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Effects of Sure Start local programmes on children and families: early findings from a quasi-experimental, cross sectional study

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Abstract

Objective To evaluate the effects of Sure Start local programmes (SSLPs) on children and their families. To assess whether variations in the effectiveness of SSLPs are due to differences in implementation.
Design Quasi-experimental cross sectional study using interviews with mothers and cognitive assessment of children aged 36 months who speak English.
Setting Socially deprived communities in England: 150 communities with ongoing SSLPs and 50 comparison communities.
Participants Mothers of 12 575 children aged 9 months and 3927 children aged 36 months in SSLP areas; mothers of 1509 children aged 9 months and 1101 children aged 36 months in comparison communities.
Outcome measures Mothers' reports of community services and local area, family functioning and parenting skills, child health and development, and verbal ability at 36 months.
Results Differences between SSLP areas and comparison areas were limited, small, and varied by degree of social deprivation. SSLPs had beneficial effects on non-teenage mothers (better parenting, better social functioning in children) and adverse effects on children of teenage mothers (poorer social functioning) and children of single parents or parents who did not work (lower verbal ability). SSLPs led by health services were slightly more effective than other SSLPs.
Conclusion SSLPs seem to benefit relatively less socially deprived parents (who have greater personal resources) and their children but seem to have an adverse effect on the most disadvantaged children. Programmes led by health services seem to be more effective than programmes led by other agencies.

Introduction

Sure Start local programmes (SSLPs) represent a large scale, area based effort by the government of the United Kingdom to enhance the health and development of children under 4 years and their families who live in socially deprived communities in England. SSLPs are a unique approach to enhancing the life prospects of disadvantaged children, in that all children aged 0-3 years and their families living in a prescribed area are "targets" of intervention. All SSLPs are expected to provide core services of outreach or home visiting; family support; support for good quality play, learning, and childcare experiences; primary and community health care; advice about child and family health and development; and support for people with special needs. Community participation is central to the mission of these programmes. Our report aims to evaluate the impact of SSLPs on children and their families by investigating differences between children

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and families in 150 communities with SSLPs and 50 comparison communities designated to become SSLPs. Because the government ruled out a randomised control trial, we have used a quasi-experimental, cross sectional study with extensive statistical controls. We sought to answer five questions: Does the use of services differ between SSLP and comparison communities, and do parents rate SSLP communities more positively? Do families in SSLP and comparison areas function differently? Does child health and development differ between SSLP and comparison areas? Do the effects of SSLPs on parenting mediate effects on child functioning? The final question asks whether variations in the effectiveness of SSLPs are due to differences in the implementation of the programme.

Methods

Design and participants

We randomly selected 150 of 260 SSLP areas after stratification across nine regions within England; we used 50 areas waiting to become SSLP areas as comparison communities in an intention to treat design. We randomly selected for study families with children of 9 or 36 months from child benefit records during years 2003-4. We gathered data on 12 575 children aged 9 months and 3927 aged 36 months (and their families) in SSLP areas and 1509 children aged 9 months and 1101 aged 36 months in comparison areas. The response rate was 84.4% and 73.4% for families of children aged 9 and 36 months, with no differences across comparison groups.

Procedures and measurements

During a home visit mothers or guardians participated in an interview; English speaking children aged 36 months were given a standardised assessment of cognitive and linguistic functioning.

Outcome variables included mothers' perception and use of services in the community; maternal-family functioning; and child health and development (see bmj.com). Social deprivation was greater in families in comparison areas than in SSLP areas. We gathered area information from diverse sources (hospital episode statistics, census statistics, benefit records, and school achievement records[1]) to provide additional statistical control.

We measured three variables in the implementation of SSLPs that might explain variations in the effectiveness of these programmes. "Reach" represented the number of eligible families contacted by SSLPs; "cost" reflected the annualised expenditure per child; and "lead agency" reflected the agency leading the partnership board.

Statistical analysis

We used multilevel models to evaluate the effects of SSLPs and accommodate hierarchically structured data (children and families nested within communities).[2] All analyses were adjusted for child and family background variables and area characteristics before comparing SSLP and comparison areas. We tested whether SSLPs differentially affected subpopulations. We tested mediation whenever findings suggested possible mediational effects (SSLP→parenting→child).[3] To investigate whether the three variables in the implementation of the programme accounted for variations in the effectiveness of SSLPs, we fitted multilevel models to the data collected from families living in SSLP areas only.

Results

Effect of SSLPs on use of services and rating of communities

SSLPs did not seem to affect mothers' reports of service use or usefulness in either age group. Mothers of children aged 36 months (but not 9 months) living in SSLP areas rated their communities a little less favourably than mothers in comparison areas.

Effects of SSLPs on family function

Mothers of children aged 9 months living in SSLP areas reported less household chaos and mothers of children aged 36 months showed greater parental

Imputed data mean scores and confidence intervals of measures that show significant differences between Sure Start local programmes (SSLPs) and comparison groups

