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# The health impacts of Sure Start



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# Executive summary

Over the last two decades, Sure Start Children’s Centres (and their predecessors, Sure Start Local Programmes) have been one of the most important policy programmes in the early years in England. These centres operate as ‘one-stop shops’ for families with children under 5, bringing together a range of support including health services, parenting support programmes, and access to childcare and early education.

While Sure Start itself has seen its budget cut by more than 60% since 2010, the principles behind the programme continue to drive policy. Most recently, the Leadsom Review considering the first 1,001 days of life made the case for early years programmes to offer ‘coherent’, ‘welcoming’, ‘joined-up’ services ‘around the needs of the family’.

Despite Sure Start’s past importance in the early years landscape and its continuing influence over policymaking in this area, surprisingly little is known about how the programme affected families’ and children’s outcomes. In this briefing note (and the accompanying working paper), we extend the evidence from our 2019 report to show how Sure Start has influenced children’s health. Specifically, we extend our analysis to assess Sure Start’s impacts on hospitalisations of very young children, who are still eligible to use its services (ages 1–4), and of adolescents, who may still enjoy medium-term benefits from Sure Start exposure (ages 12–15).

## Sure Start’s impacts on hospitalisations

We find strong evidence that access to Sure Start affects children’s hospitalisations. In the earliest years of life, Sure Start increases hospitalisations as families get more support to use health services and as children are exposed to a wider range of infectious illnesses. But after the first few years, Sure Start decisively reduces hospitalisations, with stronger immune systems, better disease management, safer home environments and fewer behavioural problems all potentially playing a role.

### 3 The health impacts of Sure Start

These effects are substantial; our calculations suggest that an additional centre per thousand children under 5, on average, generates around 6,700 additional hospitalisations of 1-year-olds each year. But it also prevents around 13,150 hospitalisations each year between the ages of 11 and 15 – meaning that Sure Start averts nearly twice as many hospitalisations among older children as it induces in 1-year-olds.

Our results also suggest that Sure Start had particularly big benefits for some groups of children. The fall in hospitalisations the programme brought about is concentrated among boys and, at later ages, in more disadvantaged neighbourhoods.

## Key findings

- 1 Sure Start increased hospitalisations among very young children.** At age 1, having access to an extra centre per thousand children under 5 increased the probability of a hospitalisation in the neighbourhood cohort by 10%. This translates to roughly 6,700 additional hospitalisations a year.
- 2 However, Sure Start's effects on reducing hospitalisations during childhood and adolescence more than compensate** for the increase in admissions at very young ages. At age 5, an additional centre per thousand children prevented around 2,900 hospitalisations a year; for 11- to 15-year-olds, the total was over 13,150 prevented hospitalisations each year.
- 3 Sure Start's impacts on child health last well beyond the end of the programme itself.** Indeed, some of the biggest impacts are only felt in adolescence, nearly a decade after children have 'aged out' of eligibility.
- 4 Sure Start services seem to have affected children's health through several different channels.** At younger ages, large impacts on infectious illness suggest that Sure Start significantly strengthened children's immune systems. A drop in poisonings in these age groups suggests that advice on child-proofing the home also had an effect. In

early adolescence, we see far fewer hospitalisations for mental health reasons. Throughout childhood, we see a bigger drop in admissions for injuries among boys than among girls. These effects point to potential longer-term benefits from Sure Start supporting children's socio-emotional and behavioural development.

- 5 **The benefits of Sure Start are not evenly distributed.** At most ages, Sure Start had significantly larger impacts on boys than on girls. The programme also had bigger benefits for children in disadvantaged areas, at least from age 9 onwards. This suggests that a model that combines universal services with an area-based focus on disadvantaged neighbourhoods can be a promising approach to early years interventions.
- 6 **While the full cost of providing Sure Start to all eligible children may not be recouped by including only the health returns, we find that the financial benefits from reducing hospitalisations offset approximately 31% of the cost of Sure Start provision.** This figure is likely to underestimate the benefits of Sure Start since the programme may have affected many other outcomes beyond hospitalisations. Future work will study impacts of Sure Start on educational outcomes, use of social care, and offending.
- 7 **Evidence from Sure Start shows that large-scale, holistic interventions can be effective in improving children's health.** It is particularly exciting to find evidence that the benefits persist (or even grow) after children are too old to attend the centres. The success of Sure Start in promoting child health should inform policymakers' decisions about the design of and funding for early years programmes. In particular, policymakers should consider the longer-term benefits of these programmes and their potential to reduce inequalities.

# 1. Introduction

The early years are a critical period for children and families. Appropriate, high-quality investments during the earliest years of life can help set children up for better health as well as higher attainment, better behaviour and better social and emotional development.

In England, policymakers have been particularly attentive to the early years: spending on the early years has grown more quickly than at any other stage of education (Britton et al., 2020), and the UK is now one of the highest spenders on the under-5s in Europe (OECD, 2014).

But there is a large evidence base from around the world concluding that the impact of early years spending is not just about how much money is spent, but how well it is used. And because the impacts of early years interventions are so wide-ranging, there is a strong argument for equally wide-ranging services that aim to support families' various needs. Indeed, this was a core conclusion of the recent Leadsom Review considering the first 1,001 days of life: three of the six action areas in the review related to building 'coherent', 'welcoming', 'joined-up' services 'around the needs of the family' (Leadsom, 2021).

In England, one of the most prominent examples of such joined-up services is the Sure Start programme. First introduced in 1999 and accounting for a third of early years spending by its peak in 2010 (Britton, Farquharson and Sibieta, 2019), Sure Start offers a 'one-stop shop' for childcare and early education, health services, parenting support, information about health and child development, and employment advice.

Despite the scale of the programme's ambition and its spending power, there have so far been relatively few attempts to holistically evaluate Sure Start's impact on children's outcomes. The National Evaluation of Sure Start explored the impacts of the earliest programmes in the early 2000s, while the Evaluation of Children's Centres in England richly described and assessed the differences in types of services and patterns of family use.

This briefing note builds on and updates our previous research evaluating the impact of Sure Start on children’s health as measured by hospitalisations (Cattan et al., 2019). Most importantly, we extend our analysis to assess Sure Start’s impacts on very young children who are still eligible to use its services (ages 1–4), and on adolescents who may still enjoy medium-term benefits from Sure Start exposure (ages 12–15). We also extend our analysis of the possible mechanisms underlying these impacts.

In this report, we summarise our approach and our findings from this new analysis, which is reported in full in our accompanying working paper (Cattan et al., 2021). We begin in Section 2 with a brief overview of the policy background – the history of Sure Start and, importantly for our empirical work, the detail on how it was rolled out – and of the key services offered by Sure Start. We then turn to a discussion of our data and empirical methods in Section 3. Section 4 applies these methods, presenting the results for all-cause hospitalisations and looking at hospitalisations for specific conditions in order to shed light on plausible mechanisms for the results we find. Section 5 explores how all-cause hospitalisations vary for different subgroups and Section 6 presents a cost–benefit analysis of the intervention. Finally, Section 7 concludes.

## 2. Policy background

Sure Start Local Programmes and, subsequently, Children’s Centres were created with the goal of delivering the best start in life for every child by improving their outcomes and supporting parents both in their relationships with their children and in their aspirations towards employment (Childcare Act 2006).

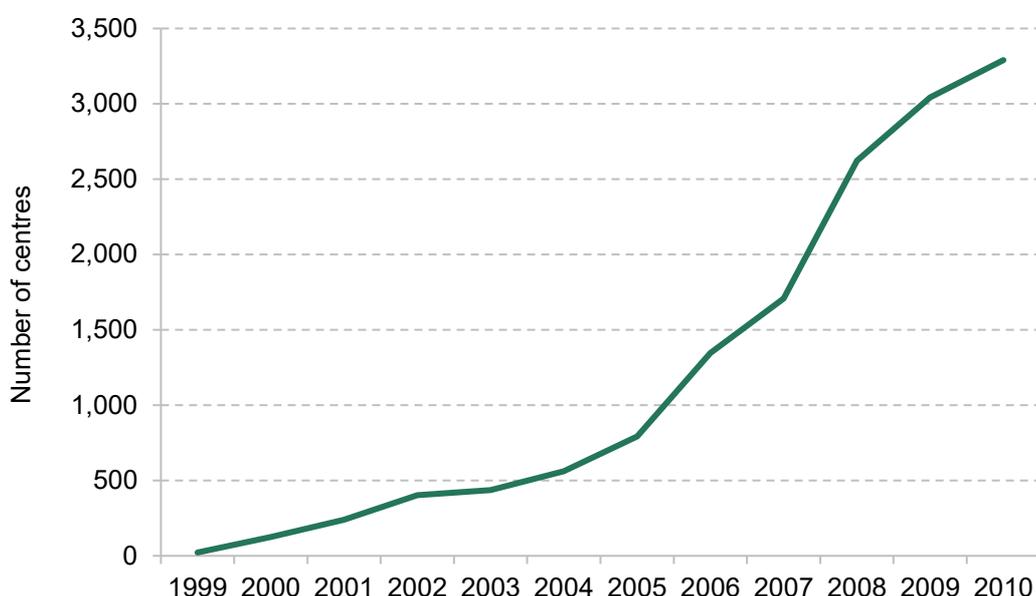
While the Sure Start programme was initially developed to serve the most disadvantaged neighbourhoods, it grew rapidly during the 2000s, with the aim of delivering ‘a Children’s Centre in every community’. Unlike other early years programmes such as Head Start (in the US) or the Family Nurse Partnership, basic Sure Start services were intended to be universal (rather than targeted based on family income or other markers of perceived need).

The Sure Start programme was also designed to promote child development by offering a range of integrated services extending much beyond the provision of early education. This holistic approach meant that Sure Start had the potential to improve many aspects of child development, including cognitive ability, social and emotional skills, and health.

In this section, we give an overview of the timeline for the programme’s rise and subsequent decline and of the key services that Sure Start offered.

### 2.1 History of Sure Start in England

First introduced as a flagship programme of the New Labour government, Sure Start grew rapidly between 1999 and 2010. Figure 2.1 shows that this growth was not always even; the number of Children’s Centres designated in each year substantially increased after 2005. The pattern of growth reflects some of the policy decisions made during the roll-out, which are summarised in Table 2.1.

**Figure 2.1. Number of Sure Start centres in England**

Note: The number of centres is based on centres observed in data received from the Department for Education. Since the treatment of arrangements such as satellite sites was not always consistent, these numbers might not exactly match other data sources. We assume that a Sure Start Children's Centre opening at the same postcode as a Sure Start Local Programme replaces the SSLP; otherwise, we count both SSLPs and SSCCs between 2003 and 2006, and assume all SSLPs have closed from 2007 onwards.

Source: Figure 2.1 of Cattan et al. (2019).

The first phase of the Sure Start roll-out came with the opening of initial Sure Start Local Programmes (SSLPs). An initial 250 SSLPs were targeted at areas with very high concentrations of children under 4 living in poverty, with successful host areas chosen after a shortlist of districts were invited to submit proposals. Within a year of the first SSLP opening, the government doubled the target to 530 programmes.

