

### Ethnicity

In this section we ask the question “Do the differences in health and social difficulties for adults who have been in non-parental care vary by ethnicity?” Table 10 gives the distribution of the health and social outcomes averaged over age 20 to 49 years at follow-up. There are clear distributional differences between the ethnicity groups, even among those who were in parental care. On average, the Black group fared least well, irrespective of their care in childhood. For the South Asian group, there was less consistency, with those who were in parental care doing better on some outcomes than the White group (e.g. qualifications and owning their home) and less well on others (e.g. overcrowding). There were also high rates on being out-of-the labour force, which taken together with what we know from other analyses (Platt, 2019, West and Pilgrim, 1995), is predominantly because Pakistani and Bangladeshi mothers are more likely to care for the home and their children. The same patterns were not always seen among those who experienced non-parental care: the South Asian group had fewer qualifications than the Black non-parental care group and the Black group were more likely to be in the most advantaged social class than the South Asian group.

**Table 10. Adult outcomes after parental care or non-parental care by ethnicity, averaged over follow-up age groups**

	Parental care			Non-parental care		
	White	Black	South Asian	White	Black	South Asian
Poor self-rated health (%)	15.72	19.22	14.56	27.89	27.59	27.79
Limiting long-term illness (%)	7.39	8.82	7.15	15.98	13.32	10.31
< NVQ 3 qualifications (%)	67.60	64.96	51.86	80.01	66.82	73.25
Long-term OLF (%)	3.26	3.88	3.98	6.78	6.54	5.54
Current employment status (%)						
In work	77.18	65.91	63.39	61.92	65.01	63.27
Unemployed	6.16	12.91	9.47	11.06	9.71	13.17
Education	3.57	4.70	6.93	5.94	6.32	4.79
Other OLF	13.10	16.47	20.21	21.08	18.96	18.76



Table 10. continued

	Parental care			Non-parental care		
	White	Black	South Asian	White	Black	South Asian
Social class (%)						
Managerial/prof	31.70	27.46	33.98	19.54	26.71	22.04
Intermediate	28.79	27.30	23.26	24.53	23.06	31.26
Routine	29.94	26.69	20.32	39.19	31.74	24.85
Unclassifiable	9.57	18.55	22.44	16.73	18.49	21.84
Housing tenure (%) <sup>1</sup>						
Owner-occupier	69.20	53.18	78.64	49.85	36.90	>76.25
Renting	28.09	44.03	18.25	45.42	56.72	>21.76
Other	2.71	2.79	3.10	4.73	6.38	<2.00
Overcrowding (%)	2.30	5.50	12.14	3.78	5.04	23.23
Living alone (%) <sup>1</sup>	2.45	3.82	2.27	4.82	7.90	<1.98
Marital status (%)						
Married	41.52	21.28	45.09	38.97	24.15	65.07
Divorced/widowed	6.12	3.73	3.29	8.96	5.42	3.39
Single	52.36	74.99	51.62	52.07	70.43	31.54
Mean number children	1.02	0.92	0.86	0.71	0.39	0.44
Mean age at 1 <sup>st</sup> child	25.33	24.10	25.43	22.91	21.98	24.75

<sup>1</sup> Cell counts < 10 are suppressed. Percentages are based on a count of 10 when cells are suppressed  
Source: ONS Longitudinal Study

The modelling results are reported in table A5 of the Appendix and show average marginal effects separately for each follow-up age group. That is, average marginal effects are the average difference between the predicted effect of non-parental care and the predicted effect of parental care within each ethnic group, given all their other childhood characteristics. Because there were so many tests for an interaction between ethnicity and care group, we applied an adjustment which made the significance value more stringent to prevent spurious findings being reported. In table A5, outcomes that show no ethnic differences at any of the follow-ups have been removed. These outcomes were self-rated health, limiting long-term illness, long-term OLF, overcrowding and marital status. Ethnic differences highlighted in bold text show at which follow-up the differences were observed and help to indicate whether the inequalities were enduring or were specific to a particular phase in adulthood.

Some comments on the omitted outcomes are still worth making. There was a tendency for White adults to be more likely to divorce if they had been in non-parental care. A previous study had reported that Black women who had been in non-parental care had fewer children than White women with the same childhood experience (Combs et al., 2018). We found that this difference could be attributed to independent associations with ethnicity and non-parental care and not to their interaction. In other words, all Black women had fewer children than White women, it had nothing to do with the type of care they had experienced. Similarly, there is an assumption that

Black mothers in non-parental care are most at risk of having children at a younger age. Again, this was not endorsed in our analysis. In fact, when a longer-term perspective was taken, we found that all ethnic minority mothers had children at a younger age independent of care in childhood. However, there may be a sub-group of ethnic minority women who had teenage pregnancies after being in non-parental care although the age 20-29 year follow-up findings did not support this suggestion.

Our working hypothesis was that more negative adult outcomes would be seen among the ethnic minority groups following non-parental care in childhood. In fact, the results showed a far more nuanced picture. First, moderation of the impact of non-parental care by ethnicity was almost exclusively found in the socioeconomic domain, or in downstream outcomes to socioeconomic position. That is, we can see educational differences appearing to play out on working lives, leading to employment and social class differences. These in turn are the likely drivers of differences in living conditions, specifically housing tenure and living alone.

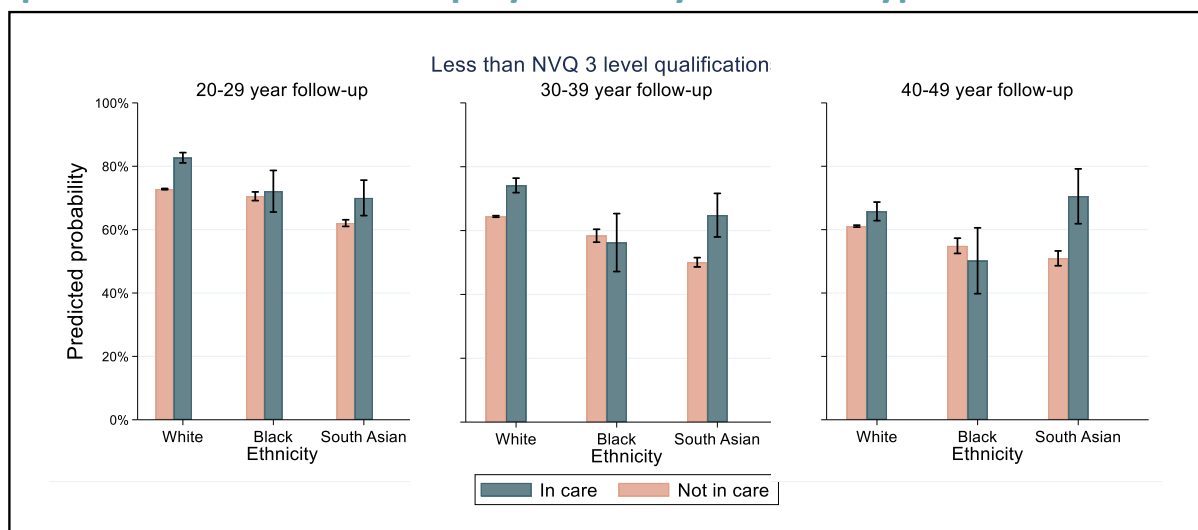
Second, it was far from the case that following time in non-parental care, more negative adult outcomes were predicted for ethnic minority groups compared with the White majority. For both the Black and South Asian groups, children in non-parental care were predicted to have more similar outcomes to their peers brought up in parental care. Instead, it was sometimes White children who appeared more likely to be affected by experiences of non-parental care.

For example, White adults in their 20s were more likely to be affected by experiences of non-parental care than minority children in terms of their qualifications (see figure 8): a predicted 10 percent increased probability of low qualifications associated with non-parental care among the White group compared with an eight percent increase among South Asians and a two percent increase among the Black group. Employment was also associated with non-parental care among the White group; again, a 10 percent lower probability than other White adults in their 20s. For the Black and South Asian groups, there was no difference associated with non-parental care. This is not to say that the minority groups in non-parental care were more likely to be employed, simply that ethnic inequalities affecting all minority people were linked to a lower probability of being employed.

Third, the relationship between non-parental care and ethnicity differed across the ethnic groups for some outcomes that we studied. For example, South Asian non-parental care-experienced individuals fared better than Black people who had been in non-parental care. For example, home ownership did not differ for South Asians by care group, but there was a 19 percent disparity predicted between Black 20-29 year olds who had been in care or not.

Fourth, taken over all outcomes, Black children in non-parental care had more similar outcomes to other Black children in most domains of adult functioning compared with the within-South Asian group differences in outcomes. The reason for the contrast between these two minority groups lies in the fact that the Black group in parental care fared more poorly in adulthood than the South Asian group in parental care, whereas for those in non-parental care the South Asian group fared more poorly in adulthood than the Black group.

**Figure 8. Predicted probability of achieving lower than NVQ level 3 qualifications at follow-up by ethnicity and care type**

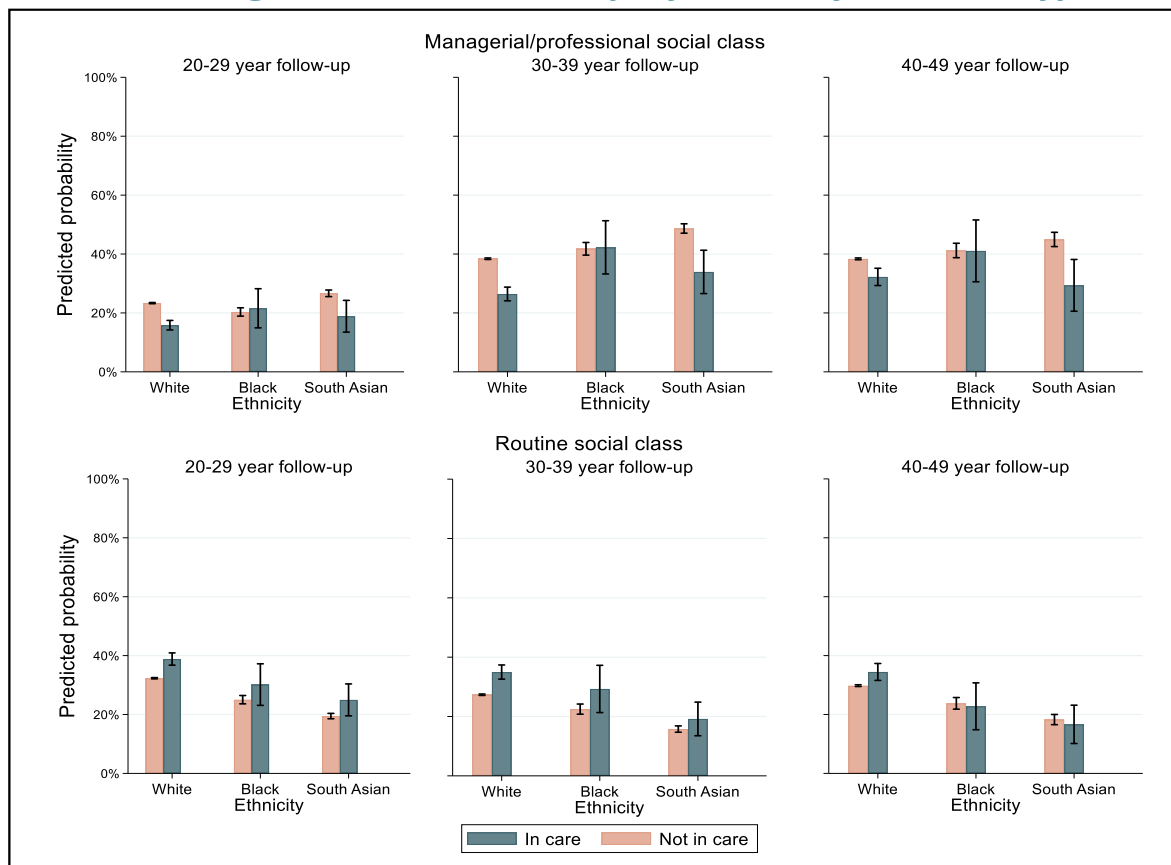


Source: ONS Longitudinal Study

Accounting for gender, age, childhood census year, country of birth, and childhood head of household’s qualifications, marital status, social class and employment status

Fifth and finally, findings differed across the lifespan from early to mid-adulthood as work and family lives evolved. Our findings show that following non-parental care Black young adults were more likely to return to further education, but that this was not a reflection of ‘bouncing-back’ but a common experience for Black adults regardless of their care in childhood. People tend to be upwardly mobile from their 20s to middle age. Non-parental care among White and South Asian adults was linked to a more disadvantaged social class than their same-ethnicity peers, but no social class differences associated with care type were predicted for Black adults; all Black adults were socially disadvantaged (see figure 9). But whereas there was a suggestion of upward social mobility for the White care-experienced group, this was not seen for the South Asian group.

**Figure 9. Social class: Predicted probability of being in the most and least advantaged class at follow-up by ethnicity and care type**



Source: ONS Longitudinal Study  
Accounting for gender, age, childhood census year, country of birth, and childhood head of household’s qualifications, marital status, social class and employment status

## Migration

Table 11 display the distribution of adult health and social, demographic and economic outcomes by care type and migration status. Only one percent of UK born children were in non-parental care, compared with three percent of children born outside the UK.

Across the board, UK born children who had been in non-parental care had poorer outcomes in adulthood, on average, than UK born children in parental care. Contrasting with this, 1<sup>st</sup> generation migrants to the UK who had been in non-parental care fared better on some outcomes than their 1<sup>st</sup> generation peer group who had grown up in parental care. For example, the migrants who had been in non-parental care were more likely to be married and less likely to get divorced.

