THE SOCIAL WORKERS IN SCHOOLS (SWIS) TRIAL:

AN EVALUATION OF SCHOOL-BASED SOCIAL WORK

March 2023
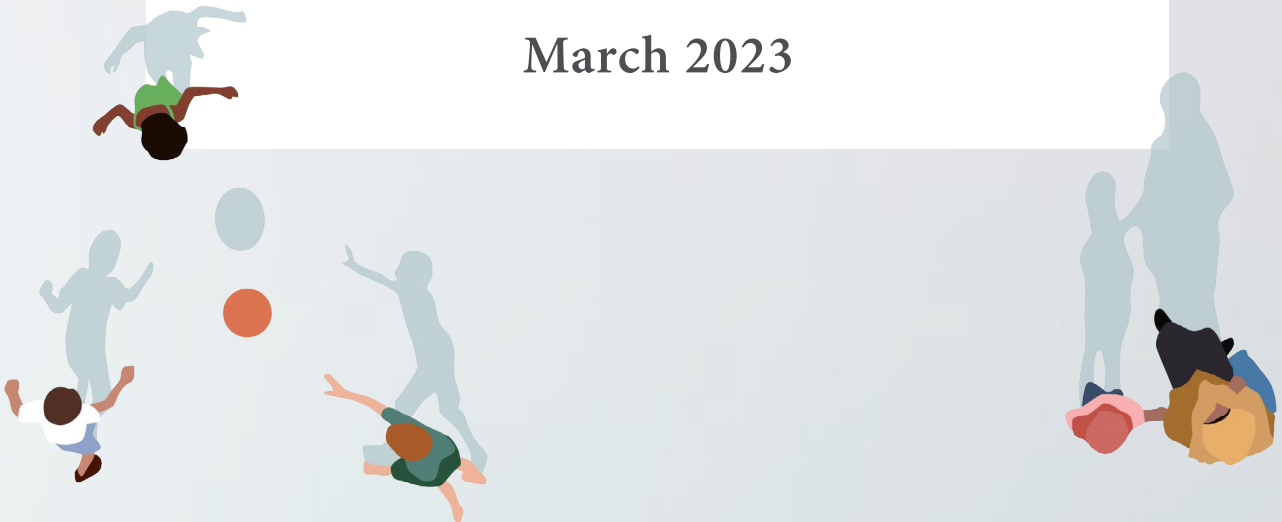
Authors

Linda Adara, Sharon Ayayo, Kim Munnery, Philip Pallmann, Sarah Rawlinson
Centre for Trials Research,
Cardiff University, Cardiff, Wales

Verity Bennett, Donald Forrester, Melissa Meindl, Louisa Roberts, Philip Smith, David Westlake
CASCADE, Cardiff University, Cardiff, Wales

Shahd Daher, Stavros Petrou, Elizabeth-Ann Schroeder
Nuffield Department of Primary Care, University of Oxford, England

Fiona Lugg-Widger, Lena Meister
Centre for Trials Research,
Cardiff University, Cardiff, Wales

James White
Centre for Trials Research, Cardiff University, DECIPHer, Cardiff University, Cardiff, Wales

About What Works for Early Intervention and Children's Social Care

What Works for Children's Social Care (WWCSC) and the Early Intervention Foundation (EIF) are merging. The new organisation is operating initially under the working name of What Works for Early Intervention and Children's Social Care. Our new single What Works centre will cover the full range of support for children and families from preventative approaches, early intervention and targeted support for those at risk of poor outcomes, through to support for children with a social worker, children in care and care leavers.

About CASCADE and partners

The study was led by CASCADE in collaboration with the Centre for Trials Research at Cardiff University and the Health Economics and Policy Evaluation Group at Oxford. CASCADE's mission is to improve the wellbeing, safety and rights of children and their families, by generating new knowledge about children's social care and sharing new and existing knowledge in ways that help services. It is the only centre of its kind in Wales and has strong links with policy and practice.

The Centre for Trials Research and Centre for Development, Evaluation, Complexity and Implementation in Public Health Improvement (DECIPHer) are funded by the Welsh government through Health and Care Research Wales.

The Health Economics and Policy Evaluation Group is based in the Nuffield Department of Primary Care Health Sciences (NDPCHS), University of Oxford. The Group's aim is to deliver high-quality research focused on economic aspects of health and healthcare in the UK and internationally. The Group employs a range of economic approaches that broadly aim to understand, and ultimately improve, healthcare and population health and wellbeing in different contexts. High levels of rigour are applied in our research studies, and research is undertaken collaboratively with non-economists at the NDPCHS and elsewhere across the University of Oxford and beyond.

If you'd like this publication in an alternative format such as Braille, large print or audio, please contact us at: info@whatworks-csc.org.uk

CONTENTS

ACKNOWLEDGMENTS

GLOSSARY

Acronym	Full term	Brief explanation
N/A	Bootstrap	A bootstrap is a statistical technique for estimating summary statistics about a population by averaging estimates from multiple small data samples. In health economic evaluation specifically, this technique is used to represent estimated confidence intervals.
N/A	Box plot	A method for graphically demonstrating the locality, spread and skewness groups of numerical data through their quartiles (a division of the data points into four parts).
CCA	Cost-consequences analysis	An economic evaluation that compares the costs and effects of alternative interventions, where the effects of the different interventions are measured in the same units.
CEA	Cost-effectiveness analysis	A form of economic evaluation where a range of outcomes are presented, together with estimates of the mean costs with appropriate measures of dispersion associated with each intervention.
CI	Confidence interval	A range of values that describes the uncertainty surrounding an estimate. A larger range indicates more uncertainty.
CiN	Child in Need	Legally defined in the Children Act 1989 as a child who is unlikely to achieve or maintain a reasonable level of health or development, or whose health and development are likely to be significantly or further impaired, without the provision of services; or a disabled child.
CLA	Child Looked After (sometimes referred to as LAC, looked-after child)	A legal definition for when a child is being cared for by their local authority if they are in care for a continuous period of more than 24 hours.
CP	Child Protection	Statutory services provided for children who are thought to be suffering or likely to suffer significant harm.
DSL	Designated safeguarding lead	The person appointed to take lead responsibility for child protection issues in school.
EH	Early Help	Services provided to children and families aimed at tackling problems when they first emerge, and before they escalate.
eHASH	Early Help and Safeguarding Hub	A multi-agency triage service, similar to MASH. See Early Help, MASH.

EWO	Education Welfare Officer	Education welfare officers make sure that children attend school and get the support they need.
FSM	Free school meals	Children are eligible for free school meals in England if they meet certain criteria, such as their family being in receipt of certain benefits. This is often used as a proxy measure of poverty.
N/A	Histogram	A histogram is a graph that provides a visual representation of the distribution of numerical data. It is a type of bar chart that shows the frequency or number of observations within different numerical ranges.
IPE	Implementation and process evaluation	A type of evaluation that explores whether programme activities have been implemented as intended and how they operate.
LA	Local authority	The lowest level of elected government in England, local authorities are typically responsible for delivering children's social care services.
N/A	Logic model	A visual way to illustrate the chain of causes and effects leading to an outcome of interest.
MASH	Multi-Agency Safeguarding Hub	A single point of contact for all referrals to report safeguarding concerns, common in local authorities.
PLO	Public Law Outline	Pre-court proceedings, refers to legal guidance that sets out the duties local authorities have when thinking about taking a case to court.
N/A	Poisson regression model	A statistical model that is used to analyse count data.
Section 17	Section 17 of the Children Act 1989	An assessment to identify the needs of a child and the most appropriate support for the family in safeguarding them.
Section 47	Section 47 of the Children Act 1989	An enquiry carried out to assess whether and what action is needed to safeguard a child who may be suffering, or likely to suffer, significant harm.
SWIS	Social Workers in Schools	An intervention that aims to embed social workers within secondary schools to undertake statutory social work with children and families.

EXECUTIVE SUMMARY

Introduction and background

Over the past decade or so there have been concerning increases in the numbers and rates of children being involved with children's social care (CSC), with more children receiving child protection services and being removed from birth families into care. There is a consensus that the CSC system is in "crisis",[1] and a recent review[2] argued for a "dramatic whole system reset". In response, the UK government recently announced a strategy to "fix" the problems.[3] In this context, there is a need for interventions that can safely reduce the need for children to receive CSC services, and an appetite from policymakers to try different approaches. Social Workers in Schools (SWIS) is one such approach, which is designed to reduce risk by working intensively within the school community. SWIS is an intervention that aims to embed social workers within secondary schools to undertake statutory social work with children and families, increasing opportunities for lower-level preventative work,[4] and improving inter-agency collaboration between education and CSC. Schools have a central role in keeping children safe and are one of the highest referring agencies to CSC. Therefore, policymakers view interventions that target the interface between schools and CSC as potentially fruitful. School-based interventions are also attractively scalable, due to the large number of schools in England (24,454) and the fact a very high proportion of children attend school.

The SWIS trial was a large-scale evaluation of the SWIS intervention, developed by What Works for Children's Social Care (WWCSC). Key elements of the intervention are:

- Drop-in services for parents or staff

- Informal work with young people and families, advice and signposting to services etc.

- Advice and discussions with staff.

The intervention manual can be found in Appendix 1.

The SWIS trial is one of the largest randomised controlled trials (RCTs) ever undertaken in CSC in the UK, involving around 280,000 students across 291 schools based in 21 local authorities in England. It was set up to evaluate the effectiveness of SWIS on the need for CSC services. The intervention was delivered over two full academic years, between September 2020

---

1 UK Parliament (2023) Children's Social Care Workforce. Hansard; Family Rights Group, 2018; Holt and Kelly, 2020; Hood et al., 2020; Munby, 2016; Thomas, 2018.

2 MacAlister, 2022.

3 Department for Education, 2023.

4 Preventative work is below the threshold for section 17 intervention from CSC. The manual notes that it could include "advising staff, families and young people when they have concerns that they would like to discuss, or working with siblings in the family not considered as meeting threshold."

and July 2022, after pilots were conducted in three local authorities in the 2018/19 academic year. The pilots suggested SWIS was promising in relation to reducing the need for Child Protection and Child in Need services. Finding ways of reducing the need for these services is a key policy objective. The relationship between risks to children and service responses is complex; however, reduced rates can be interpreted as an indicator of reduced risk. They also found that, while a range of school types were included, "much of the work seemed to be centred around mainstream secondary schools". Following the recommendation that the intervention was more focused, the DfE commissioned the scale-up to be focused on secondary schools. At its core, the SWIS trial is a comparison of social care and educational outcomes between two groups of schools, one which received the SWIS intervention and one which did not.

Objectives and research questions

This trial sought to evaluate how successfully the objectives of the SWIS intervention were met, through three complementary strands of analysis:

- First, an implementation and process evaluation (IPE) explored how the SWIS intervention operated. This included how it was perceived and experienced by those involved, including children and young people

- Second, an impact evaluation examined how schools with SWIS fared in comparison with non-SWIS schools in relation to several CSC outcomes. This included rates of children receiving child protection measures or being taken into care and focused on whether the SWIS intervention worked to reduce the need for services

- Third, an economic evaluation measured the extent to which the SWIS intervention represented value for money.

Research questions

IPE research questions[5]

- Was SWIS implemented as intended?

- What evidence was there for the mechanisms of change identified in the logic model? (Figures 15 and 16)

- How did SWIS impact the wider social care system?

Impact evaluation research questions

Primary

- What was the impact of SWIS in reducing rates of section 47 enquiries compared with usual practice (across two academic years, from September 2020 to July 2022)?

Secondary

What was the impact of SWIS on:

- Rates of referral to CSC, section 17 assessments and children entering care (across two academic years, from September 2020 to July 2022)?

- The number of days children spend in care (across two and three academic years, from September 2020 to July 2022 and July 2023*, respectively)?

- Educational attendance* (recorded termly across two academic years, starting in September 2020) and attainment* (recorded in June 2021 and 2022)?

* Analysis relating to these outcomes will be reported separately in March 2024.

5   The research questions appear here in a different order from that presented in the trial protocol. This is because part of the impact analysis uses data from the IPE (the implementation ratings at gold, silver and bronze), so it is logical to present this first. **7**

Economic evaluation research question

- What was the cost and cost-effectiveness associated with SWIS per section 47 enquiry prevented?

Design and sample

With the support of WWCSC, we designed the trial to evaluate the effectiveness of the SWIS intervention on the need for CSC services. It was a pragmatic cluster RCT [6] (schools clustered within local authorities) with two arms. The trial arms compared a social worker assigned to and present in a school (intervention), versus usual CSC services alone (control), with mainstream secondary schools as the unit of randomisation. Outcomes were reported independently by local authorities using standardised protocols. The trial was conducted in 291 secondary schools in England across 21 local authority areas. Eligibility criteria for participating schools were that they were a mainstream school within the selected local authority and able to submit data for the trial. Local authorities had the option to provide SWIS in a small number of non-mainstream schools if they wished; however, we agreed with WWCSC to exclude non-mainstream schools from the trial as the number of schools was small, and there were differences between the schools in terms of their provision for students (e.g. special schools, pupil referral units). All students in Year 7 and upward attending the schools were eligible for the trial (n=281,200). Schools could opt out of participation in the IPE while remaining in the trial – i.e. they could continue to receive the intervention but not participate in interviews or surveys.

The IPE focused on intervention schools using a mixed methods approach. Using surveys for professionals (social workers and school staff), we collected data on implementation and experiences on a termly basis, and a student survey explored the attitudes and experiences of students in intervention schools. We also interviewed social workers in nine local authorities, which were sampled to give a range across variables such as size, type of authority, region and Ofsted rating. In addition, we interviewed team managers from all local authorities at two time points (near the start and towards the end of the trial) and interviewed managers from local authority screening teams near the end. The economic evaluation replicated the study design of the impact analysis to estimate the cost-effectiveness and cost consequences of SWIS.

Results and findings

Implementation and process evaluation

The SWIS intervention was implemented relatively well, considering the scale of the programme and the challenges created by the recruitment "crisis" [7] in CSC and the COVID-19 pandemic. Despite challenges in recruiting and retaining social workers, the overall mean proportion of time social workers were in post across the 21 local authorities was 78%. Social workers found it challenging to balance the different aspects of the role, especially when the need for statutory work increased. Pressures from elsewhere in the service also meant that some workers had to work with children and families who were not in their school. Nonetheless, when various elements of implementation were taken into account, the majority of schools that were included in our rating system received a gold rating,

---

6 Pragmatic trials aim to mimic the "real world" conditions that practitioners work in so that the evidence generated is applicable (Ford and Norrie, 2016).

7 Lepper, 2022.

which suggests implementation was broadly successful. There was variation between schools and local authorities in the nature of the work, and particularly in the balance between statutory social work, lower-level preventative work and other activities such as inter-agency working. In most local authorities there was a general emphasis on statutory work, with protected caseloads that enabled workers to undertake these other activities, though workers were often under pressure due to high levels of demand and competing priorities. Both social workers and school staff were broadly enthusiastic about the lower-level preventative work and felt that this was a valuable aspect of the intervention. Indeed, other subgroup analyses also showed no signs of any changes in outcome indicators being associated with periods where implementation was better or worse, or with periods of greater or lesser disruption caused by the pandemic. Although it is possible that the pandemic inhibited SWIS in delivering outcomes, any effect is diluted by the extended period of the study (two years rather than the original one year) and taken together our findings do not suggest this is the case.

Overall, SWIS was well received by social workers, school staff and students. The non-statutory work was particularly valued, and those involved noted that accessibility of social workers and opportunities for informal interactions were important. Most of the students we interviewed reported feeling positively overall about SWIS, feeling they trusted the social worker, and that the social worker understood them better than any school staff. SWIS had an influence on other parts of the CSC system, particularly "front door" processes in local authorities. Some changes to the information-gathering and decision-making processes were reported, with SWIS teams taking on some of the work that referral and assessment teams would otherwise undertake.

The pathways and mechanisms identified in the pilot logic model were generally supported. In this trial we developed a middle range programme theory which theorised the way the SWIS intervention operated at a slightly higher, more general level across all local authorities that it was implemented in. When SWIS was thought to be successful and working well, it was implemented in schools where there was a combination of three key contexts: (1) compatibility between social worker and school, (2) physical presence and (3) limited caseloads. Together, these contexts were thought to activate key mechanisms, including frequent informal interactions, increased opportunities for preventative work and better relationship building.

Impact evaluation

We found no evidence of benefit from the SWIS intervention on the primary outcome: the rate of section 47 enquiries was estimated as 5.5% higher in the SWIS arm than in the control arm but this effect was not statistically significant. Statistical significance was calculated using a hypothesis test using a 5% type I error level. The 95% confidence interval (CI) ranges from a 4.5% decrease to a 16.6% increase.

All effects of SWIS on the secondary outcomes (CSC referrals, section 17 assessments, children entering care and mean number of days spent in care per child entering care) were similarly small and none of them were statistically significant.

Economic evaluation

The primary health economic analysis estimated that the average total costs per school in the SWIS intervention arm were higher than in the control arm. In the intervention arm, the average total costs per school were £465,206.40 when compared with the control arm of £368,561.10, resulting

in an average total cost difference of £96,645.30 (£19,065.20, £174,225.30).[8]

The average section 47 enquiries per school were also higher in the intervention arm than in the control arm, resulting in a "dominated incremental cost-effectiveness ratio" (ICER) for SWIS. The ICER can be interpreted by way of SWIS "the intervention" both being more expensive and accruing more section 47 enquiries than controls, within the current scope of the trial.

This resulted in a low probability of SWIS being considered cost-effective.

More specifically, in the primary cost-effectiveness analysis, the probability of SWIS being cost-effective for averting a section 47 enquiry was very low. No statistically significant differences were identified for any estimates of cost, cost consequences or cost-effectiveness between intervention and control.

Conclusions and implications

In conclusion, we found no benefit of delivering the SWIS intervention in England for the CSC outcomes we measured, that there was a substantial additional cost associated with the intervention and that it was not considered cost-effective. This is despite the finding that the local authorities implemented SWIS at scale relatively successfully, delivering key elements of what was described in the manual. There was substantial qualitative evidence of positive experiences and perceptions, but SWIS did not affect any of the CSC outcomes measured. These outcomes were chosen because they are important indicators of levels of risk and harm to children, because there was indicative evidence from previous research that SWIS may have a measurable

effect on them and because they might make an economic case for funding. However, despite the reported positive experiences by staff and students, there is no evidence that SWIS reduced the CSC outcomes assessed.

As well as identifying interventions that are effective, it is equally important for research to highlight approaches that do not work, before they are scaled up. Based on the evidence we have at this stage of the trial, we recommend that SWIS is not continued or scaled up further because it does not appear to have the impact on CSC outcomes that policymakers desire. In our next report we will examine whether there is a longer-term impact on days in care and explore any effects in relation to educational attendance and attainment.

8   The bracketed figures show the bootstrap 95% confidence interval (see glossary).

INTRODUCTION

The SWIS trial is a large-scale evaluation of the Social Workers in Schools (SWIS) intervention, developed by What Works for Children's Social Care (WWCSC). SWIS aimed to embed social workers within secondary schools to undertake statutory social work with children and families, increase opportunities for lower-level preventative work and improve inter-agency collaboration between education and children's social care (CSC). This trial was set up to evaluate the effectiveness of SWIS on the need for CSC services.

The SWIS intervention was delivered over two full academic years, between September 2020 and July 2022, and followed pilots conducted in three local authorities in the 2018/19 academic year (Westlake et al., 2020). At its core, the SWIS trial was a comparison of social care and educational outcomes between two groups of schools, one which did and one which did not have SWIS. Schools were randomised to either be in the intervention group, and have a social worker join the school, or to form part of a control group and continue as usual, without a dedicated school social worker. This is the main report from the trial, in which we include findings from the implementation and process evaluation (IPE), which examined how SWIS was implemented, explored the attitudes and experiences of those involved and developed a theory of how SWIS works. We also report findings from the impact evaluation, primary and secondary analyses that compared these groups. Finally, we include a health economic analysis of the

value for money of implementing SWIS. In 2024, a further report will examine the impact of the SWIS intervention on attendance and educational outcomes, and care outcomes in the following academic year (2022/23).

The rationale and history of SWIS in England

Over the past decade or so, there have been concerning increases in the numbers and rates of children receiving services from CSC. This includes growing numbers of children receiving services as part of Child Protection and Child in Need plans and being removed from birth families into care (Biehal et al., 2014; Department for Education, 2020). This has contributed to a consensus that the CSC system is in "crisis" (Holt and Kelly, 2020; Hood et al., 2020; Lepper, 2022; Munby, 2016; Thomas, 2018), and a recent review cited a need for a "dramatic whole system reset" (MacAlister, 2022). In the years leading up to the SWIS trial, rates of section 47 enquiries had been steadily increasing, from 111.3 per 10,000 children in 2012/13 to 168.3 per 10,000 children in 2018/19, and they reached their highest level yet in 2022 (Department for Education, 2022a). The number of looked-after children in England has also grown, from 68,110 in 2012/13 to 82,170 in 2021/22 (Department for Education, 2022b). In this context, there is a need for interventions that can safely reduce the need for children to receive CSC services, and an appetite from policymakers to try different approaches.

The SWIS intervention is one such approach, which was first piloted in 2018 (Westlake et al., 2020). Schools have a central role in keeping children safe and are one of the highest referring agencies to CSC (Morse, 2019). Therefore, policymakers view interventions that target the interface between schools and CSC as potentially fruitful. School-based interventions are also attractively scalable, due to the large number of schools in England and the fact a very high proportion of children attend school. The pilot studies, in Lambeth, Southampton and Stockport, were a first step in the development of SWIS. They explored how the intervention might help support schools, reduce referrals to CSC and reduce the need for children to receive services and enter care. The pilot evaluations used a quasi-experimental design[9] and a mixed methods approach but were weighted towards qualitative evidence.

In the SWIS pilot studies, although all 37 schools received a social worker, there was some variation in how the intervention was implemented and the extent to which social workers were embedded (i.e. physically present and integrated into schools). The nature of the social work role in schools also varied, and it was broader than that of a typical locality social worker in a Child Protection team. For example, it included working with a wider range of children than those known to CSC. Overall, SWIS was perceived positively by those involved, including children and families, and there was some indicative evidence that suggested it may have reduced the need for services. In particular, there were tendencies towards reductions in section 47 child protection enquiries and in numbers of children starting Child in Need plans. These are important

outcomes because they represent key stages in the identification of and response to risk and harm children may be subject to. They are also important because even modest reductions would add weight to any financial case for an intervention, because this would be associated with cost savings for local authorities. A programme theory and logic model outlined how SWIS was thought to work, based on qualitative evidence from the pilots. Based on this evidence about impact and process, the Department for Education provided funding to scale up SWIS and test conclusively whether the intervention has an impact on these and other important CSC service indicators. The current trial is the evaluation of that programme. The scale-up was supported by a brief manual, developed by WWCSC in their role as the funder and coordinator of the project. The manual was provided to local authorities taking part to aid consistent implementation.

School social work around the world

It is worth noting the international context for the SWIS intervention and trial. Rather than being a new phenomenon, "school social work" is well established in the USA, Australia, New Zealand, Hong Kong and parts of Scandinavia, where it is relatively common for schools to have a dedicated social worker. Research from New Zealand highlights some aspects of multi-agency working that echo findings from the SWIS pilots in the UK. Beddoe's work in particular notes some similar challenges, in relation to professional status, role clarity and relationship building between social workers and school staff (Beddoe, 2019). In some parts of the USA, school social workers are licensed separately, and the National Association of Social Workers offers experienced school social

9   This is the term used to describe a set of common evaluative approaches that resemble an experiment. Researchers create two comparison groups using alternatives to randomisation, when a true experimental approach is either not desirable or not possible.

workers field-specific certification (NASW, 2012). However, only a minority of schools have a social worker and the evidence base for school social work is small, especially outside the USA (Franklin et al., 2009; Isaksson and Sjöström, 2017).

There are also significant differences between what is internationally recognised as "school social work" and the SWIS approach being delivered in England. While models of school social work vary internationally, in many cases social workers appear to be employed by schools directly, rather than being employed by local authorities. This has implications for the type of work they do and means that the focus of the role is not usually as part of a statutory intervention. As a result, much of what international "school social workers" do is not what UK readers would recognise as social work. Early 20th century versions of school social workers in the USA were called "visiting teachers" and there were few similarities to modern social work. Similarly, the school social workers in Australia aim primarily to help students achieve educationally (Australian Association of Social Workers, 2008; Lee, 2012). Likewise, in Hong Kong, the role is more focused on counselling and community building (Lau, 2020). In recognition of this, school social workers in Sweden are not required to have a social work qualification, although many do (Isaksson and Sjöström, 2017).

Arguably much of what characterises international "school social work" already exists to some degree within many schools in the UK, in the form of pastoral support. Rather than being done by social workers, this is provided by other professionals, including school counsellors, nurses and education welfare officers. These differences make it difficult to relate SWIS to the (albeit limited) international evidence around "school social work". What is common, both in the UK

and elsewhere, is that it is unusual for social workers to do statutory casework in a school setting, and this is where the current trial (and the preceding pilot evaluations) differs from previous research on school social work.

The SWIS scale-up project

Following the SWIS pilot studies, funding became available for 21 local authorities in England to participate in the scale-up, and this group was chosen by WWCSC via competitive tender from a much larger group of applicant authorities. At the start of the scale-up, England, alongside most of the rest of the world, was already dealing with the presence of the COVID-19 pandemic. However, over the course of the scale-up project, the full impact of the disruption caused by COVID-19 materialised. Originally, the scale-up was planned to span one academic year (2020/21), but due to the disruption experienced the Department for Education extended the scale-up period twice, first to March 2022 and then to July 2022. The decision to extend to March 2022 was confirmed in August 2021, and the second extension was confirmed in March 2022.

As we noted above, the scale-up was supported by a brief manual which outlined how the funder intended the SWIS intervention to be implemented (Appendix 1). The manual drew on learning from the pilot studies and set out a series of recommendations for implementation which local authorities were "strongly advise[d]" to incorporate, while acknowledging that "a certain degree of flexibility is necessary due to the diverse nature of schools and their differing needs" (What Works for Children's Social Care, 2020). Selected key points in the manual include:

- School should be primary base for social worker, with their own office space, to aid integration and face-to-face working

- Social workers should have at least two years' experience, and ideally be recruited from within the local authority and employed directly by them

- Focus should be on statutory social work (e.g. Child in Need, Child Protection, Child Looked After), with some room for preventative work (e.g. advice to staff, students and families not meeting CSC thresholds), but with early intervention being undertaken separately

- Caseloads to be kept at levels (numbers and complexity) that are in line with local authority averages, and for most cases to be associated with the school

- Formal and informal work with school, students and families should be done to foster good relationships.

Domestic policy context

The potential for schools to play a broader role in supporting families and communities has been on the agenda for policymakers in the UK for some time. In the early 2000s the concept of "extended schools" was part of the Labour government's programme to reform the education system (Department for Education and Skills, 2001). Since then, many schools have taken on different roles outside their standard educational remit, including breakfast clubs and extra-curricular activities (Diss and Jarvie, 2016). Nonetheless, critics suggest the policy lacks a coherent rationale (Dyson and Jones, 2014), and there is some evidence that disadvantaged students struggle to access the services provided (Diss and Jarvie, 2016).

As we noted above, levels of need for CSC have increased during this time and we are now facing an urgent need for reform

(MacAlister, 2021). In England, a high-profile review of CSC was recently tasked with developing radical solutions to the problems of unsustainable demand that have contributed to CSC being described as a "struggling system" (MacAlister, 2021). The author of the Independent Review of Children's Social Care (IRCSC) argues this represents a "once in a generation opportunity to reset children's social care" (MacAlister, 2022, p.8). The IRCSC was already under way when Arthur Labinjo-Hughes and Star Hobson were tragically murdered by adults who were supposed to be caring for them. Like many previous reviews, the review into their deaths made clear the need for better multi-agency working between CSC and other agencies including schools (Brandon et al., 2020; Child Safeguarding Practice Review Panel, 2022).

Schools and other education settings feature heavily in the IRCSC, and it mentions SWIS when advocating that social workers should be more widely embedded in community settings (p.199). Schools are typically among the major sources of referrals to CSC in the UK, making the second highest proportion of all referrals each year between 2020 and 2022, behind the police (Department for Education, 2022a). However, longstanding challenges in how schools and CSC work together have proved difficult to overcome. The IRCSC makes the case that "schools and children's social care need to be brought into lockstep" because at present "the contribution and voice of education is missing from partnership arrangements". One of its key recommendations is that schools become the fourth statutory safeguarding partner (joining the local authority, clinical commissioning group and police) (Children Act 2004; MacAlister, 2022). Alongside legislative changes such as this, SWIS could be seen as an example of a practice-oriented attempt to improve how agencies work jointly to protect children.