Along with the launch of the Every Child Matters initiative in 2003, the government increased its focus on Sure Start. Rather than closing the SSLPs after 10 years, as had been planned, the government proposed a new long-term plan to transfer responsibility for the programme to local governments, who would keep the programme running indefinitely as Sure Start Children's Centres (SSCCs) (Lewis, 2011). The government also committed to a massive expansion in the number of centres, with the 10-Year Strategy for Childcare in 2004 pledging 'a children's centre in every community' by 2010. This led to the rapid increase in the number of Sure Start centres from 2005 onwards.

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### Box 2.1. Previous research on Sure Start

Sure Start itself has been evaluated twice before: once in the earliest years of the programme and again after its peak in the early 2010s. The first evaluation, the National Evaluation of Sure Start (NESS), analysed a sample of the earliest Local Programmes located in the poorest 20% of areas in England. The children in these neighbourhoods were compared with others surveyed in an earlier national survey living in disadvantaged areas not served by the earliest Sure Start programmes. This evaluation found no change in health outcomes at 9 and 36 months old, and lower body mass index (BMI) and better health status by age 5 years for children living in the Sure Start neighbourhoods (National Evaluation of Sure Start, 2005, 2008 and 2010).

Between 2011 and 2013, the Evaluation of Children’s Centres in England (ECCE) collected detailed and extensive data on a subsample of centres and their users. This study estimated impacts of Sure Start by comparing the outcomes of children who use the services with varying frequency. The advantage of the approach used in ECCE is that it focuses on the outcomes of children who actually use Sure Start services, and it is able to discuss in detail the association between different patterns of use (frequency and types of services) and the outcomes of parents, families and children. However, because the use of these services is optional, with this approach we cannot be sure to what extent the effects reflect the impact of Sure Start itself or differences in the types of families that use Children’s Centres frequently or not at all. The authors found no significant effects of visiting Sure Start centres on child health status, but some impact of using specific Sure Start services – health outreach and formal childcare – on the probability of parent-reported health status worsening over time (Sammons et al., 2015).

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### How was Sure Start rolled out?

Sure Start was intended to be a flexible initiative that would respond to local needs, and individual local authorities had considerable discretion over the precise service offer. However, central government had overall control of the funding for the programme as a whole, and therefore input into how it was allocated between local areas and how the roll-out would be prioritised.

The Sure Start programme was rolled out in several distinct phases, summarised in Table 2.1. The programme began with SSLPs, where areas were explicitly targeted based on criteria such as the 1998 Index of Local Deprivation, low birthweight and

teen pregnancy indicators (and with the set of trailblazers chosen to offer a good spread of different types of areas around the country) (Department for Education and Employment, 1999).

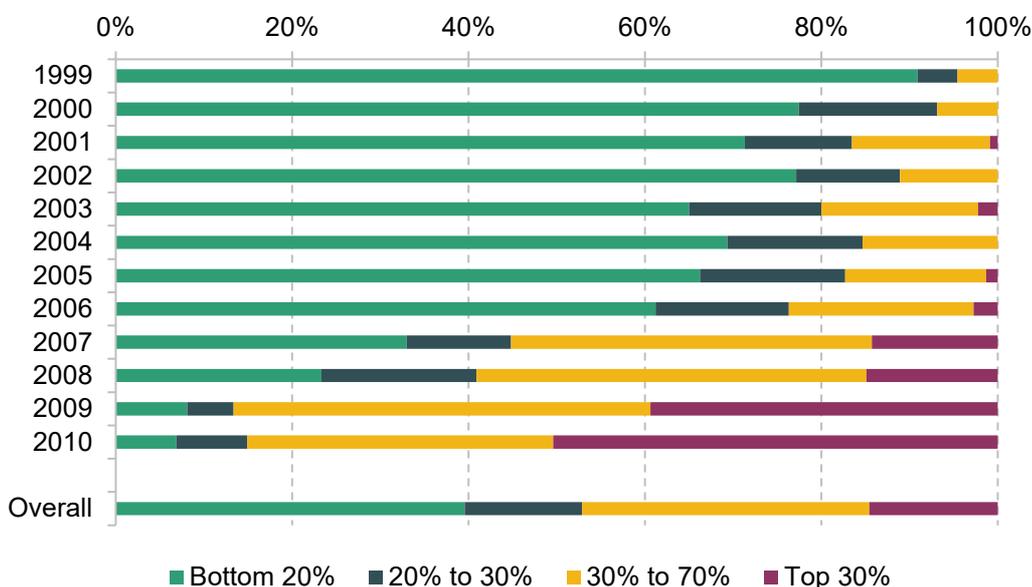
With the transition to Children’s Centres, the vast majority of existing SSLPs transitioned into SSCCs under local authority (LA) management. LAs were given a target number of Children’s Centres to develop over time and were allocated a budget based on their number of children under 5 and the level of deprivation, but had responsibility for choosing the specific locations of their Children’s Centres (Lewis, 2011).

**Table 2.1. Timeline of the Sure Start roll-out**

	<b>Sure Start milestones</b>
Jan. 1999	First 60 ‘trailblazer’ districts identified, invited to submit applications
Nov. 1999	Full approval of the first 15 Local Programmes
2000	Government target rises from 250 to 530 Local Programmes Funding more than doubles
2003	Government pledges to universalise and expand Sure Start Transition from Local Programmes to Children’s Centres
Dec. 2004	10-Year Strategy for Childcare pledges a Sure Start Children’s Centre in every community by 2010
2004–06	Phase 1 – targeting 20% most disadvantaged areas Most SSLPs transition to SSCCs
2006–08	Phase 2 – targeting 30% most disadvantaged areas
2008–10	Phase 3 – ‘a Children’s Centre in every community’

Source: Table 2.1 of Cattan et al. (2019).

Figure 2.2. Share by deprivation of Sure Start centres opened each year



Note: 'Bottom 20%' refers to neighbourhoods (lower layer super output areas, LSOAs) in the bottom 20% of the national 2004 Index of Multiple Deprivation ranking, i.e. the most disadvantaged. Other categories are similarly defined, with 'Top 30%' incorporating the least disadvantaged areas. Centres in the City of London, Isles of Scilly and West Somerset are excluded for consistency with the impact analysis in this report.

Source: Figure 2.3 of Cattan et al. (2019).

The universalisation of the programme meant that the question was now when, not whether, an area would be served. However, the Children’s Centre roll-out nevertheless retained a strong focus on prioritising the most disadvantaged areas. ‘Phase 1’ centres (opened approximately between 2004 and 2006) were intended to offer full coverage of the 20% most disadvantaged wards, and mostly grew out of existing Local Programmes or Early Excellence Centres. Between 2006 and 2008, ‘Phase 2’ of the Children’s Centre roll-out opened centres covering the 30% most disadvantaged areas, with some centres outside these areas. The final phase of the SSCC roll-out saw the universalisation of the programme, with full coverage of the remaining 70% of areas.

Figure 2.2 confirms that Sure Start was strongly targeted at the most disadvantaged areas first. Over 90% of Local Programmes opened in the first year were located in neighbourhoods that were among the 20% most disadvantaged nationally (and 70% of the first SSLPs were in the 10% most disadvantaged areas). These most disadvantaged fifth of neighbourhoods opened between 60% and 80% of new

centres until 2006. In the late 2000s, centres were much more likely to open in relatively better-off neighbourhoods. These better-off neighbourhoods therefore received Sure Start later (and perhaps less intensively), but – as promised by the drive for ‘a Children’s Centre in every community’ – they were not shut out of the programme entirely.

Despite the evolving governance and management arrangements for Sure Start, previous work confirms that the actual roll-out by and large stuck to this deprivation-led guidance. Cattan et al. (2019) use statistical methods to explore whether any other local authority characteristics were also predictive of a faster or more comprehensive roll-out, and they update this analysis in the new working paper (Cattan et al., 2021) with additional characteristics. These analyses show that there are a number of local authority characteristics, such as the employment rate and the share of students with English as an additional language, which predict changes in Sure Start coverage over and above the characteristics mentioned in official guidance documents. We take these findings into account when evaluating the impact of Sure Start on hospitalisations in order to ensure that the change in trends of hospitalisations we attribute to Sure Start does not in fact reflect a change in trends of these other factors.

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### Box 2.2. Sure Start closures

In this briefing note, we focus primarily on the 2000s, when Sure Start was being rolled out across England. This period best corresponds with the focus of our evaluation, since it allows us to apply rigorous statistical methods (see Section 3) and to measure the medium- and long-term outcomes that we are most interested in.

However, since 2010, the Sure Start programme has been on a very different path. Even before the COVID-19 pandemic, spending had fallen from a high of slightly over £1.5 billion in 2010–11 to £600 million in 2017–18 in 2019–20 prices (Britton, Farquharson and Sibieta, 2019). Since 2011, the ring fence that designated specific funding for Sure Start has been removed. The tighter funding envelope coupled with the removal of the ring fence has meant local authorities have taken very different approaches to their Sure Start programmes. In some places, LAs have protected Sure Start services by subsidising them from other budget lines; other LAs have closed individual centres or reduced the service offer across their network; and still others have merged Sure Start into the wider network of Family Hubs offering services to children and young people up to age 19.

Because of these different approaches, counting the number of Sure Start centres that have closed can be challenging. Cattan et al. (2019) use data on ‘de-designated’ centres to compare closures around England, concluding that, on average, better-off areas have closed a larger share of their centres, but this varies enormously between different local authorities. Smith et al. (2018) find a similar pattern of closures, but also document extensive ‘hollowing out’ of services in some local areas.

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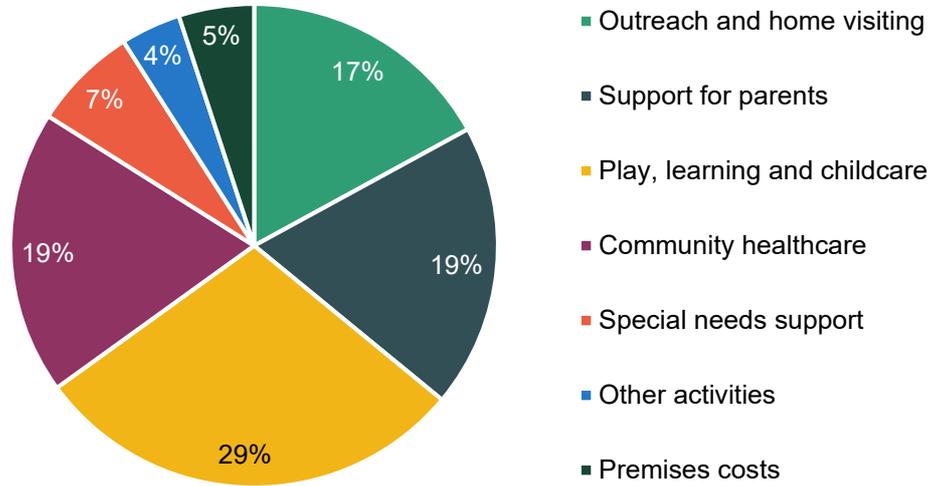
## 2.2 Sure Start services

Sure Start was always intended to function as a ‘one-stop shop’ for families with young children, so there was considerable focus on delivering a holistic set of services covering many different aspects of children’s and parents’ well-being. These included:

- **health services**, such as additional health visiting; breastfeeding support and child nutrition classes; postnatal depression services; child and baby exercise classes; and drop-in baby weighing or health clinics;
- **parenting support**, such as evidence-based positive parenting sessions;
- **play and early learning activities**, such as drop-in stay-and-play sessions or toy libraries;
- **support for parents**, including assistance with benefit claims, skill development and employment support;
- **childcare**, especially delivering existing entitlements to free childcare (funded separately) or signposting parents to childcare providers; and
- **other specialised services**, such as support for children with special needs.