**Table 11. Adult outcomes after parental care or non-parental care by migration status, averaged over follow-up age groups**

	Parental care		Non-parental care	
	UK born	Non-UK born	UK born	Non-UK born
	N=650,022	N=16,044	N=6,062	N=520
Poor self-rated health (%)	15.69	18.14	27.57	32.44
Limiting long-term illness (%)	7.40	7.71	15.50	12.50
< NVQ 3 qualification (%)	67.21	62.32	78.52	78.85
Long-term OLF (%)	3.27	4.23	6.75	6.21
Current employment status (%)				
In work	76.68	72.58	61.84	68.65
Unemployed	6.35	7.15	11.17	10.38
Education	3.66	4.80	5.94	4.23
Other	13.32	15.47	21.05	16.73
Social class (%)				
Managerial/prof	31.64	33.97	20.41	18.30
Intermediate	28.64	27.09	24.45	31.60
Routine	29.72	25.23	38.14	32.37
Unclassifiable	10.00	13.71	17.00	17.73
Housing tenure (%)				
Owner-occupier	69.21	69.25	50.00	65.05
Renting	28.07	27.68	45.36	32.23
Other	2.72	3.06	4.64	2.72
Overcrowding (%)	2.51	8.16	4.36	17.39
Living alone (%)	2.46	2.89	4.77	3.27
Marital status (%)				
Married	41.10	49.21	38.40	60.00
Divorced/widowed	6.01	5.48	8.76	3.46
Single	52.89	45.30	52.84	36.54
Mean number children	1.02	1.09	0.70	0.27
Mean age at 1 <sup>st</sup> child	25.31	25.46	22.92	24.43

Source: ONS Longitudinal Study

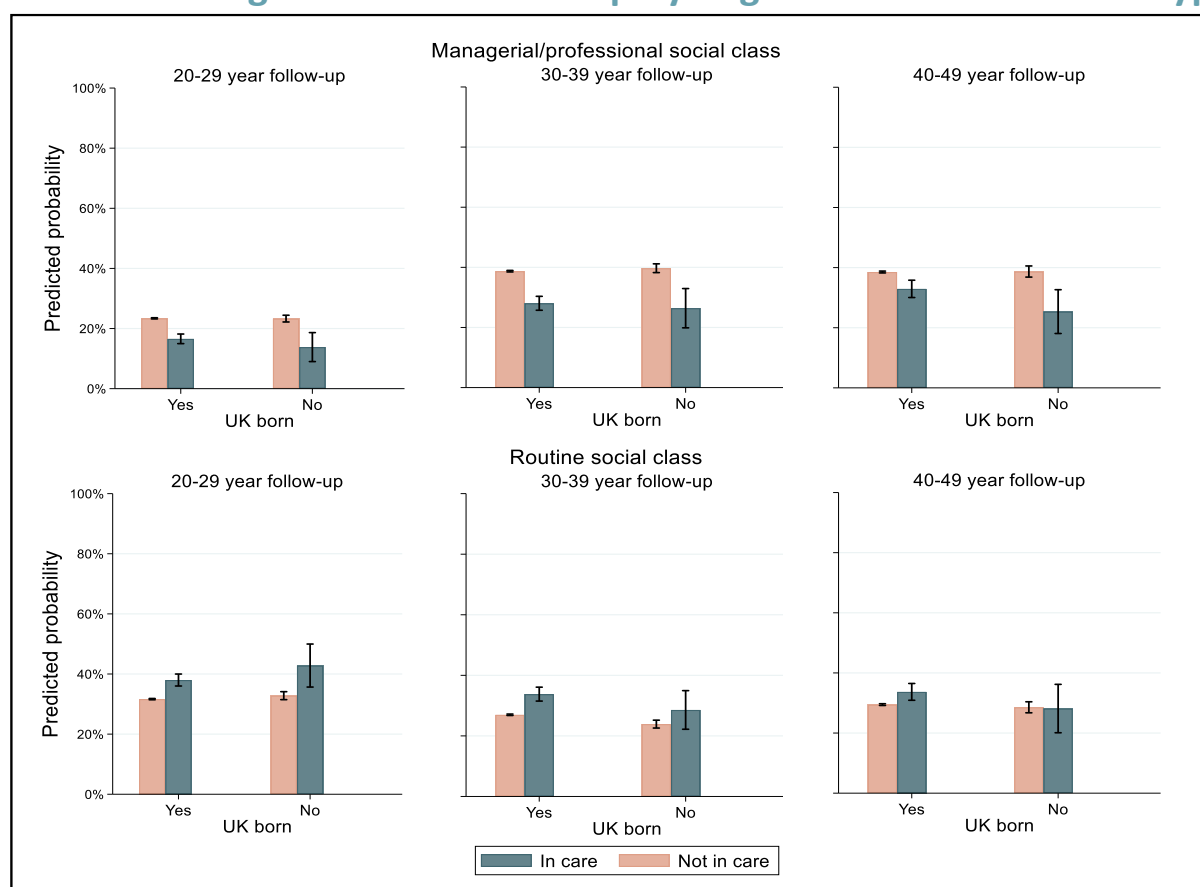
Table A6 in the appendix presents the average marginal effects for the models with a UK-born and non-parental care interaction term. Summarising the findings, results were broadly the same as those presented earlier by ethnicity but there were subtle differences unique to migration into the UK. These differences need to be interpreted in the light of the changing migration waves to the UK from 1971 to the present day.

There was no difference in the probability of poor qualifications associated with non-parental care (~9% increase) by UK-born or not at the 20-29 year and 30-39 year follow-ups. But at the 40-49 year follow-up, the difference for UK-born adults had reduced to 3 percent while the difference for migrants had increased to 17 percent.

There was little evidence that employment status for adults born outside the UK differed by care type apart from a suggestion that adults born outside the UK were predicted to have a lower probability of being in education if in non-parental care in childhood.

The association between non-parental care and social class differed by ethnicity at all three follow-ups. The association between non-parental care and social class only differed at the 40-49 year follow-up: UK-born adults were predicted to be in less advantaged social positions if previously in non-parental care. For adults born outside the UK, those previously in non-parental care were predicted to be in more advantaged social positions than their peers albeit with a lower probability of reaching the managerial/ professional social class (see figure 10).

**Figure 10. Social class: Predicted probability of being in the most and least advantaged class at follow-up by migration status and care type**



Source: ONS Longitudinal Study  
Accounting for gender, age, childhood census year, ethnicity, and childhood head of household's qualifications, marital status, social class and employment status

Ethnic minority groups had a lower probability of being owner-occupiers if in non-parental care while non UK-born young adults had similar chances of owning their home irrespective of care type. Care type differences by migration status were also observed for the relationship and fertility outcomes. Migrants to the UK in their 30s were predicted to be just as likely to be married but had a lower probability of divorce or widowhood if they had been in non-parental care. First generation migrant women were also predicted to have fewer children if they had been in non-parental care with the difference greater in magnitude than for UK-born women.

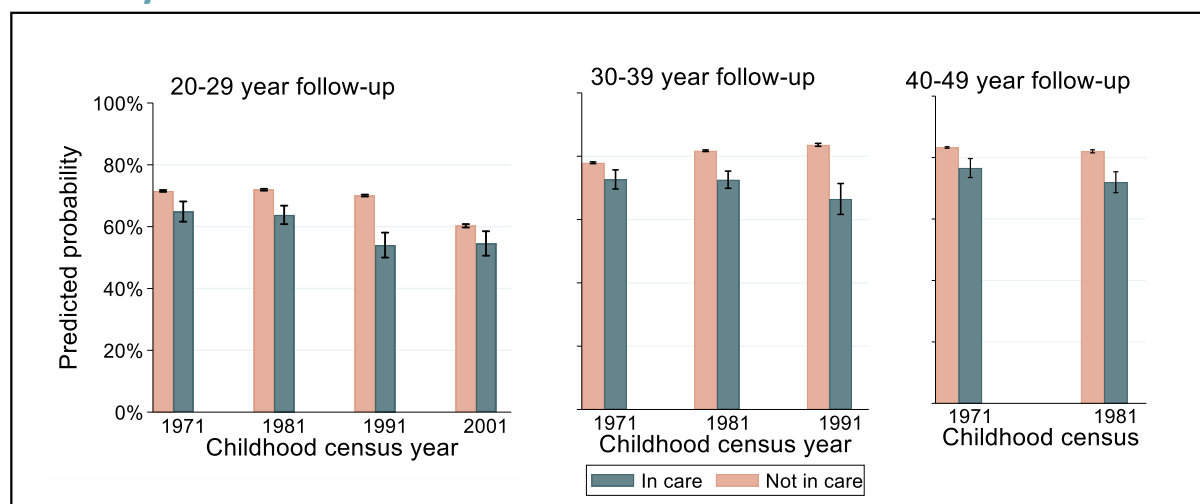
## Chapter 5. Changes over time

### Are things improving?

Our question was to ask if things have got better or worse over time. We found that in some domains, the situation was worse for children who had been in non-parental care most recently and in others, the situation improved for more recently observed children. The relevant domains were socioeconomic, health and, for women, children. Each is discussed in more detail below.

The association between non-parental care and employment status in adulthood varied by childhood census year. This is displayed in figures 11a (employment) and 11b (in education) with omitted statuses (unemployed and other out of the labour force) shown in Appendix figures 1 and 2, respectively. First, looking across all ages at follow-up within each panel, the differences in the probability of being in work or unemployed by childhood census for non-parental care experienced individuals versus not were the same across the follow-ups. For example, the same patterns are seen for the 1971 to 1991 censuses in people’s 20s and 30s, and similarly the same patterns are seen for the 1971 to 1981 censuses in people’s 30s and 40s. So, the findings indicate that the economic cycle from 1981 to 2011 that care experienced adults lived through are a likely explanation for the observed differences across childhood censuses.

**Figure 11a. Differences in employment in adulthood by childhood census year**



Source: ONS Longitudinal Study

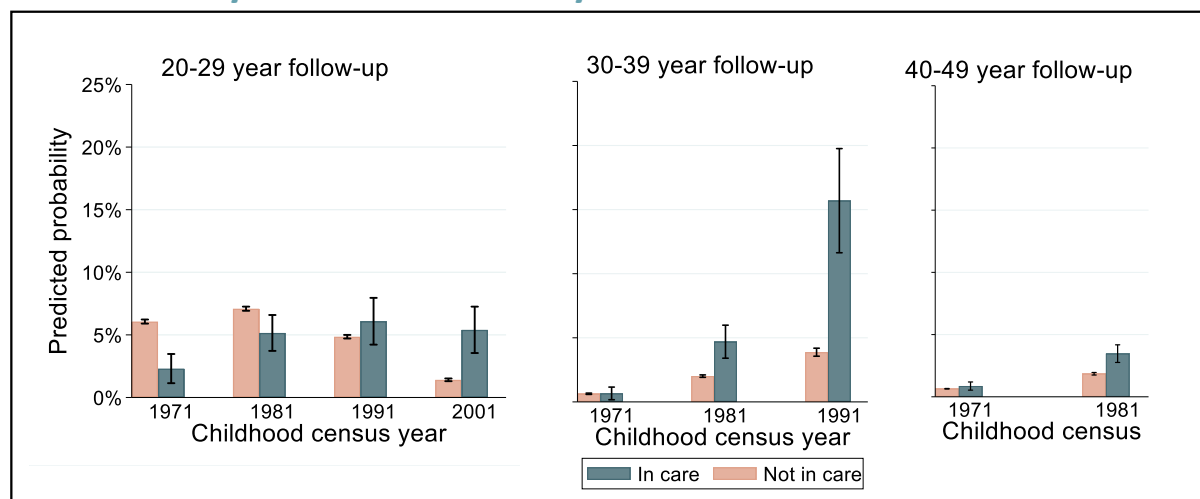
Accounting for gender, age, ethnicity, country of birth, and childhood head of household’s qualifications, marital status, social class and employment status

Second, the figure suggests a change between 2001 and 2011 (i.e. the 1991 and 2001 childhood census years), with growing care differences in employment rates up until the Great Recession, when employment reduced for 20 to 29 year-olds who had been in parental care, so that there was no longer any negative “non-parental care effect”. The impact of the Great Recession on social class

can also be seen for those in the 2001 childhood census: there were no differences by care histories in the probability of being in the most advantaged social class at the 20-29 year follow-up.

Third, consistent with the increase in qualifications seen in figure 3 when people were in their 30s and 40s, differences in being in education emerged in their 30s for children in the 1991 census, and again in their 40s for children in 1981 census. This means that care-experienced adults returning to education was only seen in 2011. The 1991 census was the first year when the expansion in higher education might be reflected in the numbers in education. The delay in having an impact on care-experienced adults might be a reflection of the increased support for care experienced students more recently. The Children and Young Persons Act 2008 recommended that care leavers starting a recognised higher education course be entitled to a minimum one-off bursary of £2,000 from their local authority. Some universities (such as our own institutions) now offer annual bursaries and year-round accommodation to those who have been in care.

**Figure 11b. Differences in probability of being in education in adulthood by childhood census year**



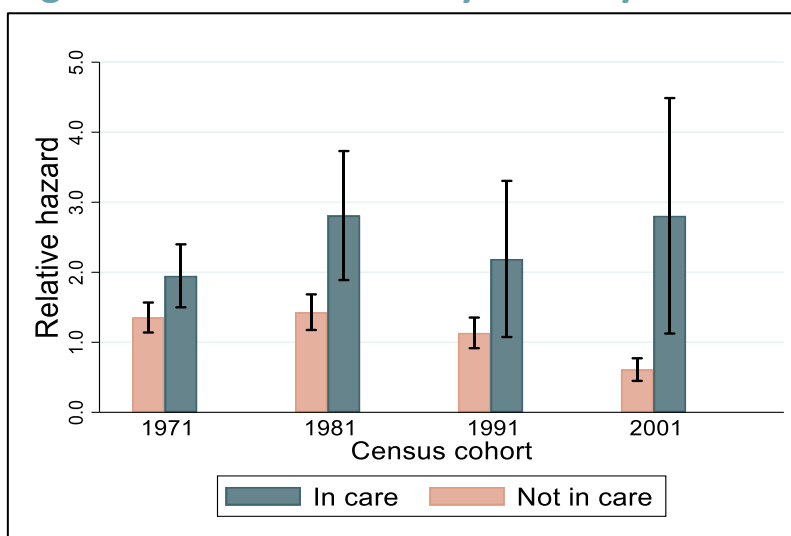
Source: ONS Longitudinal Study

Accounting for gender, age, ethnicity, country of birth, and childhood head of household’s qualifications, marital status, social class and employment status

Figure 12 displays the relative hazard for all-cause mortality among children in the 1971 to 2001 censuses. It illustrates how the risk of premature death attributable to parental care was unchanged across the thirty years from 1971 to 2001. But most disappointingly, the risk of premature death attributable to non-parental care has increased over time. The inequalities in largely preventable deaths have grown from a 30 percent excess risk of premature mortality in 1971 to a 310 percent excess in 2001.