Aims and objectives of the evaluation

The SWIS trial sought to evaluate how successfully it meets the objectives of the SWIS intervention, through three complementary strands of analysis. First, an IPE explored how SWIS worked. This included how it was perceived and experienced by those involved, including children and young people. Second, an impact evaluation examined how schools with SWIS fared in comparison with non-SWIS schools in relation to several key indicators. This includes child protection, care and educational outcomes, and focuses on whether the SWIS intervention worked to reduce the need for services. Third, an economic evaluation measured the extent to which SWIS represented value for money.

Scope and structure of this report

In this report we detail the methods and findings from the three strands of analysis, before offering a concluding discussion. This report follows the protocol for the trial, which was published previously, and precedes a final report which will be published in 2024 and will examine longer-term CSC outcomes, attendance and educational outcomes. The remainder of this introductory chapter gives a summary of the broader context of the SWIS trial. First, we describe some key features of the local authorities and schools that took part in the scale-up, and then we turn to the temporal context of the trial. This is particularly important because the scale-up took place at such an unusual time – with the global disruption of the COVID-19 pandemic and local pressures within CSC.

The local authorities and schools

The 21 local authorities involved in the scale-up are diverse. They represent different regions within England and include large rural counties, metropolitan districts, unitary authorities and inner-city boroughs. The smallest covers an area of only 20km2; the largest spans over 6,500km2. According to the most recent data available, schools in these authorities account for between 10.2 and 29.5% of referrals to their respective CSC departments. The average is 20.2%, which compares to a national average of 19.9% (Department for Education, 2022a). The rate of section 47 enquiries per 1000 children ranges between 9.3 and 41.5. The sample includes local authorities with differing levels of performance, as judged by Ofsted. For just over half (n=11), their most recent inspection resulted in an outcome of "good", while 8 were deemed by Ofsted to "requir[e] improvement", and 2 were classed as "inadequate". The number of social workers in the SWIS team (and therefore the number of schools set to receive the intervention) ranged from five to eight, with a mean of seven and a mode of eight.

Schools involved also represented a wide range of types, sizes and governance structures. Most were mainstream, but there were also a small number of alternative provision schools, pupil referral units (PRUs) and specialist institutions (n=23). The smallest school had only 15 students enrolled, though this was in a minority of only 7 schools with fewer than 100 students. At the other end of the scale, there were a few very large schools which included over 2000 students (n=3). Similarly, levels of social deprivation varied widely, with schools in the least deprived areas having only around 3% of their students eligible for free school meals, and schools in the most deprived areas having three-quarters of students eligible for this form of social support.

This diversity in size, circumstances and levels of need would be a challenge for most complex interventions. As the SWIS intervention manual recognises, in signalling the need for flexibility and tailoring to local requirements, it is likely that what works for some schools and areas may not be the same as what works for others. The characteristics of local authorities and schools involved are an important part of the context for the trial, and we re-visit some of these characteristics in our analysis.

The temporal context of the scale-up

The timing is another aspect of context that is particularly consequential for the way the scale-up played out. An ongoing recruitment "crisis" (Lepper, 2022) within the sector would always present a challenge to an intervention on this scale, but it was compounded by the effects of the COVID-19 pandemic (Labour Research Department, 2022). Both these phenomena warrant consideration.

Recruitment "crisis" in children's social care

Local authorities in England have faced growing problems with recruiting and retaining social workers in recent years and these continued during the period of the scale-up. According to the Department for Education, the vacancy rate reached a five-year high of 16.7% in 2021, with vacancy numbers rising 7% from the previous year (Department for Education, 2022c). This increases the pressure on local authorities to compete against each other to recruit staff and leads to an overreliance on agency staff to fill the gaps (MacAlister, 2022). It also results in a smaller pool of professionals to do child protection work, since the proportion of the shortfall being covered by agency staff has also fallen, from 74.1% in 2020 to 69.9% in 2021 (Department for Education, 2021). For

all local authorities, these issues are likely to exert upward pressure on caseloads, and for those involved in the SWIS scale-up it was an unhelpful context in which to recruit over 100 new social workers.

Extraordinary disruption caused by COVID-19

The SWIS trial began around seven months after the World Health Organization declared the spread of the COVID-19 virus a pandemic, and it ran throughout the most acute periods (winter 2020/21 and winter 2021/22). This included the greatest disruption to schools in over a century, and thereby created a unique set of circumstances for testing a school-based intervention. Here we briefly describe this context, and later we analyse its impact in the IPE findings.

By 18 March 2020, schools in 107 countries were subject to widespread or national closures (Viner et al., 2020), and this affected around 80% of children worldwide (Lancker and Parolin, 2020). When the SWIS scale-up and trial were proposed, the prospect of schools facing blanket closures was unforeseen. The SWIS manual emphasises the importance of social workers being "based primarily in their allocated secondary school", and the pilot studies cited physical embeddedness as a key ingredient of the intervention (Westlake et al., 2020). Closing schools therefore presented an obvious and significant challenge for the intervention.

Full school closures were not the only COVID-19 disruption to the SWIS scale-up and trial, as once schools re-opened, they operated for prolonged periods with a range of social distancing and other preventative measures in place. These were designed to limit contacts and typically took the form of physically contained "bubbles" of students and other forms of physical distancing. Restricting the movement and behaviour

of students and staff resulted in a markedly different operational environment for the implementation of the SWIS intervention compared with the pilot or usual practice. As the trial progressed, the impact of COVID-19 on the needs of children and families started to become clear. This included particularly worrying indications about the negative consequences for child mental health (Watson et al., 2022).

Simultaneous scale-up of the Supervision for DSL scale-up study

After the SWIS trial had begun, another intervention that involved CSC working closely with schools was scaled up and evaluated in some of the same local authorities (Supervision for DSL scale-up study). This was also funded by WWCSC, and the intervention involves social work managers offering regular supervision sessions to school designated safeguarding leads (DSLs) (Stokes et al., 2021). The DSL is a member of school staff who has the lead responsibility for safeguarding in the school, and all schools must have one or more DSLs. The role was specified in the Children Act 2004, and DSLs were envisaged to be a key point of contact for social workers in SWIS. We added an additional analysis to understand the interaction between the two interventions in schools that received both.

Research questions

We set out to answer several policy-relevant research questions, across the implementation and process evaluation, impact and value for money strands of the SWIS trial.

IPE research questions[10]

- Was SWIS implemented as intended?

- What evidence is there for the mechanisms of change identified in the logic model? (Figures 15 and 16)

- How did SWIS impact the wider social care system?

Impact evaluation research questions

Primary

- What was the impact of SWIS in reducing rates of section 47 enquiries compared with usual practice (across two academic years, from September 2020 to July 2022)?

Secondary

What was the impact of SWIS on:

- Rates of referral to CSC, section 17 assessments and children entering care (across two academic years, from September 2020 to July 2022)?

- The number of days children spend in care (across two and three academic years, from September 2020 to July 2022 and July 2023*, respectively)?

- Educational attendance* (recorded termly across two academic years, starting in September 2020) and attainment* (recorded in June 2021 and 2022)?

* Analysis relating to these outcomes will be reported separately in March 2024.

---

10 The research questions appear here in a different order from that presented in the trial protocol. This is because part of the impact analysis uses data from the IPE (the implementation ratings at gold, silver and bronze), so it is logical to present this first.

METHODS

Design

This trial was set up to evaluate the effectiveness of the SWIS intervention on the need for CSC services. It was a pragmatic cluster RCT with two arms – a social worker assigned to and present in a school (intervention) versus usual CSC services alone (control), with mainstream secondary schools as the unit of randomisation.

We conducted an extensive IPE to explore how the scale-up was implemented across the local authorities and the extent to which this was as intended. The impact evaluation was supplemented with an economic evaluation to consider the cost-effectiveness and cost consequences of providing the intervention compared with usual CSC services. Different members of the team conducted analysis in each of these three strands, separately from the others. Each member was blinded to the results of the other strands, in order to prevent one part of the trial biasing the others, the exception to this being the results of the gold, silver, bronze implementation ratings, which were supplied to the trial team to conduct subgroup analysis on 14 October 2022. Findings were presented internally to the whole team once analysis was complete (on 2 November 2022). As the IPE is in parts subjective, knowing whether the outcome analysis found SWIS to be effective may have influenced the IPE teams' interpretation of the quality of implementation. This is important because when interventions are implemented with good fidelity, as is the case

with SWIS, a lack of effectiveness indicates the intervention should not be implemented. An independent and unbiased assessment of implementation is therefore essential to distinguishing between intervention and implementation failure.

The trial started on 2 September 2020 and this report covers outcomes assessed up to 23 months from this date (31 July 2022). A second report will be published in March 2024 and will include a 35-month follow-up for one social care outcome (days spent in care) and educational attendance and attainment outcomes (Westlake et al., 2022a).

Ethical approval and research governance

Cardiff University School of Social Sciences Research Ethics Committee granted ethical approval for the trial on 26 August 2020 (ref: SREC/3865). The trial was registered with the International Standard Randomised Controlled Trial Number registry (ISRCTN) under the reference number ISRCTN90922032 (https://www.isrctn.com/ISRCTN90922032). A summary of the changes made to the original protocol can be found in Version 3 (Westlake et al., 2022b). When the trial was extended, ethical approval was updated and amended (on 24 May 2021 and 29 March 2022). Data-sharing agreements were established with all participating local authorities and updated each time the trial was extended.

Trial setting and participants

The trial was conducted in mainstream secondary schools in England across 21 local authority areas. Eligibility criteria for participating schools were that they were a mainstream school within the selected local authority and able to submit data for the trial. Mainstream secondary schools are places of education for young people aged between 11 and 16 or 18 depending on the type of school provision (school years 7 to 11 or 13). Mainstream schools are funded by the government and provide free education for children, although a number of models exist, such as academies, free schools and faith schools. All students attending the schools were eligible for the trial. Schools could opt out of participation in the IPE data collection, while remaining in the trial.

Intervention

The SWIS intervention physically locates social workers within schools with the aim to build better working relationships with school staff, students and families. Rather than working with students and families from a local authority office base and liaising with and providing advice to education professionals remotely, the social worker was embedded in the school (Westlake et al., 2022a, 2022b, 2020; Appendix 1).

The control group received CSC services as usual. Children who were deemed by school staff to require the involvement of CSC were referred to the local authority, usually via telephone call or email to a multi-agency safeguarding hub or a referral and assessment team. Children judged by CSC to meet the threshold for involvement were allocated a social worker as usual, but social workers were not based in the school.

IPE methods

Data collection

Surveys (professionals)

We distributed termly surveys via email to school staff (head/deputy head teachers and DSLs) and social workers in intervention schools where there was a SWIS in post. Project leads in each local authority collated names and email addresses of school staff and social workers to participate in the survey. We then used these contact details to generate a unique survey link within Qualtrics survey software for each participant, which linked directly to their participant ID number for anonymisation and data management purposes. Surveys included questions on key aspects of implementation that were repeated each term, and term-specific questions, such as activities during the summer holidays and reflections on SWIS at the end of the first year.

Initially we distributed surveys two weeks before the end of each term; however, in later terms, we sent links shortly after half term to allow more time for completion. We sent reminders on a weekly basis to non-responders via survey software, in addition to manual email messages where "bounces" were flagged by Qualtrics. In addition, we notified local authority project leads and SWIS team managers of the surveys each term to help encourage participation.

Surveys (students)

We invited students in SWIS intervention schools to take part in a short anonymous online survey about their experience of having a social worker in their school. We sent a unique weblink to the DSL at each school with information about the trial for them to circulate/make available to students via their normal school communication platforms (e.g. email or digital bulletin board). The survey

was circulated at the end of term three (summer 2021) and again at the beginning of term five (spring 2022) and left open until the end of term six (summer 2022), following a low response rate in term three and giving DSL staff more time to circulate and students more opportunity to complete the survey). To achieve maximum engagement with students, at the point of completing the survey, we gave all participants the option to enter a prize draw to win one of five £20 Love2Shop vouchers. We also informed local authority project leads and SWIS team managers of the surveys to help encourage participation.

Interviews (professionals)

We interviewed school staff (head/deputy head teachers and DSLs) and social workers in SWIS intervention schools in nine local authorities in total. Interviews took place in terms one, two and three (autumn 2020 to summer 2021; three local authorities each term). The interviews focused on set-up, delivery, experiences and perceptions of SWIS. We sampled local authorities using criteria to ensure the sample represented a range of types of authority. These criteria were: (a) a spread of section 47 enquiry rates (low, medium and high in relation to the whole trial population); (b) Ofsted inspection results for CSC; (c) local authority type – e.g. unitary, county, metropolitan district; and (d) geographic location – e.g. north, south and the Midlands.

In term two (spring 2021) we interviewed SWIS team managers in each local authority. These interviews covered the management of the SWIS team and the effect of school closures during the COVID-19 pandemic on SWIS team management and relationships with schools. We conducted follow-up exit interviews in term six (summer 2022) with either the team manager (if still in post) or service manager in each local authority.

One local authority withdrew from the SWIS intervention early. The local authority remained in the SWIS trial, and hence we conducted their exit interview with the outgoing team manager in term five (spring 2022). Exit interviews covered the organisational position of the SWIS team within the local authority, management of the SWIS team, a review of social worker staffing and recruitment, and general reflections on the intervention.

We also conducted interviews with local authority screening team managers (from referral and assessment or similarly named "front door" teams). We invited all local authorities to participate and contact with team managers was arranged through project leads. Interviews covered screening team make-up, screening and referral processes, differences in referrals between SWIS and non-SWIS schools and the impact of the COVID-19 pandemic on referrals and multi-agency working.

All interviews with professionals lasted approximately 30 minutes to one hour and were conducted online via Microsoft Teams.

Interviews (students)

We selected four local authorities for student interviews, and three schools within each. We chose local authorities to ensure a representative spread of section 47 rates, Ofsted rating, geographic spread and authority types (as for professionals' interviews). Furthermore, our selection aimed to ensure a mix of school types and threshold levels where SWIS was focused. The DSL and/or SWIS social worker in each school identified and approached students to invite them to take part in the interviews with the aim of recruiting up to five students, from a range of year groups, who had some level of involvement with the SWIS social worker. Interviews included a series of brief questions

about the student (year and gender) and more broadly about their experience of having a social worker in the school. We did not ask students any questions about their reasons for seeing a social worker. All student interviews lasted up to 30 minutes and were conducted online via Microsoft Teams.

Q-sort activity

To further investigate students' perspectives on SWIS, we asked those participating in the student interviews to complete a Q-sort activity. This is a mixed methods approach that explores subjectivity among participants and is based on correlations between different perspectives on a topic (McKeown and Thomas, 1988).

We reviewed the literature to identify a set of statements representing the range of young people's attitudes towards social workers – known as a "concourse". We collated a long list of statements and then grouped them into categories based on the topic that each statement represented. Using these categories, 12 statements were shortlisted independently by 3 reviewers from the IPE team according to which best represented the concourse. Reviewers then combined lists, re-worded statements to improve comprehension by younger readers and ensure relevance to school-based social workers, then collaboratively created a consensus shortlist of 14 representative statements (Appendix 2).

We consulted with a small number of young people before running the Q-sort to check that the meaning of statements could generally be well understood. As SWIS is a novel intervention, it was not possible to pilot the statements fully before showing them to students included in the SWIS trial. Based on feedback from these non-SWIS students and the first five students with whom the Q-sort was tested within the trial, we

developed standard explanatory paragraphs for questions where students requested examples or a more detailed explanation of meaning. Q-sorts were done online, using either Q Method Software (QMethod Software, 2022) or a Google Jamboard.

SWIS staffing

Social worker team managers completed a form outlining the start and end dates (on payroll and in school) and the nature of social worker recruitment (internally recruited from the pool of staff within the local authority, externally recruited from outside the local authority, or through an agency) for each social worker in each school. This happened initially in term four (autumn 2021) and was then followed up at the end of term six (summer 2022) in tandem with the social worker team manager exit interviews.

Analysis

Dose

We split the SWIS intervention period into 99 discrete weeks (Monday to Sunday), week one commencing 7 September 2020, week 99 commencing 25 July 2022. We assigned SWIS presence or absence for each week in each school. A SWIS was considered present if any date that the social worker was "in school" (i.e. excluding any initial training period, but including those who had to start work remotely due to lockdowns) was within the date range of each week 1–99. SWIS "dose" was calculated for each school as a percentage of the 99 intervention weeks that a SWIS was present.

Models of implementation

We collated data on SWIS team organisation, thresholds, balance of work, caseload management and decision-making from SWIS team manager initial and exit interviews

and screening team manager interviews to summarise key differences in the approach to implementation at the local authority level. We compared, grouped and described local authorities according to shared characteristics of implementation.

Implementation quality

We measured implementation quality using a novel "gold, silver, bronze" rating approach for each school, based on key implementation criteria (see Appendix 3), collated from social worker and school staff surveys, SWIS team manager interviews and SWIS staffing proformas.

We grouped implementation criteria into the following domains: physical base/embeddedness, integration, personnel, management and oversight, delivery and role. We assigned schools a gold, silver or bronze rating depending on the extent to which each criterion was implemented. Thresholds for different ratings were pre-set by the research team. We scored each criterion three, two or one (for gold, silver or bronze, respectively) and calculated the mean rating across terms two, three, four and five, and rounded to the nearest whole number. We then used the mean rating in each domain to calculate a single score for each school. We then adjusted these scores according to the percentage of time that each school had a SWIS in post.

We used two approaches to calculating implementation quality. In the first we considered only implementation criteria specified in the SWIS manual and assigned equal weighting to each domain. In the second approach we included additional implementation criteria and assigned weightings to each domain according to perceived importance based on qualitative findings from case study interviews (see Appendix 3).

Quality assurance and sense checking was a collaborative effort done initially (and independently) by two members of the team (DW and VB), with subsequent input and further discussion with the wider IPE team: PS, MM and LR.

Attitudes and experiences

Using survey data, we ran quantitative analyses of social worker, school staff and student responses to explore attitudes and experiences among staff and students.

We undertook principal components analysis of student Q-sort data in QMethod Software (QMethod Software, 2022) to identify factors describing student perspectives of SWIS.

We analysed qualitative data from case study and social worker team manager interviews using deductive and inductive coding (Silverman, 2011). Data was coded in NVivo 12 software (QSR, 2018) using a pre-determined scheme based on pilot study findings (Westlake et al., 2020) and aligned with the IPE research questions. New themes arising from this study were identified, added to existing themes and organised into an analytic framework. Each portion of analysis was reviewed by a second researcher and discussed within the team to ensure rigour.

SWIS and the wider social care system

Referral pathways for SWIS and non-SWIS were mapped for each local authority using data from SWIS team manager and screening team manager interviews.

Logic model

We coded the case study interview transcripts into themes, using NVivo (QSR, 2018), including one which was "mechanisms and contexts". We selected a sample of the interview transcripts (75 interviews with

SWIS team managers, social workers and school staff from 50 schools across all 21 local authorities) for analysis.

We coded each piece of data under the "mechanisms and contexts" theme and used the sampled transcripts to generate causal statements that capture theories in the data about how SWIS produces outcomes. These describe how a certain mechanism is expected to produce a particular outcome under certain circumstances (Pearson et al., 2015). We then themed the statements based on key mechanisms and contexts identified in the original logic model developed in the SWIS pilot studies (Westlake et al., 2020). Additional themes were added based on newly identified mechanisms and contexts. We consolidated overlapping causal statements in each theme into more refined theories capturing context–mechanism– outcome chains, which we brought together to produce an updated logic model.

Impact analysis and methods

Outcomes

The primary outcome was rate of Child Protection (section 47) enquiries over 23 months. As discussed in the introduction, finding ways of reducing the need for these services is a key policy objective. The relationship between risks to children and service responses is complex, however, reduced rates can be interpreted as an indicator of reduced risk.

Secondary outcomes:

- Rate of referrals to CSC over 23 months

- Rate of Child in Need (section 17) assessments over 23 months

- Rate of children entering care over 23 months

- Number of days in care over 23 months and 35 months*

- Educational attendance*

- Educational attainment*.

* Days in care over 35 months as well as educational attendance and attainment are not reported here and will be reported separately in March 2024.

Covariates

- Allocation – trial allocation (intervention or control)

- School size – total number of enrolled students in each school

- Percentage of students eligible for free school meals in each school

- Child Protection (section 47) enquiries in the year 2018/19

- Referrals to CSC in the year 2018/19

- Child in Need (section 17) assessments in the year 2018/19

- Children entering care in the year 2018/19

- Days in care in the year 2018/19

- Levels of implementation quality – classified as gold, silver and bronze

- Supervision for DSL scale-up study trial allocation (supervision of DSL or control).

Year 2018/19 was the baseline.

Recruitment procedure and consent considerations

Participating local authorities were chosen through a competitive tender process managed by the funder (WWCSC). Each chosen local authority invited schools and gained agreement from up to 16 schools to be put forward for randomisation.

Individual-level data was not provided to the trial team. Therefore, consent from individuals or schools was not required for the impact evaluation or economic evaluation. All outcomes were counted and then combined into school-level totals by the local authorities before securely transferring them to the trial team. We relied on local authorities to provide us with accurate data; data cleaning checks were performed by the trial data manager following each return, to ensure there were no missing data and search for any outliers. Any data queries and anomalies were raised with local authorities.

Randomisation

The recruitment of schools was completed for each local authority before that list of schools was passed on to the trial statistician for randomisation. The statistician was not involved in the recruitment of schools. Schools were considered recruited when the local authority confirmed that they had agreed to take part, and randomised in clusters of up to 16 schools, with each local authority acting as a cluster. Mainstream schools were allocated to the SWIS intervention or usual practice in a 1:1 ratio while minimising covariate imbalance (balancing covariates are listed below) within and across clusters using a balancing method for clusters (Carter and Hood, 2008). This was implemented in R version 3.6.0 (R Core Team, 2020) using code provided as supplementary material to Carter and Hood (2008). For the first cluster, the standard imbalance metric (Equation 1 in Carter and Hood, 2008) was used. The allocation of subsequent clusters was conditional on clusters already allocated, using a modified imbalance metric (Equation 2 in Carter and Hood, 2008).

The trial statistician had sole access to the imbalance metrics for schools already randomised during the randomisation process,

thus minimising the risk of allocations for new local authorities being predictable. Balancing variables were school size (total number of students enrolled in Year 7 and upward) and percentage of students eligible for free school meals. Both balancing variables were weighted equally and adjusted for in the final statistical analysis by including them as covariates in the regression models. The rationale for selecting these variables is reported in detail elsewhere (Westlake et al., 2022a). Briefly, school size and number of students is likely to have an effect on how the social worker works within the school, and eligibility for free school meals is a reliable indicator that a child is from a low-income household.

The trial statistician notified the trial team of the allocation once the schools in a local authority were randomised, and they communicated this to the funder (the grant manager) via email. The funder then indicated the allocation of schools to local authorities. The statistician performing the analysis was not involved in the randomisation.

Data collection and management

A data lead was identified at each local authority and supplied with a trial-specific proforma (in Microsoft Excel) for returning the trial outcome and economic data. This process was piloted in January 2021 before quarterly data transfers thereafter.

Impact evaluation

The data lead completed the impact evaluation part of the proforma, which contained total counts for all trial outcomes. Data was reported by school, school year group and month, and returned to the trial team. Data was combined, and no individual-level data was sent.

Economic evaluation

Each local authority data lead, SWIS team manager(s) and other local authority staff completed the economic part of the proforma. It documented costs inclusive of salaries, travel, consumables, training and recruitment. Specifically, costs related to the delivery of the programme derived from the social workers' direct staff costs, including supervision, recruitment and training costs from the local authority. Staff costs of managers and others involved in implementing the intervention were also included. All staff costs and salaries were anonymised.

Data cleaning and transfer

Trial data managers resolved all queries with local authorities at each quarterly data return. All data was stored on Cardiff University servers in restricted folders available only to those on the trial team who required access. Data relating to the cost analysis was checked and anonymised before onward secure transfer to the economic team based at the University of Oxford.

Sample size

At the trial design stage, the funder advised that a minimum of 280 mainstream schools would be available to be randomised. Assuming an average of 925 students per school, an average base rate of 12.6 section 47 enquiries per 1000 students per school year under usual practice conditions, and a between-cluster coefficient of variation of 0.45 of the section 47 rate within arms (these estimates were all based on comparator school data from the three pilot studies in Lambeth, Stockport and Southampton) (Westlake et al., 2020), randomising 140 mainstream schools to each group provides 80% power to detect a decrease in rates from 12.6 to 10.48 per 1000 pupils per school

year (i.e. a rate ratio of 0.832). This is based on a two-sided 5% type I error level when using a Poisson regression model accounting for cluster randomisation. The power was calculated in R version 3.6.0 (R Core Team, 2020) based on the sample size formula reported in Hayes and Bennett (1999).

The minimum detectable effect size with 80% for 268 mainstream schools is a decrease in section 47 rates from 12.6 to 10.43 per 1000 pupils per school year (i.e. a rate ratio of 0.828).

Statistical methods

The analysis procedures described in this section involve modelling the outcome data using a statistical method called regression which "corrects" any estimates of the intervention effect for potential confounding factors. All analyses described below were "intention to treat" (i.e. schools were analysed in the groups to which they were randomised, regardless of level of adherence to the intervention) apart from the sensitivity analysis excluding non-compliant schools. Statistical tests and confidence intervals were two-sided. There was no missing data in either the outcomes or the baseline covariates; therefore, no imputation was performed. For all primary and secondary analyses, school-level data was used, combined and totalled over the whole school irrespective of the month or the year group. All analyses were performed in Stata version 17 (StataCorp LLC, 2021). All completed analyses were pre-specified in the trial protocol and statistical analysis plan.

Descriptive analysis

Baseline demographics for schools, outcome rates at baseline and over 23 months, overall and by arm, term and participation in the Supervision for DSL scale-up study, unweighted and weighted levels of

implementation quality were summarised by means and standard deviations for continuous normally distributed variables. They were summarised by medians and interquartile ranges for continuous skewed variables, and by frequencies and percentages for categorical variables. Histograms and box plots were used to assess the normality assumptions (see Appendix 4). Outcomes were standardised per year per 1000 students to allow for a fair comparison between arms and across time points.

Primary analysis

- First, to estimate an unadjusted incidence rate ratio, we fitted a Poisson regression model with cluster-robust standard errors (Mansournia et al., 2021) with section 47 enquiries as the outcome variable, allocation as the explanatory variable and the number of students per school as the exposure scaling variable (because we would expect more outcome events in schools with more students). Glass's Delta (used to calculate effect sizes) was not calculated because it is only defined for continuous variables.

- Then a multivariable Poisson regression model with cluster-robust standard errors to reflect the clustering structure (schools within local authorities) was used to compare the rates of section 47 enquiries over 23 months between SWIS schools and control schools.

- The model was fitted using section 47 enquiries as the outcome and allocation as the explanatory variable and the number of students per school as the exposure scaling variable and adjusted for the following covariates:

  - Section 47 enquiries for the 2018/19 academic year (baseline)

  - Percentage of students eligible for free school meals

- Number of students enrolled per school.

The latter two covariates were included to account for their status as balancing variables in the randomisation (Kahan and Morris, 2012).

- The intervention effects (model coefficients on the logarithmic scale transformed into incidence rate ratios) from both models were presented as point estimates with cluster-robust standard errors, 95% confidence intervals and p-values.

- Intraclass correlation coefficients (ICC) are not well defined for multilevel Poisson regression models (Austin et al., 2018) and therefore were not reported for the primary outcome.

- Poisson regression was used as pre-specified in the trial protocol, as the outcome variable is a count of outcome events.

Secondary analysis

Secondary outcomes were analysed in a similar way to the primary outcome, by first fitting unadjusted regression models with cluster-robust standard errors followed by multivariable regression models with cluster-robust standard errors depending on the type of outcome: Poisson for counts (referrals to CSC, section 17 assessments, number of children entering care) and linear for continuous variables (days in care per child entering care, defined as the total number of days spent in care divided by the total number of children entering care per school). We included the same fixed-effect covariates in the model as for the primary outcome (allocation, baseline outcome from 2018/19, percentage of students eligible for free school meals and number of students per school). We also used the number of students per school as the exposure scaling variable in the Poisson models. Incidence rate ratios (referrals to CSC, section 17 assessments, number of children entering care) or mean

differences (days in care per child entering care), cluster-robust standard errors, 95% confidence intervals and p-values for both unadjusted and adjusted models were presented. Glass's Delta was reported only for days in care per child entering care from the unadjusted model since it is a continuous outcome. The p-values generated from the secondary outcome analyses were adjusted for multiplicity using Hochberg's step-up procedure.