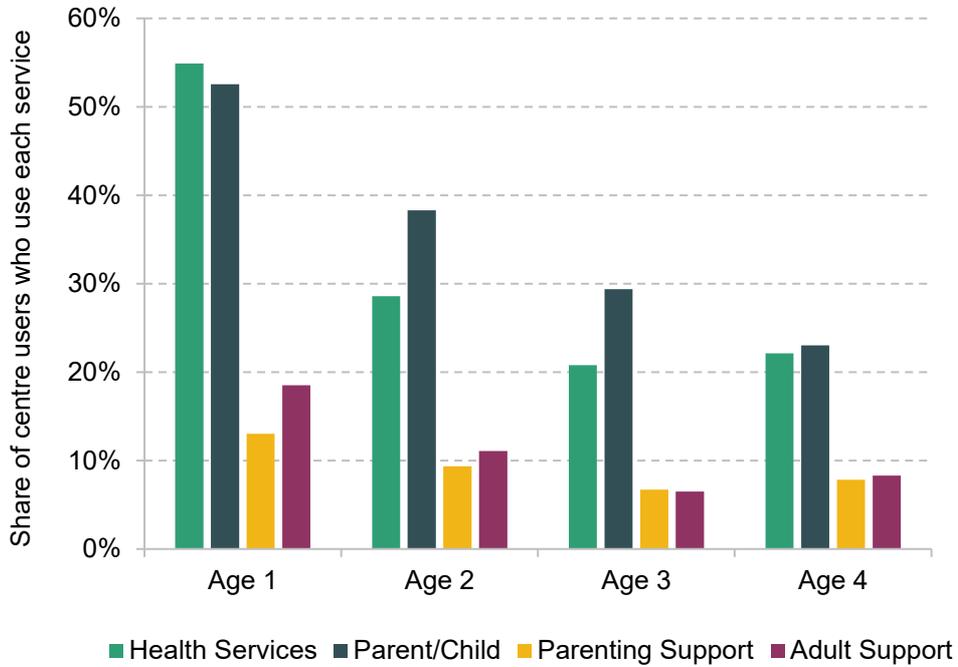
We have much less information about the relative importance of each of these types of services, both over time and across local authorities. Figure 2.3 summarises the share of budgets spent on several categories in 2003–05 (Meadows et al., 2011), while Figure 2.4 shows the probability that a Children’s Centre user in the early 2010s used different types of services (based on data from the Evaluation of Children’s Centres in England). It is clear in both figures that play, learning and childcare (or parent/child sessions) and healthcare services account for a large share of Sure Start activity.

Figure 2.3. Share of Sure Start budget allocated to different services, 2003–05



Source: Figure 1 of Meadows et al. (2011).

Figure 2.4. Probability of using different types of Sure Start services, 2011



Source: Figure 3 of Cattani et al. (2021). Based on data collected by Goff et al. (2013).

Table 2.2. Potential mechanisms and impacts on children's hospitalisations

Mechanism	Potential effect on hospitalisations
<p><b>Direct provision of health services</b> could help parents manage their child's health, e.g. taking up routine vaccinations on time, breastfeeding support or getting regular weight and nutrition checks for their baby</p>	<ul style="list-style-type: none"> <li>• Lower risk of severe infection: reduced hospitalisations</li> <li>• Better preventative healthcare: reduced hospitalisations in early years</li> </ul>
<p><b>Early detection of and information about health problems</b> could help parents get necessary medical care before a problem became serious enough to require hospitalisation</p>	<ul style="list-style-type: none"> <li>• Increase in hospitalisation for any cause in the short term</li> <li>• Reduction in hospitalisation for preventable/manageable diseases in the long term (due to earlier detection of medical issues and more appropriate use of primary care)</li> </ul>
<p><b>Direct exposure to large groups of children</b> through Sure Start sessions themselves or through childcare would challenge a child's immune system, possibly increasing illness in the short term but then strengthening their immune system against more serious illnesses later on</p>	<ul style="list-style-type: none"> <li>• Increase in hospitalisation for infectious diseases in the early years</li> <li>• Reduction in hospitalisation for infectious diseases in middle childhood</li> <li>• Limited effects in later childhood after the entire cohort has started school</li> </ul>
<p><b>Information on a safe home environment</b> could help reduce the chances of accidents (such as falling down the stairs) or poisonings (e.g. with household cleaners), especially early in life</p>	<ul style="list-style-type: none"> <li>• Reduction in hospitalisation for external causes, especially poisoning and accidents/injuries in the early years</li> </ul>

<p><b>Active play sessions</b> could help children to do more physical activity, supporting their physical development and lowering risks of overweight/obesity</p>	<ul style="list-style-type: none"> <li>• Reduction in hospitalisations related to body weight</li> </ul>
<p><b>Parenting support programmes</b>, many of which had a good evidence base, could help parents to adopt more positive parenting approaches, which in turn have been linked to better cognitive, social and behavioural development in children, potentially with longer-term benefits for preventing aggressive or overly risky behaviours</p>	<ul style="list-style-type: none"> <li>• Reduction in hospitalisation for external causes, especially accidents and injuries from the early years to adolescence</li> <li>• Reduction in hospitalisation for mental-health-related reasons in adolescence (when these hospitalisations become more prevalent)</li> </ul>
<p><b>Support to parents</b> could help parents feel more able to cope, potentially reducing child maltreatment and other negative parenting</p>	<ul style="list-style-type: none"> <li>• Reduction in hospitalisation for external causes, especially accidents and injuries from the early years to adolescence</li> </ul>
<p><b>Support for parental skills and employment</b> could help parents (back) into work, increasing family income and reducing parental time</p>	<ul style="list-style-type: none"> <li>• Ambiguous effect on overall hospitalisations</li> <li>• Reduction in hospitalisations from better health as a result of higher family income (e.g. more ability to provide a healthy home environment, good food, etc.)</li> <li>• Increase in hospitalisations from less parental time at home (e.g. more difficult to access routine healthcare to manage conditions, less time to supervise children at home)</li> </ul>

Given the variety of services offered to children and their families, Sure Start may have affected children's hospitalisations through a number of mechanisms. In Table 2.2, we describe each mechanism and the effect we hypothesise it could have on children's hospitalisations.

As is clear from the table, Sure Start could have had different impacts on hospitalisations in different phases of childhood. It could even have increased hospitalisations for some causes while decreasing hospitalisations for other causes at the same age. This makes it all the more important to consider both short-term and long-term impacts, and to consider impacts on cause-specific hospitalisations in addition to impacts on overall hospitalisations.

## 3. Data and methods

As Section 2 highlights, Sure Start incorporated a wide range of services directly targeting outcomes as diverse as children’s academic development, parental employment, and the need for children’s social services. While there is ongoing work to evaluate the programme’s impacts on each of these domains,<sup>1</sup> in the current briefing note we start by focusing on the impact that Sure Start had on children’s health.

Our current focus on health is motivated by the importance of health services both in the official Sure Start guidance and in actual spending on and take-up of services. Moreover, an emerging international evidence base suggests that early intervention programmes – even those that do not target health directly – can have benefits for health both in the short run and over the life cycle. These programmes can therefore be a cost-effective way to prevent disease, with benefits for both individual welfare and the public purse (Shonkoff, Boyce and McEwen, 2009; Conti, Mason and Poupakis, 2018; García, Heckman and Ziff, 2018).

### 3.1 Methodology

In this briefing note, we focus on identifying and describing the causal impact that access to Sure Start had on children’s health, as measured by hospitalisations. Identifying this causal impact can be difficult: Sure Start services were more likely to be targeted at disadvantaged areas (meaning that a simple comparison of areas with greater or lesser coverage of Sure Start, or with earlier or later adoption, is likely to conflate the impact of Sure Start with the impact of area characteristics). Similarly, health outcomes in England as a whole were changing quickly during the 2000s and 2010s, so comparing outcomes before and after Sure Start was implemented in a given area would also be misleading.

To circumvent these issues, we use an approach known as difference-in-difference (DiD). At its simplest, the DiD method defines ‘treatment’ and ‘comparison’ groups

<sup>1</sup> <https://www.nuffieldfoundation.org/project/evaluating-short-and-medium-term-impacts-sure-start>.

whose outcomes before the start of the treatment are on similar trends (though not necessarily at the same level). It then uses the trend of the comparison group to estimate what the treatment group's outcomes would have looked like, had they not been exposed to the treatment. For the DiD method to be valid, the trends in the outcomes of the comparison group need to reflect what would have happened to the treatment group in the absence of the treatment.<sup>2</sup>

In our application, we define the 'treatment' as a child's increased access to Sure Start and we exploit variation in access resulting from the staggered roll-out of SSLPs and SSCCs over time and areas. To estimate the causal impact of increased access to Sure Start, we compare outcomes of different cohorts of children in the same area who were exposed to more or less intensive Sure Start 'treatment' based on when they were born. At the same time, we use data from other areas to account for the national trend in outcomes over this period. This allows us to uncover the effect of the treatment by comparing the outcomes of treated children with an estimate of what their outcomes would have been in the absence of the programme.

## 3.2 Data

### Data on the roll-out of Sure Start

To implement the econometric strategy described above, we need very good information on where and when Sure Start centres opened. From the Department for Education, we have a list of each Sure Start centre, its postcode and the date it opened. We map the postcodes of each centre to its local authority district (LAD/LA) to construct a monthly panel of the number of centres open in each LA.<sup>3</sup> We only use information up until 2010, both because this is the period of the expansion of Sure Start, and to avoid possible measurement error related to post-

<sup>2</sup> Of course, it is impossible to perfectly test whether this assumption held. However, in section 6.3 of the accompanying working paper, we report results from a wide range of robustness and placebo tests designed to stress test the parallel trends assumption (Cattan et al., 2021).

<sup>3</sup> We do this incorporating both Local Programmes and Children's Centres. While the opening dates of all centres are precisely known, pooling in this way requires us to make an assumption about the closure dates of SSLPs. Since over 90% of SSLPs had transitioned into Children's Centres by 2006 (National Audit Office, 2006, p.9), we assume that (a) any Local Programme that shares a postcode with a Children's Centre closed at the same time as the associated Children's Centre opened and (b) all other Local Programmes closed in December 2006.

2010 centre closures since the ‘hollowing out’ of services is not observed in our data (see Box 2.2).

Based on this data set of centre openings, we construct a measure of the coverage of Sure Start for each month as the number of open centres in the local authority per thousand children aged 0–4. This measure of ‘coverage’ captures the wider network of Sure Start services that families were exposed to in their LAs.

The final step in constructing our treatment variable is to average these monthly measures of coverage: for every month and year of birth, we average coverage over the first 60 months of life (ages 0 through 4), or – for outcomes measured before age 5 – over the months between birth and measurement.