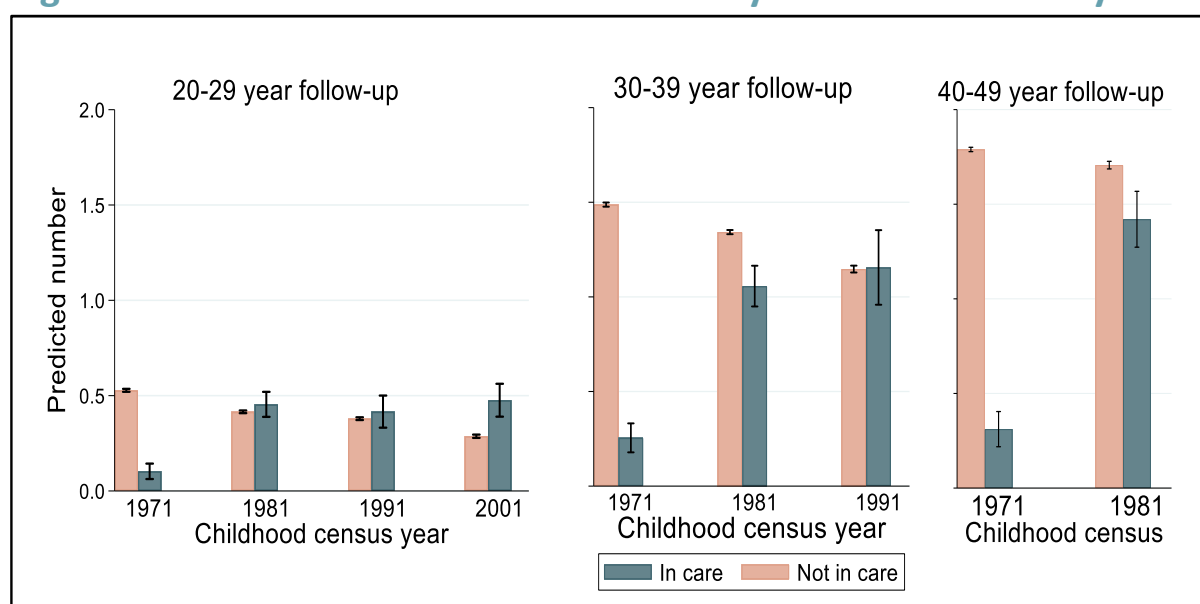
**Figure 12. Risk of death by census year in care**



Source: ONS Longitudinal Study. Accounts for gender, age and country of birth

The number of children born to women in parental and non-parental care is shown in figure 13. Some similarities but also some differences can be seen compared with the results above for employment status. There were widening differences between the parental and non-parental care groups in the 1971 census with age at follow-up. But as already seen in chapter 3, women who had been in non-parental care had fewer children. For the 20-29 year follow-up, the difference between care type disappeared for the 1981 and 1991 childhood censuses, before reversing so that women who had been in non-parental care had more children on average by their 20s. At the 30-39 year and 40-49 year follow-ups, the changing differentials over time were far more obvious than in the 20s.

**Figure 13. Predicted number of children by childhood census year**



Source: ONS Longitudinal Study

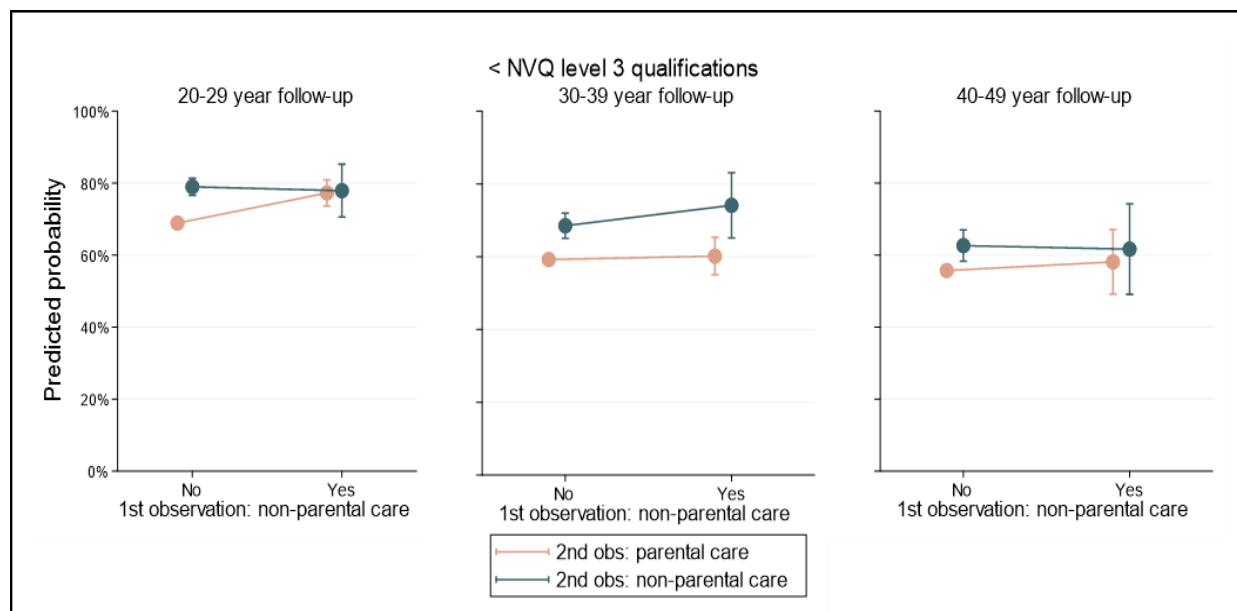
Accounting for gender, age, ethnicity, country of birth, and childhood head of household’s qualifications, marital status, social class and employment status

## Continuities and discontinuities in care experiences

Summarising the analysis findings (details in table A7 of the appendix), there was evidence of both continuity and change in the risk for adverse outcomes depending on when and how often children were observed in non-parental care.

The return to education and the achievement of further qualifications in the 30s and 40s that was noted in Chapter 3, exemplifies this and is illustrated in figure 14. The probability of lower qualification levels in their 20s was the same for all non-parental care experienced young adults, irrespective of when and how often the experiences occurred. By their 30s, those who had returned to live with parents had similar qualification levels as those who had been with parents at both censuses. Meanwhile, some of those who had been in non-parental care in later childhood, were gaining more qualifications, especially if they had been in parental care in early childhood. By their 40s, those who were in non-parental care at both childhood censuses had caught up and had the same probability of at least NVQ level 3 qualification levels as those in non-parental care in late childhood only.

**Figure 14. Predicted probability of achieving less than NVQ level 3 qualifications depending on observations of care setting in childhood**

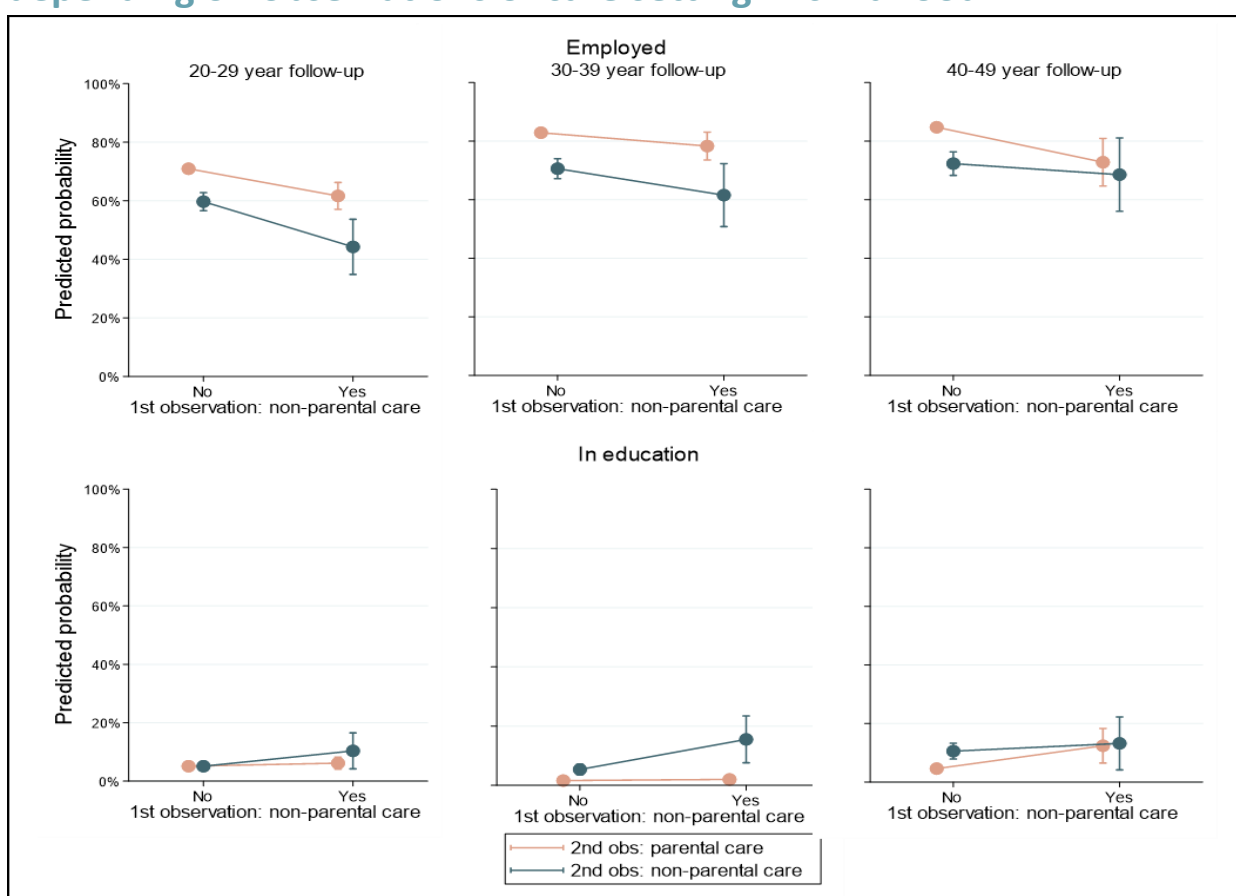


Source: ONS Longitudinal Study

Accounting for gender, age, childhood census year, ethnicity, country of birth, and childhood head of household’s qualifications, marital status, social class and employment status

Predicted rates of employment in the 20s were particularly low for those who were in non-parental care at both childhood censuses (see figure 15, next page). But by their 40s, this group were predicted to have a similar rate of employment as those observed in care at one census only, albeit still at lower rates than those in parental care only. But the return to education was first evident in their 30s for those who had been in non-parental care at two censuses, joined in their 40s by those only seen in non-parental care in early childhood. Parallel to this, upward social mobility and improving housing tenure was also found (table A7).

**Figure 15. Predicted probability of employment or being in education depending on observations of care setting in childhood**



Source: ONS Longitudinal Study

Accounting for gender, age, childhood census year, ethnicity, country of birth, and childhood head of household's qualifications, marital status, social class and employment status

## Chapter 6. Adult outcomes for caregivers' children

This chapter departs from the previous results chapters to give our findings on the effects of being a biological (or adopted) child in a family with one or more children in care living in the same household. Only nuclear families with 2 parents were included in the sample. Depending on the follow-up sample, between 1.2 and 1.4 percent of families had their own and other children in their care.

Families with a cared for child differed from families that only had their own children on a number of dimensions (see table 12). The caregivers' child was more likely to be Black or South Asian and born outside the UK or be a 2<sup>nd</sup> generation migrant when there was a child in care present. The parents were more socioeconomically disadvantaged with both the mother and father having lower qualifications, more commonly out of the labour force, and with a less privileged social class. Around two-thirds of the children in care were related to the carers and the remainder were fostered by the family.

Differences between the adult outcomes for carers' children and non-carers' children are highlighted in table 12. There were differences between the carers' children and the others on all outcomes except living alone. For example, averaged across the adult follow-ups, carer's children reported poorer health, being out of the labour force and for longer for reasons other than education, a higher likelihood of being in a more disadvantaged social class, lower rates of home ownership, higher rates of marriage and more children at an earlier age.