Sensitivity analysis

We fitted two-level mixed-effects models with random local authority effects for both primary and secondary outcomes and reported the ICC only for days spent in care per child entering care, since it is a linear regression model where calculating an ICC is well defined.

We fitted a quasi-Poisson regression model with an overdispersion parameter rather than cluster-robust standard errors for the primary outcome as an additional sensitivity check. [11]

Non-compliance is defined as an intervention school not adopting the intervention at all. We excluded the non-compliant school and then repeated the primary analysis to assess the impact of non-compliance as our third sensitivity analysis. Numbers and percentages of SWIS schools that did not have a social worker and control schools that had a social worker were also presented in a table by arm.

Subgroup analysis

1. Our first subgroup analysis assessed the hypothesised mechanisms of change outlined in the Westlake et al. (2020) logic model at the 23-month follow-up. We did this by fitting an interaction term between allocation and category of implementation quality (using the gold,

silver, bronze categorisation described in detail below and in Appendix 3, which was developed based on a re-analysis of pilot data and other insights from the IPE). As the categories of implementation quality only apply to the SWIS arm of the trial, we created a new factor variable with four levels (control, gold, silver, bronze) and used it as a covariate in the models (for primary and secondary outcomes) for both unweighted and weighted versions of levels of implementation quality (see Appendix 3) instead of using allocation and implementation quality covariates separately.

2. We used per-term outcome data (for autumn 2020, spring 2021, summer 2021, autumn 2021, spring 2022 and summer 2022) in our second subgroup analysis and included term as an additional covariate, as well as its interaction with allocation, in the primary and secondary outcome analysis models to explore potential implementation effects and/or seasonality. Implementation effects refer to the possibility that the intervention might have taken a while to show an effect at the beginning of the autumn 2020 term due to slow recruitment of social workers in some schools. Seasonality refers to fluctuations in the observed outcomes across the six terms between SWIS and control schools. Per-term data also enabled us to assess whether COVID-19 had an impact on the outcomes by checking if there was a marked difference in the outcomes during the terms that were affected by lockdown.

3. Five of the local authorities in the SWIS trial were also taking part in the Supervision for DSL scale-up study, which started shortly after SWIS (as noted above in the introduction). In view of this, as our third subgroup analysis, we

11   Coxe et al. (2009) provide an accessible introduction to Poisson regression.

incorporated a dummy variable for receipt of the Supervision for DSL intervention, as well as an interaction term capturing receipt of SWIS intervention and receipt of DSL intervention. This subgroup analysis was added to the analysis plan when both trials were already under way, whereas the first two had been pre-specified in the protocol and the statistical analysis plan.

Economic analysis and methods

We designed a within-trial based economic evaluation to estimate the cost-effectiveness and cost consequences of referrals to CSC by SWIS schools compared with schools with no embedded social worker. The primary objective of this strand of the project was to estimate the incremental cost-effectiveness of SWIS in reducing rates of section 47 enquiries, compared with usual practice. The secondary objectives were to estimate incremental cost-effectiveness for SWIS in reducing referrals to CSC, Child in Need (section 17) assessments and days in care, compared with usual practice. The economic analysis adopted a public sector perspective.

Measurement of resource use data

We collected resource use data directly from participating local authorities in the intervention arm, because this was required to estimate the cost of delivering SWIS. All schools and local authorities contributed data towards the management and administration of the SWIS intervention. The data was separated at school level, collated by local authorities into a formatted table (survey proforma) and sent to the trial team for checks and analysis. Managerial and administrative data accruing to local authorities was collected from August 2020.

The survey proforma (described above) was completed on a termly basis, combined into five data returns per local authority for the duration of SWIS. The proforma documented staff time for SWIS social workers, team managers and other SWIS staff, including business or service managers, administrative assistants and team leaders or directors, and provided documentation for all resource inputs inclusive of salaries, national insurance and pension contributions. Survey responses were sent directly to the trial team, who provided follow-up with local authorities for timely completions, checks on data responses, validity and completeness. The data was used to inform costs and was collected from schools from the time SWIS social workers commenced working in their respective schools until 31 July 2022. We captured start and end dates for all social workers involved, and shared roles between social workers or changes to school allocations were also documented. Staff time for managers, agency staff and other staff involved in implementation was also included, and we collected a second proforma from the local authorities for recruitment, training and consumable costs.

The consistent and timely chasing of staffing proformas, via email to local authorities following weekly counts and data reviews by the SWIS trial team, resulted in very few proformas being missing. The data returns were comprehensive, with almost all being returned. A key query (data variable) that was consistently poorly reported, however, was the "proportion of time by social workers and managers dedicated specifically to SWIS" (<5% completed). This variable, when adjusted by the duration of SWIS employment (start and end date), was intended to identify the proportion of time that social workers delivered the intervention in schools with greater precision, to provide more sensitive estimates of the intervention's cost. To address this missingness, we cross-referenced the data from proforma responses

to free text provided by social workers for the IPE. That qualitative data included reports of the time commitment by social workers to SWIS, with more detail regarding their working constraints (e.g. a pre-existing caseload, difficulties in recruitment) and changes in delivering the intervention (e.g. temporal effects in workload or service configuration) and we describe these in greater detail in the IPE methods section.

Two information sources informed a proportional commitment of SWIS social worker time for the baseline analysis. It was estimated to be 0.89 full-time equivalents (FTE) for social workers in SWIS and 0.51 FTE for SWIS management and administration. We reviewed these estimates again, through a validity check with the funders, who provided confidential access to records of their reimbursement to local authorities for SWIS. The total costs for SWIS estimated using bottom-up approaches closely aligned to the total expenditure recorded by the funders, with an estimated difference in mean cost estimates of approximately 6%. The three-way cross-referencing for staffing costs aligned to produce a baseline estimate, and we tested the estimated proportion of social worker time (FTE) for robustness in a sensitivity analysis revised to 25, 50 and 75% to inform the potential impact on cost-effectiveness.

We also identified cost uncertainty for the coding of agency workers. Codes for agency staff time were frequently presented in terms of hourly rates, which for the purposes of SWIS were converted to annual reimbursement rates, and these were markedly higher than average annual social worker salaries.

Management staff located in the local authority, overheads costs and consumables were treated as a SWIS "tariff", and we summed their cost and allocated it proportionately to all social workers within the same authority, to account for the variety of activity and engagement across the social workers and between schools. In 10 of the 21 local authorities, no costs were reported for recruitment and/or consumables, compared with 6 authorities that reported costs in excess of £15,000, £30,000 and £100,000, respectively. We identified that there were differing approaches to filling positions for SWIS social workers in local authorities in the intervention arm, and consequently the costs accruing to recruitment, marketing and the reimbursement of agency staff differed across local authorities. These approaches included some social workers being recruited internally within the local authority, others recruited externally (outside the authority) and agency staff. Additionally, some social workers changed their roles within the local authority to fill new SWIS positions, and then agency staff were employed to fill their previous role. The wide variation in approach contributed to differences in management, administrative and recruitment costs for local authorities. This is described in greater detail in the IPE. We mapped the reported cost data to the different recruitment approaches by local authorities and considered it plausible. Overall, when averaged across all cost categories, this contributed less than 5% of the SWIS intervention overheads cost and was thus not considered an outlier of particular impact.

Valuation of resource use data to inform unit costs

We obtained unit costs from a variety of sources, to derive the most accurate estimates from a range of sources of cost data. These included primary accounting from local authorities, costs extracted directly from published reports and inflated to current prices, and unit costs derived from routine sources such as the Compendium of the Unit Costs of Health and Social Care 2021, from

the Personal Social Services Resource Unit (PSSRU) (Jones and Burns, 2021). For SWIS intervention staff and management, we based costs on the reported annual grade and salary of staff adjusted by their proportional time commitment. The pay scales for social workers differed by role and seniority. Most common were social workers employed at Grades 7 and 8, though there were also senior social workers (managing teams) who were Grades 9 and 10. We obtained costs of recruitment, training, consumables, advertising and travel costs directly from the cost proformas. We estimated placement costs for the categories of foster and kinship care, residential care, secure accommodation and "other" care.

We obtained and compared a variety of sources for cost data across publications, local authority reporting and government documents. Following a team consensus exercise, we deemed the uprated per diem (daily) costs from the Unit Costs of Health and Social Care 2021 the most appropriate for baseline unit costs, and sensitivity analyses extended valuing lower and upper cost boundaries identified from the literature in uprated 2021 prices (Jones and Burns, 2021). "Process and procedure costs" identified costs accruing to CSC for activities such as referrals, Child Protection procedures and Child in Need assessments. Specifically, we applied procedure costs across the spectrum of care to ensure that we captured costs accruing to social care in addition to placement costs. For example, we used a "process 1" (initial assessment and referral) value as a tariff accruing to control schools, to

reflect the costs to social workers and multi-disciplinary teams engaged in responding to a Child Protection (i.e. a CSC "tariff"). The cost represents the "respond and manage" approach considered to be current usual care. This is contrasted with the SWIS approach, which aims to proactively engage with referrals through co-located social workers. Additionally, all "referrals" were attributed a "process 2" cost, for a full initial assessment. Child in Need (section 17) and Child Protection (section 47) enquiries and days in care were all attributed a tariff cost for CSC time. We derived process and procedural tariff estimates primarily from the "extension of the cost calculator to include cost calculations for all children in need" (Holmes et al., 2010). We inflated all costs to current prices, revised to a per event or per diem (day) basis where required, and expressed in British pounds sterling (£), for a base cost year 2020/21 (Jones and Burns, 2021).

We quality assured all data. This included conducting face validity checks for all rows of staffing, management, recruitment and consumables entered in the proformas, calculating descriptive statistics for each value and critiquing outliers. We also cross-checked data, and occasionally triangulated back to the trial coordinating team for clarification for numbers or dates where required. We discussed all data management decision rules and had them signed off by the team before the final analysis, with corrections documented in the statistical code.

Table 1. Unit costs associated with resource use

Resource use	Unit cost	Unit of measure	Original price year	Source of unit costs	Range	Notes
SWIS intervention						
Social worker staffing	72,888	Per annum	2021	Costs were obtained directly from data leads from local authorities for each social worker in the trial. These ranged from a Grade 7 to a Grade 10 social worker. Pension, NI and travel costs were also collected.	56,735 93,859	In the Unit Costs of Health and Social Care compendium, a salary of £35,710 equates to a total staffing cost of £79,163 when all other costs are taken into consideration. https://www.pssru.ac.uk/pub/uc/uc2021/communityscstaff.pdf (Page 123)
Administrative	42,470	Per annum	2021	Costs were obtained directly from data leads from local authorities for each social worker assistant and/or other related administrative or support role, which included titles such as administrative assistant, administrator, data and analytics support or other similar titles.	28,992 51,703	In the Unit Costs of Health and Social Care compendium, a salary of £52,987 is provided for social worker assistants when all other costs are taken into consideration. https://www.pssru.ac.uk/pub/uc/uc2021/communityscstaff.pdf (Page 124)
Management	106,218	Per annum	2021	Costs were obtained directly from data leads from local authorities for each social worker in the trial. These ranged from a Grade 15 to a Grade 17 social worker. Pension, NI and travel costs were also collected.	52,561 142,195	

31

Table 1. Unit costs associated with resource use (continued)

Resource use	Unit cost	Unit of measure	Original price year	Source of unit costs	Range	Notes
Control						
Initial assessment: Process 1	309.40	Per event	2010	Extension of the cost calculator to include cost calculations for all children in need: Centre for Child and Family Research (CCFR), Loughborough University https://assets.publishing.service. gov.uk/government/uploads/ system/uploads/attachment_data/ file/182479/DFE-RB056.pdf		Inflated to current prices
Process and placements in children's social care						
Section 47	1190.53	Per section 47	2010	Extension of the cost calculator to include cost calculations for all children in need: CCFR, Loughborough University https://assets.publishing.service. gov.uk/government/uploads/ system/uploads/attachment_data/ file/182479/DFE-RB056.pdf		Inflated to current prices
Referral assessment: Process 2	478.69	Per referral	2010	As above		Inflated to current prices

Table 1. Unit costs associated with resource use (continued)

Resource use	Unit cost	Unit of measure	Original price year	Source of unit costs	Range	Notes
Section 17	478.65	Per section 17	2010	As above		Inflated to current prices
Management of placement by social worker and multi-disciplinary team: child in care	16.18	Per diem	2010	As above		Inflated to current prices
Foster and kinship care	94.43	Per diem	2020/21	Unit Costs of Health and Social Care compendium https://www.pssru.ac.uk/pub/uc/uc2021/services.pdf (page 73)	89, 120	Inflated to current prices
Residential care	722	Per diem	2020/21	Unit Costs of Health and Social Care compendium 2020/2021 https://www.pssru.ac.uk/pub/uc/uc2021/services.pdf (page 71)	527, 938	Inflated to current prices
Secure accommodation	730	Per diem	2013	Unit Costs of Health and Social Care compendium PSSRU 2013 from 2008 – 2013 https://www.pssru.ac.uk/pub/dp2855.pdf p.64	617.8, 837.1	Inflated to current prices
Other care	589	Per diem	2013	Unit Costs of Health and Social Care compendium PSSRU 2013 https://www.pssru.ac.uk/project-pages/unit-costs/unit-costs-2013/	89, 938	Inflated to current prices

Representation of cost-effectiveness

Main analysis

We included all cost and outcomes variables in the full analysis, in accordance with the "intention to treat" principle for mainstream schools. We summarised resource use values by trial allocation group and differences between groups were analysed using t-tests for continuous variables. We estimated mean differences in costs and outcomes between the intervention and control arms using t-tests and we computed bootstrap 95% confidence intervals based on 1000 (or more) replications, as is appropriate for cost data (Briggs et al., 1997). Bootstrapped standard errors and the cluster-robust standard errors were similar, while bootstrapped standard errors tended to be slightly smaller. Costs and outcomes were scaled to incidence rate ratios per 1000 students per year. Cluster-robust standard errors took account of schools within local authorities.

We estimated measures of uncertainty (standard errors and confidence intervals) and reported for the mean estimates, with the data combined to calculate an incremental cost-effectiveness ratio (ICER) and net monetary benefit (NMB) statistic from a public sector perspective. Additional sensitivity analyses explored variability in key cost drivers on cost-effectiveness, specifically for proportional time of social worker and management time for SWIS.

Secondary analyses

Subgroup analyses mirrored those undertaken for the main analysis and explored temporal effects with "per-term" outcomes data to include termly duration, and the hypothesised intervention mediators by fitting an interaction term between allocation and category of implementation quality (a gold, silver or bronze categorisation) developed from the IPE.

We additionally conducted a cost-consequence analysis presenting resource use, costs and secondary outcomes in disaggregated and unweighted format. Cost-consequence analyses present costs and a range of effectiveness results (primary and secondary outcomes) in a disaggregated format, together with the estimates of the mean costs with appropriate measures of dispersion. Each table presents the mean aggregate costs with standard errors for the intervention and comparator, and the bootstrap mean difference (risk ratio for secondary outcome) with 95% confidence intervals. All analyses were carried out using Microsoft Excel 2019 and Stata version 17 (StataCorp LLC, 2021).

FINDINGS

In this chapter, we begin by presenting the findings of the IPE, starting with how SWIS was implemented and ending with a logic model of how it is thought to work in theory. Then we turn to the results of the primary and secondary impact analyses, before presenting the results of the economic analysis. Educational outcomes and lagging CSC outcomes are not known at this point and will be reported separately in March 2024.

Implementation and process evaluation findings

The analysis in this section used data from interviews and surveys, as detailed in the previous chapter. Appendix 5 gives a detailed breakdown of response rates and numbers for the surveys across the various time points and participant groups. Table 2, below, details the number of interviews undertaken across different participant groups.

Implementation

The way SWIS was implemented across the schools and local authorities aids our understanding of whether and how it is effective. As we described in the introduction, the manual required social workers with certain levels of experience and skills to be present in schools and to focus primarily on statutory social work. This guidance was based on theory developed during the pilots about the key mechanisms by which the SWIS intervention operates. If these components were not implemented as intended, then we would expect the intended outcomes to be impaired.

Table 2. Summary of interview numbers

Role	Number interviewed
Case study interviews (terms one, two and three) n=120	
DSL	39
Head/deputy head teacher	16
Social worker	62
SWIS team manager (in term one only)	3
Initial SWIS team manager interviews (term two) n=21	
SWIS team manager	21
SWIS team manager exit interviews (term six, and one in term five) n=21	
SWIS team manager	17
Service manager	3
Practice manager	1
CSC screening team manager interviews (terms four and five) n=16	
Team manager	11
Operations manager	2
Service manager	2
Deputy team manager	1
Student interviews (terms five and six) n=27	
Student	27 (24 with Q-sort activity)

In this section we address the research question "Is SWIS implemented as intended?" Using the manual as a starting point, we illustrate how and to what extent different aspects of SWIS were operationalised by the local authorities and schools. This approach serves firstly to give a holistic view of SWIS implementation, including barriers and enablers to successful implementation, and to contribute to the development of theory expressed in the logic model. Secondly, it feeds into a novel aggregate rating of implementation quality for each school and local authority, which we calculate using our gold, silver, bronze approach (detailed below, and further in Appendix 3).

Recruitment and retention of social workers in SWIS posts

Recruiting and retaining SWIS social workers is perhaps the most fundamental role for the local authorities involved. Here, we consider how successful they were, based on data collected through team manager interviews.

"Recruitment drag" during inception period

All local authorities experienced some level of "recruitment drag" during term one, when it took longer than anticipated to set up the intervention and get social workers into schools (Figure 1). This was particularly notable in some local authorities. For instance, LA 14 did not have any social workers in post during term one, and LA 13 had SWIS running in only one school, and that social worker only started three weeks before the end of term. Although most schools had staff in term two, problems endured in some local authorities, and a minority of schools (5/146) had not received a social worker at all by the end of term two. Two schools had to wait until the second year of SWIS, in term four, for their social worker to start, and one did not receive a social worker at all.

One reason given for "recruitment drag" is that local authorities and funders underestimated the time needed to establish the SWIS intervention, meaning that much of the first term was spent trying to recruit staff and negotiate with schools. Local authorities were informed their applications to join the scale-up were successful on 29 July 2020, five weeks before the start of term. This was not long enough for any schools to have a social worker in week one, and most did not have a social worker until at least week four. Recruitment did not reach 50% until 10 weeks into the scale-up, and 75% were in position by 15 weeks.

Figure 1. Social workers in post by intervention week.
Each column represents a week and each row represents a school. The weeks have been grouped into blocks representing the school terms and holiday periods (lighter shading used for holiday periods). Orange cells indicate weeks where a social worker was in post; grey cells indicate weeks when no social worker was in post

SW in post   No SW in post

20/21 academic year   21/22 academic year

Term 1   Term 2   Term 3   Term 4   Term 5   Term 6
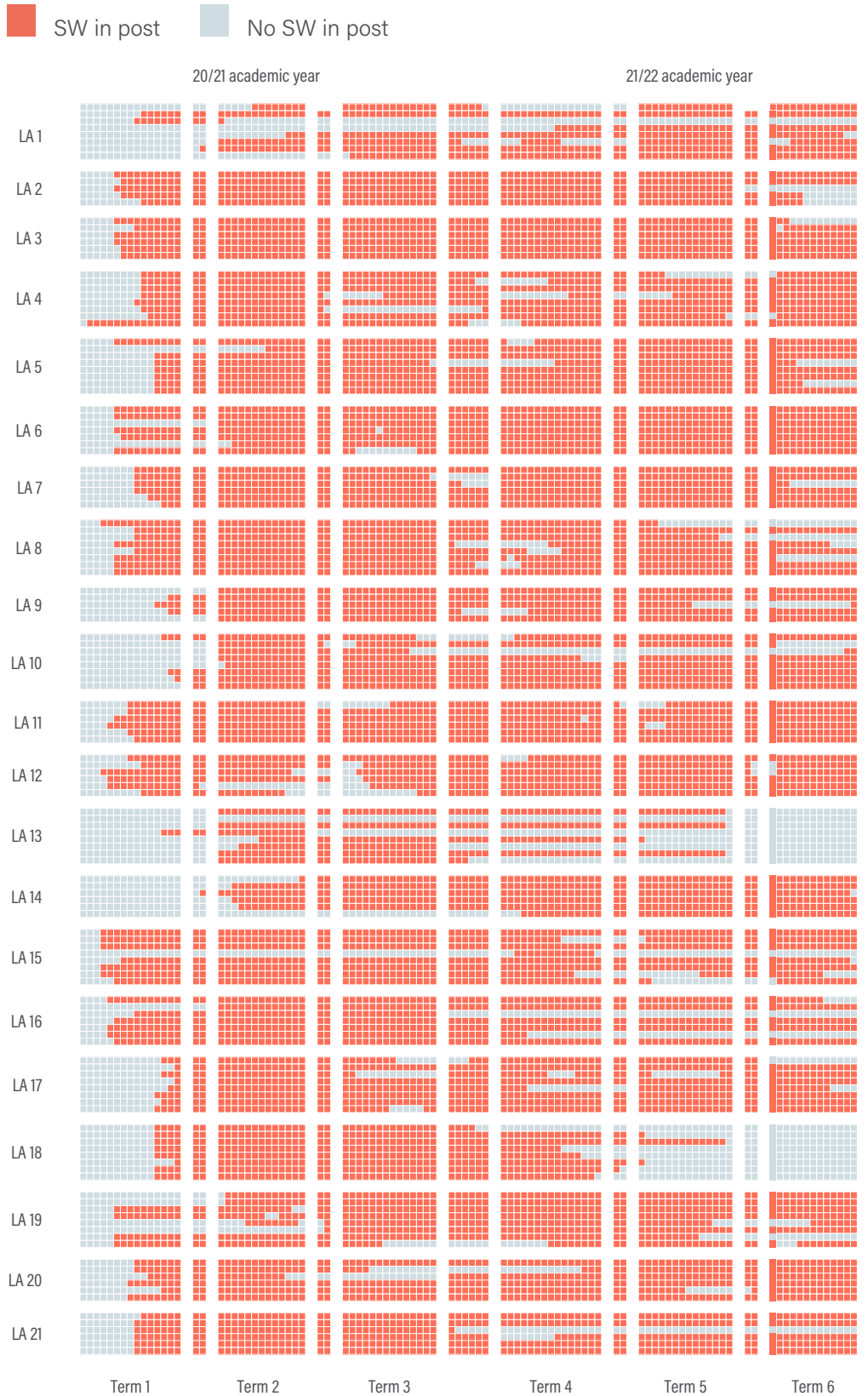
Mixed success

The overall percentage of weeks that social workers were in post in schools in each local authority exceeded 75% in 16/21 authorities, and only one had a social worker in post for less than 50% of the intervention period. However, no school had a social worker in post for 100% of the trial period, and positions were filled or vacant in an irregular pattern over time, varying considerably between individual schools and local authorities (see Figure 2).

The "recruitment drag" discussed above meant schools were particularly understaffed in term one, during which local authorities had a social worker in post for less than two-thirds of available weeks. Conversely, terms two and three saw much higher levels of staffing, with up to 100% for many authorities. Moreover, despite a slow start, some local authorities (e.g. LA 3, 6, 7 and 11) maintained a high level (~90%) of social workers in their schools throughout the scale-up period. In others, across different terms, social worker staffing was considerably less complete. Nonetheless, the overall mean proportion of time social workers were in post across the 21 local authorities was 78%.

Staff turnover and implementation gaps

Five local authorities and schools had a relatively high turnover of staff, with four successive social workers for one SWIS post

Figure 2. Heat map of percentage of time SWIS workers were in post, by term and local authority.
Each column represents overall, or termly, percentage of time a local authority had social workers in post across their schools in a particular time period. Each row represents one local authority

	Overall	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
LA 1	60.61	10.83	49.04	74.11	60.83	87.50	82.69
LA 2	86.87	58.67	100.00	100.00	100.00	100.00	55.38
LA 3	92.09	61.11	100.00	100.00	100.00	100.00	85.90
LA 4	82.32	46.67	100.00	82.14	83.33	85.71	98.08
LA 5	83.21	28.33	93.27	99.11	90.00	100.00	83.65
LA 6	89.61	46.67	97.80	89.80	100.00	100.00	100.00
LA 7	87.21	40.00	100.00	98.81	100.00	100.00	87.18
LA 8	83.08	60.83	100.00	100.00	86.67	88.39	59.62
LA 9	80.00	10.67	100.00	100.00	94.67	91.43	81.54
LA 10	73.61	5.00	99.04	91.96	93.33	87.50	77.88
LA 11	90.57	57.78	100.00	91.67	98.89	91.67	100.00
LA 12	83.67	60.00	76.92	72.62	95.56	100.00	97.44
LA 13	40.15	2.50	78.85	75.00	50.00	35.71	0.00
LA 14	72.22	0.00	58.97	75.00	50.00	35.71	0.00
LA 15	79.80	65.83	87.50	87.50	89.17	67.86	80.77
LA 16	78.50	57.14	100.00	100.00	75.24	71.43	65.93
LA 17	78.41	17.50	100.00	79.45	87.50	91.07	83.65
LA 18	55.55	24.17	100.00	100.00	79.17	13.39	0.00
LA 19	78.54	33.33	76.92	92.86	94.17	92.86	78.85
LA 20	81.99	42.22	96.15	71.43	86.67	91.67	100.00
LA 21	81.65	45.22	100.00	100.00	74.44	83.33	83.33

Legend:
- 0-19.99%
- 20-39.99%
- 40-59.99%
- 60-79.99%
- 80-100%

Figure 3. Staff turnover and gaps in delivery.
Each vertical block represents a school term, or holiday period (lighter shade), and each column within a block represents a week. Each horizontal block represents a local authority, and each row within a block represents a school. Coloured cells indicate weeks where a social worker was in post; different colours represent successive workers (see legend). Grey cells indicate weeks when no social worker was in post
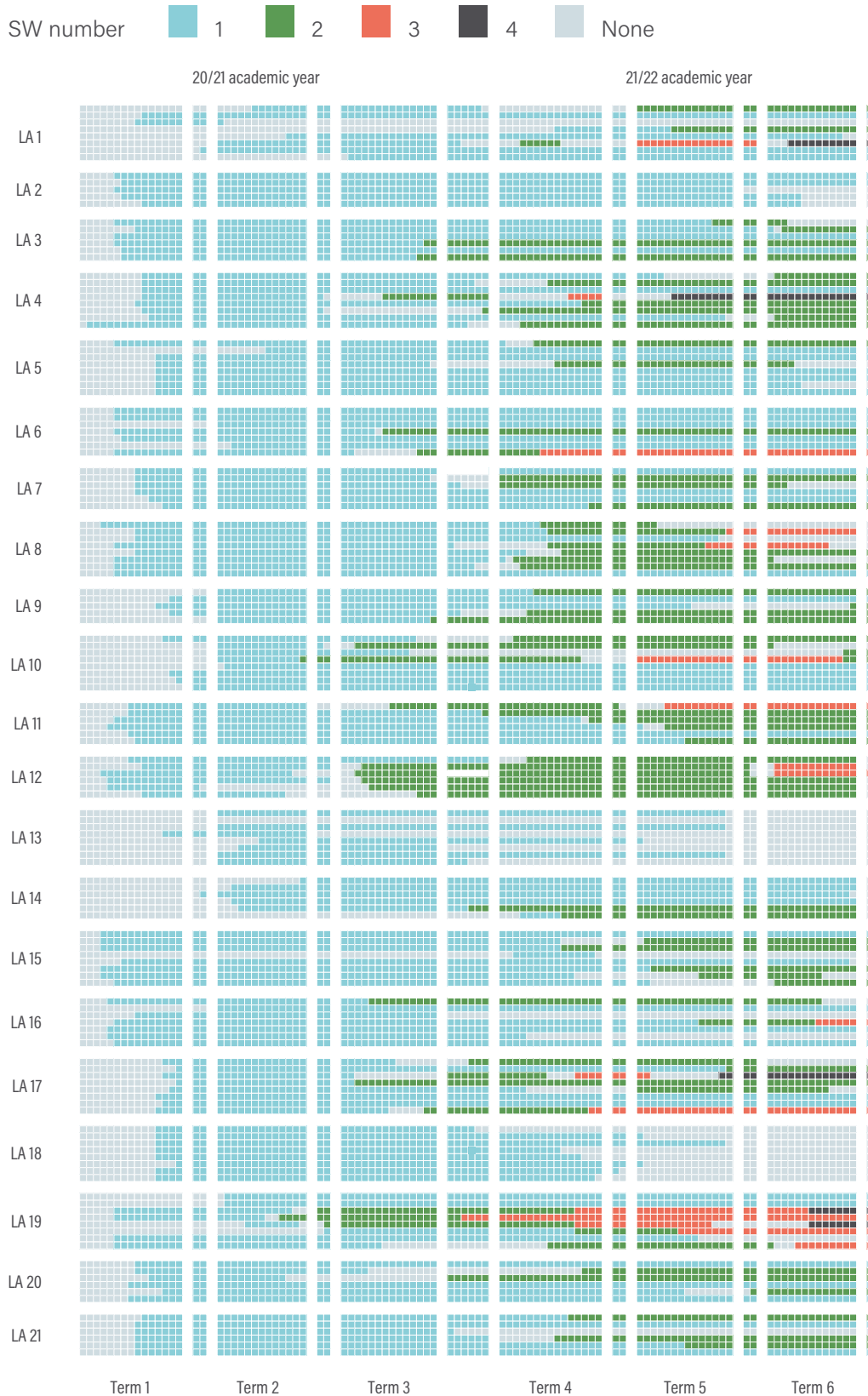
(see Figure 3). Some schools experienced long periods without a social worker, after their previous worker left. The experience of LA 12 illustrates both these points: all schools were on their second SWIS social worker by the start of term three, and most had experienced a gap of several weeks without a social worker after the first one left.