### Data on hospital admissions

In this briefing note, we focus on children’s hospitalisations as our main measure of health. We use data from the Hospital Episode Statistics (HES), an administrative data set tracking all patients using public hospitals in England. Data on inpatient admissions have been collected since April 1997 and provide information on the admission, discharge, clinical diagnoses (up to 20 for each patient) and demographics of each patient.<sup>4</sup> We include one record per hospitalisation, independently of the length of stay, and exclude admissions related to the birth of a child.

Information on patient demographics includes sex, ethnicity, month and year of birth, and the lower layer super output area (LSOA) of residence at the time of admission.<sup>5</sup> This allows us to construct LSOA-level counts of all-cause and cause-specific admissions; to merge in Sure Start treatment variables (based on which LA children are living in at the time of admission);<sup>6</sup> and to account for a wide range of

<sup>4</sup> We focus on inpatient attendances in hospital, since data on A&E visits are only reliable from about 2007 and so do not have enough scope for a medium-term evaluation of Sure Start. However, we do break down the admission route for hospitalisations.

<sup>5</sup> The LSOA is a very small geographic unit. There are around 32,000 LSOAs in England, and the average LSOA has a population of around 1,500 residents.

<sup>6</sup> This measure of Sure Start exposure will be subject to some error when children move between birth and the time they are admitted to hospital. However, classical measurement error in the treatment variable would lead to attenuation bias; hence we would, if anything, underestimate the treatment impacts.

time-invariant factors that could be related both to the speed of the Sure Start roll-out and to hospitalisation outcomes.

To estimate the statistical model described in the previous subsection, we collapse the patient-episode-level data to cells for each LSOA-quarter-&-year-of-birth-sex-admission-age combination. Cells without admissions are assigned zero, so that we obtain a balanced panel. This allows us to explore the impacts of Sure Start on whether children are hospitalised, even though our data only cover children who do end up in hospital.

For each age between 1 and 15, we define our outcome of interest as an indicator for whether a particular cohort (defined by its quarter and year of birth) living in a particular LSOA experienced any hospitalisation at this age. This means that our results can be interpreted as the impact that increasing access to Sure Start by one centre per thousand children has on the probability of a neighbourhood-sex-quarter-&-year-of-birth cell experiencing at least one hospitalisation. An increase of one centre per thousand children is equivalent to the average increase in coverage across the whole roll-out period (although individual areas will have seen higher or lower increases).

## 4. Impact of Sure Start on children's hospitalisations

One of the goals of the earliest phases of the Sure Start roll-out was to reduce hospitalisations among children (Armstrong, 2007). In this section, we consider whether increasing an area's access to Sure Start reduces the chances that its children are admitted to hospital.

Hospitalisations are, of course, quite an extreme measure of children's health. Children born in 1993 – the last 'baseline' cohort that was entirely unexposed to Sure Start – experienced just over 65,000 hospitalisations at age 5, falling to around 45,000 admissions at age 11.

The results in this section extend the findings of Cattan et al. (2019) in three important ways:

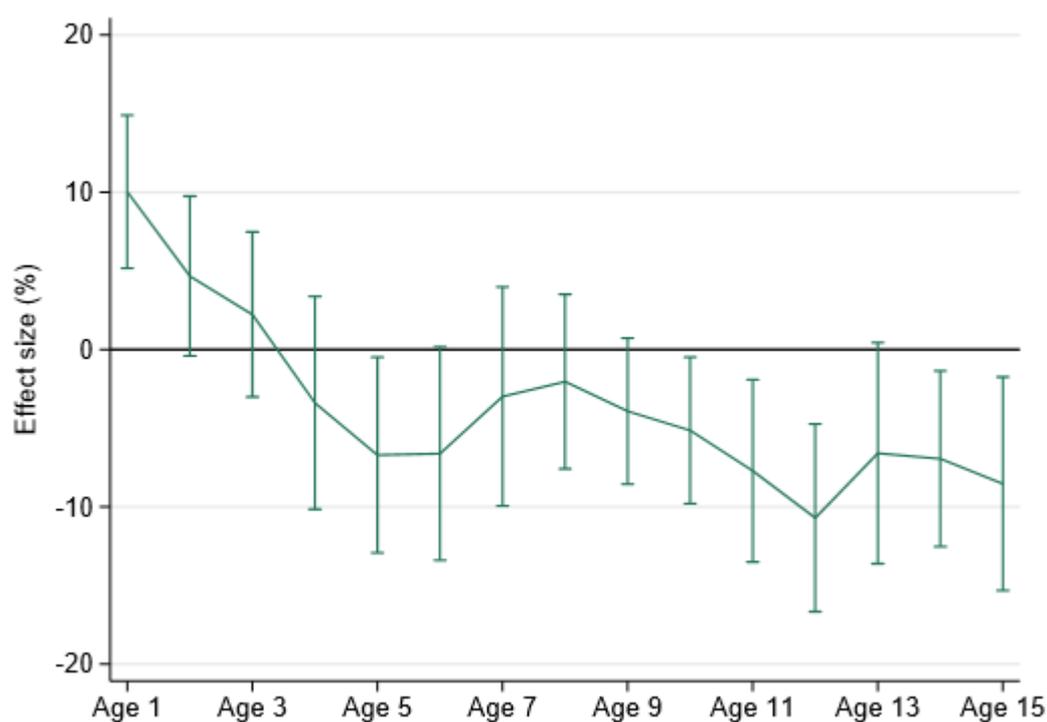
- We extend our analysis to explicitly consider children between ages 1 and 4, while they are young enough to still be eligible for Sure Start.
- We make use of more recent hospitalisation data to include hospitalisations up to 2017–18 in our analysis. This lets us look at hospitalisation outcomes well into adolescence (age 15), whereas our previous work stopped at age 11.
- Extending the analysis into adolescence affords us the opportunity to look at hospitalisation for mental-health-related reasons. Before age 11, recorded mental-health hospitalisations were too rare to be worthy of exploration.

Taken together, these additional data mean that we can trace out the entire profile of Sure Start impacts, from the earliest short-term effects all the way through to medium-term impacts on adolescents.

## 4.1 Effect of Sure Start on hospitalisation for any cause

Figure 4.1 reports the estimates of increased access to Sure Start on the probability of any hospitalisation in the neighbourhood. To account for the fact that the probability of any hospitalisation is very different at different ages, we rescale the effects we estimate by the baseline probability of a neighbourhood having any hospital admission to obtain effect sizes that can be consistently interpreted across ages.<sup>7</sup> These effect sizes therefore give the percentage change in hospitalisation probability, as compared with the baseline probability.

**Figure 4.1. Sure Start's effect on probability of any hospitalisation in the neighbourhood, rescaled by baseline probability**



Note: A full set of the point estimates and baseline means underlying the figure can be found in table 3 of Cattán et al. (2021).

<sup>7</sup> We use the mean from the cohort born in 1996 as our baseline. A full set of the point estimates and baseline means underlying the figure can be found in table 3 of Cattán et al. (2021).

The figure shows that, during the earliest years of life, when children were of an age to use Sure Start services, an increase in access to Sure Start led to an increase in hospital admissions. In particular, an increase of one Sure Start centre per thousand children in the local authority raises the probability of any hospitalisation at age 1 in a cell by 10%. Greater access to Sure Start continues to increase hospitalisations at ages 2 and 3, but these effects are smaller and no longer statistically significant (which means we cannot be confident that the true impact is actually different from zero).

As children continue to age, these early increases in hospitalisations are followed by substantial decreases in the probability of admission through childhood and early adolescence. Once children turn 5 and stop being age-eligible to use Sure Start services, the overall impact on hospitalisations becomes consistently negative, with larger impacts during the first few years of schooling (ages 5–6) and then from age 10 onward. Increasing Sure Start coverage in the local authority by one centre per thousand children at ages 0–4 averts around 7% of hospital admissions at age 5 (corresponding to around 2,860 averted hospitalisations a year), 8% by the end of primary school at age 11 and 9% by age 15 (the final year we study).

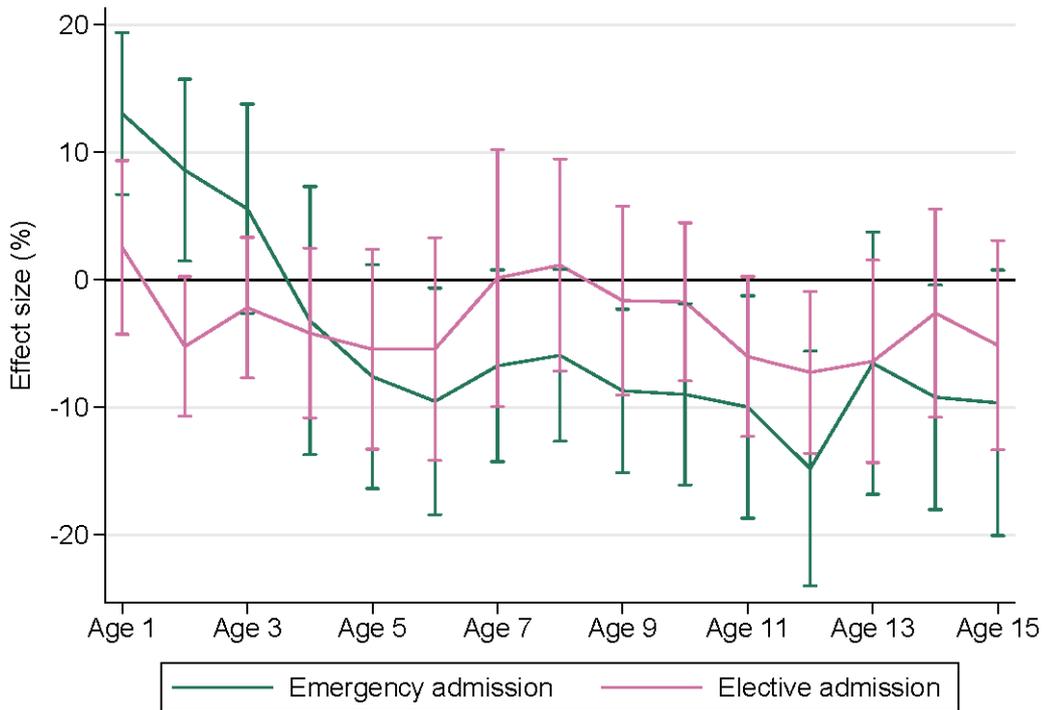
As outlined in Table 2.2, there are a number of channels through which Sure Start might have increased hospitalisations at younger ages and reduced them at later ages. Unfortunately, we do not have data on the services offered by individual centres and taken up by children located in different areas of England. This means that we cannot pin down directly which services drove the overall effects on hospitalisations.

Instead, we use information about specific causes of hospitalisation to help us understand which channels are most likely to have played an important role. Moreover, we test whether Sure Start had an effect on parental labour supply and family income using another data set, the Labour Force Survey. This analysis suggests that this was not an important channel through which Sure Start operated. In this briefing note, we only discuss the results from our analysis of specific causes of hospitalisations and refer interested readers to our accompanying paper (Cattan et al., 2021) for more information about our employment analysis.

## 4.2 Effect of Sure Start on hospitalisation for specific causes

First, we examine the two possible routes through which patients can be admitted to hospital: emergency and elective (planned) routes. The results are shown in Figure 4.2. Our overall results are driven by Sure Start's impacts on emergency admissions; at most ages, Sure Start's impact on elective admissions is not statistically different from zero. This suggests that Sure Start is affecting the incidence of illness or injury, not just families' propensity to seek healthcare for underlying or longer-term conditions. This is consistent with a wider effect of Sure Start beyond the provision of health services and information.