Child's age group and sample subgroup	Outcome measure	Score estimate (95% CI)		Difference between groups (95% CI)	P value
		SSLP group	Comparison group		
9 months					
All participants	Home chaos	(n=12 575)	(n=1509)	−0.33 (−0.48 to −0.18)	<0.001
		9.24 (9.01 to 9.42)	9.57 (9.35 to 9.79)		
36 months					
All participants	Mother's area rating	(n=3927)	(n=1101)	−0.98 (−1.61 to −0.34)	0.004
		31.22 (30.15 to 32.29)	32.20 (30.98 to 33.41)		
	Acceptance	2.82 (2.75 to 2.88)	2.69 (2.61 to 2.77)	0.13 (0.06 to 0.19)	<0.001
Non-teenage mothers	Negative parenting	(n=3428)	(n=973)	−1.61 (−2.77 to −0.47)	0.006
		33.10 (31.30 to 34.90)	34.70 (32.80 to 36.70)		
	Social competence	24.35 (23.96 to 24.74)	24.08 (23.64 to 24.53)	0.27 (0.02 to 0.52)	0.04
	Behavioural problems	28.30 (27.22 to 29.38)	29.14 (27.91 to 30.37)	−0.84 (−1.51 to −0.17)	0.01
Teenage mothers	Verbal ability	(n=499)	(n=128)	−3.08 (−4.82 to −1.34)	<0.001
		39.10 (37.75 to 40.44)	42.17 (40.26 to 44.08)		
	Social competence	24.02 (23.57 to 24.46)	24.83 (24.21 to 25.45)	−0.81 (−1.40 to −0.22)	0.007
	Behavioural problems	31.13 (29.75 to 32.50)	29.08 (27.18 to 30.98)	2.05 (0.27 to 3.82)	0.02
Lone parents	Verbal ability	(n=1378)	(n=379)	−1.64 (−2.78 to −0.51)	0.005
		37.95 (36.94 to 38.95)	39.59 (38.21 to 40.97)		
Workless household	Verbal ability	(n=1520)	(n=452)	−1.21 (−2.30 to −0.12)	0.03
		38.19 (37.02 to 39.36)	39.40 (37.92 to 40.87)		

What is already known on this topic

Large scale, area based programmes have been initiated by the current government in the United Kingdom to enhance the wellbeing of children aged 0-3 years and their families who live in disadvantaged communities

What this study adds

These programmes seem to have had limited and small effects: beneficial effects on the least socially deprived families and adverse effects on the most disadvantaged families

Programmes led by health services seem be more effective than programmes led by other agencies, probably because of better access to children and established health visitor networks

acceptance. Non-teenage mothers (86% of sample) of children aged 36 months reported less negative parenting when living in SSLP areas (table).

Effects of SSLPs on children

SSLPs seemed to affect only children aged 36 months and effects varied across subpopulations. Children of non-teenage mothers had fewer behavioural problems and greater social competence when living in SSLP areas, but the reverse was true for teenage mothers. Children of teenage mothers, like those who lived in workless or lone parent households, also scored lower on tested verbal ability (table).

How do effects on children come about?

The effects of SSLPs on children of non-teenage mothers were mediated by the effects of these programmes on parenting ($P < 0.006$ for child social competence, $P < 0.006$ for behavioural problems).

Do implementation features of SSLPs account for their effectiveness?

The lead agency correlated consistently with the effectiveness of programmes: SSLPs led by health visitors had better outcomes than programmes led by other agencies (see bmj.com). Health led SSLPs resulted in greater involvement by fathers of children aged 9 months than programmes led by local authorities ($P = 0.02$) and other agencies ($P = 0.05$); fewer accidents for children aged 36 months than local authority led programmes ($P = 0.009$); more positive area ratings by mothers of children aged 9 months than local authority led programmes ($P = 0.03$); and more positive area ratings by mothers of children aged 36 months than programmes led by other agencies ($P = 0.02$). SSLPs that achieved greater reach also scored higher on supportive parenting by mothers of children aged 9 months (parameter estimate 0.006, 95% confidence interval 0.000 to 0.011, $P = 0.03$).

Discussion

Most families in socially deprived SSLP and comparison areas were disadvantaged and our results indicate that the small and limited effects of SSLPs varied with the degree of social deprivation. Children from less socially deprived families (non-teenage mothers) benefited from living in SSLP communities, probably because of the beneficial effects of SSLPs on parenting. In contrast, children from relatively more socially deprived families (teenage mothers, lone parents, workless households) were adversely affected by living in SSLP areas. The recent American evaluation of Early Head Start, a home visiting and childcare programme (or both) for disadvantaged children under 4 years, reported similarly divergent results.[4]

Socially deprived families with greater personal resources may have been better able to take advantage of SSLP services and resources. Relatively more socially deprived parents may find the extra attention of service providers in SSLP areas stressful and intrusive.

More children and families were affected beneficially than adversely, as teenage mothers formed a minority of the sample (14%), as did lone parent families (33%) and those living in households where nobody worked (38%). However, because the most socially deprived groups account disproportionately for many problems in society (such as school problems and crime), the apparent adverse effects of SSLPs might have greater consequences for society than the beneficial effects. Health led SSLPs were more effective than other SSLPs, indicating that better access to birth records and established health visitor networks may facilitate the success of SSLPs.

Because this evaluation was quasi-experimental, cross sectional, and evaluated the impact of a programme that had been in place for only a few years, the detected effects of SSLPs and the conclusions must be treated with caution. Ongoing follow-up of the 9 month old children should enhance understanding. Nevertheless, the study indicates that health visitor led SSLPs appear more effective than those led by other agencies, and that improving parenting is one of the mechanisms by which SSLPs promote child wellbeing.

The national evaluation of Sure Start research team: Pam Meadows directed the collection and analysis of the cost data. Jane Tunstill directed the collection of implementation data. Martin Frost managed the geographical information system used to define SSLP areas, to enable community level data to be organised in terms of the small SSLP areas. Mog Ball and Angela Anning helped to collect and interpret the implementation data. Juliet Henderson and Katrina Wilkins trained and supervised the team of home visitors who collected the child and family data, and they also gathered such data.

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Ethical approval: Multiregional ethics committee and Birkbeck's ethics committee.

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