Approximately half (74/146) of schools retained the same social worker throughout, except for two local authorities, who had no social workers in post in term six. Staff retention was high at the end of the scale-up; most schools in the remaining 19 local authorities (n=108/131, 82%) had social workers in post at the end of the sixth term.

Sources of recruitment

The SWIS manual (Appendix 1) recommended that social workers were recruited internally from the local authority. It was felt that this would not only provide an advantage with regard to local knowledge and systems, but that social workers could build on existing relationships, facilitating the establishment of SWIS within the local authority. However, internal recruitment posed a challenge to many local authorities for various reasons, including staffing shortages within the authority and the routine use of agency workers. This resulted in a trade-off between staffing SWIS and depleting other teams, as one manager explained:

"We've not been able to recruit permanent staff into the post and it's been filled predominantly with agency workers … I think they need to look at maybe where their priorities lie within the local authority. Is it going to be in a project or is it going to be in the localities?" (Team manager interview)[12]

The pattern of staffing for all local authorities, across different methods of recruitment, is shown in Figure 4.

In some local authorities, members of the SWIS team would provide cover during vacant periods in other schools, predominantly for statutory casework, which as one team manager described in their exit interview would be "redistributed across the [SWIS] team, because [they] held the case knowledge". However, this could cause difficulties, especially where the gaps were more substantial. This was raised by school staff, one of whom felt it affected how successful SWIS was in their school:

"The only thing that we would say is that the two prolonged periods of absence of our SWIS worker have had a huge impact on how we work as a team and the effectiveness of the programme. That said, the school recognises that sometimes these things are unavoidable – and, in the absence of our actual worker, the wider SWIS team have been great at liaising and helping us out." (LA 4, school staff survey)

This redistribution of SWIS work to social workers within the wider SWIS team did not always happen, and for many schools the gaps between one social worker leaving and another starting resulted in a hiatus in the SWIS intervention. Another school staff survey respondent, from LA 18, expressed frustration that "my SWIS has now left the post and no one has replaced them." Many reasons were given for workers leaving, and often they moved due to personal circumstances, because they had been promoted or because they had secured permanent employment elsewhere. There was a general sense that SWIS was an attractive role that workers were reluctant to leave and that turnover rates were lower than in other teams.

One more unfortunate reason for some SWIS staff leaving was the uncertainty around funding and the continuation of the scale-up around the two points when it was extended.

12   The LA identifiers or roles for some quotes are withheld to protect anonymity.

Figure 4. Staff recruitment method.
Each vertical block represents a school term, or holiday period (lighter shade), and each column within a block represents a week. Each horizontal block represents a local authority, and each row within a block represents a school. Coloured cells indicate weeks where a social worker was in post; different colours represent recruitment origin (see legend). Light grey cells indicate weeks when no social worker was in post

Legend: Unknown | Agency | External | Internal | None

20/21 academic year — 21/22 academic year

LA 1, LA 2, LA 3, LA 4, LA 5, LA 6, LA 7, LA 8, LA 9, LA 10, LA 11, LA 12, LA 13, LA 14, LA 15, LA 16, LA 17, LA 18, LA 19, LA 20, LA 21

Term 1, Term 2, Term 3, Term 4, Term 5, Term 6

This added layer of uncertainty made it more difficult for some local authorities to retain workers in the periods towards the end of the confirmed funding, particularly because confirmation of extended funding was not communicated until shortly before the previous end date. The following comment from a team manager illustrates this issue:

"… *we had a worker who's now left the project and [therefore] one school doesn't have an allocated worker, mainly because we don't know about the project extension." (SWIS team manager interview)*

In two local authorities the problems of recruiting and retaining workers seemed more deep-seated and meant that SWIS effectively ended a term or two earlier than intended, because it was not possible to recruit new social workers to fill vacant SWIS posts. One team manager pointed out, "it's incredibly difficult to recruit someone externally for a fixed-term contract like that", particularly towards the end of the scale-up (SWIS team manager interview).

Focusing on school-based work

Having charted the patterns of recruitment and retention of social workers to SWIS posts, we examine how far practitioners who filled these positions could focus on the students in their allocated schools. The pilot studies suggested this was instrumental to success but varied between schools and local authorities. The impact of COVID-19 on SWIS is covered in more detail below.

By the beginning of the second year of the SWIS intervention period, most social workers were spending most of their time working from the school as their primary base. However, there was variation across schools and authorities, with some social workers working more from home or the local authority offices (see Figure 5). Caseloads often comprised students at the social worker's own school and children at other schools. Within the latter group, there were students who were in their allocated school originally but subsequently left, students from other SWIS schools in the local authority, siblings of students at the allocated school who were in other schools or not at school, and non-SWIS cases.

Some participants voiced frustrations about having to work with children who were not at their school due to pressures elsewhere in the service. One reported, via the survey, that they were "feeling like a locality worker based in a school" (LA 8), and a manager who we interviewed said "… there have been times where, because there's … been no capacity in locality teams, they've asked us to sort of take on … some cases". These frustrations were also reflected in some school survey responses. One (from LA 10) who had a good relationship with their social worker, criticised the way "the local authority appears to be using the SWIS team as an extra team of duty social workers, which is diluting the potential impact". Another (from LA 16) described their SWIS as "a social worker who very occasionally used an office in school to do their paperwork".

Figure 5. Social work location and caseloads at their school.
Stacked bar charts showing location of work (left) and number of students on caseload (right) from social worker's school, and other schools at term four. Data source, term-four social worker survey

Work location

- School
- Home
- LA
- Other

Child location

- My school
- Other school/not is school

Percentage time

Number of children
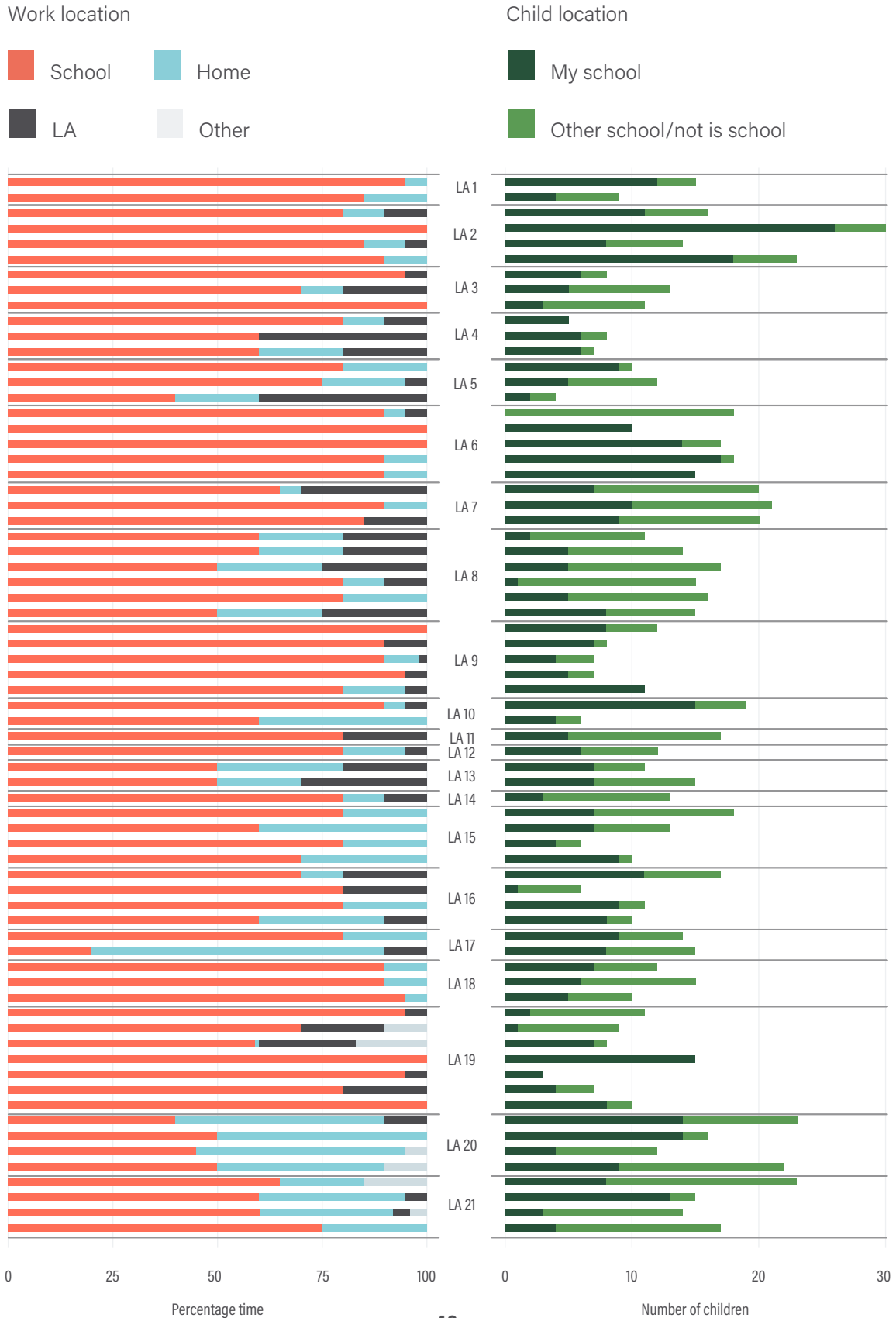
There was a strong consensus across local authorities about the value of preventative work, and the potential for this to create the outcomes the trial aimed to achieve (e.g. reduced risk to children and concomitant reductions in rates of CSC interventions). Epitomising this view, a social worker in LA 2 argued, "the early intervention work you can do in this type of role will prevent escalation into social care". Likewise, one of the team managers reported:

> "I've spoken with the team about this … they feel the biggest impact has been their capacity, or ability to work with the DSLs to identify those children and families who might benefit from that early intervention, or that … very focused preventative intervention at a point before risk begins to escalate." (Team manager interview)

Emphasis on statutory social work

Most local authorities implemented a version of SWIS that resembled what the manual suggested: an emphasis on statutory activities with room for preventative work alongside. We estimate this broadly describes between half and two-thirds of the authorities involved, though this group incorporates a wide part of the spectrum of approaches. For example, in LA 12, where they aimed for a typical balance of 70/30 statutory and preventative work, workers were assigned up to 12 children on statutory plans. The rest of their time was spent liaising with other professionals, advising school staff and providing advice and support to students and their families.

Some local authorities had a stronger or more explicit focus on statutory work, and this is true of between one-third and one-half of the sample authorities. However, most retained capacity to work with schools and other agencies in an advisory role. A worker in an authority that exemplified this approach described their understanding of the balance in the following terms:

Figure 6. Balance of types of work undertaken by SWIS social workers.
Average self-reported caseloads across term two, three, four and five survey responses

44

Figure 7. Models of SWIS on spectrum of intervention level.
Schematic diagram illustrating the focus of different local authorities along a spectrum of preventative to statutory work

LA 19
- **Focus:** Preventative/Early help, with some statutory work in limited circumstances
- **Intervention:** Do Child in Need but not CP or CLA/court work. Only do s.47 for children they are already working with at a lower level, e.g. when issues escalate. Do not take 'new' s.47
- **Case limits:** 10 statutory (Child in Need) and 5 Early Help
- **Service position:** SWIS based within Early Help Service

LA 12
- **Focus:** Emphasis on statutory with some prevention, but no early help
- **Intervention:** 70/30 Statutory/ preventative split, full range of statutory work
- **Case limits:** 12 Statutory cases
- **Service position:** SWIS based within safeguarding service

Preventative, below Child in Need threshold

Statutory, Child in Need or higher

LA 6
- **Focus:** Exclusively preventative/Early help, no official statutory
- **Intervention:** Mix of Early Help, family support, lower level school safeguarding. But effectively some Child in Need work being held below threshold at EH level
- **Case limits:** N/A for statutory, no set limits for other cases
- **Service position:** SWIS based within Safeguarding service (MASH, assessment, long term CP)

LA 4
- **Focus:** Dual statutory/non-statutory focus of Early Help and lower level
- **Intervention:** Full range of statutory and non-statutory acsework, 50/50 split between statutory and non-statutory
- **Case limits:** 8 statutory, 8+ non-statutory reflecting the less clearly defined workload a non-statutory 'case' involves
- **Service position:** SWIS based in Early Help service

LA 20
- **Focus:** Statutory, with a small amount of non-statutory work and no Early Help
- **Intervention:** Full range of statutory work, some non-statutory but no Early Help
- **Case limits:** No limits, and caseloads similar to long term CP teams, up to 21 at times
- **Service position:** Based within Assessments and Intervention service, though not really aligned with that service and more of a separate entity

45

"The key remit is to undertake statutory social work but just in a school setting … We've been getting cases of all levels, Child in Need level, Child Protection level, and that kind of PLO [Public Law Outline] level, as per the statutory requirements of the role. We've also had the scope to undertake more low-level work really, just because I've been based in the school. And that is liaising with other agencies." (LA 8, social worker interview)

Emphasis on preventative work

Some local authorities maintained a mix of statutory and non-statutory involvement but placed a greater emphasis on preventative work, by only taking on statutory work in limited ways or specific circumstances. For instance, two authorities did not take on "new" section 47 enquiries, only doing section 47s in cases where they were working with a family and the situation escalated to section 47 level. In one of these, SWIS workers would work with families in care proceedings up until the initial hearing, when it would transfer to another team. In the other authority, SWIS workers only did Child in Need work and not Child Protection or court work, and cases were limited to ten statutory and five Early Help per worker. In another local authority that had a similar emphasis on preventative work, SWIS tended to do initial work on statutory cases before passing them on to different teams. This happened after the section 47 enquiry for children on Child Protection plans, and after a three-month period following the initial assessment for children on Child in Need plans.

Case study: LA 6

Local authority 6 had a policy of SWIS workers not doing any statutory work. This is worth exploring in more detail because it is an outlier compared with the others, and one where they took a notably different approach from the one outlined in the manual. One of the social workers in this authority described three strands to their work: multi-agency preventative work under an Early Help plan, ad hoc support for families with various difficulties that would not meet CSC thresholds, and preventative work that arises through the school "MyConcern" system:

> *"I don't hold statutory. Currently, I have 10 'team around the family' children, and then I have about 15 just one-off pieces of work. And, then I have the 'MyConcerns' that just will come in on the day. So, it's almost like three caseloads." (LA 6, social worker interview)*

This worker went on to explain that not having statutory cases freed them up to take a more "interventionist" approach with families, with sometimes daily input, that they felt prevented escalation to Child in Need or Child Protection. Because the role of SWIS social workers in this local authority was to prevent this escalation, they sometimes had to withdraw in cases where the level of concern meant that escalation was necessary. This was presented mainly as a feature of SWIS in this local authority that workers had to adapt to, rather than being problematic. However, it meant that the service from CSC for these families was more like usual practice, with an allocated social worker based outside the school, as a social worker described in the following example:

"I had quite a prolific case – everyone was talking about this case when I first came – and my first meeting with [the student], alleged physical chastisement and emotional harm at home. [They had] ... never made any allegations before. So [the school] were saying to me, 'This'll be a really good case for you because it's never reached tier three/tier four concerns.' But they were really worried about this child. As soon as [the student] then alleged physical chastisement, we then had to [formally refer it to CSC and now] there's an allocated social worker, which then means that the work that I'd kind of been hoping to do with the child, I have to kind of take a step back while the real social worker does the investigation and all of that. ... that's quite difficult because in the higher-risk cases, you do have to allow [other] social workers to take the lead." (LA 6, social worker interview)

Supporting school staff

Another prominent characteristic of the SWIS role was the interprofessional collaboration that social workers and school staff engaged in. The nature of this varied, largely depending on how confident and experienced the school safeguarding and pastoral teams were. Several schools reported that social

workers helped reassure them that the concerns they were raising were legitimate, adding "a degree of ... professional security in the judgements" and giving them "more confidence in [their] decisions" (DSL LA 6). There were some examples where social workers helped schools consider other options aside from CSC when they were concerned about children, and others

where they reassured them that submitting a contact to CSC was the right decision. For example, a DSL in another authority explained:

> "I think it was, if I'm honest, it was just that almost, that guiding hand, that reassurance that, [I should think] not 'what if I'm wrong?' but 'what if I'm right?', and to always follow through and if you've got any doubts just go for it, put [a referral] in." (LA 15, DSL interview)

There were also reports that having a SWIS helped schools improve the amount and quality of information contained in referrals, to a point where they were more likely to result in action from the local authority:

> "I think [the social worker has] made us much better at thinking about what we're worried about. [They] ask really good questions and make you give clear answers … it makes my referrals better … there are buzzwords, aren't there … and if you miss them out, then sometimes they'll come back [with no further action]." (LA 17, DSL interview)

However, in schools where safeguarding teams were more established, social workers reported facing some scepticism and finding it more difficult to fit in. There was a sense that some schools were hesitant and wary of local authorities trying to "wrest control" of safeguarding from them, and others where social workers felt less needed because the safeguarding teams were so experienced.

Capacity to work effectively

Given that balancing these different types of work was at the heart of the SWIS role, it is important to consider how far social workers

were able to maintain the workload they were tasked with. The local authorities were generally attuned to the possibility that SWIS requires a different portfolio of casework from other social work roles, and nearly all local authorities instigated limits on caseloads for statutory cases, at least in theory. Some also had similar limits for lower-level intervention. The rationale for limiting statutory caseloads was to give workers time to work directly with school staff, students and families.

Most local authorities successfully kept caseloads lower than the averages in their child protection teams (see Figure 8), even though in practice many found it difficult to stop caseload numbers from exceeding the limits that were set for SWIS, especially in the later months of the scale-up.

The caseload "cap" was positively received by social workers, who reported "doing a lot directly with children and families which often you're [unable to do] because of the high level of caseloads … and the bureaucracy" (LA 2). However, demand became difficult to manage when the needs in the schools or community increased, or when capacity in the SWIS team reduced (e.g. due to staff vacancies or illness). In larger schools this seemed to be a more acute issue, and some of the students we interviewed felt that more than one social worker would improve SWIS in large institutions. One commented "… 300 people in every year group and only one social worker … they're just always busy" (LA 2). More generally, and particularly as time went on, social workers reported that statutory work could take up much of their time and limit opportunities to engage with staff and students at the school.

Sometimes this meant that SWIS workers' day-to-day activities resembled those of their colleagues in normal Child Protection teams, just in a different location. One worker

Figure 8. Box plots to show social worker average caseloads.
Average self-reported social worker caseloads (left) and average self-reported social worker caseloads relative to the local authority average (right), calculated across term two, three, four and five survey responses. 'Caseload' in these graphs means number of children

As well as this pressure to prioritise time-consuming statutory work within the SWIS schools, to the point at which little or no preventative work was possible, some SWIS teams came under further pressure to take on statutory work from Child Protection teams in their local authorities (who were themselves struggling to manage demand). One manager described trying to "push back" on this, but

explained that "... as a team, we keep saying the majority of our cases are high-end safeguarding Child Protection cases, that none of us ... came into this wanting to do" (LA 8, social worker interview). They went on to explain how complex statutory casework was "not allowing us to do work with the schools".

ultimately being "… at a point where, really, we're doing the job of any other social work team" (team manager interview).

Management structures of SWIS teams were fairly consistent across the authorities. All but one of the local authorities had a single team manager dedicated to SWIS, who oversaw the day-to-day management and support, often working remotely and convening both team meetings and virtual one-to-one sessions. The exception was a large, rural authority where management was shared between four regional locality managers. Managers reported having a large amount of autonomy, particularly over the nature of the non-statutory work the teams undertook. Most felt they had the freedom to be "creative" and tailor SWIS to the schools they were working in.

Regular team meetings provided a forum for workers to discuss cases, support each other and get managerial advice. Meetings tended to be virtual in most local authorities, partly because of the pandemic but mainly because workers were often geographically dispersed in the larger ones. In the context of both these complications, several SWIS teams found ways to replicate the informal support that is often valued in centralised office working. SWIS teams seemed to be successful in creating a virtual working environment that mimicked these conditions, enabling workers to discuss their experiences of developing a new role and offer advice and guidance to each other:

> "… we have supervision fortnightly rather than monthly … we have team meetings every week … where we get to share success stories, we talk about our wellbeing … but also group reflection and group supervision." (Team manager interview)

This isolation features commonly in social workers' reflections on the role, but good management and regular online communication within teams were felt to ameliorate it:

> "I am sort of on my own here, which is fine because I've got a really supportive team and manager and I can just ring them on Teams … but it is different not being around those conversations all the time." (LA 3, social worker interview)

This worker's experience of management seems broadly representative, as SWIS team managers were rated positively by workers. A large majority of survey respondents (88%, 102/116) on average over terms two to five gave their managers four or five stars (out of five). This suggests that the way local authorities managed SWIS enabled successful implementation, but there were also challenges. Although some teams had senior practitioners or a deputy team manager, most did not, and several interviewees suggested SWIS teams would benefit from more managerial capacity.

Implementing SWIS during the COVID-19 pandemic

Overall, the impact of social distancing measures and school closures on SWIS was negative, and school staff, social workers and their managers pointed to various ways in which the pandemic inhibited implementation. Often this manifested in key aspects of the role becoming more difficult or impossible. However, aspects of social distancing and school closures were also thought to have some positive consequences, both for the implementation of SWIS and for the wellbeing of children. Moreover, we were also made aware of benefits of the intervention for schools as they navigated the pandemic.

Challenges brought about by the pandemic

The pandemic meant that social workers were physically present in schools far less frequently. For some this meant working elsewhere and not going onto the school site, while others were able to maintain a physical presence (though a reduced one in most cases). There was variation between schools, even within the same local authority, in how open they were to having SWIS workers on site during closure periods. Remote working meant social workers were less visible and accessible within schools and therefore less likely to be called on by school staff.

Although social distancing measures seemed to have some impact on how SWIS worked in all the schools involved in interviews, the extent of disruption varied. Some schools reported the impact was minimal, with "logistical" issues needing to be resolved – such as how to ensure confidentiality when social workers were speaking to students while rules stated office doors needed to remain open for ventilation (LA 2). In other schools, logistical issues had wider-reaching consequences that threatened key elements of SWIS. For example, in some cases social distancing measures meant there were extra steps required for students to access the social worker. One worker, from LA 2, described how this impinged on the "open door policy" they aspired to and reduced opportunities for informal communication.

> *"… they're all in their own bubbles, they're not able to leave a classroom without being escorted. It's … probably not as easy as being able to just come along … and have a chat with me."* (LA 2, social worker interview)

Other consequences flowed from reduced opportunities for informal interactions between social workers and students, including the possibility that students would be less familiar with the social worker as a result, and less likely to approach them for support when restrictions eased. It also affected the type of work that was feasible for social workers to do, with group work no longer being viable where it involved mixing student bubbles, and therefore requiring more of the worker's time to work individually or postpone altogether.

Enabling factors associated with the pandemic

Although the net impact of COVID-19 was negative, there were some unexpected benefits identified. In part, these arose from the changed circumstances and ways of working forced by the pandemic. For example, more regular virtual contact between agencies creating a sense of improved multi-agency working and increased opportunities for social workers to build better relationships with families and other school staff. SWIS workers and school staff (such as DSLs and school nurses) kept in regular contact with each other to provide outreach to vulnerable students, through home visits, phone calls and wellbeing checks. They also distributed laptops and other equipment for home learning, and this was thought to help build relationships with families who may otherwise have been reluctant to engage with the school or CSC.

SWIS as an asset during the pandemic

There was also some evidence that SWIS helped some schools in their COVID-19 pandemic response for disadvantaged families. For instance, it meant that there was already a social worker within the organisation at a time when the school was limiting visitors from outside agencies. One

DSL in a school where this was the case saw benefits in keeping lines of communication with CSC open, whereas it was more difficult with other agencies not based in the school:

> "… that's been a positive with the SWIS project, though, because obviously [SWIS worker's] here and based here, so [they're] in the bubble." (LA 2, DSL interview)

Yet there were also benefits of being employed by a different agency, because it aided them to perform tasks that schools were unable to do, such as visiting students at home:

> "My role [as a SWIS] also gives me a huge advantage in that … [our local] council's risk assessment says that social workers can still visit homes provided we wear PPE, and the school's risk assessment says that they can't. So, I'm actually able to, you know, see children and their families at home, which is … an added bonus." (LA 2, social worker interview)

Summary evaluation of implementation quality

In order to quantify some key aspects of implementation, we developed a novel rating system. This gave schools an overall average rating of gold (good), silver (satisfactory) or bronze (poor) based on the evidence across several domains, and the results inform some of the secondary impact analysis presented later in this chapter. Two versions were calculated, one which included just the domains set out in the manual, and a second which included all the manual items plus some other aspects of implementation which were deemed important (based on the qualitative analysis; see Appendix 3).

Gold, silver and bronze ratings

We calculated a gold, silver or bronze rating for implementation (based on points set out in the SWIS manual) for 69% (101/146) of schools assigned to SWIS (Table 3). These ratings were calculated for 95 schools based on sufficient survey responses from social workers and school staff across terms two, three, four and five (spring 2021–spring 2022) in addition to percentage time each school had a social worker in post. An additional six schools automatically received a bronze rating because they had a SWIS in post for less than 33% of the intervention period. We were unable to give a rating to the remaining 45 schools because we did not receive sufficient data from them. We calculated a gold, silver or bronze rating based on our extended implementation criteria for 66% (97/146) of schools.

Table 3. Gold, silver, bronze rating summary. *Four schools were excluded from this measure due to non-response on the GHQ-12 questions, which were optional responses on the social worker survey

GSB rating	Number of schools (N=146)	
	Implementation criteria as in SWIS manual	Extended implementation criteria
Bronze	7	7
Silver	24	12
Gold	70	78
Not rated	45	49
Total rated	101	97*

Of the schools rated, most (70/101) achieved a gold rating, 24 were rated silver and only seven were rated bronze according to the implementation criteria set out in the SWIS manual. Using the extended implementation criteria, the same schools scored bronze, fewer schools (12/97) scored silver and more

schools (78/97) scored gold. However, these results should be interpreted with caution because the relationship between survey non-response and poor implementation for more than 30% of schools is unknown. Furthermore, these are based on average ratings calculated from survey responses that varied in completeness between schools and across the four terms.

SWIS and the wider system

In addition to how SWIS was implemented and experienced, we sought to understand how it fitted into the local authority CSC operation and any impact it may have on other elements of the system. This relates to the following question in the trial protocol: "How does SWIS impact the wider social care system?"

The remit of social worker involvement across the different levels of social service provision varied at the local authority level, as did SWIS team involvement in threshold decision-making. Both these factors shaped the extent to which the flow of referrals (from schools to local authority screening teams, to service provision) deviated from usual practice. Figure 9 illustrates the typical flow of referrals and actions in usual CSC service, though individual local authorities operate slightly different models.