**Figure 4.2. Sure Start's effect on probability of any hospitalisation, rescaled by baseline probability: emergency and elective admission routes**



Note: A full set of the point estimates and baseline means underlying the figure can be found in table A.4 of Cattán et al. (2021).

To help understand what these wider effects could be, we next consider hospitalisations for a range of specific causes, focusing on conditions that are likely to result in emergency rather than elective admissions.<sup>8</sup> Specifically, we focus on preventable hospitalisations (‘Ambulatory Care Sensitive’ conditions); hospitalisations for infectious illnesses; and hospitalisations for external causes such as accidents and injuries. At older ages, we are also able to assess Sure Start’s impact on hospitalisations for mental health problems.

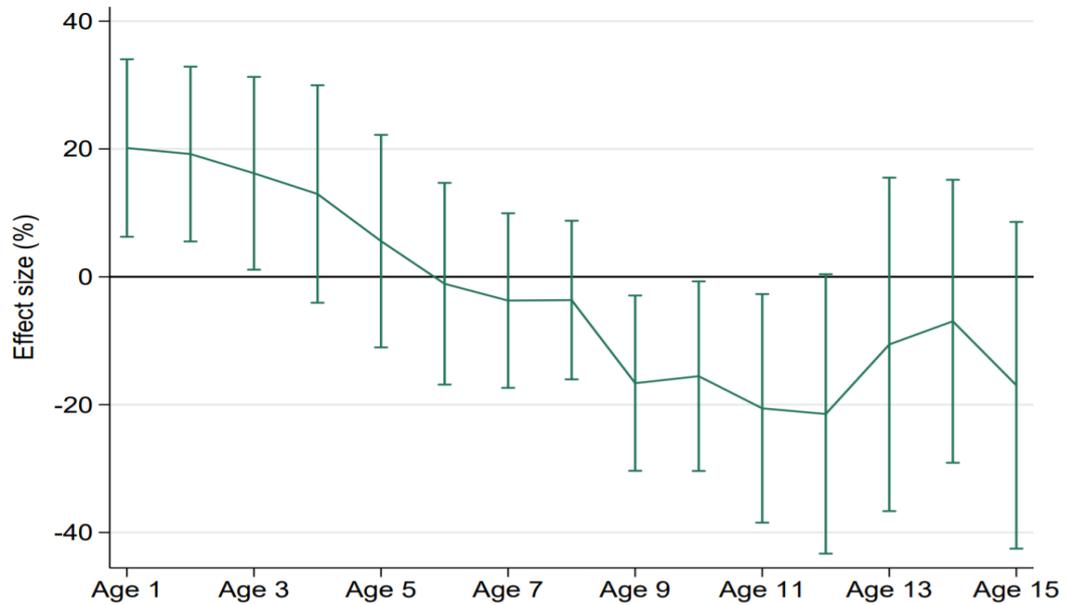
We first explore Sure Start’s impact on hospitalisations for Ambulatory Care Sensitive (ACS) conditions. These include chronic conditions that can typically be managed outside of hospital (e.g. asthma); acute conditions where serious illness could have been prevented by early intervention (e.g. gangrene); and conditions that arise from vaccineable diseases (e.g. measles).<sup>9</sup> Figure 4.3 shows that Sure Start substantially increases hospitalisations for these conditions at younger ages, with a 20% increase over baseline levels at age 1. However, as children age, greater access to Sure Start instead reduces ACS admissions, with a 20% reduction over baseline levels by age 11. This pattern is consistent with Sure Start providing better information and signposting, as parents learn to manage their child’s conditions earlier in life and so reduce hospitalisations later on.

In Figure 4.4, we turn to Sure Start’s impacts on hospitalisations for infectious illnesses, which are a major source of hospitalisations in children. Specifically, we consider hospitalisations for infections, parasites or respiratory illnesses. We find that greater access to Sure Start substantially increased hospitalisations for infectious illnesses in infancy; however, there are significant and substantial falls in hospitalisations (of up to 19% of the baseline) shortly after children ‘age out’ of Sure Start eligibility and start school.

<sup>8</sup> Hospital admissions in the HES data can have up to 20 causes, recorded via ICD-10 codes. In these results, we classify admissions based on the primary diagnosis recorded; however, our results are similar when we instead look for any diagnosis matching the criteria.

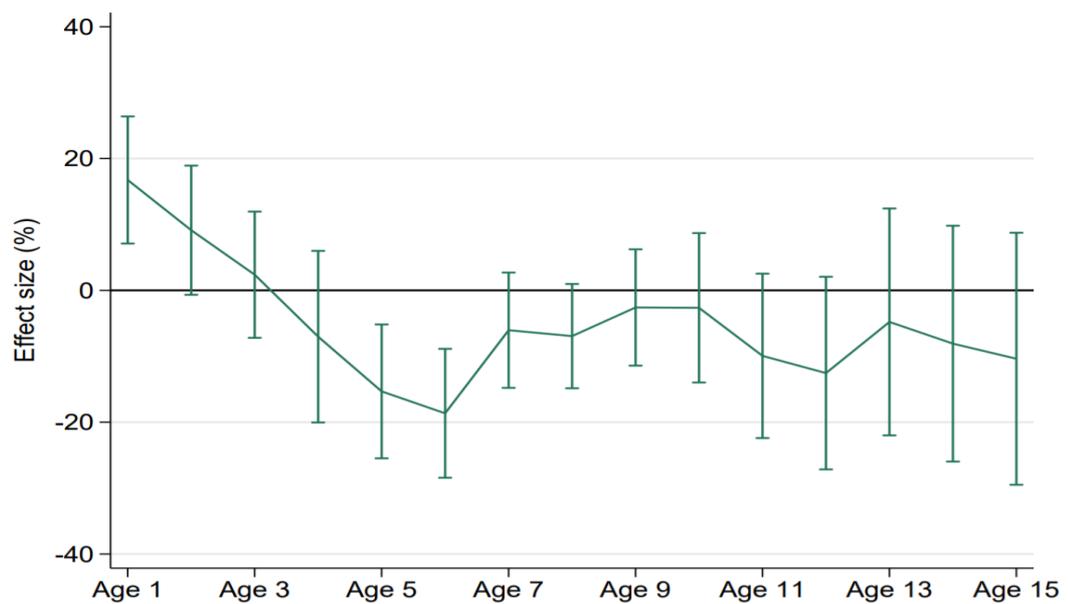
<sup>9</sup> See Blunt (2013) for a full list of ICD-10 codes that are included in this definition.

**Figure 4.3. Sure Start’s effect on probability of any hospitalisation, rescaled by baseline probability: admissions for preventable causes**



Note: A full set of the point estimates and baseline means underlying the figure can be found in table A.5 of Cattán et al. (2021).

**Figure 4.4. Sure Start’s effect on probability of any hospitalisation, rescaled by baseline probability: admissions for infectious illnesses**



Note: A full set of the point estimates and baseline means underlying the figure can be found in table A.5 of Cattán et al. (2021).

This is consistent with exposure to pathogens through Sure Start activities such as childcare: children who are more exposed early in life are initially more vulnerable to infectious illness, but then build up a stronger immune response which protects them compared with their less exposed peers when the entire cohort enters school. After a few years of schooling, though, these advantages seem to fade out as the immune systems of children with less exposure to Sure Start ‘catch up’ to their peers’.

We now turn to hospitalisations for external causes. These hospitalisations, which include injuries and poisonings, can be loosely defined as hospitalisations not related to illness or disease. They are particularly relevant to our analysis, since there are a number of ways in which Sure Start could affect these outcomes. First, Sure Start provided parents with information on how to make their home safer for young children; this could have reduced both accidents (such as falling down un gated stairs) and poisonings (e.g. from cleaning products not stored safely). Second, Sure Start may have reduced the incidence of maltreatment (either by providing parents with early intervention and support, or by increasing detection rates and helping to remove children from unsafe homes).<sup>10</sup>

Finally, to the extent that Sure Start improved children’s cognitive and socio-emotional development (e.g. through more socialisation early in life or through more positive parenting), it could have longer-lasting impacts on accidents and injuries. For example, a reduction in externalising behaviour (which has been identified in previous work, e.g. Sammons et al. (2015)) could see children behaving in less aggressive or less hyperactive ways. This latter channel would plausibly see effects grow in the medium term, since at older ages children generally have more freedom for potentially dangerous behaviour such as getting into fights or falling from heights.

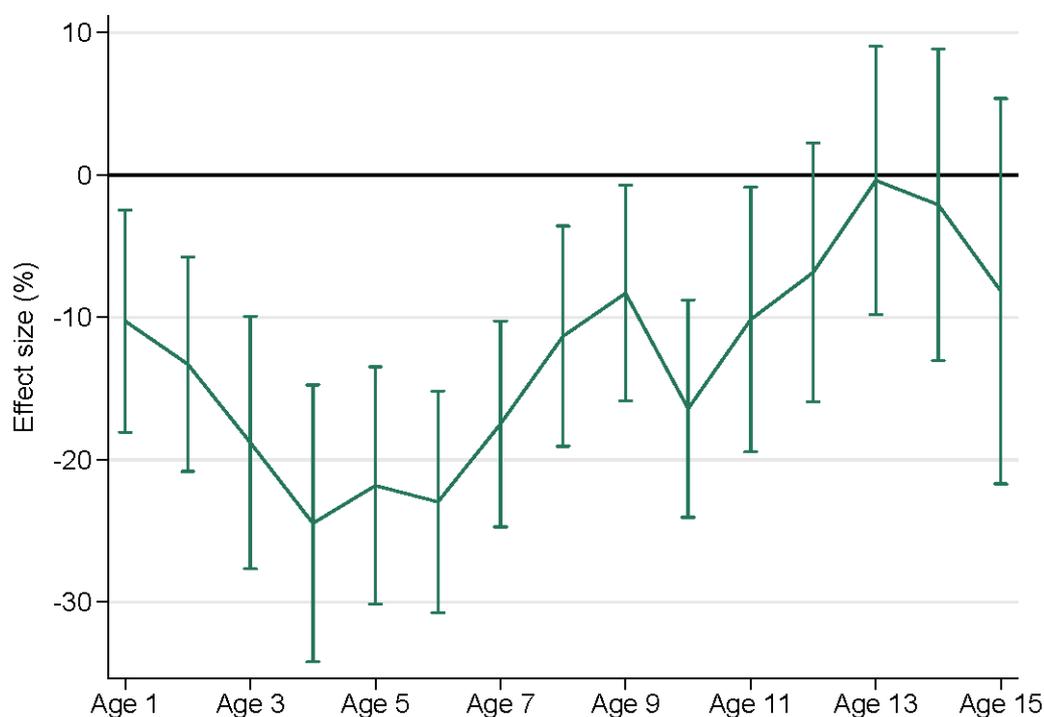
Figure 4.5 shows that Sure Start led to very large declines in hospitalisations for external causes at almost all ages we consider. As expected, unlike the infectious outcomes discussed above, these effects are always negative; even at the youngest ages, the probability of an externally caused hospitalisation falls by 10% or more

<sup>10</sup> While previous research has identified a subset of conditions that can be used as proxies for potential maltreatment (Gonzalez-Izquierdo et al., 2010), the incidence of these is too low to reliably estimate Sure Start’s impacts on these outcomes. However, reductions in hospitalisations for injuries are commonly interpreted in the home visiting literature as signs of reductions in child maltreatment (Kitzman et al., 1997).

with greater access to Sure Start. At younger ages, these results offset some of the increase in hospitalisations due to infectious illnesses. However, unlike our main results, we find that the impact on external admissions fades out at older ages, with null effects from age 12 onwards.