**Table 12. Description of health, socioeconomic and demographic outcomes in adulthood averaged over all follow-ups for carers' and non-carers' children**

	No cared-for child	≥ 1 cared for child
Poor self-rated health (%)	16.02	20.94
Limiting long-term illness (%)	7.41	9.43
< NVQ 3 qualification (%)	67.45	76.02
Long-term OLF (%)	3.43	5.55
Current employment status (%)		
In work	76.52	72.09
Unemployed	6.30	7.79
Education	3.80	3.86
Other	13.37	16.26
Social class (%)		
Managerial/prof	31.98	26.04
Intermediate	28.80	27.92
Routine	29.16	34.27
Unclassifiable	10.05	11.77
Housing tenure (%)		
Owner-occupier	69.59	63.13

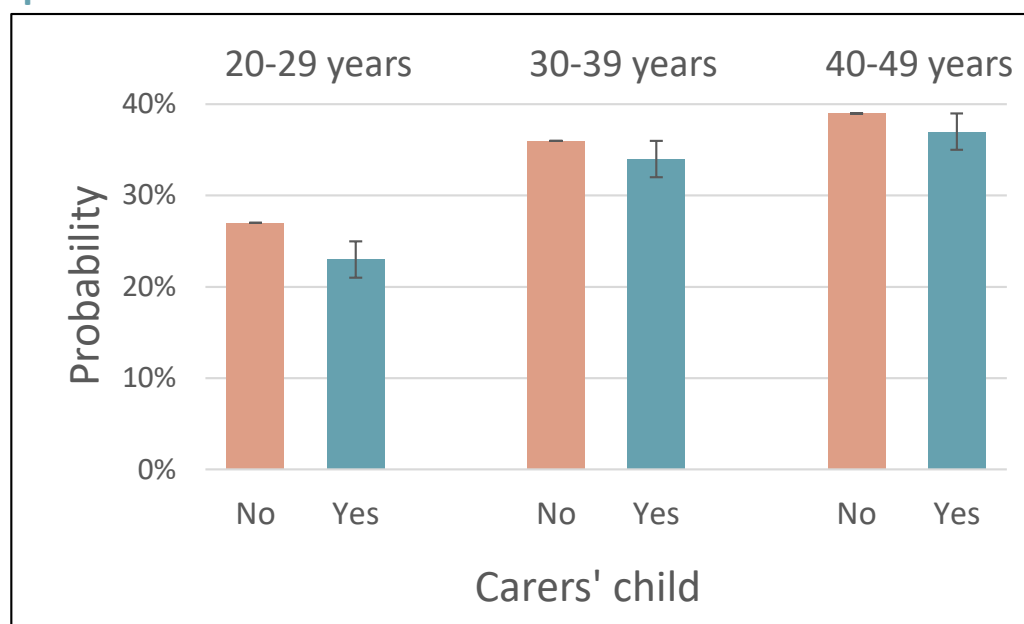
**Table 12. (continued)**

	No cared-for child	≥ 1 cared for child
Renting	27.64	33.76
Other	2.77	3.11
Overcrowding (%)	2.72	4.69
Living alone (%)	2.66	2.53
Marital status (%)		
Married	42.08	46.67
Widowed	0.21	0.37
Divorced	5.88	6.81
Single	51.82	46.15
Mean number children	1.02	1.28
Mean age at 1 <sup>st</sup> child	25.35	24.17

Source: ONS Longitudinal Study

When we analysed the data for each follow-up age group separately, some interesting developmental processes emerged (see appendix table A8 for full details). At the age 20-29 years follow-up, several differences in outcomes were seen suggesting a premature transition to adulthood. Carer’s children left school with fewer qualifications (figure 16), were less likely to own their own home, had married, and the women were younger at the birth of their first child. By their 30s, most of these differences had reduced in magnitude or disappeared and by the 40-49 years follow-up, no differences between carers’ children and non-carers’ children were observable.

**Figure 16. Predicted probability of achieving NVQ level 3+ qualifications for carers’ and non-carers’ children**



Source: ONS Longitudinal Study. Accounting for gender, age, country of birth, migration status children in the household, and head of household’s qualifications, marital status, social class and employment status

## Chapter 7. Conclusions and recommendations

The Looked-after Children Grown-up project set out to build a comprehensive picture of the health and social functioning of care experienced people in the first 30 years of their adult lives. It has produced robust evidence about the scale of inequalities, and their consistency over time, and by ethnicity, migration status and gender. This lays the foundations for developing policy, practice and further research and ultimately reducing inequalities for cared for children.

In this chapter, we discuss these findings and suggest recommendations to improve the experience and outcomes for children placed into care away from their parents, and the carers and families that support them. However, accounting for the full breath of this study's findings, the prevailing recommendation for policy makers, practitioners, and carers alike is that **placing children in the type of care that will benefit them the most in the long-term, where feasible, should be the default action.**

Our research clearly shows that child placement matters. There are stark gradients in the impact of different placements into care. The **inequalities within the cared-for population are as great as the inequalities between the cared-for population and the population in parental care.** There are highly consistent impacts on health, socioeconomic circumstances, family life and living arrangements depending on care arrangements with kinship care having the best outcomes, residential care the least, and foster care lying midway between the two extremes. These outcomes might be a consequence of their early life experiences that led to them being in care and/or could be consequential to their experience of the care system.

The European Convention on Human Rights 1998 and UK's Children Act 1989 underpin the legal framework that when non-parental care is required, priority be given to non-residential care, especially with the child's extended relatives and friends. Our research strongly supports the latter recommendation: **Kinship care was associated with better adult outcomes than foster care,** which in turn was related to better outcomes than residential care. **Promoting kinship care is a public health measure, not just a social welfare concern.** Placement decisions also need to take into account prior experiences and family circumstances that are related to adult outcomes and might counter the potential benefit from kinship care.

Research from the US where, like the UK, informal kinship care is common, suggests that there are few differences between formal and informal kinship families with the children having similar needs for health and social services (Strozier and Krisman, 2007, Stein et al., 2014). If kinship care is to become a more integral part of child welfare services, policies need to encompass all relatives and the children in their care, including those with informal arrangements.

### Key findings and recommendations from the research

#### *1. There are large inequalities in adulthood for the care experienced*

The **chances of cared for children enjoying the same social and economic advantages in adulthood as other children are deeply unequal.** Differences can be measured in terms of 10s of percentage points. This has long-term consequences, extending beyond mid-adulthood into older age since less privileged socioeconomic circumstances in mid-adulthood predict circumstances in retirement.

These **consequences not only affect their own individual well-being, but also have implications for society**. The need for public expenditure on health and welfare benefits such as the NHS, Universal Credit and Housing Benefit will be a life-long reality for many care leavers, coupled with a lower contribution to the public purse. Fewer qualifications and poor mental health are the most probable drivers of the inequalities and remedying these could in-turn narrow the inequalities we have observed.

Inequalities are not static and have changed over time. Worryingly, while there was some narrowing of inequalities, there were some very notable widening inequalities. **Falling rates of premature mortality in the general population have not been mirrored in the care experienced population. Rather, the opposite is the case**, with higher rates of premature mortality for care leavers.

Among children who survived to adulthood the risk of premature mortality from non-parental care was greater than the risk among our full sample. Together with an excess of unnatural deaths, this suggests that it is unlikely that pre-existing physical health problems account for all the risk associated with non-parental care.

Inequalities in employment and their ramifications for social class widened between 1981 and 2001 and then narrowed between 2001 and 2011. This suggests that the inequalities widen during benign economic periods and narrow during recessionary periods. The latest UK gross domestic product (GDP) estimates show the fastest monthly growth since July 2020 as Covid-19 restrictions affecting economic activity eased and the UK adjusted to leaving the European Union (Office for National Statistics, 2021). Although the future remains uncertain, this could herald further increases in inequalities for the cared for population.

Decisions about pregnancy are also known to be affected by the economic cycle (Schmitt, 2012), with less advantaged women choosing parenthood in preference to unemployment: women who had been in care disproportionately had more children after the Great Recession, reversing the reverse gradient seen 30 years earlier.

On a more positive note, **adults who have been in care are more likely to return to education and gain further qualifications**.

**Supporting care-leavers needs to remain a priority and not be waylaid by other priorities for national and local government that the Covid-19 pandemic has highlighted.**

### ***Recommendations for Policy***

#### ***1.1 Developing policies to reduce inequalities for cared for children needs joined-up working between government departments:***

- Like the Care Leaver Covenant, made by private, public and voluntary organisations, which promises to provide support for care leavers aged 16-25 to help them to live independently, there is a need for cross-government working for a reduction in inequalities to be achieved. Only by the Department for Education, Department for Work and Pensions, Department of Health and Social Care, and the Ministry of Housing, Communities and Local Authorities working together with private and voluntary organisations will inequalities narrow.



### *1.2 Statutory requirements for children in care need to be improved*

- Despite a legal duty to inform the Local Authority at least six weeks before an arrangement is due to start, it is known that private fostering often goes “under the wire”.
- With the rise in informal kinship care arrangements, these arrangements should also be registered with the Local Authority.
- This would allow informal caregivers and care experienced adults to access, when needed, support that is available to those known to the health, education, and social care systems because of a Care Order.

### *1.3 Using the evidence, including from this study, to assess the economic impact of care experience, and support interventions:*

- This research clearly demonstrates the long term consequences of having to be cared for in childhood. It provides an evidence base for policy makers and analysts to factor into any cost-benefit analyses of proposed interventions aimed at the downstream health and socioeconomic benefits for children in care.

### *1.4 Offering regular mental health MOTs to care leavers throughout their adult lives should become a core objective for local health authorities:*

- Ensuring care leavers’ mental health needs are recognised and they are offered the appropriate support.
- The most efficient way to do this would be to provide mental health MOTs administered by general practitioners in a similar way to the NHS Health Check scheme.

### *1.5 Extending support during the transition to adulthood should be rolled out for all care-leavers:*

- The Staying Put programme for former fostered children is currently being implemented but does not extend to residential care nor to older teenagers in care who have been placed in semi-independent and independent settings. The newer Staying Close arrangements aimed at enabling young people leaving residential care to live near their former care home are not yet implemented. Our evidence of the enduring negative legacy of being a child in care, going well beyond the transition to adulthood phase, should add impetus to speedily implementing these programmes nationwide and extending them to all care leavers.
- Current guidelines for transitions from child to adult health services should be expanded to well beyond the initial young adult period.

### *1.6 Monitoring the outcomes for care-leavers should be an explicit policy and a priority for all government sectors:*

- Inequalities between care-leavers and the general population are widespread and long-lasting, as are inequalities within cared-for groups. This should be monitored and acted on as a priority.
- Without the evidence from a monitoring system, there is no impetus to change policy. Monitoring the immediate outcomes of non-parental care in terms of school qualifications and initial destinations is insufficient to quantify what could potentially be permanent damage to life chances and well-being for this vulnerable group. A start would be to extend the existing annual Children Looked-after Return (SSDA903) data collection to at least age 25, in line with statutory support for care leavers continuing to age 25 following the DfE Children and Social Work Act (2017).

## **Recommendations for Research**

### **1.7 Building on this study, further research is needed to understand the mechanisms driving inequality:**

- This study has clearly demonstrated the long-term social, economic and health sequelae of being in care. While providing some illumination on how other factors affect these outcomes (e.g. the relationship between employment inequalities and the wider economy), further research is needed on these mechanisms.
- Specifically, the relative contribution of the effect of experiences prior to being placed in care and experiences of care to these inequalities is unknown. The knowledge base would be greatly improved with this information.
- Future research should explore those mechanisms driving the clear health inequalities and differences in mortality.
- Similarly, more work is needed to understand the implications of living through boom and bust years at different stages in the life-span of care-experienced people, and how this in turn relates to inequalities.
- Our finding of a return to education among those with experiences of care needs more in-depth analysis.

### **1.8 Erroneous inferences will be avoided if the study design includes sampling the population of children in parental care:**

- Research needs to draw on prospective research designs with appropriate comparison groups to fully benefit both children in care and care-leavers.

## **2. Ethnicity matters but not in the way that we thought**

The widespread assumption that there are more negative adult outcomes among ethnic minority groups following care in childhood was not supported by our study. Previous reports of the negative impact of care on Black people's lives appear to have been misattributed to the experience of care when it is a feature of all Black people's lives. We found no interaction between Black ethnic identity and experiences of care affecting adult outcomes: the disparities seen for children in care were the same as those pervasive in society for the wider Black population.

We also saw that an experience of care in childhood does not affect South Asian adults as much as Black people who have been in care. Compared to others, White children are more likely to be affected by experiences of being in care in the realm of qualifications and subsequent life chances.

Ethnic inequalities differ across the lifespan from early to mid-adulthood as work and family lives evolve. There are small signs of care gaps narrowing with adult age for the minorities, but also signs that some gaps widen.

**Lifecourse trajectories are not the same for all minority children in care. The fate of migrants to the UK who find themselves in care does not mirror that of ethnic minority groups.** Findings should not be extrapolated from one situation to the other.

There is little evidence of inequalities in employment for adults born outside the UK who had been in care. UK-born adults who have been in care are predicted to be in less advantaged social positions later. But for adults born outside the UK, those previously in care are predicted to be in more advantaged social positions than their peers, even though they have a lower probability of reaching the managerial and professional social classes.

First generation migrants who have been in care have more stable family lives compared to other care-experienced adults.

### ***Recommendations for Research***

#### ***2.1 Findings concerning ethnicity need to be presented in the context of broader ethnic disparities:***

- This study suggests that while ethnicity does matter when comparing adult outcomes for care experienced children, this disparity may be attributed to wider social inequality. We therefore recommend that research contextualises findings within the lens of general ethnic disparities.

#### ***2.2 An intersectional approach to research on the long-term impacts of care needs larger sample sizes***

- Replication is needed on the intersection between ethnicity and being in care and the specific needs of migrant children in care.
- Linkage to health and social data for research is already available in some countries of the UK (subject to strict ethical and safeguarding oversight), and slowly being made possible in the others. But research into the lives of cared for children will be immeasurably improved if linkage of routine data is speeded up.
- Greater access to routine data, exemplified in the Nordic countries, could help move research forward.

### ***3. Children of kinship and foster parents need support too***

Children of kinship and foster parents often make the transition to adulthood sooner than their peers. This is often measured by the achievement of the “big 5” transition milestones: leaving full-time education, entering paid employment, leaving the parental home to live independently, forming a committed relationship and parenthood (Shanahan, 2000), which children of kinship and foster parents were found to reach earlier in adulthood.

But they have a less successful transition: having poorer health, fewer qualifications, more unemployment, a less privileged social position, lower chance of owning their own home, and are more likely to divorce.

From our data, it appears that by mid-adulthood, any impact of an early transition disappears. By their 40s, no differences between carers’ children and non-carers’ children were seen. Other measures of outcomes in mid-adulthood might reveal longer term economic scarring from early achievement of transition milestones.