Impact on CSC screening teams

All SWIS teams provided some level of consultation and guidance to school staff regarding effective completion of referral forms, including what information was pertinent to threshold decision-making and the level of detail to include. In most cases, the social worker would offer their opinion on whether and why a case met the threshold for statutory intervention or would point staff

Figure 9. Generalised schematic representation of the usual (non-SWIS) process by which a school referral for CSC intervention reaches statutory (section 47 or section 17) service teams.
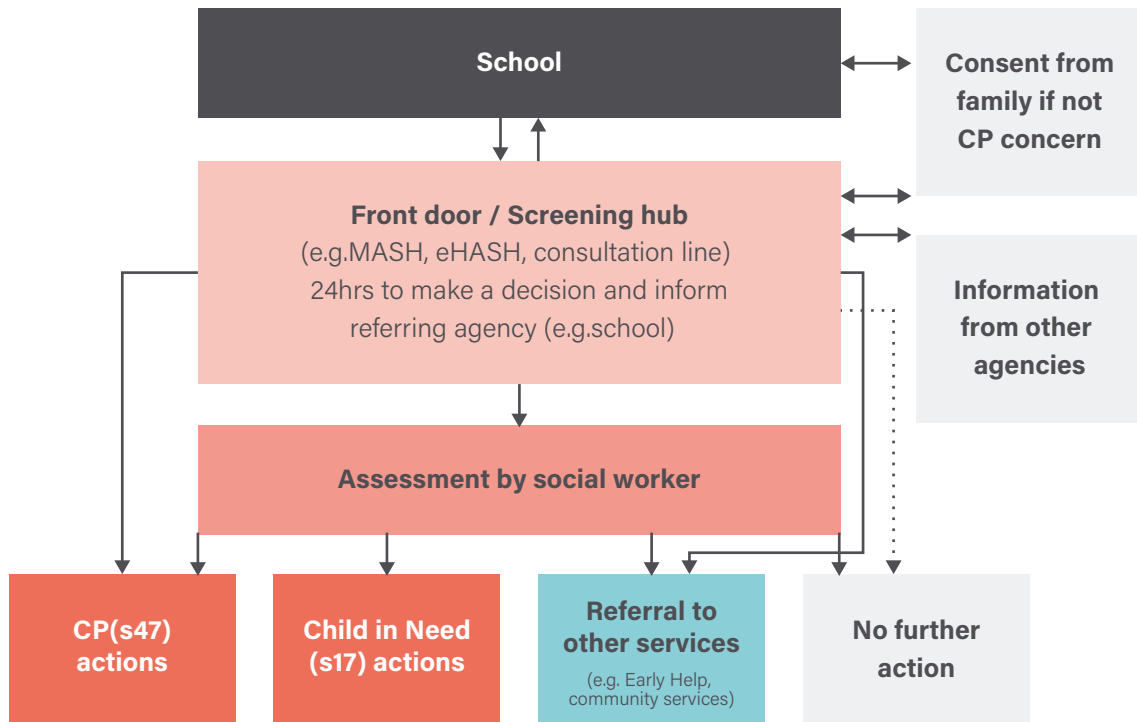
Source: SWIS team manager interviews

and students towards other services in the community. This consultation served as a "pre-screening" in some instances, lightening the burden on the screening teams and changing aspects of the process.

This reportedly altered the nature of referrals, in that more complete information was included as a result of information-gathering undertaken by the SWIS worker at an early stage. One of the screening team managers noted that previously they were often "not really clear on what [the school was] worried about, but now it seems there's a bit more clarity with that." Conversely, other local authorities suggested this could also result in less information in contacts because schools felt the SWIS worker was already aware of the situation. Either way, this seemed to reduce the back-and-forth between screening team workers and the schools:

> *"The SWIS will normally go and speak to the child and get that information. So, at the point when we need it, it's already there, rather than us having to go back and say, 'Can you clarify, etc. etc.' And if … we've got the referral from somewhere else, and it hasn't come to the school's attention yet, it's quite easy for us – because we have the relationship with the SWIS as well – to just contact one of them and say, 'We've received this referral, can you just check in with this child?'" (Screening team manager interview)*

It also changed the decision-making process, as the SWIS manager, rather than the screening team, would sometimes make threshold decisions. This was a marked change to usual practice, even though, in the words of one screening team manager, "what's recorded on the system should still be the same". Even where SWIS team managers had no explicit autonomy around thresholds,

many SWIS team managers forewarned screening teams of contacts being prepared, and gave their opinion:

> *"Then usually we'll get a heads-up from either [name], who is the team manager for SWIS in [the local authority] or the social worker in the school, who will email me or one of the other managers, just to say, 'A referral is on its way. These are the concerns, this is what I've already done,' and part of that is whether or not they actually have capacity to take this referral once it's come through MASH and we've processed it and we've agreed it's an assessment." (Screening team manager interview)*

In local authorities where SWIS managers influenced threshold decisions, they were effectively doing the job of the screening teams, and referrals became more of a formality.

Managers in both SWIS teams and screening teams spoke about noticeable reductions in the volume of contacts from what one screening team manager called "prolific referrers", due to having a SWIS in post. This seems to be partially anecdotal – for example, the screening team manager in one local authority "found that the amount of calls and emails we get from [a particular head teacher] has reduced dramatically since [they've] had a school-based social worker". However, for some local authorities, this impression seems linked to internal monitoring of performance data. For example, one SWIS manager noted, "the data clearly shows that … [in] the schools that have SWIS, there's a reduced referral rate into the MASH" (SWIS team manager interview).

Yet some of our other interview data also suggests informal consultation between SWIS and school staff may prompt DSLs to

make referrals they were otherwise unsure about submitting. For instance, the example on page 50 of the DSL from LA 15 who described the social worker reassuring them "if you've got any doubts just go for it, put [a referral] in".

Impact on Early Help and statutory teams

Usual practice in most local authorities would see a case pass through the screening team, to the assessments team and then to one or more "long-term" teams depending on how the case progressed. In most local authorities

involved in SWIS (and depending on the threshold remit of the SWIS team), students referred from SWIS schools bypassed the authority initial assessment team and were assigned directly to the SWIS social worker for assessment and any ensuing statutory work. From there, if the case was escalated or de-escalated (e.g. from Child in Need to Child Protection or vice versa), the student would remain with the social worker, within their threshold remit. For instance, in LA 5 and 19, cases went straight from MASH to the SWIS team to undertake initial assessments. This

Figure 10. Approach 1: generalised schematic representation of the referral process flow, from school to service provision. Applies to LA 3, 4, 5, 7, 8, 9, 11, 12, 14, 16, 17, 18, 20, 21
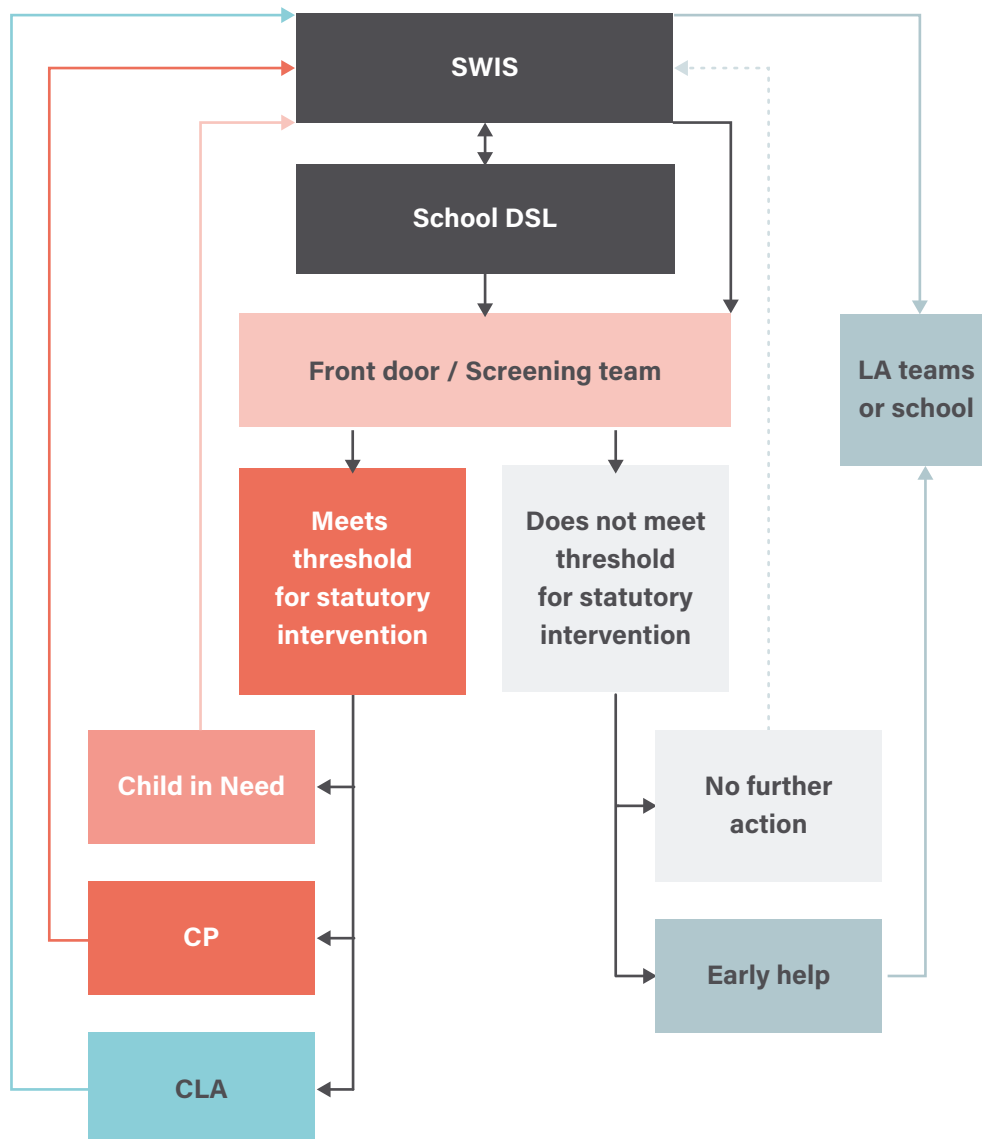
served both to divert the caseloads of the initial assessment teams and to reduce the number of teams working in succession with the same family.

As discussed above, the remit of SWIS teams varied across local authorities, but we can identify four distinct approaches. The most common (Figure 10) was for the SWIS to take on all statutory cases, including initial Child Looked After work (before referring these cases to long-term Child Looked After teams). SWIS in those local authorities (LA 3, 4, 7, 8, 9, 11, 12, 14, 16, 17, 20, 21) represented in Figure 10 did not officially operate at the level

of Early Help but they would often provide support to Early Help workers. LA 18 worked in a similar way except they only took Child in Need cases, so Child Protection and Child Looked After went to local authority teams. Local authority 5 also operated as displayed in Figure 10 but their Child Protection cases only went to SWIS for the initial section 47 enquiry work.

In the second most common approach (Figure 11, above) any work across the full breadth of thresholds, from Early Help upwards, was allocated to the SWIS team.

Figure 11. Approach 2: generalised schematic representation of the referral process flow, from school to service provision. Applies to LA 1, 10, 15
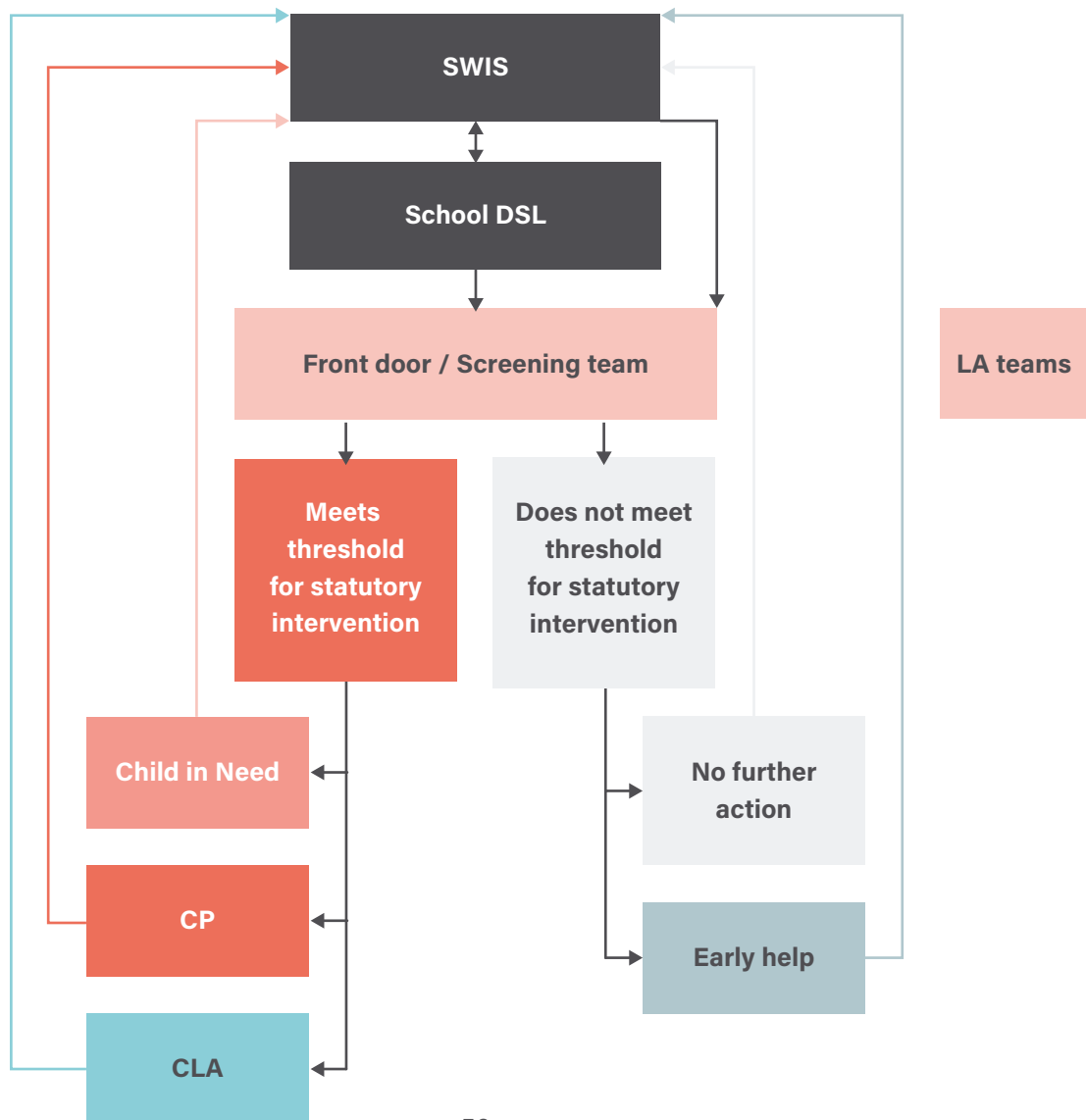
A less common approach (Approach 3), used by LA 2 and LA 19, involved some shorter-term Child Protection work being done by the SWIS teams before being transferred to long-term teams (Figure 12). Social workers were often well placed to do Early Help work because, as one screening team manager recounted, "... most of the time, the [SWIS] social worker might know the family". LA 19 operated as shown in Figure 12, except that Child Protection cases only went to SWIS for initial section 47 enquiry work if it was a pre-existing SWIS case that was escalated to Child Protection level.

The fourth approach (Figure 13) was used only in LA 6, which, as we noted above, was focused on early intervention and "amber" level (section 17, Child in Need) concerns. Despite theoretically meeting the threshold for social care intervention, these amber cases were automatically handled by the SWIS worker, sidestepping the local authority standard "front door" process. An interviewee from LA 6 explained that most of these families are already involved in early intervention work with the SWIS, and that a lot would remain at this level rather than being escalated. They went on to point out the benefits of doing this:

Figure 12. Approach 3: generalised schematic representation of the referral process flow, from school to service provision. Applies to LA 2 and 19
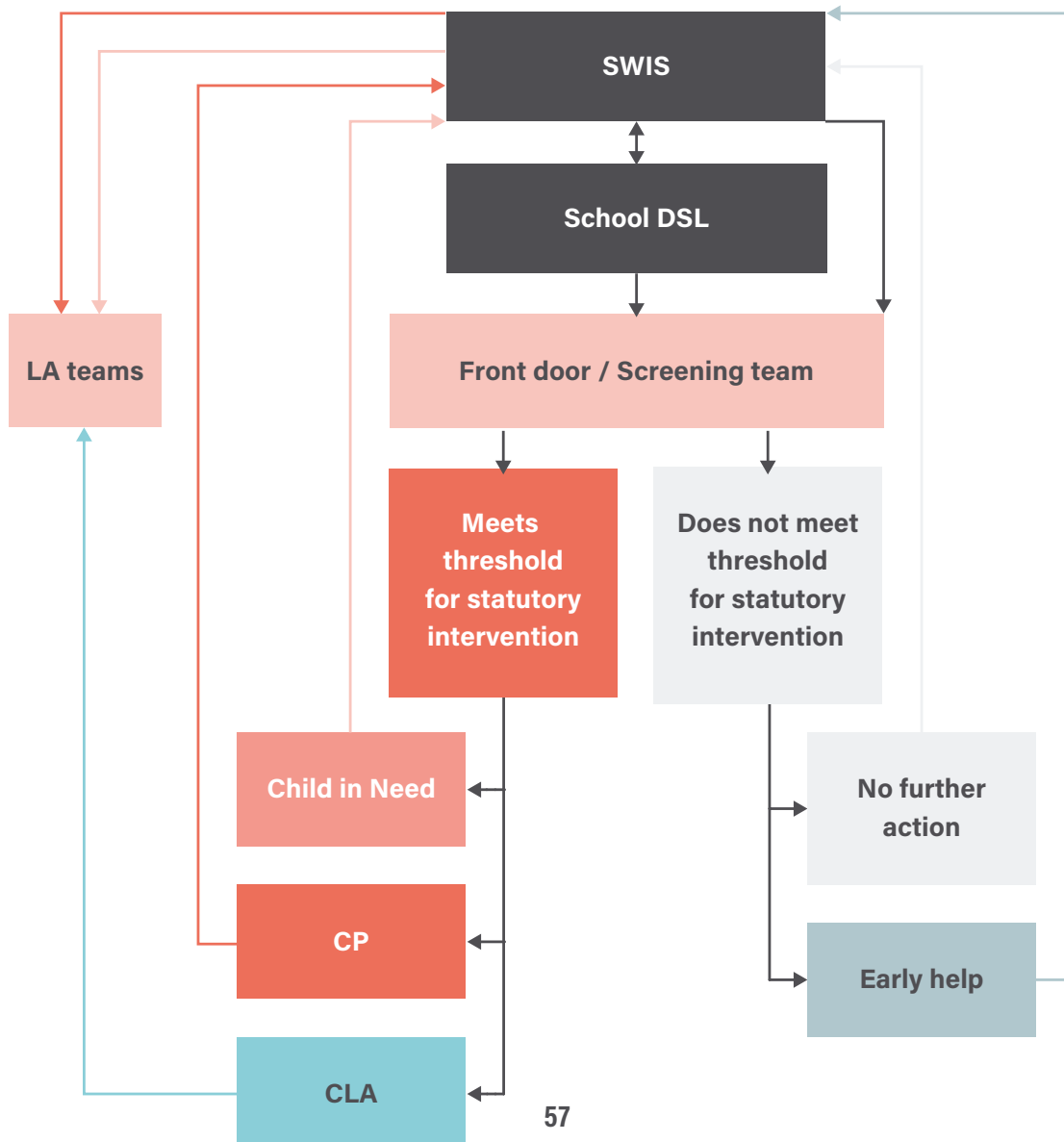
Figure 13. Approach 4: generalised schematic representation of the referral process flow, from school to service provision. Applies to LA 6
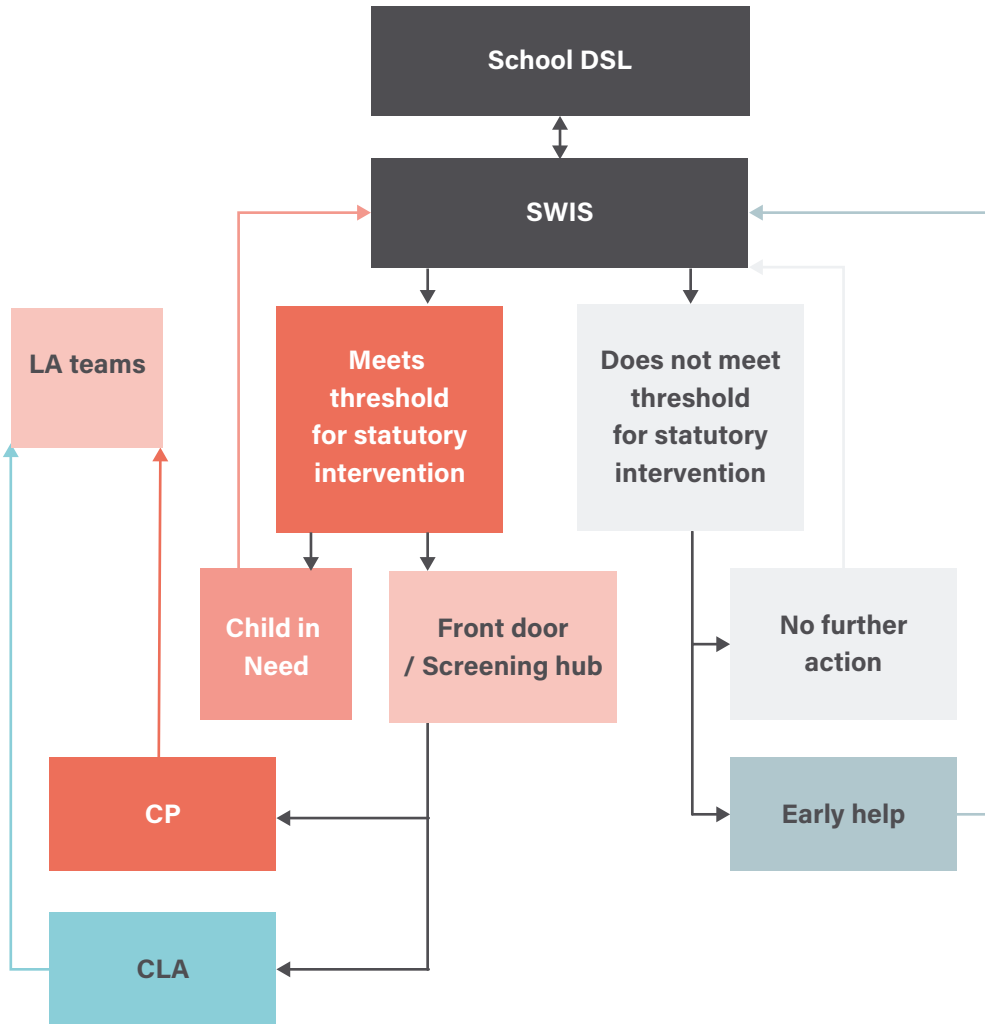
"Because ultimately, they're doing the same, kind of, things that we would be doing if it stepped up, so, it's trying to prevent that. And sometimes as well, a lot of the families they kind of see the SWIS [as] different to children's services. So, a lot of families are more willing to work with the SWIS. Also, the children, because it's somebody who they're familiar with in the school, they already have a rapport with them, so … it's beneficial for them in that way." LA 6, interview

The process for "red" cases, where a child was thought to be suffering, or likely to suffer, significant harm, would follow the usual "front door" process of referral to local authority teams, and the SWIS social worker would generally assist the referral process (by providing additional information or support).

Students' experiences of SWIS

In this section, we consider the views of students, to determine what their impressions of SWIS were and how they experienced the intervention. While some students were involved in the pilot evaluations, more of the data came from professionals, and therefore we set out to explore the experiences of students more extensively in the current trial. Rather than being confined to one research question, this analysis of student experiences speaks to both implementation and theory. It contributes to our understanding of implementation, through insights about awareness of SWIS within the student population, and it provides context for the logic model and programme theory in the following section.

Student survey results

The student survey explored the views of students in SWIS schools, whether or not they had knowledge of or direct contact with the social worker. Therefore, the level and type of involvement students reported having with the social workers in their schools varied. Some reported having direct involvement with the social worker (251/1998, 12.6%), but most (1747/1998, 87.4%) did not. More than half were not aware their school had a social worker (1092/1998, 54.7%), which suggests the intervention could have been better publicised within schools. Nonetheless, patterns in student opinions about having a SWIS were broadly similar whether students were aware of having a social worker in the school or not.

Overall, students answering the survey tended to have a positive opinion of SWIS. More than 80% of students "agreed" or "strongly agreed" that "It's good that my school has a social worker" (see Figure 14). This was across all levels of involvement and knowledge of the SWIS in their school and,

notably, students who had more awareness or experience of the social worker were more positive (871/1065, 81.8% of those not aware of social worker; 554/647, 85.6% of those aware but not involved with social worker; 225/248, 90.7% of those involved with social worker). Even among the students who were not aware of the social worker in their school, over a third (361/989, 36.5%) thought that this would be helpful for them.

Over 60% of those reporting direct involvement with the social worker agreed or strongly agreed that school is a safer place because of SWIS. Most students who were aware of the SWIS strongly or somewhat agreed that they understood what the social worker does at their school. However, more than a quarter (176/645, 27.3%) of those not directly involved with the SWIS were either ambivalent (neither agree nor disagree) or somewhat or strongly disagreed, as did 14.0% (35/250) of those who did report some involvement. This suggests there was room for improvement in both publicising SWIS and helping students understand its purpose.

The 251 students who reported direct involvement with the social worker (i.e. answered "yes" to at least one involvement scenario listed in question 8, Appendix 6) most often reported having spoken one-to-one with the social worker (146/251, 58.2%). This was closely followed by having spoken with the SWIS in the presence of others (136/251, 54.2%). Overall, 86% (215/251) reported that they had done one or the other. Students confirmed that they had asked the social worker for advice (106/251, 42.2%) and more than a third (94/251, 37.5%) reported that they had been to find the social worker to speak to them. A smaller percentage had been involved in SWIS-run sessions or group work (58/251, 23.1%) and about a fifth (50/251, 19.9%) indicated that the SWIS had visited them at home.

Figure 14. Student opinions of the social worker by awareness and involvement level.
Stacked bar charts to show student opinions of the SW by awareness and involvement level
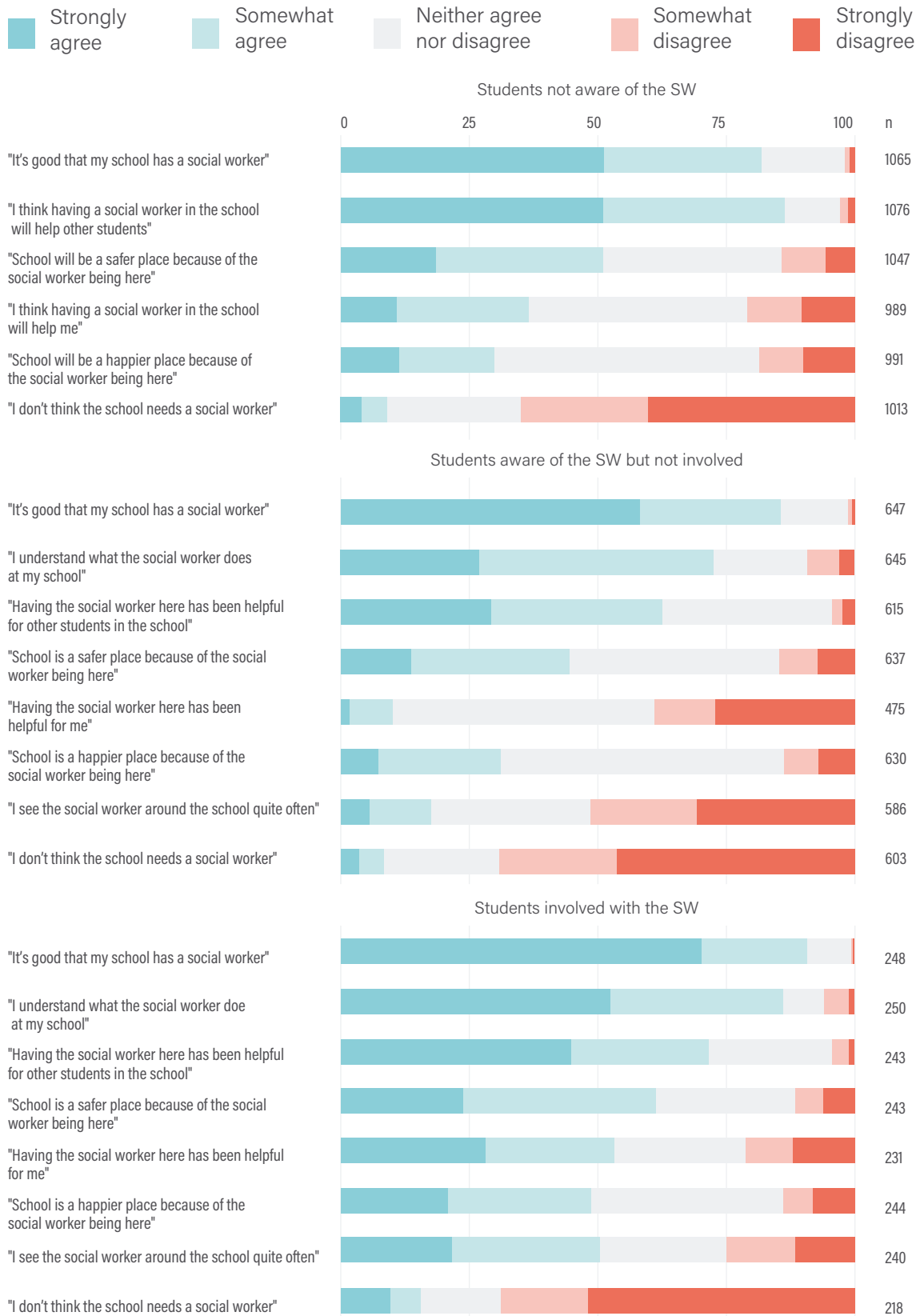
Student perspectives: Q-sort analysis

Student interviews involved a Q-sort activity that explored different viewpoints on SWIS, with a view to quantifying what the prominent perspectives were and how much participants subscribed to them. Following principal components analysis and varimax rotation we identified two distinct factors (see Appendix 2). This suggests there were two prominent ways of perceiving SWIS among the students who completed the activity.