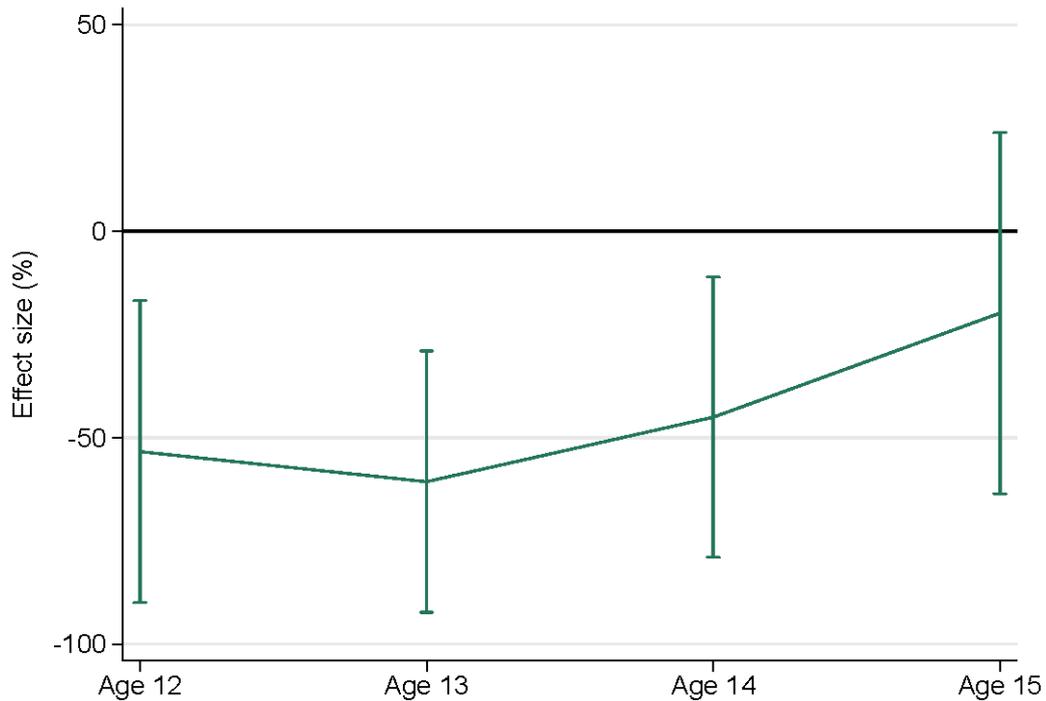
In results that we show in the accompanying working paper (Cattan et al., 2021), we further show that the impacts on external conditions mainly come from reductions in injuries, which decline with greater access to Sure Start during almost all years in childhood. We interpret the magnitude and persistence of these effects as potential evidence for sustained impacts on children's socio-emotional development and behaviour and/or reductions in child maltreatment. From age 1 to age 3, greater access to Sure Start also has a significant and negative impact on poisonings, consistent with Sure Start providing information about safer environments for young children.

**Figure 4.5. Sure Start's effect on probability of any hospitalisation, rescaled by baseline probability: admissions for external causes**



Note: A full set of the point estimates and baseline means underlying the figure can be found in table A.5 of Cattan et al. (2021).

**Figure 4.6. Sure Start’s effect on probability of any hospitalisation, rescaled by baseline probability: admissions for mental health causes**



Note: A full set of the point estimates and baseline means underlying the figure can be found in table A.7 of Cattán et al. (2021).

Lastly, we attempt to look directly at the impact of Sure Start on children’s mental health. There are significant limitations to our data: we only observe hospital admissions, so our measure of mental health is very extreme and does not capture young people who are receiving services in the community, through their schools or through non-hospital providers. Previous work has also raised concerns about the accuracy of mental health diagnosis coding, especially for conditions such as depression or anxiety (Davis, Sudlow and Hotopf, 2016). Relatedly, recorded mental health hospitalisations among young people are very rare. Among primary-school-aged children they are so rare, occurring in just 0.02% of cells, that we cannot estimate the programme’s impact. This also means that, when measured relative to the baseline probability of hospitalisations (as we do throughout the analysis), the impacts of Sure Start can be very large, even if the intervention effectively only changed the outcomes of a small number of young people.

Figure 4.6 shows the impact of additional access to Sure Start on mental health admissions among teenagers (ages 12–15). We find a statistically significant

decrease in mental-health-related admissions at ages 12–14, which is again consistent with potential longer-run impacts on children’s socio-emotional development via enriched early environment and improved parenting practices.

## 4.3 Summary

The expansion of Sure Start through the 2000s led to significant changes in the hospitalisations of children from infancy all the way to adolescence. At the youngest ages, greater access to Sure Start increased hospitalisations, driven mainly by an increase in infectious illnesses. The increase was partly offset by a fall in hospitalisations from external causes and poisonings, suggesting that information on safer home environments was helping children to avoid accidents.

Later, during early primary school, hospitalisations related to infectious illness fell. This is consistent with an immune system response: early exposure to other children through Sure Start meant that some children had built up a stronger immune system before entering school, which their less exposed peers did not have. These ages also saw a substantial reduction in admissions for external causes (mainly injuries), suggesting that Sure Start had lasting impacts on preventing injuries. Despite these benefits for specific causes of admission, the overall impact on hospitalisation is not statistically different from zero for most of these ages.

Finally, in later primary school years and early adolescence, we again observe a statistically significant effect on overall hospitalisations – this time, a substantial fall in the probability of hospitalisation. These impacts are driven by fewer hospitalisations for respiratory illness (mainly asthma). We also find a substantial fall in the probability of being admitted to hospital for mental health reasons.

Our results therefore suggest that Sure Start benefited children’s physical and mental health, even after they left the programme, through a number of channels: strengthening children’s immune systems (e.g. by providing greater access to vaccination and/or by creating more contact between children); providing parents with greater information about children’s health and healthcare; and helping them to achieve more effective parenting and make the home a safer and better environment.

In the next section, we explore whether some children benefited from the programme more than others.

# 5. Who benefited from the expansion of Sure Start?

In this section, we explore whether certain groups of children benefited from the expansion of Sure Start (SS) more than others. In particular, we look at whether impacts are different between girls and boys; between children living in areas with different levels of deprivation; and between cohorts of children who were more likely to be exposed to SS Local Programmes as opposed to SS Children's Centres.

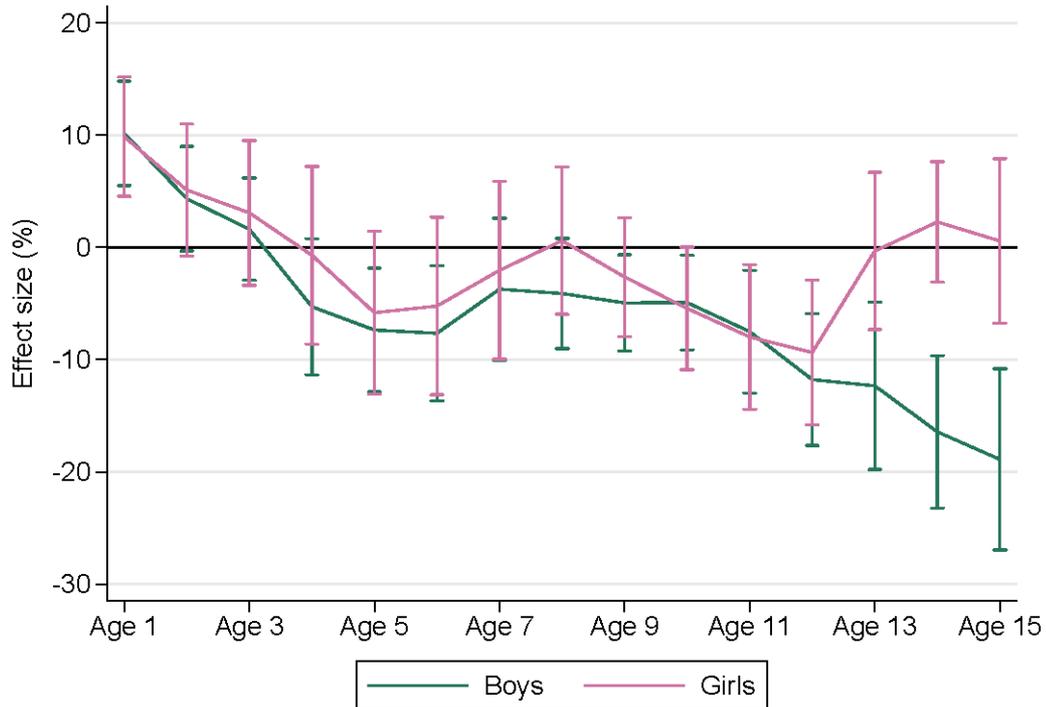
## 5.1 Impacts by gender

Figure 5.1 reports the impacts of increased access to Sure Start on hospitalisations when we allow the impact to differ between boys and girls. It shows that the profile of effects is fairly similar for girls and boys up to age 10; however, during adolescence we find that the impacts diverge. While there is no impact on girls in their teen years, the impact on boys grows steadily, and by age 15 an additional Sure Start centre per thousand children during the first five years of life reduces the probability of a hospitalisation by 19%.

The fact that Sure Start had greater impacts on boys in adolescence is consistent with the results of early childhood intervention evaluations, such as the Abecedarian programme (Conti, Heckman and Pinto, 2016) and Head Start (Carneiro and Ginja, 2014). Interestingly, we find similar impacts for boys and girls early on, which would suggest that the gender difference in impacts later on is not due to a gender difference in take-up of services. Rather, in results reported in Cattan et al. (2021), we show that the gender difference in impacts is entirely driven by a greater impact of Sure Start on reducing hospitalisations for injuries. Injury-related hospitalisations are more likely to happen for boys than for girls throughout childhood, with differences increasing from the age of 11, which would in turn

reinforce the earlier suggestion that Sure Start did work by improving children's behaviour.

**Figure 5.1. Sure Start's effect on probability of any hospitalisation, rescaled by baseline probability: admissions by gender**



Note: A full set of the point estimates and baseline means underlying the figure can be found in table A.8 of Cattán et al. (2021).

## 5.2 Impacts by area deprivation

As we discussed in Section 2, Sure Start started as an intervention targeting highly disadvantaged areas, but the programme was universalised with the 2003 Every Child Matters initiative and the creation of a large network of Sure Start Children's Centres in most areas of the country. Despite its universal character, there are several reasons why we would not necessarily expect Sure Start to deliver the same benefits to all children.

### Why might Sure Start's impacts vary by deprivation?

First, the effectiveness of Sure Start will depend on the type of services and environment that children would have experienced otherwise. There is evidence to

suggest that disadvantaged children grow up in less safe and stimulating environments and that disadvantaged parents make less use of healthcare (Currie, 2009). This means that disadvantaged families may have had more scope to benefit from the information and services to support parents that Sure Start provided.