Supervising social workers provide both supervision and support to foster carers, and act as an intermediary between the fostering household and the cared for child's social worker. A notable omission in job specifications is to support the pre-existing children in a household when a child is placed with them.

### ***Recommendations for Policy***

#### ***3.1 Supporting foster parents to keep their children in education for longer should become part of the role of child protection services:***

- Social work education and training needs to include knowledge and skills development relevant to foster carers' own children.
- Part of the role of social workers should be to explore with foster carers what barriers may prevent their own children from staying in school, and what is prompting them to want to leave school and go out to work.

#### ***3.2 The role of a supervising social worker should be extended to supporting children of foster parents, especially during adolescence:***

- Explicit time to talk with and support adolescent children of foster parents should be built into the social worker's visits to the family.
- Fostering services need to provide caseload management that ensures that supervising social workers have the time to work directly with foster carers' children.

### ***Recommendations for Research***

#### ***3.3 A broader investigation of foster carers' households is warranted:***

- Several new areas of research are suggested by the findings.
- The processes leading to an earlier transition to adulthood for biological children need elucidating. Does the benefit of maturity or the challenge of sharing their home drive these processes?
- Does the lack of longer-term differences suggest that maturity is the main driver or is there longer-term scarring that was not revealed with our data?
- Do cared for children fare better or worse if placed with a kinship or foster parent with children of their own?

## Project outputs

### Articles

Murray, E., Lacey, R. E., Maughan, B., & Sacker, A. (2020). Non-parental care in childhood and health up to 30 years later: ONS Longitudinal Study 1971-2011. *European Journal of Public Health*, 30(6), 1121–1127. doi:<https://doi.org/10.1093/eurpub/ckaa113>

Murray, E. T., Lacey, R., Maughan, B., & Sacker, A. (2020). Association of childhood out-of-home care status with all-cause mortality up to 42-years later: Office of National Statistics Longitudinal Study. *BMC Public Health*, 20, 1-10.

Sacker, A., Lacey, R. E., Maughan, B., & Murray, E. T. (2021). Out-of-home care in childhood and socio-economic functioning in adulthood: ONS Longitudinal Study 1971-2011. SocArXiv. Retrieved from doi: <https://doi.org/10.31235/osf.io/f6b5x>

Sacker, A., Lacey, R. E., Maughan, B., & Murray, E. T. (2021). Out-of-home care in childhood and socio-economic functioning in adulthood: ONS Longitudinal Study 1971-2011. *Children and Youth Services Review*. Under review

Sacker, A., Lacey, R. E., Maughan, B., & Murray, E. T. (2021). Non-parental care in childhood and adult outcomes: double whammy for minority children? SocArXiv. Retrieved from doi: <https://doi.org/10.31235/osf.io/fg6cy>

Sacker, A., Lacey, R. E., Maughan, B., & Murray, E. T. (2021). Non-parental care in childhood and adult outcomes: double whammy for minority children? Submitted for publication

Sacker, A., Lacey, R. E., Maughan, B., & Murray, E. T. The long-term impacts of kinship and foster caring on carers' own children. In preparation.

### Conference presentations

Murray, E., Lacey, R. E., Maughan, B. & Sacker, A. (2018). The health and well-being of adults who had been in care up to 40 years earlier: are there differences by type of care. Presentation at Society for Longitudinal & Lifecourse Studies (SLLS), University of Bicocca, Milan; 9<sup>th</sup>-11<sup>th</sup> July 2018.

Murray, E., Lacey, R. E., Maughan, B. & Sacker, A. (2018). The health and well-being of adults who had been in care up to 40 years earlier: are there differences by type of care. Presentation at Social Medicine 62nd Annual Scientific Meeting, Glasgow, UK; 6th September 2018.

Murray, E., Lacey, R. E., Maughan, B. & Sacker, A. (2019). Non-Parental Care and Mortality: A 40-Year Follow-Up Using the ONS Longitudinal Study. Paper presented at the Society for Longitudinal and Life Course Studies Annual Conference, Potsdam, Germany; 25<sup>th</sup>-27<sup>th</sup> September 2019.

Sacker, A. (2019). Are Caregivers' Children Affected by Fostering? Long-Term Adult Outcomes. Paper presented at the Society for Longitudinal and Life Course Studies Annual Conference, Potsdam, Germany; 25<sup>th</sup>-27<sup>th</sup> September 2019.

Sacker, A., Murray, E. T., Lacey, R. E & Maughan, B., & (2021). Adult outcomes of being cared for in institutional or family settings, the Office of National Statistics Longitudinal Study. Paper presented

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at European Scientific Association on Residential and Family Care for Children and Adolescents (EUSARF) Conference XVI: The Perspective of the Child, Zurich, Switzerland; 1<sup>st</sup>-3<sup>rd</sup> September 2021.

### Invited talks

Sacker, A. (2019). The Looked-after Children Grown Up Project. Paper presented at the Department for Education Children's Social Care evidence and analysis seminar, London; 2<sup>nd</sup> October 2019.

Sacker, A. (2019). The Looked-after Children Grown up Project: Early findings on health and social outcomes in adulthood. Paper presented at the Thomas Coram Research Unit seminar, London; 19<sup>th</sup> November 2019.

Sacker, A. (2020) The Looked after Children Grown up Study: Adult outcomes after being cared for in an institutional or family setting. CoramBAAF Annual Health Conference: A New Decade, Challenges and Opportunities. Keynote Talk, online; 26<sup>th</sup> Nov 2020.

Sacker, A. (2021) The Looked after Children Grown up Study: Socioeconomic outcomes after being cared for in an institutional or family setting. Paper presented at the International Centre for Lifecourse Studies in Society and Health Quarterly Scientific Meeting, online, 21<sup>st</sup> January 2021.

Sacker, A. (2021). What type of care is best in the long-run? Looked-after children's lives after care. Paper presented at Wiltshire Family Justice Board conference, online, 13<sup>th</sup> May 2021.

### Blogs

Child of our time blog article: [We are failing those who spend their childhood in care. Here's how.](#) 20<sup>th</sup> July 2020.

### Podcasts

Sacker, A & Murray, E.T. The Lifecourse Podcast series: [A childhood in care: what consequences for health later on?](#) 2<sup>nd</sup> September 2020

### Infographics

[Looked after children grown up: using census data to explore later life outcomes of children in care](#) - Nuffield Family Justice Observatory interactive infographic

[Childhood in care - We are failing those who spend their childhood in care. Here's how.](#) UCL infographic and slide deck

### News media

[Observer news article](#) by Mark Townsend

[iNews article](#) by Alex Minnis

## Evidence submissions

[Independent Review of Children's Social Care](#)

[Spotlight Inquiry](#)

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# Appendix

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**Table A1. Sample sizes for missing data patterns at different ages in adulthood by childhood census year**

20-29 years	X	X	X		X		
30-39 years	X	X		X		X	
40-49 years	X		X	X			X
1971 census	86,467	9,227	6,606	6,713	6,151	1,380	1,567
1981 census	7,135	37,926	941	818	5,448	5,714	304
1991 census	n/a	7,022	n/a	n/a	47,808	1,214	n/a
2001 census	n/a	n/a	n/a	n/a	10,402	n/a	n/a

Source: ONS Longitudinal Study

Note: Children observed in the 1991 census would be in their 40s in 2021 or later and cannot be represented in the 40-49 years follow-up sample; children observed in the 2001 census would be in their 30s in 2021 or later and cannot be represented in the 30-39 nor 40-49 years follow-up samples

Table A2. Average marginal effects for outcomes regressed on type of care

	Parental care	Kinship care	Foster care	Residential care
Age 20-29 year follow-up				
Self-rated health	0.10 (0.09, 0.10)	0.13 (0.12, 0.15)	0.16 (0.14, 0.19)	0.20 (0.14, 0.25)
Limiting long-term illness	0.05 (0.05, 0.06)	0.07 (0.06, 0.09)	0.11 (0.09, 0.13)	0.25 (0.19, 0.32)
< 18-year qualifications	0.73 (0.73, 0.73)	0.79 (0.77, 0.81)	0.86 (0.84, 0.88)	0.89 (0.86, 0.92)
Employment status				
Employed	0.70 (0.70, 0.70)	0.66 (0.64, 0.13)	0.54 (0.51, 0.18)	0.35 (0.31, 0.04)
Unemployed	0.10 (0.09, 0.10)	0.12 (0.10, 0.13)	0.16 (0.13, 0.18)	0.26 (0.22, 0.30)
In education	0.05 (0.05, 0.05)	0.05 (0.04, 0.06)	0.05 (0.04, 0.07)	0.03 (0.02, 0.04)
Other OLF	0.15 (0.15, 0.15)	0.17 (0.15, 0.19)	0.25 (0.23, 0.28)	0.36 (0.32, 0.40)
Social class				
Managerial/professional	0.23 (0.23, 0.24)	0.19 (0.17, 0.30)	0.12 (0.10, 0.25)	0.07 (0.05, 0.02)
Intermediate/technical	0.29 (0.28, 0.29)	0.28 (0.25, 0.30)	0.22 (0.20, 0.25)	0.14 (0.11, 0.16)
Routine occupations	0.32 (0.31, 0.32)	0.35 (0.32, 0.37)	0.43 (0.40, 0.46)	0.46 (0.42, 0.51)
Not known	0.17 (0.16, 0.17)	0.18 (0.16, 0.20)	0.23 (0.21, 0.26)	0.33 (0.29, 0.37)
Long-term OLF	0.02 (0.02, 0.02)	0.03 (0.02, 0.04)	0.05 (0.03, 0.06)	0.10 (0.07, 0.13)
Housing tenure				
Owner occupier	0.61 (0.61, 0.61)	0.53 (0.50, 0.55)	0.44 (0.41, 0.47)	0.26 (0.22, 0.29)
Renting	0.35 (0.35, 0.36)	0.43 (0.41, 0.46)	0.51 (0.48, 0.54)	0.62 (0.58, 0.66)
Other	0.04 (0.04, 0.04)	0.04 (0.03, 0.05)	0.05 (0.04, 0.07)	0.12 (0.09, 0.15)
Overcrowding	0.03 (0.03, 0.03)	0.04 (0.03, 0.05)	0.05 (0.04, 0.07)	0.09 (0.06, 0.12)
Lives alone	0.04 (0.04, 0.04)	0.05 (0.04, 0.06)	0.06 (0.05, 0.08)	0.10 (0.08, 0.12)
Marital status				
Currently married	0.20 (0.20, 0.21)	0.24 (0.22, 0.26)	0.22 (0.20, 0.25)	0.23 (0.20, 0.25)
Previously married	0.01 (0.01, 0.01)	0.02 (0.01, 0.02)	0.03 (0.02, 0.04)	0.03 (0.02, 0.04)
Single	0.78 (0.78, 0.78)	0.74 (0.72, 0.76)	0.75 (0.72, 0.77)	0.74 (0.71, 0.77)
Number of children	0.42 (0.42, 0.43)	0.32 (0.27, 0.37)	0.48 (0.41, 0.55)	0.39 (0.26, 0.53)
Age at first child	21.80 (1.77, 21.83)	21.38 (21.02, 21.74)	20.61 (20.23, 20.99)	19.57 (18.56, 20.58)
Age 30-39 year follow-up				
Self-rated health	0.16 (0.15, 0.16)	0.23 (0.21, 0.25)	0.27 (0.24, 0.29)	0.32 (0.27, 0.37)
Limiting long-term illness	0.07 (0.07, 0.08)	0.10 (0.08, 0.11)	0.13 (0.11, 0.15)	0.26 (0.21, 0.30)
< 18-year qualifications	0.64 (0.64, 0.65)	0.71 (0.69, 0.74)	0.75 (0.72, 0.79)	0.85 (0.82, 0.88)
Employment status				
Employed	0.81 (0.80, 0.81)	0.75 (0.73, 0.78)	0.67 (0.64, 0.71)	0.43 (0.39, 0.48)
Unemployed	0.04 (0.04, 0.04)	0.06 (0.05, 0.07)	0.07 (0.05, 0.09)	0.14 (0.11, 0.17)
In education	0.02 (0.01, 0.02)	0.03 (0.02, 0.04)	0.06 (0.04, 0.08)	0.10 (0.07, 0.13)
Other OLF	0.14 (0.14, 0.14)	0.16 (0.14, 0.18)	0.20 (0.17, 0.23)	0.33 (0.28, 0.37)
Social class				
Managerial/professional	0.39 (0.38, 0.39)	0.30 (0.27, 0.33)	0.24 (0.21, 0.27)	0.12 (0.10, 0.15)
Intermediate/technical	0.29 (0.29, 0.29)	0.29 (0.26, 0.32)	0.28 (0.24, 0.31)	0.16 (0.13, 0.19)
Routine occupations	0.27 (0.27, 0.27)	0.33 (0.30, 0.36)	0.36 (0.33, 0.40)	0.45 (0.40, 0.50)
Not known	0.05 (0.05, 0.06)	0.08 (0.07, 0.10)	0.12 (0.10, 0.14)	0.27 (0.23, 0.32)
Long-term OLF	0.04 (0.04, 0.04)	0.05 (0.03, 0.06)	0.07 (0.06, 0.09)	0.13 (0.10, 0.16)
Housing tenure				
Owner occupier	0.74 (0.74, 0.74)	0.65 (0.62, 0.68)	0.55 (0.51, 0.59)	0.35 (0.30, 0.39)
Renting	0.24 (0.24, 0.24)	0.31 (0.28, 0.34)	0.40 (0.36, 0.43)	0.58 (0.53, 0.63)
Other	0.02 (0.02, 0.02)	0.03 (0.02, 0.04)	0.05 (0.04, 0.07)	0.07 (0.05, 0.10)
Overcrowding	0.03 (0.03, 0.03)	0.04 (0.03, 0.05)	0.05 (0.04, 0.06)	0.07 (0.05, 0.10)