Factor 1 represented the viewpoint of most participants (17/24), and factor 2 represented four participants' views. Two Q-sorts were not significantly correlated with either factor, and one Q-sort was confounded (significantly correlated with both factors) and hence was excluded from the calculation of defining statements for either factor. Distinguishing statements help define the perspective represented by each factor and form the basis of the indented descriptions of each factor below. These are statements that are placed in a significantly different position in the average Q-sort for one factor, in comparison with their position for other factors.

- Factor one is defined by students feeling positively overall about SWIS and strongly agreeing that they trusted the social worker. These students were not worried about telling the social worker that something bad was happening, or about being judged by others for speaking to the social worker in school. They felt that the social worker understood them better than any school staff.

- Factor two is more mixed overall. It is defined by some apparent anxiety about working with the school social worker but strong agreement that the social worker acts as a "bridge" between their family and the school. These students felt that they did not trust the social worker, and

worried about what would happen if they told the social worker that something bad was happening.

Both factors show strong agreement that having a social worker in school meant that students could get help more quickly and agreed that the social worker would include their views in any decisions being made about them. Students generally disagreed that school and social workers should be separate and understood the point of the social worker in the school.

Our Q-sort findings align with those of the student survey, whereby most students who had some involvement with the social worker thought that it was good their school had one and felt that they understood what the social worker did at their school. This lends confidence to our interpretation of the results of the survey as being a fair representation at least of those involved with the social worker.

Student views on SWIS more broadly

Students who participated in interviews all knew their school social worker, having worked with them in some capacity (and been selected to participate on that basis). In the semi-structured part of the interviews, they raised several points about the contribution of SWIS in their schools.

Accessibility and support

Overwhelmingly the students spoke positively about SWIS, with only one expressing neutral or negative views and one stating they preferred talking to their mentor. Some students found it easier and more convenient to talk to the social worker in school than at home, because it "gives you access to the social worker all the time". Expanding on this point, another student added:

"It's handy for when you need someone to go to that's right then and there … because a lot of stuff does happen within school … it's better to have that social worker in school in case something happens, or you can't contact them outside of school." (LA 2, student interview)

There was also a sense that it gave students more control over when they saw the social worker, as the accessibility meant they could do so on their own terms. For one student in LA 2, this meant they "don't have to organise what days they have to come at home … I can do that for myself … I can work around what I've got [on]". Students found the school setting a more private space for them to see the social worker alone, but also credited SWIS with improving links between school and family. For example, one told us "I feel like I have a sort of extra layer of support, and it also helps me connect home and school" (LA 6). This relates to the Q-sort statement "the social worker acts as a bridge between my family and the school" being a distinguishing statement between the two perspectives outlined above. Students with the first perspective did not feel as strongly either way about this statement as they did about other statements in the sort, so it was neutrally positioned in this factor. Students with the second perspective strongly agreed.

However, some students mentioned that they did not like how visible it was to their peers when they were meeting the social worker in the school. Nonetheless, this is probably a minority view, or simply less important than other aspects, as students mostly placed the statement "I feel judged by others because they know I speak to the social worker in school" in the disagree/strongly disagree zone on the Q-sort.

Although we did not ask students direct questions about the nature of their involvement with the social worker, they were keen to highlight that they were someone they could chat with generally, as well as talking about their feelings and about issues or problems in their lives. Some of their comments reiterate what we have discussed elsewhere about the value of preventative work to support children. For example, one student from LA 4 recounted how they and the social worker got together "… every break or lunch and talk about music or football, or we just colour and draw, or we just talk, relax". Another noted that they spend time "talk[ing] about life at home, life at school, we just talk about anything really, it feels good to share how I feel", which is perhaps an indicator of the trust that was prominent in factor one of the Q analysis.

Notwithstanding the role of preventative support, safeguarding and protection was clearly part of what students were outlining in these experiences. For instance, in line with survey findings (Figure 14) where nearly two-thirds of students involved with the social worker responded positively that the school is a safer place because of them, the topic of safety arose in student interviews several times. Students variously made comments such as "I feel safe" (LA 4), "they make sure I'm, like, safe" (LA 2) and "it can be a safe space just to go and talk" (LA 2). This was obviously an important element for students and it appeared to have tangible benefits. For example, one student described SWIS as taking the "weight off my shoulders … it feels like I can finally breathe so I really do think it's a good thing" (LA 2). Other students ascribed progress with tackling anxiety or other mental health issues to the social worker, which may be another indicator of the trust highlighted in the majority of Q-sorts.

Theorising how SWIS works

The pilot studies produced a logic model of how SWIS was thought to work, and in this trial we used it as a basis for further theoretical development. In this section we focus on the ways in which the new data we collected supported, enhanced or refuted the pathways outlined in the previous logic model. This draws mainly on qualitative interview data and relates to the research question "What evidence was there for the mechanisms of change identified in the logic model?"

SWIS contexts and mechanisms of change

The logic model developed in the SWIS pilot studies (see Figure 15) theorised three main pathways (A, B, C), and key mechanisms within them, through which SWIS was thought to achieve outcomes (and to ultimately reduce the number of children in care). These pathways and mechanisms were generally supported by the interview data analysed in the current analysis.

Figure 15. Logic model developed in SWIS pilot study.
Red outlines denote contexts that were not supported in interview data from the current trial. Yellow outline denotes mechanisms that were supported in interview data from the current trial but were not emphasised as strongly as in the SWIS pilot studies
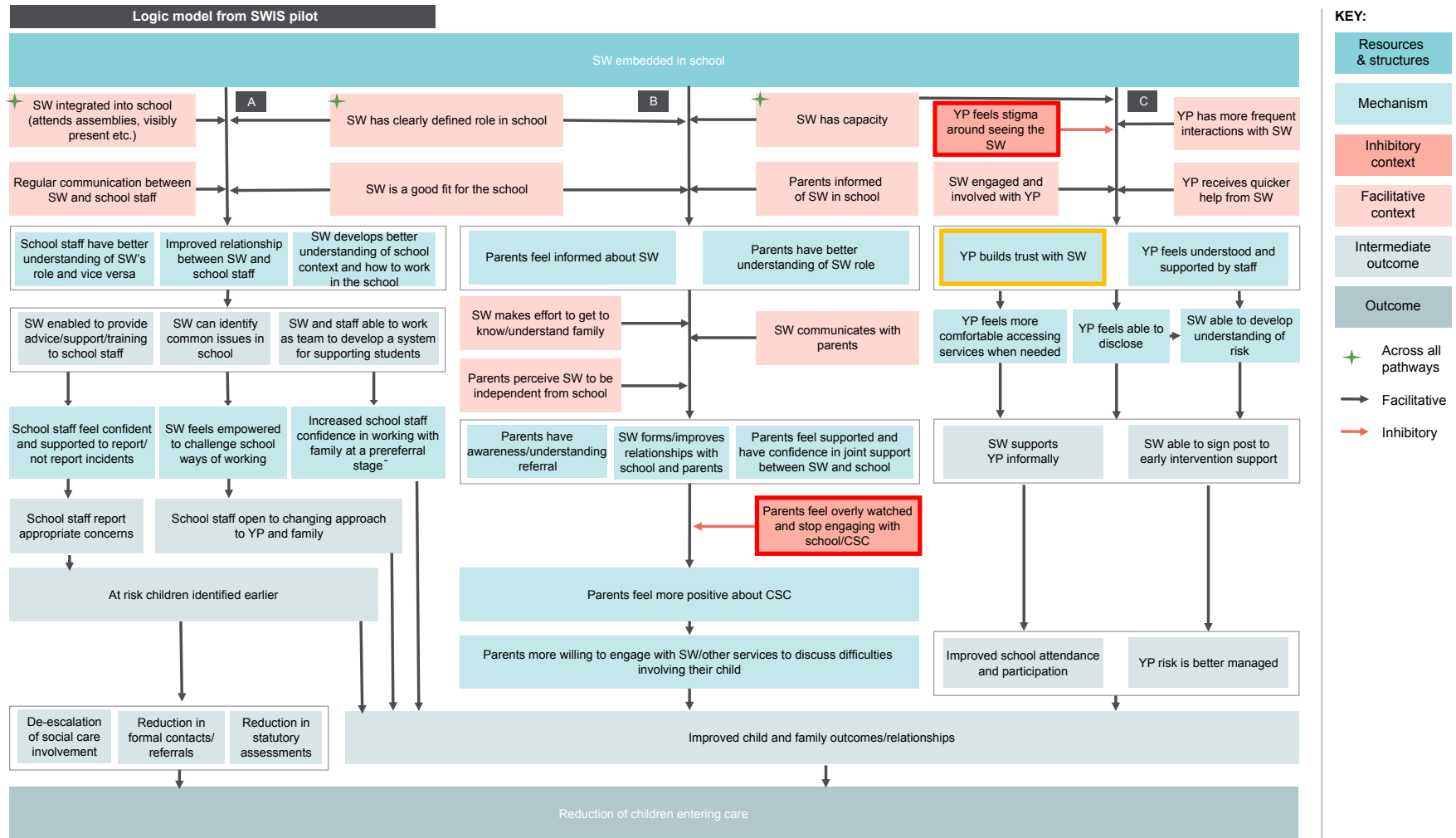
However, there are inherent differences between the pilot logic model and a logic model developed for a scale-up of this size. The pilot logic model was based on three local authorities and featured relatively granular detail about how SWIS was thought to work at that level. Expanding SWIS to more authorities (that are more varied), the way the intervention operates is evidently more complex than was originally theorised in the SWIS pilots. In this trial we therefore present a middle range programme theory about how SWIS is thought to operate at a slightly higher, more general level (Figure 16).

Figure 16. Middle range programme logic model for SWIS scale-up.
A flow diagram showing theorised pathways from contexts, though mechanisms to outcomes
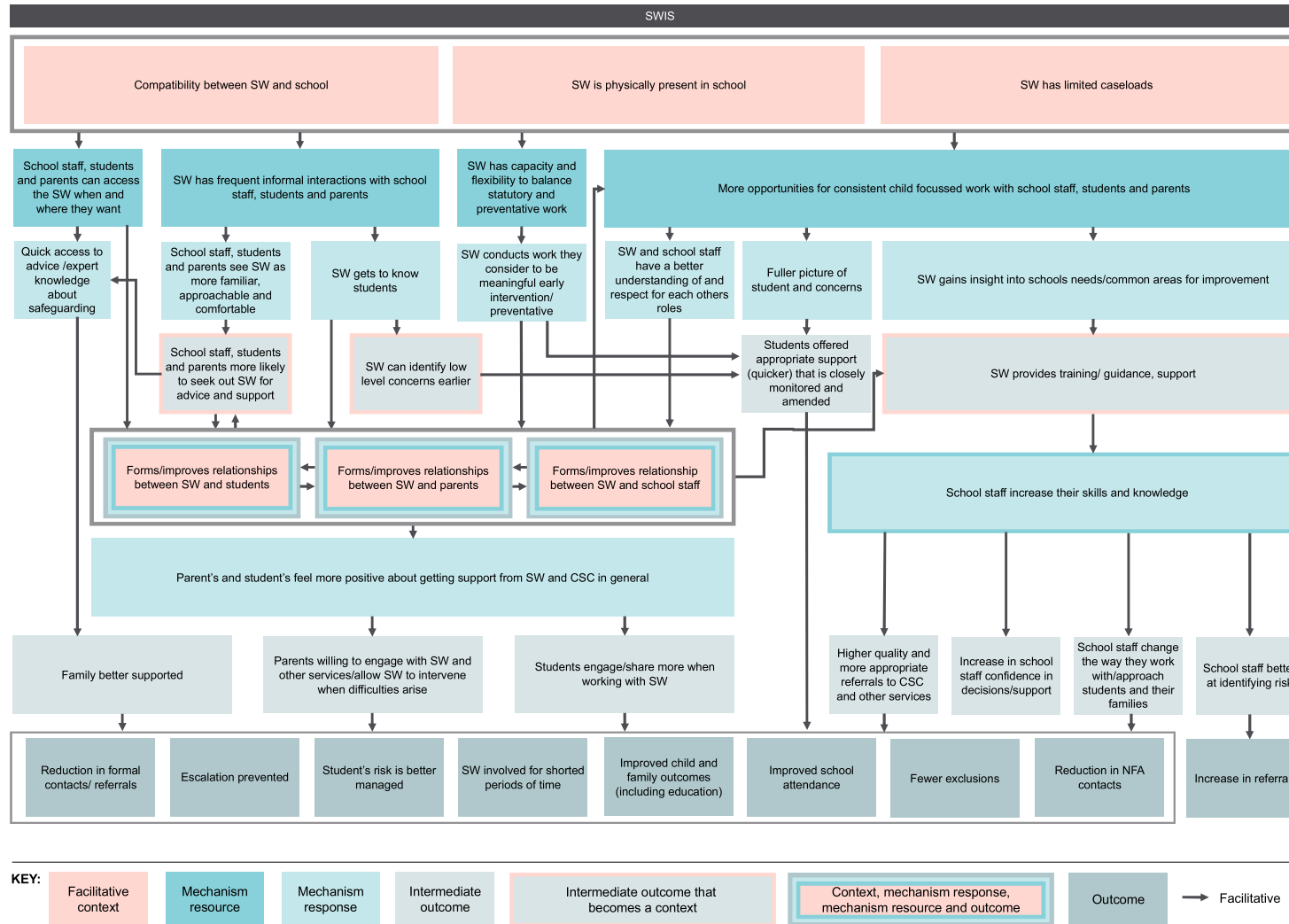
Key contexts

When SWIS was thought to be successful and working well, it was implemented in schools where there was a combination of three key contexts.

Compatibility between social worker and school

This refers to how far individual social workers were considered a "good fit" for their allocated schools, and levels of agreement around expectations and understandings of the social workers' roles and responsibilities. Qualities deemed important for the social worker to be considered a good fit included being familiar with the local area, being experienced and knowledgeable in CSC, being proactive and being approachable and friendly. Qualities deemed important for the school to be a good fit included being receptive and welcoming of guidance, support and change. This was most commonly the case where the school had less knowledge of CSC, felt they were struggling with safeguarding, or felt that local authority thresholds for CSC were high, as the following comment from a DSL in a large school illustrates:

> *"I'm the student welfare and safeguarding officer … we've got over 1000 students with a lower school, and upper school and sixth form … I'm pretty much the hands-on safeguarding person for the whole school … because I was the only non-teaching dedicated safeguarding member of staff the majority comes to me … [the SWIS social worker is] amazing, [they] just integrated [themselves] into it … the MASH referrals have definitely reduced, and that's reduced the pressure on me …"* (LA 3, DSL interview)

Characteristics deemed important for a school to be a good fit were less common in schools that had extensive safeguarding capacity within pastoral staff, or particularly experienced DSLs. These schools tended to feel more confident in dealing with issues themselves, and less open to alternative perspectives. A confident DSL in a well-resourced school in LA 13 explained:

> *"… it's not really something that's top of my checklist to go and talk to the social worker [about a referral] … I use my own judgement. I'm normally good … at putting things at the right level … they don't often get stepped down into a different level …"* (LA 13, DSL interview)

Issues of role clarity arose in the pilots, and clear role designation and aligned expectations remained important factors in determining compatibility between the social worker and school.

Physical presence

In the middle range programme logic model, the social worker physically being in the school refers to them spending most of their week (e.g. more than three days) working from the school as their main base. The way schools housed social workers was an important factor; they were more likely to work from the school if they were accommodated in central offices that were accessible to staff and students. Nonetheless, some schools found it difficult to make such spaces available, and the location they worked within schools was also complicated by efforts to reduce the movement of people during the COVID-19 pandemic.

Limited caseloads

As we discussed above, social workers' caseloads varied but were generally comparable to or lower than the corresponding averages for each local authority. In the middle range programme logic model, limited caseloads generally refer to social workers having a capped statutory caseload (or no statutory cases), which was often associated with the local authority's expectations about the type of work the social workers conducted within the schools. As we discussed above, caseload limits were sometimes exceeded in schools with high levels of need, or where there were staffing pressures in the wider authority that required social worker support.

Together, these three contexts were thought to activate key mechanisms which are comprised of resources offered through an intervention and people's responses (thoughts and feelings) to those resources (Jagosh, 2019).

Key mechanism resources and responses

Several key mechanism resources and responses were theorised to be the underpinning generative forces through which SWIS led to the outcomes identified in the logic model.

Frequent informal interactions

When social workers are based in local authorities, their reasons for interacting with school staff, students or parents are typically perceived as being relatively formal and/or negative. Conversely, when social workers were based in schools, they had frequent informal interactions with school staff, students and their parents that weren't always associated with formal social work or CSC. These informal interactions often included spending time chatting in staff rooms or outside during busy times, sitting together in offices, updating each other, checking wellbeing and highlighting other available support services.

A common thread throughout these interactions is that they involved the social worker spending more time with, talking to or hearing about students, which they felt allowed them to get to know students and their circumstances better. This not only helped them to form and improve relationships with students, but they also felt they were using their knowledge of the students to better identify any changes in day-to-day behaviour or appearance that indicated concerning signs and help them sooner, before a crisis materialised:

"… I have got to know the families a lot quicker … by being within the school. So identified a sort of … potential crisis before it got to the crisis … so I think it's catching the concerns really early." (LA 21, social worker interview)

The additional face-to-face contact through frequent interactions also served as a constant visual reminder that the social worker was available to provide support. They became better known and therefore less intimidating than local authority social workers. School staff, students and parents then found the social worker more familiar and approachable. Being more comfortable around the social worker increased the likelihood that they would draw on them to talk and ask questions or seek advice. One social worker framed this as changing the boundaries between the providers and users of the service, and simultaneously changing how social workers are perceived:

"... I think parents have often prepped a young person for 'oh, a social worker's coming' but I think they see me in school and they see me as someone they can pop in and talk to [me] ... and that boundary is slightly different ... it makes it more approachable ... a more accessible role for young people to kind of see that I'm not, like, the enemy that's going to come and, like, whip them away out of their home." (LA 19, social worker interview)

Opportunities for consistent child-focused work

More consistency in working with school staff, students and parents reportedly increased communication and the sharing of information about at-risk students and their families (including the history, current concerns and the student's views). School staff and social workers then built a fuller picture of the students and worked together by sharing ideas, troubleshooting and making quicker decisions. This was thought to result in students being offered the right support sooner, whether that be early intervention/ preventative work, statutory provision or a referral to services in the community. Because the social worker had more opportunities to manage and monitor risk than they would when based elsewhere, support could be amended to reduce the chances of escalation.

Consistent direct work also provided opportunities for social workers and school staff to observe the daily responsibilities, priorities and challenges that the other experiences. In turn, this improved relationships between social workers and school staff because they could gain a better understanding of and respect for each other's roles. Consistent direct work also provided the social worker with insights into common issues in the school, which allowed them to develop a better understanding of the school context and needs. This enabled them to provide relevant training to share

their knowledge, experiences and guidance on topics such as CSC, thresholds, risk and engaging with families. School staff were then able to develop their skills and knowledge around how to write referrals, assess risk, gather relevant information, communicate differently with families and the availability of local services.

Several outcomes were thought to flow from this. First, schools could produce higher-quality and more appropriate referrals to CSC and other services, reducing the number of contacts resulting in no further action. Second, school staff were reassured and more confident that they were making the right decisions and offering the right support to meet the needs of students and their families quickly and effectively. Third, as a result of school staff being better able to understand the impact of a student's history outside an education setting (and how this can influence their behaviour within an education setting), school staff could change the way they interacted with or approached students, including how they managed safeguarding issues. For example, instead of excluding a student, considering alternative options based on an understanding of the challenges they faced outside school. Finally, school staff became more confident and better equipped at identifying risk, which could lead to an increase in referrals to CSC.

Access to the social worker within the community

A key resource of SWIS highlighted in interviews was that school staff, students and parents were able to access the social worker quickly for support or advice, and that both the timeliness of this and the additional support itself could reduce the risks to children. This was because bringing the social worker into the community meant students and staff could access CSC expertise and advice on their own terms, including at

times that suited them, rather than on the worker's terms, when it was convenient for the worker. Physical presence (within the school buildings) was a particularly important context for this, as highlighted by students who noted "having a social worker in school gives you access to the social worker all the time" (LA 6) and "it's handy for when you need someone to go to that's right then and there" (LA 2).

Some SWIS workers cited school staff, parents and students being able to access them within the community as a means of improving relationships and overcoming some of the stigma around CSC that makes engaging families difficult:

"… [It] being known to families that we are in the school, and being part of the school [was important]. Some families can be really resistant, they hear social work and they [think] 'oh my God I don't want a social worker, I don't want them involved'. And I think being part of the school community may help. What I've experienced so far [is] families have been welcoming to that, so it's changing their perception to some extent of actually what a social worker is …" (LA 2, social worker interview)

Preventative work

In contrast to when they are based in the local authority, social workers had capacity and flexibility to do more early intervention and support with families who did not meet CSC thresholds. As we discussed extensively above, this lower-level work was valued by social workers, school staff and students. This included brief targeted support for students and parents where social workers could work differently from school staff because of differences in skills, capacity and authority. Students who may never have been identified

by CSC, either at all or until risks escalated, received support designed to prevent that escalation. Another theorised outcome of this type of work was that it was felt to improve relationships with social workers, and perceptions of CSC more broadly.

Relationships

The SWIS pilot studies highlighted the value of relationships between school staff, students, parents and social workers in facilitating SWIS, and the same theme arose in many of our case study interviews. The forming or improving of relationships is the only factor in the logic model theorised to be a context, mechanism resource, mechanism response and outcome, and was intertwined in most of the causal pathways through which SWIS is thought to produce outcomes.

There appeared to be several advantages to new or improved relationships between the social worker and students (and families), including improved perceptions of CSC and reduced stigma. This results in parents being more willing to engage with social workers and other services, and in students being more willing to share their feelings and concerns – as the student interviews illustrate.

Relationships between social workers and schools (DSL and other staff involved with SWIS) were important in enabling collaboration between the social worker and school in relation to safeguarding, and for school staff to be open to the social worker providing training, guidance and support. We quantified relationships between social workers and the school using the 14-item version of the Team Climate Inventory (TCI) survey tool (Kivimaki and Elovainio, 1999). Higher scores indicate a better team climate, so the finding that social worker and school staff TCI scores were predominantly in the top 50% of available scores is encouraging.

In term two (spring 2021) almost all (74/75) social workers responding to the survey scored their team climate 43/70 or higher, except one (1/75) worker who scored considerably lower at 24/70. Similarly, only two (2/101) school staff had a total TCI score of less than 35. The following year, in term four (autumn 2021), a similar pattern was seen, with only three (3/69) social workers scoring lower than 50% of the available scores and two (2/78) school staff.

School staff reporting higher TCI scores described SWIS as "bringing real value to the school" (LA 19) and pointed out benefits to relationships between individuals and agencies:

"Our SWIS worker has been absolutely fantastic; the difference [they have] made in six months has been phenomenal. Not only [have they] become a valued member of the school team, [they have] built working relationships with many students and family. It has been eye opening for [them] to see the relationship and responses between the local authority and schools." (LA 6, school staff survey (TCI score 59))

"This project has been absolutely amazing and has really created a feeling of 'working together' with social services. We are able to be quicker in responses as we have the expertise on site to tap into without lengthy waits for callbacks etc." (LA 3, school staff survey (TCI score 70))

Compatibility between social worker and school was a particularly important context in activating these relationships, with 36/78 of school staff reporting higher TCI scores (scoring over 60/70 at term four) agreeing or strongly agreeing that the social worker "fitted in" at their school, were approachable

and were open to being challenged by school staff taking alternative views. From social workers' perspectives, all 21/69 who reported higher TCI scores (over 60/70 at term four) felt enabled to provide advice and support, and that their skills were valued. Moreover, only one of these social workers disagreed that they "fitted in" at school.

"This is the first time in a long time in my career that I have thoroughly enjoyed my job again. I love being a part of the school that I am based in and I have a very supportive manager and team members around me, which makes all the difference." (LA 8, social worker survey (TCI score 62))

Feedback loops

The logic model and associated programme theory about how, for whom and under which circumstances SWIS operates are complex rather than linear. As such, there are several feedback loops. One example of this is school staff, students and parents seeking out the social worker for advice and support improving relationships, and those improved relationships then increasing the likelihood that school staff, students and parents would seek out the social worker for advice and support. Another example is consistent work between school staff and social workers improving relationships, and those improved relationships enabling more consistent work between school staff and social workers.

Impact evaluation

In this section we present the results of our analysis of how SWIS affected CSC outcomes. We begin by setting out the flow of participants as they were enrolled into the study and randomised to be allocated to each arm of the trial. Then we present a descriptive analysis, followed by the main analysis of the primary and secondary outcomes.

Enrolment and allocation

As shown in Figure 17, at enrolment to the trial, 291 schools were assessed for eligibility and 23 schools were excluded from the trial due to being non-mainstream.[13] A total of 268 schools were randomised, within which there were 277,835 students (with a mean number of 1041 and a standard deviation of 413).

At allocation, 136 of these schools were randomised to the SWIS intervention. There were 141,650 students (with a mean number of 1041 per school and a standard deviation of 386) in the intervention arm. A total of 135 of these schools received the SWIS intervention (140,680 students, with a mean of 1042 and a standard deviation of 386). One school with 970 students did not receive the SWIS intervention because the local authority was not able to recruit a social worker for this school.

The other 132 schools were randomised to the control, and these included 137,208 students (with a mean number of 1039 and a standard deviation of 440). All control schools continued with "business as usual" practice.

In the SWIS and control arm, zero schools were lost to follow-up or discontinued the intervention. All 136 schools in the SWIS arm and all 132 schools in the control arm were analysed.

The school pupil numbers reported were collected from publicly available data at baseline.

---

13 Non-mainstream schools were randomised using simple randomisation (as opposed to minimisation, as used when randomising the mainstream schools), as a fair way of deciding which would receive the intervention, but were excluded from the trial.