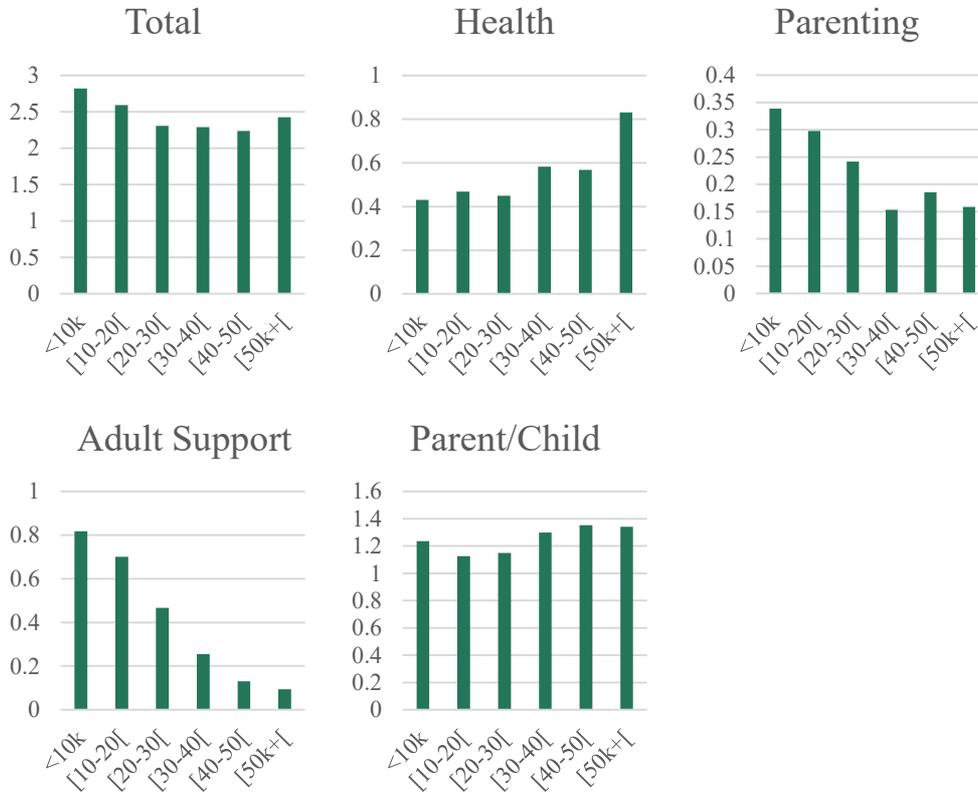
There may also have been differences in the extent to which families made use of Sure Start services. This could be because families in some areas are more interested in using services (e.g. because they feel they can benefit more) or because centres in some areas do more in terms of outreach to attract families. While there is no historical record to date to compare the take-up of services across all areas of England,<sup>11</sup> an analysis of the data collected as part of the Evaluation of Children's Centres in England (ECCE) suggests that usage of services did vary slightly with family income, with the poorest families spending more time in centres than other families (Figure 5.2).

Finally, the impacts of Sure Start may differ between more and less advantaged neighbourhoods because of differences in the service offer. While all Sure Start Children's Centres had to deliver the 'Core Offer',<sup>12</sup> SSCCs that opened in different phases of the expansion had different requirements in terms of the childcare offer they had to provide. All Phase 1 Children's Centres had to provide integrated early education and childcare for 0- to 5-year-olds, and this care had to be available 10 hours a day, 5 days a week, 48 weeks a year. A qualified teacher had to be appointed and each local authority was given a target number of childcare places to create. Phase 2 Centres also had to provide access to childcare, with a 0.5 full-time-equivalent qualified teacher post, though there was no target for new childcare places. Phase 3 Centres were not required to provide early learning and childcare places but could do so if the need arose (House of Commons Children, Schools and Families Committee, 2010).

<sup>11</sup> In ongoing research, we are working with a number of local authorities to make information about service usage they hold in their management information systems available for research.

<sup>12</sup> The Core Offer included: drop-in sessions and activities for parents, carers and children; access to child and family health services, including antenatal care; outreach and family support services; links with Jobcentre Plus for training and employment advice; support for childminders; and support for children and parents with special needs. Centres retained a large degree of flexibility in how they provided these services.

**Figure 5.2. Hours spent per week at different Sure Start services by family income, 2011**



Note: The six groups correspond to different brackets of family income: less than £10,000; between £10,000 and £19,999; between £20,000 and £29,999; between £30,000 and £39,999; between £40,000 and £49,999; and £50,000 or more.

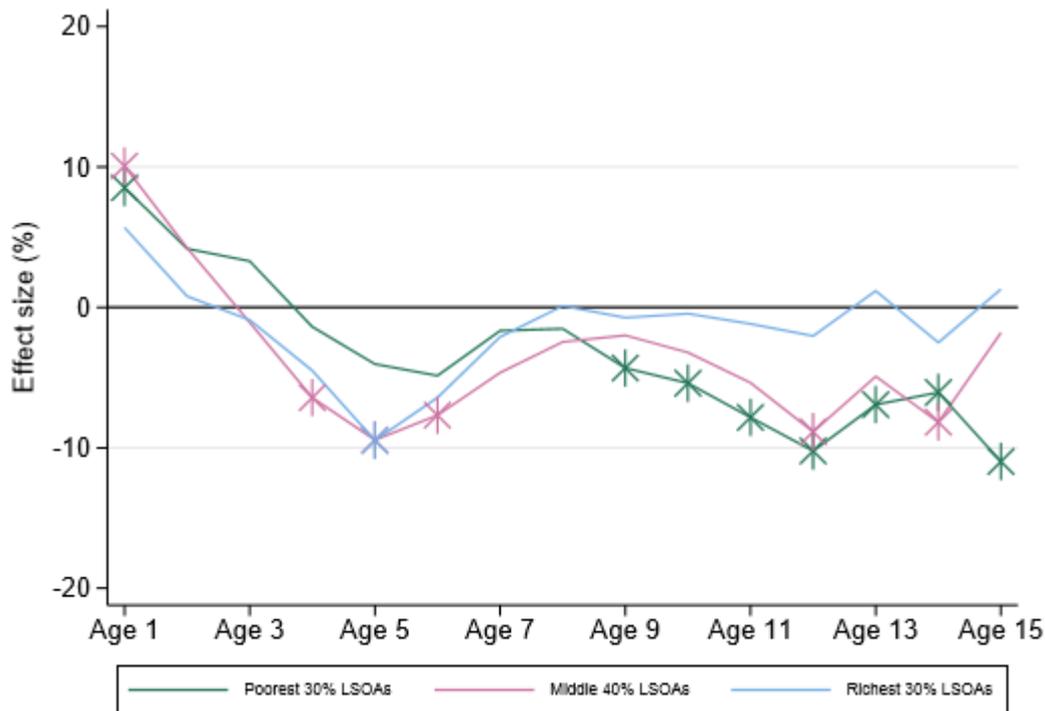
Source: Figure A.5 of Cattan et al. (2021). Based on data collected by Goff et al. (2013).

For these diverse reasons, we would expect the impacts of Sure Start to be greater in more deprived areas, which would also be consistent with evidence from other large-scale early childhood interventions (see Almond, Currie and Duque (2018) for a review).

### How did Sure Start’s impacts vary by deprivation?

Figure 5.3 reports the effects of Sure Start on the probability of any hospitalisation in the neighbourhood when we allow these impacts to differ by the neighbourhood’s level of disadvantage. We group neighbourhoods into three categories based on their ranking on the 2004 Index of Multiple Deprivation: the poorest 30% of neighbourhoods (LSOAs); the richest 30%; and the middle 40%.

**Figure 5.3. Sure Start's effect on probability of any hospitalisation, rescaled by baseline probability: admissions by area deprivation**



Note: The effects on the poorest 30% LSOAs and middle 40% LSOAs are statistically different for ages 3, 9, 10, 11 and 15. The effects on the poorest 30% LSOAs and richest 30% LSOAs are statistically different for ages 1 and 9–15.

The figure shows that at age 1, Sure Start only led to an increase in hospitalisations among the 70% most deprived areas of England. For most ages from 9 onwards, Sure Start reduced hospitalisations in the 30% most deprived areas. Importantly, because impacts at later ages are estimated from variation in exposure to Sure Start among children born in the late 1990s and early 2000s, when the programme was primarily open in very deprived neighbourhoods, the impacts we estimate for the richest areas for ages 12 onwards should be considered with caution.

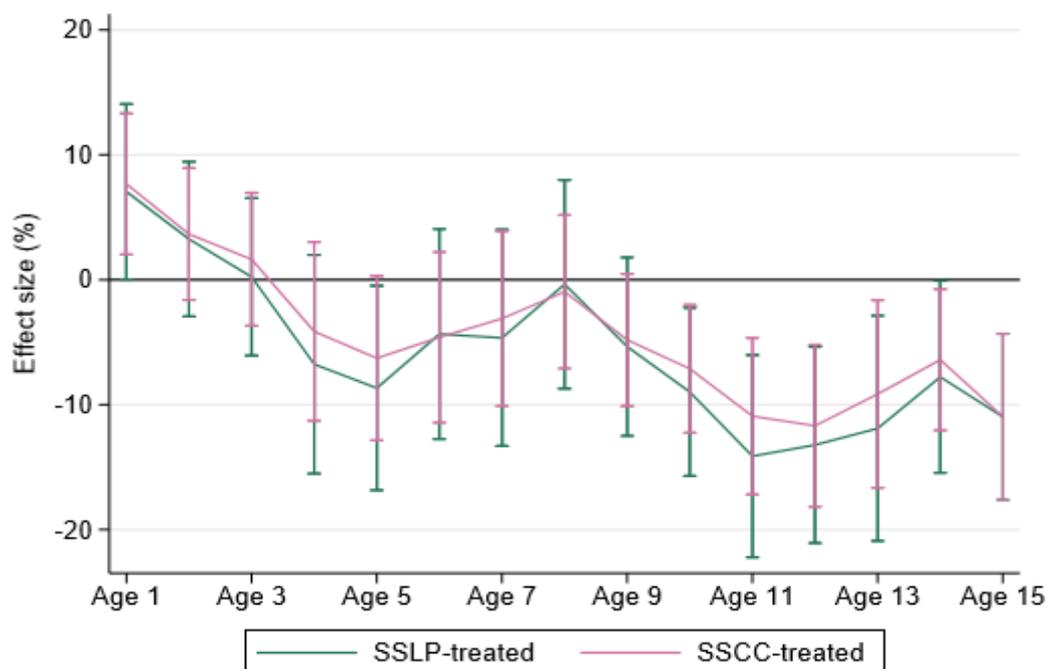
## 5.3 Impacts of SSLPs vs SSCCs

One specific reason why the impacts of Sure Start may have been greater among the poorest neighbourhoods is that these areas were initially targeted with Sure Start Local Programmes, as opposed to Sure Start Children's Centres. We therefore explore whether the impacts of Sure Start in the 30% most disadvantaged areas

differ based on whether children were more likely to be exposed to SSLPs or SSCCs. We focus on these most disadvantaged neighbourhoods since these were the areas targeted in the initial Sure Start roll-out, and virtually all SSLPs were opened to serve communities in this group.