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	Parental care	Kinship care	Foster care	Residential care
Lives alone	0.02 (0.02, 0.02)	0.02 (0.01, 0.03)	0.05 (0.03, 0.06)	0.05 (0.03, 0.06)
Marital status				
Currently married	0.57 (0.56, 0.57)	0.54 (0.51, 0.57)	0.49 (0.45, 0.53)	0.36 (0.32, 0.40)
Previously married	0.08 (0.07, 0.08)	0.09 (0.07, 0.10)	0.11 (0.08, 0.13)	0.11 (0.08, 0.13)
Single	0.36 (0.36, 0.36)	0.38 (0.35, 0.41)	0.40 (0.37, 0.44)	0.53 (0.49, 0.58)
Number of children	1.37 (1.37, 1.38)	0.71 (0.62, 0.81)	0.94 (0.82, 1.07)	0.64 (0.45, 0.84)
Age at first child	25.91 (27.87, 21.95)	24.81 (24.20, 25.42)	23.92 (23.21 24.64)	21.73 (20.01, 23.44)
Age 40-49 year follow-up				
Self-rated health	0.20 (0.20, 0.21)	0.23 (0.21, 0.25)	0.28 (0.26, 0.31)	0.37 (0.33, 0.42)
Limiting long-term illness	0.11 (0.11, 0.11)	0.13 (0.11, 0.14)	0.18 (0.16, 0.21)	0.27 (0.23, 0.31)
< 18-year qualifications	0.61 (0.61, 0.61)	0.65 (0.61, 0.68)	0.69 (0.64, 0.73)	0.80 (0.77, 0.84)
Employment status				
Employed	0.84 (0.83, 0.84)	0.80 (0.77, 0.82)	0.70 (0.66, 0.74)	0.49 (0.44, 0.55)
Unemployed	0.03 (0.03, 0.04)	0.05 (0.04, 0.07)	0.04 (0.02, 0.05)	0.09 (0.06, 0.13)
In education	0.04 (0.03, 0.04)	0.04 (0.03, 0.06)	0.10 (0.07, 0.12)	0.18 (0.13, 0.23)
Other OLF	0.09 (0.09, 0.10)	0.11 (0.09, 0.13)	0.16 (0.13, 0.20)	0.23 (0.19, 0.28)
Social class				
Managerial/professional	0.39 (0.38, 0.39)	0.33 (0.30, 0.36)	0.29 (0.25, 0.34)	0.16 (0.12, 0.19)
Intermediate/technical	0.28 (0.28, 0.29)	0.29 (0.26, 0.33)	0.28 (0.24, 0.32)	0.15 (0.12, 0.19)
Routine occupations	0.29 (0.29, 0.30)	0.32 (0.29, 0.36)	0.36 (0.31, 0.40)	0.50 (0.45, 0.55)
Not known	0.04 (0.04, 0.04)	0.06 (0.04, 0.07)	0.07 (0.05, 0.09)	0.19 (0.15, 0.24)
Long-term OLF	0.05 (0.05, 0.05)	0.05 (0.04, 0.07)	0.11 (0.08, 0.13)	0.14 (0.10, 0.18)
Housing tenure				
Owner occupier	0.78 (0.78, 0.79)	0.73 (0.69, 0.76)	0.58 (0.53, 0.62)	0.38 (0.33, 0.44)
Renting	0.20 (0.20, 0.21)	0.26 (0.23, 0.29)	0.40 (0.35, 0.44)	0.56 (0.51, 0.61)
Other	0.01 (0.01, 0.01)	0.01 (0.01, 0.02)	0.03 (0.01, 0.04)	0.05 (0.03, 0.08)
Overcrowding	0.02 (0.01, 0.02)	0.03 (0.02, 0.04)	0.01 (0.01, 0.02)	0.01 (0.00, 0.03)
Lives alone	0.00 (0.00, 0.00)	0.01 (0.00, 0.01)	0.01 (0.00, 0.03)	0.05 (0.02, 0.07)
Marital status				
Currently married	0.65 (0.65, 0.65)	0.62 (0.59, 0.66)	0.56 (0.52, 0.61)	0.48 (0.43, 0.54)
Previously married	0.14 (0.14, 0.14)	0.17 (0.14, 0.20)	0.20 (0.16, 0.23)	0.18 (0.13, 0.22)
Single	0.21 (0.21, 0.21)	0.21 (0.18, 0.24)	0.24 (0.20, 0.28)	0.34 (0.29, 0.39)
Number of children	1.76 (1.75, 1.77)	0.81 (0.68, 0.93)	1.04 (0.87, 1.22)	0.59 (0.37, 0.80)
Age at first child	26.96 (26.91, 27.01)	25.55 (24.74, 26.36)	24.08 (22.98, 25.17)	22.66 (20.59, 24.73)

Source: ONS Longitudinal Study

**Table A3. Predicted excess probability of premature all-cause mortality for people in non-parental care in childhood**

Full sample	Disadvantaged non-care group	Residential care group	Non-residential care group	Deaths after leaving care
66% (54%, 73%)	43% (34%, 49%)	212% (167%, 243%)	27% (15%, 35%)	192% (151%, 219%)

Source: ONS Longitudinal Study

Note: 95% confidence intervals in brackets

**Table A4. Average marginal effects for outcomes regressed on gender and non-parental care groupings**

	Age 20-29 years		Age 30-39 years		Age 40-49 years	
	Men	Women	Men	Women	Men	Women
< 18-year qualifications	0.10 (0.07, 0.12)	0.08 (0.06, 0.10)	0.09 (0.07, 0.12)	0.08 (0.06, 0.11)	0.09 (0.07, 0.12)	0.08 (0.06, 0.11)
Employment status						
Employed	-0.07 (-0.09, -0.04)	-0.11 (-0.13, -0.08)	-0.10 (-0.12, -0.07)	-0.08 (-0.11, -0.05)	-0.09 (-0.12, -0.06)	-0.06 (-0.09, -0.03)
Unemployed	0.06 (0.04, 0.08)	0.02 (0.00, 0.03)	0.03 (0.01, 0.05)	0.01 (0.00, 0.03)	0.03 (0.01, 0.04)	0.00 (-0.01, 0.01)
In education	-0.01 (-0.02, 0.01)	0.00 (-0.01, 0.01)	0.03 (0.01, 0.04)	0.03 (0.02, 0.04)	0.03 (0.01, 0.05)	0.02 (0.01, 0.04)
Out of the labour force	0.02 (0.00, 0.03)	0.09 (0.06, 0.11)	0.04 (0.02, 0.06)	0.04 (0.01, 0.07)	0.04 (0.02, 0.06)	0.04 (0.01, 0.06)
Social class						
Managerial/professional	-0.07 (-0.09, -0.04)	-0.08 (-0.10, -0.06)	-0.13 (-0.16, -0.10)	-0.10 (-0.12, -0.07)	-0.13 (-0.16, -0.10)	-0.10 (-0.12, -0.07)
Intermediate/technical	-0.03 (-0.05, 0.00)	-0.03 (-0.06, -0.01)	0.01 (-0.02, 0.04)	-0.03 (-0.06, 0.00)	0.01 (-0.02, 0.04)	-0.03 (-0.06, 0.00)
Routine occupations	0.08 (0.05, 0.11)	0.05 (0.03, 0.08)	0.08 (0.05, 0.11)	0.07 (0.04, 0.10)	0.08 (0.05, 0.11)	0.07 (0.04, 0.10)
Not known	0.01 (-0.01, 0.03)	0.06 (0.04, 0.09)	0.04 (0.02, 0.05)	0.06 (0.04, 0.08)	0.04 (0.02, 0.05)	0.06 (0.04, 0.08)
Long-term OLF	0.00 (0.00, 0.01)	0.02 (0.01, 0.03)	0.02 (0.01, 0.03)	0.02 (0.01, 0.04)	0.02 (0.01, 0.03)	0.02 (0.01, 0.04)
Housing tenure						
Owner occupier	-0.10 (-0.13, -0.08)	-0.13 (-0.16, -0.10)	-0.15 (-0.18, -0.12)	-0.12 (-0.15, -0.09)	0.02 (-0.12, 0.00)	0.02 (-0.09, 0.00)
Renting	0.08 (0.06, 0.11)	0.13 (0.11, 0.16)	0.12 (0.09, 0.15)	0.11 (0.08, 0.14)	0.02 (0.15, 0.00)	0.01 (0.14, 0.00)
Other	0.02 (0.01, 0.03)	0.00 (-0.01, 0.01)	0.03 (0.01, 0.04)	0.01 (0.00, 0.02)	0.01 (0.04, 0.00)	0.00 (0.02, 0.00)
Overcrowding	0.01 (0.00, 0.02)	0.02 (0.01, 0.03)	0.02 (0.01, 0.03)	0.01 (0.00, 0.02)	0.02 (0.01, 0.03)	0.01 (0.00, 0.02)
Lives alone	0.03 (0.01, 0.04)	0.00 (-0.01, 0.01)	0.02 (0.00, 0.03)	0.01 (0.00, 0.02)	0.02 (0.00, 0.03)	0.01 (0.00, 0.02)
Marital status						
Currently married	0.03 (0.01, 0.04)	0.03 (0.01, 0.05)	-0.04 (-0.07, 0.00)	-0.06 (-0.09, -0.03)	-0.04 (-0.07, 0.00)	-0.06 (-0.09, -0.03)
Previously married	0.00 (0.00, 0.01)	0.02 (0.01, 0.02)	0.01 (-0.01, 0.02)	0.03 (0.01, 0.05)	0.01 (-0.01, 0.02)	0.03 (0.01, 0.05)
Single	-0.03 (-0.05, -0.01)	-0.05 (-0.07, -0.03)	0.03 (0.00, 0.06)	0.03 (0.00, 0.06)	0.03 (0.00, 0.06)	0.03 (0.00, 0.06)

Source: ONS Longitudinal Study



**Table A5. Average marginal effects for outcomes regressed on ethnicity and non-parental care groupings**

	Age 20-29 years			Age 30-39 years			Age 40-49 years		
	White	Black	South Asian	White	Black	South Asian	White	Black	South Asian
< 18-year qualifications	<b>0.10</b> (0.08, 0.11)	<b>0.02</b> (-0.05, 0.08)	<b>0.08</b> (0.02, 0.13)	<b>0.09</b> (0.07, 0.11)	<b>-0.03</b> (-0.12, 0.06)	<b>0.15</b> (0.08, 0.22)	<b>0.04</b> (0.01, 0.07)	<b>-0.05</b> (-0.15, 0.05)	<b>0.07</b> (0.05, 0.10)
Employment status									
Employed	<b>-0.10</b> (-0.12, -0.08)	<b>0.05</b> (-0.02, 0.12)	<b>0.01</b> (-0.06, 0.08)	-0.09 (-0.11, -0.07)	0.04 (-0.03, 0.10)	-0.06 (-0.13, 0.01)	-0.08 (-0.11, -0.05)	0.01 (-0.07, 0.08)	-0.08 (-0.17, 0.00)
Unemployed	<b>0.04</b> (0.03, 0.06)	<b>-0.06</b> (-0.10, -0.01)	<b>0.05</b> (0.00, 0.10)	0.02 (0.01, 0.03)	-0.04 (-0.07, 0.00)	0.02 (-0.01, 0.06)	0.01 (0.00, 0.03)	-0.01 (-0.05, 0.02)	0.02 (-0.02, 0.06)
In education	<b>0.00</b> (-0.01, 0.01)	<b>-0.01</b> (-0.05, 0.03)	<b>-0.06</b> (-0.09, -0.02)	0.03 (0.02, 0.04)	0.02 (-0.01, 0.06)	0.02 (-0.01, 0.05)	0.03 (0.01, 0.04)	0.02 (-0.03, 0.06)	0.02 (-0.02, 0.06)
Out of the labour force	<b>0.06</b> (0.04, 0.07)	<b>0.02</b> (-0.04, 0.07)	<b>0.00</b> (-0.05, 0.05)	0.04 (0.02, 0.06)	-0.02 (-0.07, 0.03)	0.01 (-0.05, 0.08)	0.04 (0.02, 0.06)	-0.01 (-0.06, 0.04)	0.04 (-0.03, 0.12)
Social class									
Managerial/professional	<b>-0.07</b> (-0.09, -0.06)	<b>0.01</b> (-0.06, 0.08)	<b>-0.08</b> (-0.13, -0.02)	<b>-0.11</b> (-0.14, -0.09)	<b>0.01</b> (-0.08, 0.10)	<b>-0.15</b> (-0.22, -0.07)	<b>-0.06</b> (-0.09, -0.03)	<b>-0.01</b> (-0.11, 0.09)	<b>-0.16</b> (-0.25, -0.07)
Intermediate/technical	<b>-0.03</b> (-0.05, -0.01)	<b>-0.01</b> (-0.08, 0.07)	<b>-0.01</b> (-0.07, 0.04)	<b>-0.01</b> (-0.03, 0.02)	<b>-0.07</b> (-0.15, 0.00)	<b>0.07</b> (0.00, 0.14)	<b>-0.01</b> (-0.04, 0.01)	<b>0.03</b> (-0.08, 0.13)	<b>0.16</b> (0.07, 0.26)
Routine occupations	<b>0.07</b> (0.04, 0.09)	<b>0.06</b> (-0.02, 0.13)	<b>0.05</b> (0.00, 0.11)	<b>0.07</b> (0.05, 0.10)	<b>0.06</b> (-0.01, 0.14)	<b>0.04</b> (-0.02, 0.09)	<b>0.05</b> (0.02, 0.08)	<b>0.00</b> (-0.09, 0.08)	<b>-0.02</b> (-0.08, 0.05)
Not known	<b>0.04</b> (0.02, 0.06)	<b>-0.06</b> (-0.11, 0.00)	<b>0.04</b> (-0.03, 0.10)	<b>0.05</b> (0.03, 0.06)	<b>0.00</b> (-0.04, 0.05)	<b>0.04</b> (-0.01, 0.09)	<b>0.03</b> (0.01, 0.04)	<b>-0.01</b> (-0.05, 0.03)	<b>0.01</b> (-0.04, 0.06)
Housing tenure									
Owner occupier	<b>-0.12</b> (-0.14, -0.10)	<b>-0.19</b> (-0.26, -0.11)	<b>-0.01</b> (-0.06, 0.04)	-0.13 (-0.16, -0.11)	-0.09 (-0.19, 0.00)	-0.03 (-0.08, 0.02)	-0.12 (-0.15, -0.09)	-0.04 (-0.14, 0.05)	-0.05 (-0.12, 0.03)
Renting	<b>0.11</b> (0.09, 0.13)	<b>0.15</b> (0.07, 0.23)	<b>0.03</b> (-0.02, 0.08)	0.12 (0.09, 0.14)	0.06 (-0.03, 0.15)	0.04 (-0.01, 0.09)	0.11 (0.08, 0.14)	0.05 (-0.04, 0.15)	0.05 (-0.02, 0.12)
Other	<b>0.01</b> (0.00, 0.02)	<b>0.04</b> (0.00, 0.08)	<b>-0.02</b> (-0.04, -0.01)	0.02 (0.01, 0.03)	0.04 (0.00, 0.08)	-0.01 (-0.02, 0.01)	0.01 (0.00, 0.01)	-0.01 (-0.03, 0.01)	-0.01 (-0.02, 0.01)
Lives alone	0.02 (0.01, 0.03)	0.03 (-0.01, 0.07)	-0.02 (-0.04, 0.00)	<b>0.02</b> (0.01, 0.02)	<b>0.04</b> (-0.01, 0.08)	<b>-0.01</b> (-0.01, -0.01)	<b>0.01</b> (0.00, 0.01)	<b>0.00</b> (-0.01, 0.01)	<b>0.00</b> (0.00, 0.00)