Figure 17. CONSORT diagram for the SWIS trial (mainstream schools).
Shows the details of the schools at different stages of the SWIS trial, from enrolment of schools into the trial, allocation to the SWIS or control arm, follow-up and analysis
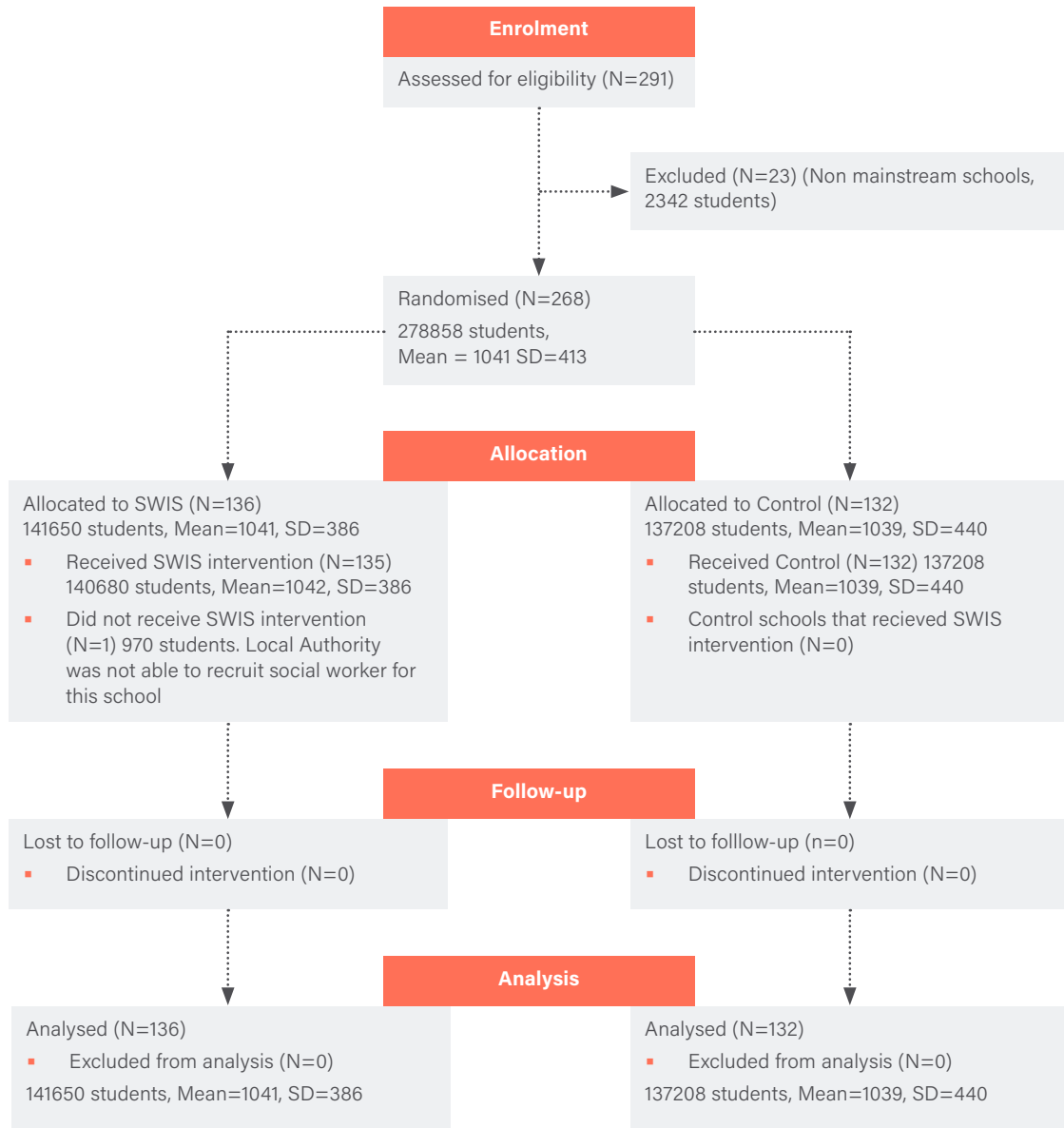
Descriptive analysis

Descriptive statistics of the baseline covariates are presented in Table 4 below, confirming that good balance was achieved between arms on the two randomisation balancing variables (school size and percentage of students eligible for free school meals). School size and percentage of students eligible for free school meals were approximately normally distributed, so are summarised by mean and standard deviation (SD), and all the outcome measures were positively skewed, so summarised by median and interquartile range (IQR); see histograms and box plots in Appendix 4. No school had

incomplete numbers of days in care, for example, due to children moving schools or other scenarios. The outcome variables are standardised and presented per year to allow for comparison with the outcomes collected over 23 months post-baseline (Table 5) and per 1000 students, because we would expect schools with more students to have more outcomes. The unstandardised versions are also presented in the tables.

There was an increase in the median outcomes over 23 months from baseline values, except for days in care, which dropped slightly.

Table 4. Descriptive statistics of school demographics and outcomes at baseline (academic year 2018/19), unstandardised and per year per 1000 students

	Unstandardised			Per year per 1000 students		
	SWIS	Control	Total	SWIS	Control	Total
	Mean (SD) or median [IQR]					
Number of schools randomised, N	136	132	268	-	-	-
Size (number of students enrolled)	1041 (386)	1039 (440)	1041 (413)	-	-	-
% eligible for free school meals	24.1 (10.7)	24.2 (12.1)	24.2 (11.4)	-	-	-
Section 47 enquiries	12 [5, 19.5]	11.5 [5, 21]	12 [5, 20]	12.8 [6.2, 22.3]	11.9 [6.4, 22.6]	12.1 [6.2, 22.6]
CSC referrals	30.5 [15, 46.5]	29 [13.5, 50]	29 [14.5, 48]	34.6 [17.7, 53.5]	29.4 [19.1, 53.4]	33.1 [18.0, 53.4]
Section 17 assessments	33 [16, 48]	32 [14.5, 46]	32.5 [15, 46.5]	34.9 [19.2, 49.6]	31.6 [17.2, 52.0]	33.2 [19.0, 51.0]
Number of children entering care	1 [0, 3]	1 [0, 2]	1 [0, 2]	1 [0, 3]	1 [0, 3]	1 [0, 3]
Average number of days in care per child taken into care*	162.1 [89, 372.2]	173 [66, 387]	170.5 [74.3, 372.2]	156.8 [69.9, 397.1]	163.4 [70.5, 448.6]	163 [70.5, 415.8]
Schools with incomplete number of days in care, n (%)	0 (0%)	0 (0%)	0 (0%)			

*Based on 98 schools in the SWIS arm and 87 schools in the control arm that had students who entered care.

There were slightly more schools in the Supervision for DSL scale-up study intervention arm in SWIS than in control and similar numbers in the Supervision for DSL control arm across SWIS and control. In terms of implementation quality, more schools were classified as gold, followed by silver then bronze. Tables showing how outcomes are distributed across the Supervision for DSL scale-up study allocation and our allocation (SWIS or control), and across the six terms (pooled), are given in Appendix 4.

Overall, there was an increase from baseline in most of the outcomes over 23 months (standardised per year per 1000 students), except for days in care, which decreased slightly as shown in Table 5 below – that is, the medians of the outcomes in Table 4 above (per year per 1000 students) are lower than those in Table 5 below (per year per 1000 students) except for days in care, which is slightly higher in Table 4 than in Table 5. This might be because some children were still in care at the end of the trial period. Another analysis of days spent in care with a 35-month follow-up will be reported in March 2024.

Table 5. Descriptive statistics of outcomes over 23 months (academic years 2020/21 and 2021/22), unstandardised and per year per 1000 students

	Unstandardised			Per year per 1000 students		
	SWIS	Control	Total	SWIS	Control	Total
	Median [IQR]					
Number of schools randomised, N	136	132	268	-	-	-
Section 47 enquiries	26 [18, 41]	25 [16, 39]	25.5 [17, 40]	14.5 [9.3, 21.9]	14.1 [8.9, 23.1]	14.3 [9.1, 22.6]
CSC referrals	76.5 [48.5, 111]	76 [49, 114.5]	76 [49, 112]	41.8 [28.3, 56.6]	40.6 [27.4, 63.9]	41.5 [27.7, 60.5]
Section 47 enquiries	12 [5, 19.5]	11.5 [5, 21]	12 [5, 20]	12.8 [6.2, 22.3]	11.9 [6.4, 22.6]	12.1 [6.2, 22.6]
Section 17 assessments	78.5 [50, 105.5]	77.5 [48, 116]	78 [49, 113.5]	40.9 [29.6, 58.6]	38.9 [28.5, 62.2]	40.5 [29.2, 59.8]
Number of children entering care	3 [1, 5]	3 [1, 5]	3 [1, 5]	2 [1, 3]	2 [1, 3]	2 [1, 3]
Days in care*	735 [280, 1313]	724 [325, 1223]	728.5 [318, 1290]	343.3 [157.6, 687.9]	384.9 [203.7, 604.2]	368.34 [169.8, 623.3]
Average number of days in care per child taken into care*	196.3 [126.8, 283.8]	213.8 [139.7, 297]	205.9 [135, 292]	96.6 [62.1, 144.5]	104.5 [66.1, 177.6]	101.9 [65.8, 154.1]

*Based on 98 schools in the SWIS arm and 87 schools in the control arm that had students who entered care.

Table 6. Descriptive statistics for participation in the Supervision for DSL scale-up study and level of implementation quality

	SWIS	Control
	N (%)	
Participation in Supervision for DSL scale-up study*		
DSL intervention arm	17 (12.50%)	13 (9.85%)
DSL control arm	14 (10.29%)	15 (11.36%)
Level of implementation quality (Unweighted)		
Gold	66 (48.53%)	-
Silver	22 (16.18%)	-
Bronze	7 (5.15%)	-
Missing	41 (30.15%)	-
Level of implementation quality (Weighted)		
Gold	75 (55.15%)	-
Silver	11 (8.09%)	-
Bronze	7 (5.15%)	-
Missing	43 (31.62 %)	-

* The Supervision for DSL scale-up study is another similar trial taking place in nine local authorities across England, five of which are also participating in the SWIS trial.

There were slightly more schools receiving the Supervision for DSL scale-up study intervention in the SWIS arm than in the control arm and the number of schools in the DSL control arm was approximately similar across SWIS and control schools. In terms of levels of implementation quality, most schools were classified as gold, followed by silver then bronze, for both unweighted and weighted versions. There were 41 and 43 schools in the unweighted and weighted versions, respectively, with missing values because there was insufficient data to calculate the level of implementation quality in those schools as shown in Table 6.

Main outcome analysis

We found no evidence of benefit from the SWIS intervention on the primary outcome from the multivariable Poisson regression model: the rate of section 47 enquiries was estimated as 5.5% higher in the SWIS arm than in the control arm, but this effect was not statistically significant at the 5% level of significance. The 95% confidence interval (CI) ranges from a 4.5% decrease to a 16.6% increase.

All effects of SWIS on the secondary outcomes were similarly small and statistically non-significant at the 5% level of significance. The rates of CSC referrals, section 17 assessments and children entering care were estimated as 0.7% lower (95% CI: 7.4% lower to 6.5% higher), 0.6% lower (95% CI: 7.3% lower to 6.6% higher) and 8.9% higher (95% CI: 10.6% lower to 32.8% higher), respectively, in the SWIS arm than in the control arm. The mean number of days spent in care per child entering care was estimated as 16.5 days lower (95% CI: 59.2 days lower to 26.2 days higher) in the SWIS arm than in the control arm.

Sensitivity analysis using multilevel Poisson regression with local authority random effects produced similar results and the same conclusions as the multivariable Poisson models above. Additional sensitivity analysis of the primary outcome using quasi-Poisson regression also arrived at the same conclusion as the Poisson regression with cluster-robust standard errors above.

The results from the sensitivity analysis excluding the non-compliant schools had no impact on the results since there was only one school in the intervention arm that did not have a social worker.

The results from our first subgroup analysis of unweighted level of implementation quality on the primary outcome showed that the

rate of section 47 enquiries was estimated to be 16.8% higher in gold schools than in control schools, 0.6% lower in silver schools than in control schools and 13.6% lower in bronze schools than in control schools. The 95% confidence interval for gold versus control excludes 1; therefore, the effect is statistically significant at 5%, while the 95% confidence intervals for silver versus control and bronze versus control both include 1; therefore, the effects are not statistically significant at the 5% level of significance. A similar trend was observed for weighted level of implementation quality. After adjustment for multiplicity using the Hochberg step-up procedure to control the familywise error rate across the subgroup of the levels of implementation quality on the primary outcome, none of the p-values are statistically significant at the 5% level of significance. For secondary outcomes, only the effect of SWIS on referrals to CSC in bronze schools compared with control schools remains statistically significant.

The results from the unweighted level of implementation quality on the secondary outcomes were similar to what was observed for the primary outcome above, with gold schools always having higher rates of outcomes than control schools for both unweighted and weighted levels of implementation quality. However, the 95% confidence intervals include 1 and therefore are not statistically significant at the 5% level of significance.

Results from our second subgroup analysis of term data showed no evidence that the intervention effects varied across the six terms. In particular, the absence of an observed trend across the six terms means there is no evidence of implementation effects or outcomes being affected by COVID-19. None of the unadjusted p-values for the effect of SWIS on term data are statistically significant at the 5% level of significance.

Consequently, after adjustment for multiplicity using the Hochberg step-up procedure to control the familywise error rate across all terms, they remain statistically non-significant at the 5% level of significance.

The results from our third subgroup analysis of the Supervision for DSL scale-up study showed that the interaction effect between SWIS and receipt of DSL intervention was statistically non-significant for the primary and all the secondary outcomes. After adjustment for multiplicity using the Hochberg step-up procedure, all the p-values of the effect of SWIS on the primary and secondary outcomes of this subgroup remain statistically non-significant at the 5% level of significance.

School size, percentage of students eligible for free school meals and outcome values in the year 2018/2019 (baseline) were used as covariates in the models and are not the focus of our interest; we are only interested in the intervention effect (SWIS).

Detailed results and tables are provided below.

Primary outcome

Unadjusted analysis

The rate of section 47 enquiries is estimated to be 4.3% higher in the SWIS arm than in the control arm but the 95% confidence interval includes 1; therefore, the effect is not statistically significant at the 5% level of significance.

An incidence rate ratio that is greater than 1 means that the rate of the outcome event is higher in the SWIS arm than in the control arm, and vice versa for an incidence rate ratio less than 1.

Adjusted analysis

The rate of section 47 enquiries is estimated to be 5.5% higher in the SWIS arm than in the control arm after adjusting for percentage of students eligible for free school meals, baseline rate of section 47 enquiries and school size, but the 95% confidence interval includes 1; therefore, the effect is not statistically significant at the 5% level of significance.

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Table 7. Unadjusted Poisson regression analysis of the rate of section 47 enquiries (N=268 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.043	0.060	0.932, 1.167	0.462

* The Supervision for DSL scale-up study is another similar trial taking place in nine local authorities across England, five of which are also participating in the SWIS trial.

Table 8. Adjusted Poisson regression analysis of the rate of section 47 enquiries (N=268 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.055	0.054	0.955, 1.166	0.294
% FSM	1.023	0.005	1.013, 1.034	<0.001
s47 enquiries in 2018/19	1.003	0.001	1.001, 1.005	0.017
School size	1.000	0.0001	0.999, 1.000	0.015

* The Supervision for DSL scale-up study is another similar trial taking place in nine local authorities across England, five of which are also participating in the SWIS trial.

Secondary outcomes

i.   Rate of referrals to CSC

Unadjusted analysis

The rate of referrals to CSC is estimated to be 1.5% higher in the SWIS arm than in the control arm but the 95% confidence interval includes 1; therefore, the effect is not statistically significant at the 5% level of significance.

Adjusted analysis

The rate of referrals to CSC is estimated to be 0.7% lower in the SWIS arm than in the control arm after adjusting for percentage of students eligible for free school meals, baseline rate of referrals to CSC and school size, but the 95% confidence interval includes 1; therefore, the effect is not statistically significant at the 5% level of significance.

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Table 9. Unadjusted Poisson regression analysis of the rate of referrals to CSC (N=268 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.015	0.039	0.941, 1.094	0.708

Table 10. Adjusted Poisson regression analysis of the rate of referrals to CSC (N=268 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	0.993	0.035	0.926, 1.065	0.840
% FSM	1.002	0.009	0.984, 1.019	0.859
CSC referrals in 2018/19	1.011	0.003	1.000, 1.017	0.001
School size	0.999	0.0001	0.999, 1.000	<0.001

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

ii.   Rate of section 17 assessments

Unadjusted analysis

The rate of section 17 assessments is estimated to be 1.5% higher in the SWIS arm than in the control but the 95% confidence interval includes 1; therefore, the effect is not statistically significant at the 5% level of significance.

Adjusted analysis

The rate of section 17 assessments is estimated to be 0.6% lower in the SWIS arm than in the control arm after adjusting for percentage of students eligible for free school meals, baseline rate of section 17 assessments and school size. However, the 95% confidence interval includes 1; therefore, the effect is not statistically significant at the 5% level of significance.

Table 11. Unadjusted Poisson regression analysis of the rate of section 17 assessments (N=268 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.015	0.034	0.950, 1.084	0.667

Table 12. Adjusted Poisson regression analysis of the rate of section 17 assessments (N=268 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	0.994	0.035	0.927, 1.066	0.861
% FSM	1.015	0.006	1.004, 1.027	0.006
s17 assessments in 2018/19	1.007	0.002	1.003, 1.011	0.001
School size	1.000	0.0001	0.999, 1.000	<0.001

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

iii. Rate of children entering care

Unadjusted analysis

The rate of children entering care is estimated to be 11.4% higher in the SWIS arm than in the control arm but the 95% confidence interval includes 1; therefore, the effect is not statistically significant at the 5% level of significance.

Adjusted analysis

The rate of children entering care is estimated to be 8.9% higher in the SWIS arm than in the control arm after adjusting for percentage of students eligible for free school meals, baseline rate of children entering care and school size. However, the 95% confidence interval includes 1; therefore, the effect is not statistically significant at the 5% level of significance.

Table 13. Unadjusted Poisson regression analysis of the rate of children entering care (N=268 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.114	0.106	0.924, 1.344	0.257

Table 14. Adjusted Poisson regression analysis of the rate of children entering care (N=268 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.089	0.110	0.894, 1.328	0.396
% FSM	1.012	0.007	0.999, 1.026	0.069
Number of children entering care 2018/19	1.065	0.021	1.025, 1.107	0.001
School size	0.999	0.0001	0.999, 1.000	<0.001

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

iv. Average number of days spent in care per child entering care

Unadjusted analysis

The mean number of days spent in care per child entering care is estimated to be 15.657 days lower in the SWIS arm than in the control arm. However, the 95% confidence interval includes zero; therefore, the difference is not statistically significant at the 5% level of significance.

The Glass's delta is 0.115 (-0.144 to 0.374), which shows that the average days spent in care per child entering care in the SWIS and control arms differs by approximately 0.115 standard deviations.

Adjusted analysis

The mean number of days spent in care per child entering care is estimated to be 16.499 days lower in the SWIS arm than in the control arm after adjusting for percentage

of students eligible for free school meals, baseline number of days spent in care per child entering care and school size. However, the 95% confidence interval includes zero; therefore, the difference is not statistically significant at the 5% level of significance. Only schools reporting at least one student entering care during the trial period (N=168) were included in this analysis.

SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

None of the unadjusted p-values for the effect of SWIS on any of the secondary outcomes (Tables 10–13) are statistically significant at the 5% level of significance. Consequently, after adjustment for multiplicity using the Hochberg step-up procedure to control the familywise error rate across all secondary outcomes, they remain statistically non-significant at the 5% level of significance.

Table 15. Unadjusted linear regression analysis of the average number of days spent in care per child entering care (N=168 schools)

	IRR	IRR	95% CI	p-value
Control	Reference			
SWIS	-15.657	21.137	-59.747, 28.433	0.467

Table 16. Adjusted linear regression analysis of the average number of days spent in care per child entering care (N=168 schools)

	IRR	IRR	95% CI	p-value
Control	Reference			
SWIS	-16.499	20.493	-59.246, 26.248	0.430
% FSM	-1.687	0.921	-3.608, 0.234	0.082
Days in care per child entering care in 2018/19	-0.037	0.037	-0.115, 0 .041	0.337
School size	-0.009	0.027	-0.066, 0.048	0.751

SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Sensitivity analysis

Multilevel Poisson regression with local authority random effects and cluster-robust standard errors

The results from multilevel Poisson regression with local authority random effects are very similar and have the same conclusions as the results of the Poisson regression analyses above (shown in Tables 17–21). Additional results from quasi-Poisson regression (estimating an overdispersion factor instead of cluster-robust standard errors) were also very similar (Table 22).

Primary outcome

The rate of section 47 enquiries is estimated to be 5.9% higher in the SWIS arm than in the control arm after adjusting for percentage of students eligible for free school meals, baseline rate of section 47 enquiries and school size. However, the 95% confidence interval includes 1; therefore, the effect is not statistically significant at the 5% level of significance.

Table 17. Multilevel Poisson regression analysis with local authority random effects for the rate of section 47 enquiries (N=268 schools)

Fixed effects				
	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.059	0.054	0.959, 1.170	0.259
% FSM	1.036	0.005	1.026, 1.046	<0.001
s47 enquiries in 2018/19	1.001	0.0008	1.000, 1.003	0.092
School size	1.000	0.0001	0.9996, 1.000	0.024
Variance component				
Variance of random intercepts	0.153	0.060	0.071, 0.329	

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Secondary outcomes

The rate of referrals to CSC is estimated to be 0.7% higher in the SWIS arm than in the control arm after adjusting for percentage of students eligible for free school meals, baseline rate of referrals to CSC and school size. However, the 95% confidence interval includes 1; therefore, the effect is not statistically significant at the 5% level of significance.

Table 18. Multilevel Poisson regression analysis with local authority random effects for the rate of referrals to CSC (N=268 schools)

Fixed effects				
	IRR	**SE**	**95% CI**	**p-value**
Control	Reference			
SWIS	1.007	0.031	0.948, 1.070	0.815
% FSM	1.022	0.005	1.013, 1.032	<0.001
s47 enquiries in 2018/19	1.005	0.002	1.002, 1.009	0.005
School size	1.000	0.0001	0.999, 1.000	<0.001
Variance component				
Variance of random intercepts	0.126	0.039	0.068, 0.230	

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

The rate of section 17 assessments is estimated to be 0.7% lower in the SWIS arm than in the control arm after adjusting for percentage of students eligible for free school meals, baseline rate of section 17 assessments and school size. However, the 95% confidence interval includes 1; therefore, the effect is not statistically significant at the 5% level of significance.

Table 19. Multilevel Poisson regression analysis with local authority random effects for the rate of section 17 assessments (N=268 schools)

Fixed effects				
	IRR	**SE**	**95% CI**	**p-value**
Control	Reference			
SWIS	0.993	0.031	0.934, 1.056	0.827
% FSM	1.024	0.004	1.015, 1.032	<0.001
s17 assessments	1.005	0.002	1.001, 1.010	0.015
School size	1.000	0.0001	0.999, 1.000	<0.001
Variance component				
Variance of random intercepts	0.093	0.022	0.058, 0.148	

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

The rate of children entering care is estimated to be 11.4% higher in the SWIS arm than in the control arm after adjusting for percentage of students eligible for free school meals, baseline rate of children entering care and school size. However, the 95% confidence interval includes 1; therefore, the effect is not statistically significant at the 5% level of significance.

Table 20. Multilevel Poisson regression analysis with local authority random effects for the rate of children entering care (N=268 schools)

Fixed effects				
	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.114	0.109	0.920, 1.349	0.268
% FSM	1.024	0.004	1.015, 1.032	<0.001
Number of children entering care in 2018/19	1.010	0.020	0.971, 1.051	0.629
School size	1.000	0.0001	0.999, 1.000	0.105
Variance component				
Variance of random intercepts	0.233	0.115	0.089, 0.612	

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

The mean number of days spent in care per child entering care is estimated to be 17.354 days lower in the SWIS arm than in the control arm after adjusting for percentage of students eligible for free school meals, baseline number of days spent in care per child entering care and school size. However, the 95% confidence interval includes zero; therefore, the difference is not statistically significant at the 5% level of significance. The ICC is 0.089 (95% CI: 0.025–0.273), which shows that the proportion of the total variance in days spent in care that is accounted for by the clustering in local authorities is low.

Table 21. Multilevel linear regression analysis with local authority random effects for the average number of days spent in care per child entering care (N=168 schools)

Fixed effects				
	Mean difference	**SE**	**95% CI**	**p-value**
Control	Reference			
SWIS	-17.354	19.914	-56.384, 21.676	0.383
% FSM	-0.953	0.908	-2.733, 0.827	0.294
Days spent in care per child entering care in 2018/19	-0.026	0.036	-0.096, 0.044	0.471
School size	-0.008	0.027	-0.061, 0.045	0.760
Variance component				
Variance of random intercepts	1,232.409	799.183	345.760, 4392.74	
Residual variance	12,629.36	1,428.105	10,118.8, 15,762.81	

SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Table 22. Quasi-Poisson regression analysis of section 47 enquiries (N=268)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.055	0.070	0.920, 1.211	0.446
% FSM	1.023	0.003	1.017, 1.029	<0.001
s47 enquiries in 2018/19	1.003	0.001	1.001, 1.004	<0.001
School size	1.000	0.0001	0.999, 1.000	0.001

The results from the quasi-Poisson regression below gives similar results and conclusions to the primary outcome analysis results in Table 10 above.

The overdispersion parameter from this model is estimated as 10.02, which shows that the residual variance is approximately 10 times larger than the residual mean.

Non-compliance and contamination

Only one school in the intervention arm had no social worker at any time during the trial period. No school in the control arm had a social worker at any time during the trial period. Table 23 below gives details of non-compliance and contamination.

Table 23. Non-compliance and contamination

	SWIS	Control	Total
	N (%)	N (%)	N (%)
Schools randomised	136	132	268
SWIS schools not having a social worker	1 (0.74%)	0 (0%)	1 (0.37%)
Control schools having a social worker	0 (0%)	0 (0%)	0 (0%)

Table 24. Poisson regression analysis of the rate of section 47 enquiries for compliers only (N=267 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.055	0.054	0.955, 1.167	0.292
% FSM	1.023	0.005	1.013, 1.034	<0.001
s47 enquiries in 2018/19	1.003	0.001	1.001, 1.005	0.017
School size	1.000	0.0001	0.999, 1.000	0.015

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Primary outcome analysis excluding non-compliant schools

Excluding the one non-compliant school from the primary analysis does not have an impact on the results, as seen in Table 24 above. The results obtained are the same as the ones from the primary outcome analysis (Table 10 above).

Subgroup analysis

This part of the impact analysis draws on the gold, silver and bronze implementation ratings that we presented above as part of the IPE. Initially all domains of implementation are unweighted, and then the analysis is repeated using a version of the measure in which domains are weighted according to their relative importance. Weighting was informed by the IPE.

Unweighted level of implementation quality

Primary outcome

The rate of section 47 enquiries is estimated to be 16.8% higher in gold schools than in control schools, 0.6% lower in silver schools than in control schools and 13.6% lower in bronze schools than in control schools after

Table 25. Subgroup analysis of the rate of section 47 enquiries for unweighted level of implementation quality (N=227 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
Gold	1.168	0.078	1.026, 1.331	0.019
Silver	0.994	0.116	0.791, 1.249	0.958
Bronze	0.864	0.220	0.524, 1.423	0.566
% FSM	1.025	0.006	1.013, 1.036	<0.001
S.47 enquiries in 2018/19	1.002	0.001	1.000, 1.005	0.039
School size	1.000	0.0001	0.999, 1.000	0.022

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

adjusting for percentage of students eligible for free school meals, baseline section 47 enquiries and school size. The 95% confidence interval for gold versus control excludes 1; therefore, the effect is statistically significant at 5%, whereas the 95% confidence intervals for silver versus control and bronze versus control both include 1; therefore, the effects are not statistically significant at the 5% level of significance.

Secondary outcomes

The rate of referrals to CSC is estimated to be 1.1% higher in gold schools compared with control schools, 2.6% higher in silver schools compared with control schools and 39.2% lower in bronze schools compared with control schools after adjusting for percentage of students eligible for free school meals, baseline referrals to CSC and school size. The 95% confidence interval for bronze versus control excludes 1; therefore, the effect is statistically significant at 5%, whereas the 95% confidence intervals for silver versus

control and gold versus control both include 1; therefore, the effects are not statistically significant at the 5% level of significance.

The rate of section 17 assessments is estimated to be 2.1% higher in gold schools compared with control schools, 0.8% higher in silver schools compared with control schools and 21.3% lower in bronze schools compared with control schools after adjusting for percentage of students eligible for free school meals, baseline section 17 assessments and school size. However, the 95% confidence intervals for all include 1; therefore, the effects are not statistically significant at the 5% level of significance.

Table 26. Subgroup analysis of rates of referrals to CSC for unweighted level of implementation quality (N=227 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
Gold	1.011	0.070	0.883, 1.157	0.874
Silver	1.026	0.116	0.822, 1.281	0.820
Bronze	0.608	0.093	0.450, 0.822	0.001
% FSM	1.004	0.009	0.987, 1.021	0.641
CSC referrals in 2018/19	1.009	0.003	1.003, 1.015	0.002
School size	0.999	0.0001	0.999, 1.000	<0.001

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Table 27. Subgroup analysis of rates of section 17 assessments for unweighted level of implementation quality (N=227 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
Gold	1.021	0.050	0.927, 1.124	0.670
Silver	1.008	0.102	0.826, 1.231	0.935
Bronze	0.787	0.139	0.557, 1.113	0.176
% FSM	1.016	0.006	1.005, 1.027	0.004
s17 assessments in 2018/19	1.006	0.002	1.002, 1.010	0.005
School size	1.000	0.0001	0.999, 1.000	<0.001

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

The rate of children entering care is estimated to be 12.4% higher in gold schools compared with control schools, 10.2% higher in silver schools compared with control schools and 5.9% lower in bronze schools compared with control schools after adjusting for percentage of students eligible for free school meals, baseline number of children entering care and school size. However, the 95% confidence intervals for all include 1; therefore, the effects are not statistically significant at the 5% level of significance.