Unfortunately, our data on Sure Start do not indicate when centres – either SSLPs or SSCCs – closed their doors. Decisions around when an SSLP should transition into an SSCC were also likely to have been influenced by local factors. For these reasons, we focus on identifying cohorts of children who were born in time to be affected by SSLPs (rather than identifying the main source of coverage for individual children). The results we present here use 2003 as the dividing line, with children born in 2002 and before considered to be SSLP-treated, while those born in 2003 and later are considered to have been primarily exposed to SSCCs; however, the results we present are robust to a range of alternative choices of date.

**Figure 5.4. Sure Start’s effect on probability of any hospitalisation, rescaled by baseline probability: admissions by type of Sure Start programme, among 30% most disadvantaged neighbourhoods only**



Note: The coefficients for SSLP-treated and SSCC-treated cohorts are statistically different at at least the 10% level for ages 4, 5, 11 and 13. A full set of the point estimates and baseline means underlying the figure can be found in table A.9 of Cattan et al. (2021).

Figure 5.4 shows the estimated impact of Sure Start on hospitalisations among children in the poorest 30% of neighbourhoods, splitting between children born in 2002<sup>13</sup> or before and those born in 2003 or later. These effects look quite similar across the two groups, but the results for earlier, SSLP cohorts are consistently somewhat larger than the results for later, SSCC-treated cohorts. However, this difference is only statistically significant at the 5% level at age 11.

<sup>13</sup> This corresponds to the final cohort that spent a full five years exposed to Sure Start by 2006, when over 90% of SSLPs were confirmed to have transitioned to SSCCs.

## 6. Cost–benefit analysis

In this section, we report a simple cost–benefit calculation to assess whether Sure Start is good value for the government money. We do so by combining official data on government expenditures on Sure Start with the estimates obtained in the previous sections, and also results from the best published literature. We compute the averted costs in terms of hospitalisations attributable to providing access to Sure Start to 1,000 more children (i.e. from opening one more centre at the peak coverage level).

We are not the first to try to quantify the monetary benefits of Sure Start. Meadows et al. (2011) calculated that SSLPs cost around £1,300 per eligible child per year at 2009–10 prices (or £4,860 per eligible child over the period from birth up to age 4); and that by the time children had reached the age of 5, SSLPs had already delivered economic benefits between £279 and £557 per eligible child (coming from reduction in workless households), which is 6–12% of the total cost of the programme. The authors concluded that this is a large impact, given the early stage at which it is measured, but that there was insufficient information to reliably predict longer-term economic impacts.

Gaheer and Paull (2016) collected very detailed cost data on different types of services delivered in 24 of the SSCCs that participated in the ECCE: baby health, child play, parent support, specialist child support, specialist family/parent support, childcare, finance and work support, and training and education. The average cost per user per hour (the value of resources used to deliver one hour of a service to a child) ranged from £6 for childcare to £55 for finance and work support, while the mean cost per family using the service (which accounts for the hours of usage) ranged from £958 for parent support to £8,454 for childcare. The authors then combined estimates on the associations between the use of different types of SSCC services and improved family outcomes with existing evidence from the literature on long-term effects. They found that some SSCC services provide positive value for money, i.e. the monetary valuation of improved outcomes exceeds the cost of delivery.

In our case, we have decided to compute in an alternative way the cost of Sure Start. Our choice is informed by different factors. First, we have not collected detailed costs data as was done in the NESS and ECCE evaluations. Second, given that we evaluate the effects of Sure Start using the whole period it was in place, it would be difficult to compute a measure of costs valid for both SSLPs and SSCCs. Third, our measure of costs needs to be consistent with the methods we use in the estimation of the impacts, which studies the effects of access to, rather than usage of, Sure Start. For these reasons, we compute the cost of Sure Start per *eligible* child, by dividing the overall government expenditures on Sure Start by the number of eligible children, i.e. the number of children aged 0–4 in the local authorities in which Sure Start was in place in that particular year. This is consistent with the aim of the government (especially at programme maturity) to provide Sure Start to every child, and the fact that Sure Start was area-based, rather than means-tested. The cost per child computed in this way amounts to £415.9 per eligible child, on average.

Weighed against Sure Start’s cost to taxpayers, we can consider the financial benefits of the hospitalisations that Sure Start averted. In doing this calculation, we only want to consider impacts that are statistically significant (i.e. that we can be confident are not just due to chance), for the following conditions: injuries and poisoning (a subset of external), respiratory, parasitic/intestinal, and mental health. We consider three types of costs:

- Averted direct healthcare costs. We use specific NHS resource use costs for each of these conditions, taking the average cost among the different categories for non-elective long and short stay.
- Averted indirect costs, over the same ages as the healthcare costs, such as costs to the family and to society (e.g. lost income and value of work time lost).
- Averted long-term costs, for those cases that would incur sustained costs over the life cycle (such as those deriving from traumatic brain injury or attributable to child maltreatment, or for mental health conditions).

The main results of our cost–benefit calculation are reported in Table 6.1. All costs are in 2018–19 prices, and discounted using a 3.5% discount rate as recommended by the National Institute for Health and Care Excellence (NICE). The total financial benefit from averted costs, obtained by adding together the direct healthcare costs, indirect costs throughout childhood and long-term costs, amounts to around £330 million. Of this, around £4 million is attributed to direct cost savings to the

NHS from fewer hospitalisations at ages 1–15. As expected, the bulk of the total averted cost is attributable to the lifetime costs of traumatic brain injury and mental health conditions. Set against this is the estimated cost of providing an additional Sure Start centre per thousand children to a representative cohort, which we calculate at £1,055 million. On this basis, then, we find that the financial benefits from reducing hospitalisations offset approximately 31% of the cost of Sure Start provision (with direct savings from the reduction in hospitalisations at ages 1–15 amounting to less than 0.5% of spending on Sure Start).

**Table 6.1. Estimated costs and benefits of Sure Start for one cohort of children (2018–19 prices)**

Total costs	£1,055 million
Total averted costs	£330 million
<i>Of which:</i>	
Direct healthcare costs (1.2%)	£3.9 million
Indirect costs (1.3%)	£4.3 million
Long-term costs (97.5%)	£322 million

Of course, the benefits of Sure Start may extend to other domains beyond health since the programme was designed to promote child development in a holistic way and through a variety of services. To accurately measure the full benefits of Sure Start against its cost, it will therefore be crucial to look at additional outcomes that the programme could have improved. This is precisely what we will do in a new project funded by the Nuffield Foundation looking at the impacts of Sure Start on children’s attainment, use of social care, and offending behaviour.<sup>14</sup> As part of the project, we will update the cost–benefit analysis of the programme.

<sup>14</sup> <https://www.nuffieldfoundation.org/project/evaluating-short-and-medium-term-impacts-sure-start>.

## 7. Conclusion

The Sure Start programme has been one of the pillars of England's policy offer in the early years. Despite the erosion of funding it has experienced since 2010, many of the principles that it was built around – a joined-up offer, local flexibility on services, a focus on supporting the needs of both children and their families in the earliest years – remain influential in early years policy design.

The continuing importance of these principles in the policy debate highlights the need for evaluation of how they have worked in practice to support children and families. Our research provides some of the first evidence for the impacts that Sure Start had on children's health from age 1 all the way through to 15. By extending the results in Cattan et al. (2019) to cover both younger and older age groups, we have showcased important patterns in how Sure Start affects health both during the time when children are eligible and up to a decade after their eligibility has ended.

We find strong evidence that access to Sure Start affects children's hospitalisations. In the earliest years of life, Sure Start increases hospitalisations as families get more support to use health services and as children are exposed to a wider range of infectious illnesses. But after the first few years, Sure Start decisively reduces hospitalisations, with stronger immune systems, better disease management, safer home environments and fewer behavioural problems all potentially playing a role.

These effects are substantial; our calculations suggest that an additional centre per thousand children under 5, on average, generates around 6,700 additional hospitalisations of 1-year-olds each year. But it also prevents around 13,150 hospitalisations each year between the ages of 11 and 15 – meaning that Sure Start averts nearly twice as many hospitalisations among older children as it induces in 1-year-olds.

Our results also suggest that Sure Start had particularly big benefits for some groups of children. Especially at later ages, the fall in hospitalisations the programme brought about is concentrated among boys and in more disadvantaged

neighbourhoods. We find almost no evidence that Sure Start has improved children's hospitalisation outcomes in the richest neighbourhoods.

These results can help policymakers to design and evaluate early years programmes that best support children and their families. Our research suggests that holistic programmes that bring together a number of different services can be very effective in promoting children's health. The wide range of channels through which Sure Start seems to have affected health points to the importance of considering children's health holistically, and the importance of designing a service offer that meets a range of needs at once. Indeed, some of the longest-lasting benefits of Sure Start seem to come through channels such as improved socio-emotional development; the interventions that support these domains of development are not usually primarily focused on health. The diversity of services that Sure Start services offered is likely to have made its strength.

Our results also suggest that Sure Start's main benefits flowed to poorer neighbourhoods. This means that the programme likely helped to ease geographic inequalities, at least in child health. However, policy decisions since 2010 have not systematically protected the centres serving the poorest areas. Our research suggests that prioritising spending on early years programmes towards disadvantaged areas – or shielding these neighbourhoods from funding cuts – will help to ensure that services are better targeted to benefit children's health.

Our research also underscores the importance of evaluating the impacts of public investments in early childhood beyond the short term. Indeed, in the case of Sure Start, a short-term evaluation of the programme on overall hospitalisations in the early years would have suggested that the programme had either no effect on or perhaps increased hospitalisations (and hence increased the cost to the public purse). Moreover, especially in the case of holistic interventions that can affect children's outcomes through a variety of services, it is also crucial to look at a variety of outcomes – here, cause-specific hospitalisations in addition to overall hospitalisations – to build a full picture of the mechanisms through which they work. This is precisely what we will continue to do in a new project funded by the

Nuffield Foundation looking at the impacts of Sure Start on children's attainment, use of social care, and offending behaviour.<sup>15</sup>

While the full cost of providing Sure Start to all eligible children is not recouped by including only the health returns, we find that the financial benefits from reducing hospitalisations offset approximately a third of the cost of Sure Start provision (with direct savings from the reduction in hospitalisations at ages 1–15 amounting to less than 0.5% of spending on Sure Start).

Of course, fewer hospitalisations also have a benefit to children and their families, beyond that to the public purse. It is up to policymakers to decide how they weigh these benefits against the costs of Sure Start or other early intervention programmes. But our findings make clear that a model such as Sure Start can be an effective way to support children's healthy development and reduce hospitalisations in later childhood and early adolescence.

The Sure Start programme offers a rare opportunity to understand and evaluate how such a programme has worked in practice – and so it is vital that the lessons it holds on what works in the early years are taken into account when designing the future service offer. Based on these findings, the Best Start for Life review's calls for joined-up services and better evaluation of early years programmes should be taken seriously by early years policymakers, to help design services that will support the health of children in England, in the early years and later on.

<sup>15</sup> <https://www.nuffieldfoundation.org/project/evaluating-short-and-medium-term-impacts-sure-start>.

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