Source: ONS Longitudinal Study

**Table A6. Average marginal effects for social, demographic, economic and health outcomes regressed on UK-born and non-parental care grouping interaction models**

	Age 20-29 years		Age 30-39 years		Age 40-49 years	
	UK-born	Non-UK born	UK-born	Non-UK born	UK-born	Non-UK born
Self-rated health	0.07 (0.05, 0.09)	0.05 (-0.03, 0.13)	0.09 (0.06, 0.11)	0.10 (0.02, 0.17)	0.07 (0.05, 0.10)	0.08 (0.01, 0.15)
Limiting long-term illness	0.04 (0.02, 0.05)	0.01 (-0.03, 0.04)	0.04 (0.02, 0.05)	0.00 (-0.03, 0.04)	0.06 (0.04, 0.09)	0.06 (0.00, 0.12)
< 18-year qualifications	0.09 (0.07, 0.11)	0.09 (0.03, 0.14)	0.09 (0.07, 0.11)	0.08 (0.02, 0.14)	<b>0.03 (0.00, 0.07)</b>	<b>0.17 (0.09, 0.24)</b>
Employment status						
Employed	<b>-0.09 (-0.11, -0.07)</b>	<b>0.01 (-0.05, 0.07)</b>	-0.08 (-0.10, -0.06)	-0.03 (-0.09, 0.03)	-0.08 (-0.11, -0.05)	-0.03 (-0.09, 0.04)
Unemployed	<b>0.04 (0.02, 0.05)</b>	<b>0.02 (-0.02, 0.05)</b>	0.02 (0.01, 0.03)	0.01 (-0.02, 0.04)	0.01 (0.00, 0.03)	0.00 (-0.03, 0.02)
In education	<b>0.00 (-0.01, 0.01)</b>	<b>-0.03 (-0.05, 0.00)</b>	0.03 (0.02, 0.04)	0.02 (-0.01, 0.04)	0.03 (0.01, 0.04)	0.02 (-0.02, 0.05)
Other OLF	<b>0.05 (0.04, 0.07)</b>	<b>0.00 (-0.04, 0.05)</b>	0.04 (0.02, 0.06)	0.01 (-0.04, 0.06)	0.04 (0.02, 0.06)	0.01 (-0.04, 0.06)
Long-term OLF	0.01 (0.00, 0.02)	0.01 (-0.01, 0.04)	0.02 (0.01, 0.03)	0.01 (-0.01, 0.04)	0.02 (0.01, 0.04)	0.00 (-0.04, 0.03)
Social class <sup>3</sup>						
Managerial/professional	-0.07 (-0.08, -0.05)	-0.10 (-0.14, -0.05)	-0.11 (-0.13, -0.08)	-0.14 (-0.20, -0.09)	<b>-0.06 (-0.09, -0.03)</b>	<b>-0.14 (-0.21, -0.07)</b>
Intermediate/technical	-0.03 (-0.05, -0.01)	-0.01 (-0.07, 0.05)	-0.01 (-0.03, 0.02)	0.04 (-0.03, 0.11)	<b>-0.01 (-0.04, 0.02)</b>	<b>0.11 (0.03, 0.19)</b>
Routine occupations	0.06 (0.04, 0.08)	0.10 (0.02, 0.17)	0.07 (0.05, 0.09)	0.08 (0.01, 0.16)	<b>0.04 (0.01, 0.07)</b>	<b>0.01 (-0.07, 0.09)</b>
Not known	0.03 (0.02, 0.05)	0.01 (-0.04, 0.06)	0.04 (0.03, 0.06)	0.02 (-0.01, 0.05)	<b>0.02 (0.01, 0.04)</b>	<b>0.02 (-0.01, 0.06)</b>
Housing tenure						
Owner occupier	<b>-0.12 (-0.14, -0.10)</b>	<b>-0.02 (-0.10, 0.05)</b>	-0.13 (-0.15, -0.10)	-0.09 (-0.16, -0.01)	-0.11 (-0.14, -0.08)	-0.05 (-0.14, 0.03)
Renting	<b>0.11 (0.09, 0.13)</b>	<b>0.05 (-0.03, 0.12)</b>	0.11 (0.09, 0.14)	0.07 (-0.01, 0.15)	0.11 (0.08, 0.14)	0.06 (-0.03, 0.14)
Other	<b>0.01 (0.00, 0.02)</b>	<b>-0.02 (-0.05, 0.00)</b>	0.01 (0.01, 0.02)	0.02 (-0.01, 0.04)	0.00 (0.00, 0.01)	0.00 (-0.02, 0.01)
Overcrowding	0.01 (0.00, 0.02)	0.00 (-0.01, 0.02)	0.01 (0.00, 0.02)	0.02 (0.00, 0.04)	<b>0.00 (0.00, 0.01)</b>	<b>0.03 (0.00, 0.05)</b>
Lives alone	0.02 (0.01, 0.03)	-0.01 (-0.03, 0.01)	0.01 (0.01, 0.02)	0.00 (-0.01, 0.02)	0.00 (0.00, 0.01)	0.00 (-0.01, 0.01)
Marital status						

	Age 20-29 years		Age 30-39 years		Age 40-49 years	
	UK-born	Non-UK born	UK-born	Non-UK born	UK-born	Non-UK born
Currently married	0.03 (0.02, 0.05)	0.08 (0.03, 0.14)	<b>-0.05 (-0.07, -0.02)</b>	<b>0.00 (-0.07, 0.08)</b>	-0.05 (-0.08, -0.02)	0.00 (-0.08, 0.08)
Previously married	0.01 (0.00, 0.02)	0.00 (-0.01, 0.01)	<b>0.03 (0.01, 0.04)</b>	<b>-0.04 (-0.07, -0.02)</b>	0.04 (0.02, 0.07)	-0.04 (-0.09, 0.02)
Single	-0.04 (-0.06, -0.02)	-0.08 (-0.14, -0.02)	<b>0.02 (0.00, 0.04)</b>	<b>0.04 (-0.03, 0.11)</b>	0.01 (-0.02, 0.03)	0.03 (-0.04, 0.11)
Number of children	<b>0.00 (-0.05, 0.04)</b>	<b>-0.30 (-0.46, -0.14)</b>	<b>-0.49 (-0.58, -0.41)</b>	<b>-1.07 (-1.30, -0.84)</b>	<b>-0.78 (-0.90, -0.67)</b>	<b>-1.60 (-1.85, -1.35)</b>
Age at first child (parous women only)	-0.87 (-1.14, -0.60)	0.51 (-1.30, 2.31)	<b>-1.56 (-2.05, -1.07)</b>	<b>0.92 (-1.32, 3.16)</b>	-2.01 (-2.69, -1.33)	-2.89 (-4.19, -1.59)

Source: ONS Longitudinal Study

Results highlighted in bold show outcomes that differ across ethnic groups at 5% level of significance.

Table A7. Predicted probabilities for outcomes regressed on care type by observations

		20-29 years		30-39 years		40-49 years	
		Observation 2		Observation 2		Observation 2	
	Observation 1	Parental care	Non-parental care	Parental care	Non-parental care	Parental care	Non-parental care
< 18-year qualifications	Parental	0.69 (0.69, 0.69)	0.79 (0.77, 0.81)	0.59 (0.59, 0.60)	0.69 (0.65, 0.72)	0.56 (0.55, 0.56)	0.63 (0.58, 0.67)
	Non-parental	0.77 (0.74, 0.81)	0.78 (0.71, 0.85)	0.60 (0.55, 0.65)	0.74 (0.65, 0.83)	0.58 (0.49, 0.67)	0.62 (0.49, 0.74)
Employment status							
Employed	Parental	0.71 (0.71, 0.71)	0.60 (0.57, 0.63)	0.83 (0.83, 0.83)	0.71 (0.67, 0.74)	0.85 (0.84, 0.85)	0.72 (0.68, 0.76)
	Non-parental	0.62 (0.57, 0.66)	0.44 (0.35, 0.54)	0.78 (0.74, 0.83)	0.62 (0.51, 0.72)	0.73 (0.65, 0.81)	0.69 (0.56, 0.81)
Unemployed	Parental	0.09 (0.09, 0.09)	0.14 (0.12, 0.16)	0.03 (0.03, 0.04)	0.05 (0.04, 0.07)	0.04 (0.03, 0.04)	0.06 (0.04, 0.08)
	Non-parental	0.15 (0.11, 0.18)	0.18 (0.10, 0.25)	0.05 (0.03, 0.07)	0.09 (0.03, 0.15)	0.06 (0.02, 0.10)	0.05 (0.00, 0.11)
In education	Parental	0.05 (0.05, 0.05)	0.05 (0.03, 0.07)	0.02 (0.02, 0.02)	0.05 (0.04, 0.07)	0.05 (0.04, 0.05)	0.11 (0.08, 0.13)
	Non-parental	0.06 (0.04, 0.08)	0.10 (0.04, 0.17)	0.02 (0.01, 0.03)	0.16 (0.08, 0.23)	0.12 (0.06, 0.18)	0.13 (0.04, 0.22)
Other OLF	Parental	0.15 (0.15, 0.15)	0.21 (0.18, 0.24)	0.12 (0.12, 0.12)	0.19 (0.16, 0.21)	0.07 (0.07, 0.07)	0.11 (0.09, 0.14)
	Non-parental	0.18 (0.14, 0.21)	0.27 (0.19, 0.36)	0.15 (0.10, 0.19)	0.14 (0.06, 0.22)	0.09 (0.03, 0.14)	0.13 (0.04, 0.23)
Long-term non- employed	Parental	0.02 (0.02, 0.02)	0.04 (0.03, 0.05)	0.02 (0.02, 0.03)	0.04 (0.03, 0.06)	0.05 (0.04, 0.05)	0.08 (0.06, 0.11)
	Non-parental	0.03 (0.01, 0.05)	0.02 (0.00, 0.05)	0.05 (0.02, 0.07)	0.11 (0.04, 0.18)	0.11 (0.05, 0.17)	0.12 (0.03, 0.21)
Social class							
Managerial/Professional	Parental	0.24 (0.24, 0.25)	0.19 (0.16, 0.21)	0.42 (0.42, 0.42)	0.30 (0.27, 0.34)	0.39 (0.39, 0.40)	0.36 (0.31, 0.40)
	Non-parental	0.19 (0.15, 0.23)	0.12 (0.06, 0.18)	0.38 (0.32, 0.44)	0.22 (0.13, 0.31)	0.40 (0.31, 0.49)	0.30 (0.18, 0.42)
Intermediate/technical	Parental	0.28 (0.28, 0.29)	0.24 (0.22, 0.27)	0.28 (0.28, 0.28)	0.25 (0.21, 0.28)	0.27 (0.26, 0.27)	0.23 (0.19, 0.27)
	Non-parental	0.23 (0.19, 0.27)	0.21 (0.13, 0.28)	0.24 (0.19, 0.29)	0.32 (0.22, 0.43)	0.23 (0.15, 0.30)	0.29 (0.17, 0.41)
Routine occupations	Parental	0.32 (0.32, 0.33)	0.37 (0.34, 0.40)	0.26 (0.26, 0.26)	0.33 (0.29, 0.36)	0.30 (0.30, 0.30)	0.32 (0.28, 0.36)
	Non-parental	0.41 (0.37, 0.46)	0.34 (0.25, 0.43)	0.33 (0.28, 0.39)	0.25 (0.15, 0.35)	0.34 (0.26, 0.43)	0.31 (0.19, 0.44)
Housing tenure							
	Parental	0.63 (0.63, 0.63)	0.47 (0.44, 0.51)	0.75 (0.74, 0.75)	0.59 (0.55, 0.62)	0.78 (0.77, 0.78)	0.63 (0.58, 0.67)

		20-29 years		30-39 years		40-49 years	
		Observation 2		Observation 2		Observation 2	
	Observation 1	Parental care	Non-parental care	Parental care	Non-parental care	Parental care	Non-parental care
Owner	Non-parental	0.56 (0.52, 0.61)	0.40 (0.31, 0.50)	0.63 (0.57, 0.69)	0.57 (0.46, 0.68)	0.65 (0.56, 0.74)	0.59 (0.46, 0.72)
Renting	Parental	0.33 (0.33, 0.34)	0.47 (0.44, 0.50)	0.23 (0.23, 0.24)	0.37 (0.33, 0.41)	0.21 (0.21, 0.22)	0.34 (0.30, 0.39)
	Non-parental	0.39 (0.34, 0.43)	0.52 (0.43, 0.62)	0.33 (0.27, 0.38)	0.41 (0.30, 0.52)	0.33 (0.25, 0.42)	0.39 (0.26, 0.52)
Other	Parental	0.04 (0.04, 0.04)	0.06 (0.04, 0.07)	0.02 (0.02, 0.02)	0.05 (0.03, 0.06)	0.01 (0.01, 0.01)	0.03 (0.01, 0.04)
	Non-parental	0.05 (0.03, 0.07)	0.07 (0.02, 0.13)	0.04 (0.02, 0.07)	0.03 (0.00, 0.06)	0.02 (0.00, 0.04)	0.02 (0.00, 0.05)
Overcrowding	Parental	0.02 (0.02, 0.02)	0.03 (0.02, 0.04)	0.02 (0.02, 0.02)	0.03 (0.02, 0.05)	0.01 (0.00, 0.03)	0.01 (0.00, 0.02)
	Non-parental	0.03 (0.01, 0.04)	0.07 (0.02, 0.12)	0.03 (0.01, 0.05)	0.02 (0.00, 0.06)	0.01 (0.00, 0.02)	0.00 (0.00, 0.00)
Lives alone	Parental	0.04 (0.04, 0.04)	0.07 (0.05, 0.09)	0.00 (0.00, 0.00)	0.02 (0.01, 0.03)	0.00 (0.00, 0.00)	0.02 (0.01, 0.03)
	Non-parental	0.04 (0.02, 0.06)	0.11 (0.05, 0.17)	0.01 (0.00, 0.02)	0.02 (0.010, 0.05)	0.01 (0.00, 0.03)	0.02 (0.00, 0.05)
Marital status							
Married	Parental	0.14 (0.14, 0.14)	0.16 (0.14, 0.18)	0.53 (0.52, 0.53)	0.45 (0.41, 0.49)	0.63 (0.62, 0.63)	0.56 (0.51, 0.60)
	Non-parental	0.14 (0.11, 0.18)	0.21 (0.14, 0.27)	0.50 (0.44, 0.56)	0.40 (0.29, 0.51)	0.58 (0.48, 0.67)	0.62 (0.49, 0.76)
Previously married	Parental	0.01 (0.01, 0.01)	0.02 (0.01, 0.03)	0.07 (0.07, 0.07)	0.09 (0.07, 0.11)	0.14 (0.13, 0.14)	0.17 (0.14, 0.20)
	Non-parental	0.03 (0.01, 0.05)	0.00 (0.00, 0.00)	0.08 (0.05, 0.12)	0.12 (0.05, 0.19)	0.17 (0.10, 0.24)	0.12 (0.03, 0.21)
Single	Parental	0.85 (0.85, 0.85)	0.82 (0.80, 0.84)	0.41 (0.40, 0.41)	0.46 (0.42, 0.50)	0.23 (0.23, 0.24)	0.27 (0.23, 0.31)
	Non-parental	0.83 (0.80, 0.87)	0.79 (0.73, 0.86)	0.41 (0.36, 0.47)	0.48 (0.37, 0.59)	0.25 (0.17, 0.33)	0.26 (0.14, 0.37)

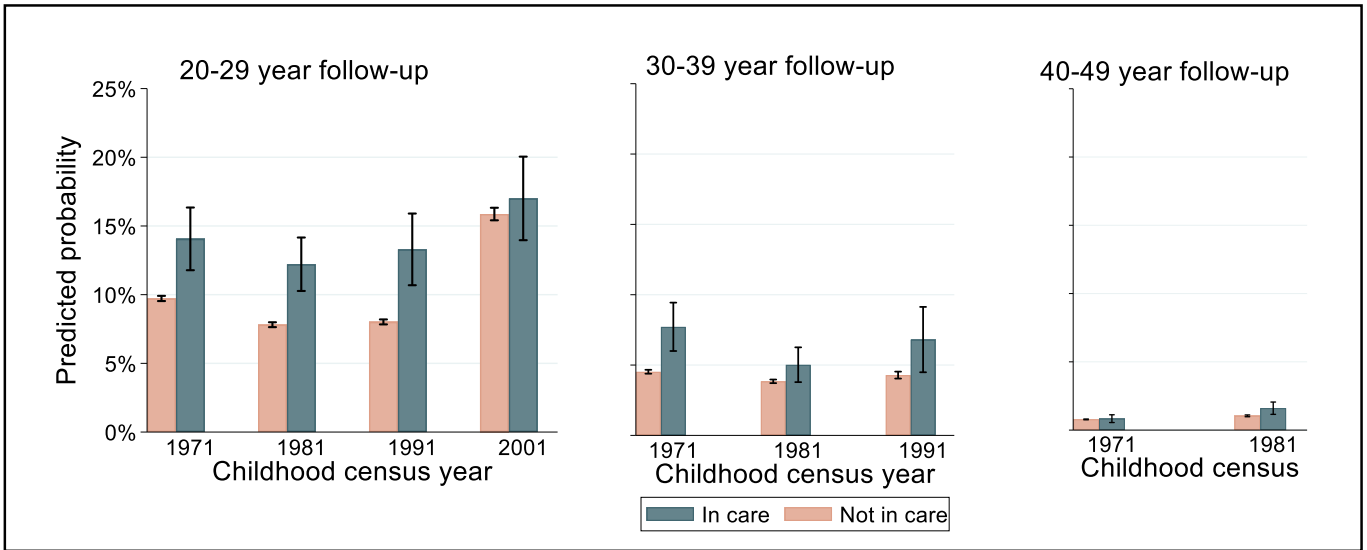
Source: ONS Longitudinal Study

Table A8. Predicted probabilities of adult outcomes for children of carers or not

Carer's child	Age 20-29 years		Age 30-39 years		Age 40-49 years	
	No	Yes	No	Yes	No	Yes
Self-rated health	0.12 (0.12, 0.12)	0.14 (0.12, 0.16)	0.17 (0.17, 0.17)	0.19 (0.17, 0.20)	0.19 (0.19, 0.19)	0.21 (0.19, 0.23)
Limiting long-term illness	0.05 (0.05, 0.05)	0.06 (0.05, 0.07)	0.08 (0.07, 0.08)	0.08 (0.07, 0.09)	0.12 (0.12, 0.12)	0.13 (0.12, 0.15)
< 18-year qualifications	0.73 (0.73, 0.73)	0.77 (0.75, 0.78)	0.64 (0.64, 0.64)	0.66 (0.65, 0.68)	0.61 (0.60, 0.61)	0.63 (0.61, 0.65)
Employment status						
Employed	0.70 (0.70, 0.70)	0.68 (0.66, 0.79)	0.81 (0.81, 0.81)	0.80 (0.78, 0.81)	0.84 (0.84, 0.84)	0.82 (0.81, 0.84)
Unemployed	0.09 (0.09, 0.09)	0.11 (0.10, 0.12)	0.04 (0.04, 0.04)	0.04 (0.03, 0.05)	0.03 (0.03, 0.03)	0.04 (0.03, 0.04)
OLF	0.21 (0.20, 0.21)	0.21 (0.20, 0.23)	0.15 (0.15, 0.15)	0.16 (0.15, 0.18)	0.13 (0.13, 0.13)	0.14 (0.13, 0.16)
Long-term OLF	0.02 (0.02, 0.03)	0.03 (0.03, 0.04)	0.04 (0.04, 0.04)	0.04 (0.03, 0.05)	0.05 (0.05, 0.05)	0.06 (0.05, 0.07)
Social class <sup>3</sup>						
Managerial/professional	0.24 (0.24, 0.24)	0.21 (0.20, 0.23)	0.39 (0.39, 0.39)	0.37 (0.35, 0.39)	0.39 (0.38, 0.39)	0.39 (0.38, 0.39)
Intermediate/technical	0.29 (0.29, 0.29)	0.27 (0.26, 0.29)	0.29 (0.29, 0.29)	0.29 (0.27, 0.30)	0.28 (0.28, 0.29)	0.29 (0.27, 0.31)
Routine occupations	0.29 (0.29, 0.29)	0.27 (0.26, 0.29)	0.27 (0.26, 0.27)	0.28 (0.27, 0.30)	0.29 (0.29, 0.29)	0.29 (0.28, 0.31)
Not known	0.16 (0.16, 0.17)	0.19 (0.17, 0.20)	0.05 (0.05, 0.06)	0.06 (0.05, 0.07)	0.04 (0.04, 0.04)	0.04 (0.03, 0.05)
Housing tenure						
Owner occupier	0.62 (0.62, 0.62)	0.59 (0.57, 0.61)	0.74 (0.74, 0.75)	0.71 (0.70, 0.73)	0.79 (0.78, 0.79)	0.77 (0.75, 0.79)
Renting	0.34 (0.34, 0.35)	0.37 (0.35, 0.38)	0.23 (0.23, 0.24)	0.26 (0.24, 0.27)	0.20 (0.20, 0.20)	0.21 (0.20, 0.23)
Other	0.04 (0.04, 0.04)	0.04 (0.04, 0.05)	0.02 (0.02, 0.02)	0.03 (0.02, 0.03)	0.01 (0.01, 0.01)	0.02 (0.01, 0.02)
Overcrowding	0.03 (0.03, 0.03)	0.03 (0.03, 0.04)	0.03 (0.03, 0.03)	0.03 (0.02, 0.03)	0.02 (0.01, 0.02)	0.02 (0.01, 0.02)
Lives alone	0.04 (0.04, 0.04)	0.04 (0.04, 0.05)	0.02 (0.02, 0.02)	0.02 (0.01, 0.02)	0.00 (0.00, 0.00)	0.01 (0.00, 0.01)
Marital status						
Currently married	0.21 (0.21, 0.21)	0.23 (0.22, 0.24)	0.57 (0.56, 0.57)	0.57 (0.55, 0.59)	0.65 (0.65, 0.66)	0.65 (0.62, 0.67)
Previously married	0.01 (0.01, 0.01)	0.01 (0.01, 0.02)	0.08 (0.07, 0.08)	0.08 (0.07, 0.09)	0.14 (0.14, 0.14)	0.14 (0.12, 0.15)
Single	0.78 (0.78, 0.78)	0.76 (0.75, 0.77)	0.36 (0.35, 0.36)	0.35 (0.33, 0.37)	0.21 (0.20, 0.21)	0.22 (0.20, 0.24)
Number of children	0.42 (0.41, 0.42)	0.46 (0.43, 0.50)	1.37 (1.36, 1.38)	1.42 (1.36, 1.48)	1.76 (1.75, 1.77)	1.78 (1.71, 1.86)
Age at first child	21.85 (21.82, 21.88)	21.41 (21.20, 21.61)	25.95 (25.91, 25.99)	25.70 (25.42, 25.97)	27.04 (26.99, 27.10)	26.47 (26.10, 26.84)

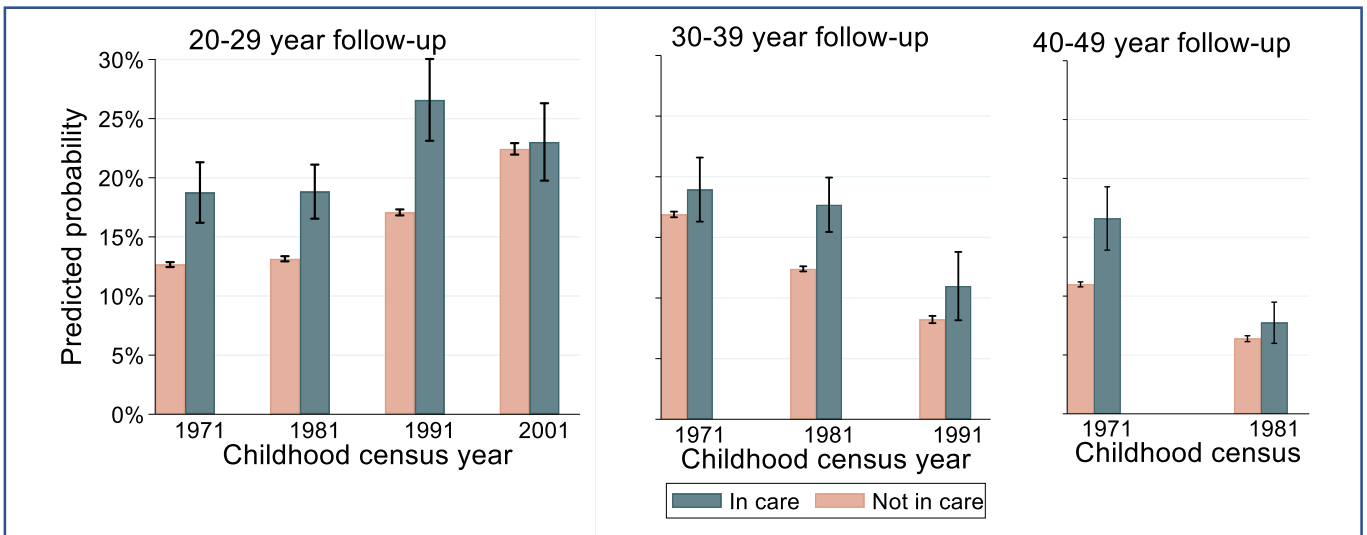
Source: ONS Longitudinal Study

**Figure A1. Differences in probability of being unemployed in adulthood by childhood census year**



Source: ONS Longitudinal Study

**Figure A2. Differences in probability of being out of the labour force for reasons other than education in adulthood by childhood census year**



Source: ONS Longitudinal Study