The mean number of days spent in care is estimated to be 8.532 days higher in gold schools compared with control schools, 36.549 days lower in silver schools compared with control schools and 70.969 days lower in bronze schools, compared with control schools after adjusting for percentage of students eligible for free school meals, baseline days spent in care per child entering care and school size. However, the 95% confidence intervals for all include zero; therefore, the effects are not statistically significant at the 5% level of significance.

Table 28. Subgroup analysis of rates of children entering care for unweighted level of implementation quality (N=227 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
Gold	1.124	0.149	0.867, 1.457	0.379
Silver	1.102	0.175	0.807, 1.503	0.542
Bronze	0.941	0.425	0.388, 2.281	0.892
% FSM	1.014	0.007	1.000, 1.028	0.045
Number of children entering care in 2018/19	1.057	0.023	1.012, 1.103	0.012
School size	1.000	0.0001	0.999, 1.000	0.002

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Table 29. Subgroup analysis of average numbers of days spent in care per child entering care for unweighted level of implementation quality (N=142 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
Gold	8.532	23.390	-40.259, 57.324	0.719
Silver	-36.549	24.079	-86.777, 13.680	0.145
Bronze	-70.969	38.432	-151.136, 9.199	0.080
% FSM	-1.638	1.090	-3.912, 0.636	0.148
Days spent in care per child entering care in 2018/19	-0.037	0.048	-0.136, 0.063	0.451
School size	-0.018	0.028	-0.077, 0.041	0.535

SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Weighted level of implementation quality

Primary outcome

The rate of section 47 enquiries is estimated to be 16.1% higher in gold schools than in control schools, 9.2% lower in silver schools than in control schools and 13% lower in bronze schools than in control schools after adjusting for percentage of students eligible for free school meals, baseline section 47 enquiries and school size. The 95% confidence interval for gold versus control excludes 1; therefore, the effect is statistically significant at 5%, whereas the 95% confidence intervals for silver versus control and bronze versus control both include 1; therefore, the effects are not statistically significant at the 5% level of significance.

Table 30. Subgroup analysis of rates of section 47 enquiries for weighted level of implementation quality (N=225 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
Gold	1.161	0.083	1.009, 1.336	0.038
Silver	0.908	0.175	0.622, 1.326	0.618
Bronze	0.870	0.219	0.531, 1.426	0.580
% FSM	1.025	0.006	1.014, 1.036	<0.001
s47 enquiries in 2018/19	1.002	0.001	1.000, 1.005	0.040
School size	1.000	0.0001	0.999, 1.000	0.041

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Secondary outcomes

The rate of referrals to CSC is estimated to be 0.9% higher in gold schools compared with control schools, 2.8% lower in silver schools compared with control schools and 39.1% lower in bronze schools compared with control schools after adjusting for percentage of students eligible for free school meals, baseline referrals to CSC and school size. The 95% confidence interval for bronze versus

control excludes 1; therefore, the effect is statistically significant at 5%, whereas the 95% confidence intervals for silver versus control and gold versus control both include 1; therefore, the effects are not statistically significant at the 5% level of significance.

The rate of section 17 assessments is estimated to be 3.6% higher in gold schools compared with control schools, 6.9% lower in silver schools compared with control schools

Table 31. Subgroup analysis of rates of referrals to CSC for weighted level of implementation quality (N=225 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
Gold	1.009	0.074	0.874, 1.164	0.905
Silver	0.972	0.155	0.711, 1.329	0.859
Bronze	0.609	0.093	0.452, 0.820	0.001
% FSM	1.004	0.008	0.988, 1.020	0.634
CSC referrals in 2018/19	1.009	0.003	1.003, 1.015	0.002
School size	0.999	0.0001	0.999, 1.000	<0.001

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Table 32. Subgroup analysis of rates of section 17 assessments for weighted level of implementation quality (N=225 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
Gold	1.036	0.054	0.936, 1.147	0.496
Silver	0.931	0.165	0.657, 1.319	0.687
Bronze	0.789	0.138	0.560, 1.112	0.176
% FSM	1.017	0.006	1.006, 1.027	0.003
s17 assessments in 2018/19	1.006	0.002	1.002, 1.010	0.006
School size	1.000	0.0001	0.999, 1.000	<0.001

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Table 33. Subgroup analysis of rates of children entering care for weighted level of implementation quality (N=225 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
Gold	1.146	0.144	0.896, 1.467	0.278
Silver	0.701	0.159	0.450, 1.092	0.116
Bronze	0.952	0.434	0.390, 2.325	0.914
% FSM	1.016	0.007	1.002, 1.029	0.022
Number of children entering care in 2018/19	1.059	0.023	1.014, 1.106	0.010
School size	1.000	0.0001	0.999, 1.000	0.002

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

and 21.1% lower in bronze schools compared with control schools after adjusting for percentage of students eligible for free school meals, baseline section 17 assessments and school size. However, the 95% confidence intervals for all include 1; therefore, the effects are not statistically significant at the 5% level of significance.

The rate of children entering care is estimated to be 14.6% higher in gold schools compared with control schools, 29.9% lower in silver schools compared with control schools and 4.8% lower in bronze schools compared with control schools after adjusting for percentage of students eligible for free school meals, baseline number of children entering care and school size. However, the 95% confidence intervals for all include 1; therefore, the effects are not statistically significant at the 5% level of significance.

The mean number of days spent in care is estimated to be 1.85 days higher in gold schools compared with control schools, 25.741 days lower in silver schools compared with control schools and 70.411 days lower in bronze schools, compared with control schools after adjusting for percentage of students eligible for free school meals, baseline days spent in care per child entering care and school size. However, the 95% confidence intervals for all include zero; therefore, the effects are not statistically significant at the 5% level of significance.

Table 34. Subgroup analysis of average numbers of days spent in care per child entering care for weighted level of implementation quality (N=140 schools)

	Mean difference	SE	95% CI	p-value
Control	Reference			
Gold	1.850	25.256	-50.834, 54.533	0.942
Silver	-25.741	40.958	-111.178, 59.696	0.537
Bronze	-70.411	40.968	-155.869, 15.047	0.101
% FSM	-1.585	1.079	-3.834, 0.665	0.157
Days spent in care per child entering care in 2018/19	-0.036	0.050	-0.140, 0.068	0.481
School size	-0.014	0.028	-0.072, 0.044	0.616

SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Subgroup analysis of term data

In this section, we explore the possibility that effects of the intervention varied across time, by examining the data by school term.

Primary outcome

There is no evidence that any of the interaction terms between SWIS and term are significant at 5%.

After adjusting for percentage of students eligible for free school meals, baseline section 47 enquiries and school size, the rate of section 47 enquiries is estimated to be:

- 5.1% higher in SWIS arm than in control arm in term one (95% CI: 0.891 to 1.241, p=0.553)

- 1.9% (1.051*0.970, 95% CI: 0.876 to 1.188, p= 0.795) higher in SWIS arm than in control arm in term two

- 11.6% (1.051*1.062, 95% CI: 0.989 to 1.261, p= 0.074) higher in SWIS arm than in control arm in term three

- 3.4% (1.051*0.984, 95% CI: 0.869 to 1.232, p=0.702) higher in SWIS arm than in control arm in term four

- 0.05% (1.051*0.951, 95% CI: 0.863 to 1.158, p=0.995) lower in SWIS arm than in control arm in term five

- 5.2% (1.051*1.001, 95% CI: 0.860 to 1.287, p= 0.623) higher in SWIS arm than in control arm in term six.

All the confidence intervals include 1; therefore, the effects are not statistically significant at 5%.

Table 35. Subgroup analysis of rates of section 47 enquiries for term data (n=1608 school terms)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.051	0.089	0.891, 1.241	0.553
Term 1 (autumn 2020)	Reference			
Term 2 (spring 2021)	0.896	0.085	0.744, 1.079	0.247
Term 3 (summer 2021)	0.924	0.103	0.742, 1.150	0.479
Term 4 (autumn 2021)	1.069	0.139	0.829, 1.379	0.605
Term 5 (spring 2022)	1.144	0.161	0.868, 1.508	0.339
Term 6 (summer 2022)	0.788	0.110	0.600, 1.035	0.087
SWIS#Term 2	0.970	0.101	0.791, 1.190	0.774
SWIS#Term 3	1.062	0.099	0.886, 1.274	0.514
SWIS#Term 4	0.984	0.101	0.804, 1.204	0.876
SWIS#Term 5	0.951	0.099	0.775, 1.167	0.628
SWIS#Term 6	1.001	0.109	0.809, 1.238	0.996
% FSM	1.025	0.005	1.014, 1.036	<0.001
s47 enquiries in 2018-19	1.005	0.002	1.000, 1.009	0.029
School size	1.000	0.0001	0.999, 1.000	0.030

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Secondary outcomes

There is no evidence that any of the interaction terms between SWIS and term are significant at 5%, and there are no clear patterns in the data.

After adjusting for percentage of students eligible for free school meals, baseline referrals to CSC and school size, the rate of referrals to CSC is estimated to be:

- 0.9% lower in SWIS arm than in control arm in term one (95% CI: 0.872 to 1.126, p=0.888)

- 2.3% (0.991*0.986, 95% CI: 0.860 to 1.110, p= 0.722) lower in SWIS arm than in control arm in term two

- 3.3% (0.991*0.976, 95% CI: 0.861 to 1.087, p= 0.578) lower in SWIS arm than in control arm in term three

- 2.4% (0.991*1.033, 95% CI: 0.915 to 1.144, p=0.690) higher in SWIS arm than in control arm in term four

- 4.5% (0.991*1.054, 95% CI: 0.919 to 1.187, p=0.505) higher in SWIS arm than in control arm in term five

- 3.3% (0.991*1.042, 95% CI: 0.939 to 1.136, p= 0.509) higher in SWIS arm than in control arm in term six.

All the confidence intervals include 1; therefore, the effects are not statistically significant at 5%.

Table 36. Subgroup analysis of rates of referrals to CSC for term data (n=1608 school terms)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	0.991	0.064	0.872, 1.126	0.888
Term 1 (autumn 2020)	Reference			
Term 2 (spring 2021)	0.976	0.131	0.751, 1.269	0.856
Term 3 (summer 2021)	1.208	0.305	0.737, 1.980	0.454
Term 4 (autumn 2021)	1.326	0.287	0.867, 2.027	0.193
Term 5 (spring 2022)	1.346	0.296	0.875, 2.072	0.176
Term 6 (summer 2022)	1.270	0.456	0.629, 2.567	0.505
SWIS#Term 2	0.986	0.086	0.831, 1.171	0.876
SWIS#Term 3	0.976	0.084	0.825, 1.156	0.782
SWIS#Term 4	1.033	0.060	0.922, 1.157	0.581
SWIS#Term 5	1.054	0.070	0.925, 1.202	0.431
SWIS#Term 6	1.042	0.078	0.901, 1.206	0.579
% FSM	1.014	0.007	1.000, 1.028	0.057
s47 enquiries in 2018/19	1.020	0.008	1.006, 1.035	0.006
School size	1.000	0.0001	0.999, 1.000	0.003

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Analysis of section 17 assessments gives a similar result.

After adjusting for percentage of students eligible for free school meals, baseline section 17 assessments and school size, the rate of section 17 assessments is estimated to be:

- 2.7% higher in SWIS arm than in control arm in term one (95% CI: 0.923 to 1.142, p=0.626)

- 2% (1.027*0.954, 95% CI: 0.852 to 1.126, p= 0.770) lower in SWIS arm than in control arm in term two

- 0.4% (1.027*0.970, 95% CI: 0.925 to 1.071, p= 0.905) lower in SWIS arm than in control arm in term three

- 0.3% (1.027*0.977, 95% CI: 0.924 to 1.090, p=0.935) higher in SWIS arm than in control arm in term four

- 2.5% (1.027*0.998, 95% CI: 0.900 to 1.166, p=0.716) higher in SWIS arm than in control arm in term five

- 1.6% (1.027*0.958, 95% CI: 0.858 to 1.128, p= 0.817) lower in SWIS arm than in control arm in term six.

All the confidence intervals include 1; therefore, the effects are not statistically significant at 5%.

Table 37. Subgroup analysis of rates of section 17 assessments for term data (n=1608 school terms)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.027	0.056	0.923, 1.142	0.626
Term 1 (autumn 2020)	Reference			
Term 2	0.924	0.072	0.793, 1.076	0.309
Term 3	1.028	0.107	0.838, 1.260	0.793
Term 4	1.312	0.201	0.973, 1.771	0.075
Term 5	1.302	0.169	1.009, 1.680	0.042
Term 6	0.891	0.139	0.656, 1.210	0.460
SWIS#Term 2	0.954	0.084	0.802, 1.134	0.593
SWIS#Term 3	0.970	0.055	0.868, 1.084	0.586
SWIS#Term 4	0.977	0.044	0.894, 1.068	0.613
SWIS#Term 5	0.998	0.065	0.877, 1.134	0.971
SWIS#Term 6	0.958	0.069	0.832, 1.104	0.555
% FSM	1.020	0.005	1.010, 1.029	<0.001
s47 enquiries in 2018/19	1.016	0.005	1.006, 1.025	0.001
School size	1.000	0.0001	0.999, 1.000	<0.001

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Likewise, the analysis of care entry produces a similar finding. After adjusting for percentage of students eligible for free school meals, baseline number of children entering care and school size, the rate of children entering care is estimated to be:

- 2.8% higher in SWIS arm than in control arm in term one (95% CI: 0.662 to 1.596, p=0.903)

- 10.6% (1.028*0.870, 95% CI: 0.586 to 1.363, p= 0.602) lower in SWIS arm than in control arm in term two

- 7.2% (1.028*1.043, 95% CI: 0.664 to 1.728, p= 0.777) higher in SWIS arm than in control arm in term three

- 5.7% (1.028*1.028, 95% CI: 0.738 to 1.511, p=0.766) higher in SWIS arm than in control arm in term four

- 15.5% (1.028*1.124, 95% CI: 0.818 to 1.631, p=0.413) higher in SWIS arm than in control arm in term five

- 52.1% (1.028*1.480, 95% CI: 0.987 to 2.344, p= 0.057) higher in SWIS arm than in control arm in term six.

All the confidence intervals include 1; therefore, the effects are not statistically significant at 5%.

Table 38. Subgroup analysis of rates of children entering care for term data (n=1608 school terms)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.028	0.231	0.662, 1.596	0.903
Term 1 (autumn 2020)	Reference			
Term 2	0.980	0.156	0.717, 1.338	0.897
Term 3	1.083	0.258	0.679, 1.727	0.737
Term 4	1.155	0.227	0.785, 1.698	0.465
Term 5	1.140	0.184	0.830, 1.565	0.418
Term 6	0.755	0.163	0.495, 1.153	0.193
SWIS#Term 2	0.870	0.276	0.467, 1.618	0.659
SWIS#Term 3	1.043	0.369	0.521, 2.087	0.906
SWIS#Term 4	1.028	0.292	0.589, 1.792	0.924
SWIS#Term 5	1.124	0.291	0.677, 1.865	0.651
SWIS#Term 6	1.480	0.405	0.866, 2.531	0.152
% FSM	1.016	0.006	1.004, 1.029	0.011
s47 enquiries in 2018/19	1.129	0.057	1.023, 1.246	0.016
School size	1.000	0.0001	0.999, 1.000	0.001

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Finally, the pattern of results for days in care is also similar. After adjusting for percentage of students eligible for free school meals, baseline number of days spent in care per child entering care and school size, the mean number of days spent in care per child entering care is estimated to be:

- 136.7 days higher in SWIS arm than in control arm in term one (95% CI: 2.394 to 271.008, p=0.046)

- 10.2 (136.701–146.932, 95% CI: -144.050 to 123.589, p=0.875) days lower in SWIS arm than in control arm in term two

- 2.1 (136.701–138.801, 95% CI: -92.509 to 88.308, p=0.962) days lower in SWIS arm than in control arm in term three.

The 95% confidence interval for term one excludes 0; therefore, the effect is statistically significant, whereas those for terms two and three include 0; therefore, they are not statistically significant at 5%.

Terms four, five and six did not have any observations so they are omitted.

Table 39. Subgroup analysis of average number of days spent in care per child entering care for term data (n=121 school terms)

	Mean difference	SE	95% CI	p-value
Control	Reference			
SWIS	136.701	64.169	2.394, 271.008	0.046
Term 1 (autumn 2020)	Reference			
Term 2	-6.766	61.374	-135.224, 121.692	0.913
Term 3	-66.445	49.544	-170.142, 37.253	0.196
SWIS#Term 2	-146.932	71.274	-296.111, 2.247	0.053
SWIS#Term 3	-138.801	69.238	-283.718, 6.115	0.059
% FSM	-3.591	2.889	-9.638, 2.455	0.229
s47 enquiries in 2018/19	-0.093	0.079	-0.257, 0.071	0.251
School size	-0.010	0.040	-0.093, 0.073	0.802

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Subgroup analysis of the interaction effects between SWIS and Supervision for DSL scale-up study intervention

Primary outcome

There is no evidence that the interaction effect between SWIS and receipt of the Supervision for DSL scale-up study intervention on section 47 enquiries is significant (0.748). The rate of section 47 enquiries is estimated to be 5.5% higher in the SWIS arm than in the control arm in schools not receiving the Supervision for DSL intervention and 2.5% ((1.055*0.972), 95% CI: 0.888–1.185, p= 0.731) higher in the SWIS arm than in the control arm in schools receiving the Supervision for DSL intervention. This is after adjusting for percentage of students eligible for free school meals, baseline rate of section 47 enquiries and school size, but the 95% confidence intervals for both include 1; hence, the effects are not statistically significant at the 5% level of significance.

Table 40. Poisson regression analysis with interaction effect between SWIS and Supervision for DSL scale-up study for the rate of section 47 enquiries (N=268 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.055	0.059	0.945, 1.178	0.341
DSL	1.116	0.167	0.832, 1.497	0.465
SWIS#DSL	0.972	0.085	0.819, 1.154	0.748
% FSM	1.023	0.005	1.013, 1.034	<0.001
s47 enquiries in 2018/19	1.003	0.001	1.001, 1.005	0.015
School size	1.000	0.0001	0.999, 1.000	0.012

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Secondary outcomes

There is no evidence that the interaction effect between SWIS and receipt of the Supervision for DSL scale-up study intervention on referrals to CSC is significant (p=0.288). The rate of referrals to CSC is estimated to be 0.1% lower in the SWIS arm than in the control arm in schools not receiving the Supervision for DSL intervention and 12.1% ((0.999*0.880), 95% CI: 0.699–1.104, p=0.266) lower in the SWIS arm than in the control arm in schools receiving the Supervision for DSL intervention. This is after adjusting for percentage of students eligible for free school meals, baseline rate of referrals to CSC and school size, but the 95% confidence intervals for both include 1; hence, the effects are not statistically significant at the 5% level of significance.

Table 41. Poisson regression analysis with interaction effect between SWIS and Supervision for DSL scale-up study for the rate of referrals to CSC (N=268 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	0.999	0.035	0.932, 1.070	0.969
DSL	1.249	0.149	0.988, 1.578	0.063
SWIS#DSL	0.880	0.106	0.694, 1.114	0.288
% FSM	1.002	0.009	0.984, 1.019	0.862
Referrals to CSC in 2018/19	1.011	0.003	1.005, 1.017	<0.001
School size	0.999	0.0001	0.999, 1.000	<0.001

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

There is no evidence that the interaction effect between SWIS and receipt of the Supervision for DSL scale-up study intervention on section 17 assessments is significant (p=0.806). The rate of section 17 assessments is estimated to be 1.2% lower in the SWIS arm than in the control arm in schools not receiving the Supervision for DSL intervention and 3.5% ((0.988*0.977), 95% CI: 0.805–1.158, p=0.706) lower in the SWIS arm than in the control arm in schools receiving the Supervision for DSL intervention. This is after adjusting for percentage of students eligible for free school meals, baseline rate of section 17 assessments and school size, but the 95% confidence intervals for both include 1; hence, the effects are not statistically significant at the 5% level of significance.

Table 42. Poisson regression model with interaction effect between SWIS and Supervision for DSL scale-up study for the rate of section 17 assessments (N=268 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	0.988	0.037	0.918, 1.064	0.756
DSL	1.204	0.146	0.950, 1.527	0.125
SWIS#DSL	0.977	0.093	0.811, 1.177	0.806
% FSM	1.016	0.006	1.005, 1.027	0.004
s17 assessments in 2018/19	1.007	0.002	1.002, 1.011	0.002
School size	1.000	0.0001	0.999, 1.000	<0.001

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

There is no evidence that the interaction effect between SWIS and receipt of the Supervision for DSL scale-up study intervention on the number of children entering care is significant (p=0.293). The rate of children entering care is estimated to be 11.6% higher in the SWIS arm than in the control arm in schools not receiving the Supervision for DSL intervention and 11.8% ((1.116*0.790), 95% CI: 0.609–1.277, p=0.506)

lower in the SWIS arm than in the control arm in schools receiving the Supervision for DSL intervention. This is after adjusting for percentage of students eligible for free school meals, baseline rate of children entering care and school size, but the 95% confidence intervals for both include 1; hence, the effects are not statistically significant at the 5% level of significance.

Table 43. Poisson regression model with interaction effect between SWIS and Supervision for DSL scale-up study for the rate of children entering care (N=268 schools)

	IRR	SE	95% CI	p-value
Control	Reference			
SWIS	1.116	0.123	0.899, 1.386	0.319
DSL	1.227	0.263	0.806, 1.866	0.340
SWIS#DSL	0.790	0.177	0.509, 1.226	0.293
% FSM	1.013	0.007	0.999, 1.026	0.067
Number of children entering care in 2018/19	1.066	0.022	1.024, 1.110	0.002
School size	0.999	0.0001	0.999, 1.000	<0.001

IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

There is no evidence that the interaction effect between SWIS and receipt of the Supervision for DSL scale-up study intervention on days spent in care per child entering care is significant (p=0.543). The mean number of days spent in care per child entering care is estimated to be 18.537 days lower in the SWIS arm than in the control arm in schools not receiving the Supervision for DSL intervention and 13.149 days (-18.537+31.686), 95% CI: -84.820–111.119, p=0.782) higher in the SWIS arm than in the control arm in schools receiving the Supervision for DSL intervention. This is after adjusting for percentage of students eligible for free school meals, baseline number of days spent in care per child entering care and school size, but the 95% confidence intervals for both include zero; hence, the effects are not statistically significant at the 5% level of significance.

Table 44. Linear regression analysis with interaction effect between SWIS and Supervision for DSL scale-up study for the average number of days spent in care per child entering care (N=168 schools with children who entered care)

	Mean difference	SE	95% CI	p-value
Control	Reference			
SWIS	-18.537	22.571	-65.619, 28.546	0.421
DSL	-49.220	28.996	-109.705, 11.265	0.105
SWIS#DSL	31.686	51.210	-75.137, 138.509	0.543
% FSM	-1.723	0.940	-3.684, 0.237	0.082
Days in care per child entering care in 2018/19	-0.041	0.038	-0.120, 0.037	0.284
School size	-0.011	0.027	-0.068, 0.045	0.679

SE is the cluster-robust standard error; CI is the confidence interval; DSL is the Supervision for DSL scale-up study; and % FSM is the percentage of students eligible for free school meals.

Economic analysis findings

Summary

The primary health economic analysis estimated that the average total costs per school in the SWIS intervention arm were higher than in the control arm. In the intervention arm, the average total costs per school were £465,206.40 when compared with the control arm of £368,561.10, resulting in an average total cost difference of £96,645.30 (£19,065.20, £174,225.30).

The average section 47 enquiries per school were also higher in the intervention arm compared with the control arm, resulting in a "dominated incremental cost-effectiveness ratio" (ICER) for SWIS. The ICER can be interpreted by way of SWIS "the intervention" both being more expensive and accruing more section 47 enquiries than controls, within the current scope of the trial.

This resulted in a low probability of SWIS being considered cost-effective for the outcomes considered.

More specifically, in the primary cost-effectiveness analysis, the probability of SWIS being cost-effective for averting a section 47 enquiry was very low, less than 10 percentage points when probability threshold estimates for cost-effectiveness were varied between £1000 and £20,000. No statistically significant differences were identified for any estimates of cost, cost consequences or cost-effectiveness between intervention and control.

Resource use and costs

SWIS intervention

Table 45 presents the mean costs per school by cost category for the intervention schools compared with control schools in natural units (unstandardised), and additionally with standardised estimates per 1000 students per year. The cost categories replicate the data returns by local authorities and are estimated for resources allocated to social worker staffing, management and administration, and consumables. The table also presents a resource use comparator "tariff", allocated to the control schools for an initial CSC assessment and referral.

The average cost differences between the intervention and control arms were £78,733.10 per school when unstandardised estimates were calculated, and £45,702.70 when standardised estimates (to per 1000 students per year) were used, and these differences were significant (p<0.001).

The average total cost of the SWIS intervention per school was £106,771.30, of which social worker time and on-costs (pension, national insurance and travel) contributed £72,260.10. This was approximately two-thirds (67%) of the total intervention cost. Management and administrative support contributed on average £29,033.70 per school. Consumables, including training and marketing, contributed £5477.50 of the total mean cost per school.

The average cost per school for initial CSC referrals totalled £28,038.20, estimated as approximately 25% of the cost of SWIS.

When standardised estimates were used, the average cost of SWIS reduced from £106,771.30 to £60,529.20, a cost reduction of approximately 42 percentage points. The standardised average cost to control schools was estimated as £14,826 per school, consistent at 24% of the intervention cost.

Table 45. Mean costs by cost category per school for the intervention (£, 2021) *

Cost category per school (£)	Unstandardised				Estimates per year per 1000 students			
	Intervention mean (SE)	Comparator mean (SE)	p-value	Mean difference (bootstrap 95% CI)	Intervention mean (SE)	Comparator mean (SE)	p-value	Mean difference (bootstrap 95% CI)
SWIS social worker time	72,260.1 (3733.4)	0.0	-	-	40,901.7 (2435.7)	0.0	-	-
SWIS management and administration	29,033.7 (1753.2)	0.0	-	-	16,674.3 (1195.9)	0.0	-	-
SWIS consumables	5477.5 (413.1)	0.0	-	-	2953.3 (203.4)	0.0	-	-
Control schools: Process 1 referral and assessment	0.0	28,038.2 (1872.1)	-	-	0.0	14,826.5 (822.3)	-	-
Total costs	**106,771.3 (4347.3)**	**28,038.2 (1872.1)**	**p<0.001**	**78,733.1 (69,316.1, 88,150.1)**	**60,529.2 (3036.2)**	**14,826.5 (822.3)**	**p<0.001**	**45,702.7 (39,419.8, 51,985.7)**

* Mainstream schools only (N=268), main analysis.

Placements and procedures

Table 46 presents mean resource use per school for categories of outcomes, including procedures and placements by numbers of events.

The procedures included the primary outcome (numbers of section 47 Child Protection enquiries), CSC referrals and numbers of section 17 Child in Need assessments. Placements included numbers of days in foster and kinship care, residential care, secure accommodation and "other" care. Table 46 presents both unstandardised and standardised (per 1000 students per year) estimates for outcomes.

The mean numbers of procedures per school (measured as numbers of events) were very similar for the intervention schools when compared with control schools, with the mean differences between the trial arms estimated to be very small. For the primary outcome, mean differences in section 47 enquiries were 1.3 (-4.2, 6.8) and for referrals to CSC also 1.3 (-14.8, 17.3). The positive integer reflects a slightly increased mean number of section 47 enquiries and referrals in the intervention arm compared with control, though mean differences in procedure costs between trial arms are close to zero. When standardised to values per 1000 students per year, the mean difference between arms was -0.3 (-2.9, 2.4) and the negative integer reflects a very slightly higher number of section 47 enquiries in the control schools. However, no significant differences were identified between the intervention and control schools for any category of resource use associated with primary and secondary outcomes.

A similar pattern of resource use was identified for care placements, with the differences in outcomes between the trial arms being small and insignificant. The overall mean numbers of days in care per school were estimated as 683 days in the intervention arm compared with 532 days in the control arm, a difference of 151 days (-37.2, 338.2). When standardised to values per 1000 students per year, the mean difference per school in number of days in care reduced to 56 (-37.3, 149.4) days.

Table 46. Mean resource use by category for placements and procedures (N=268)*

Placements and procedures	Unstandardised				Estimates per year per 1000 students			
	Intervention mean (SE)	Comparator mean (SE)	p-value	Mean difference (bootstrap 95% CI)	Intervention mean (SE)	Comparator mean (SE)	p-value	Mean difference (bootstrap 95% CI)
Primary outcome								
s47 enquiries	31.4 (2.0)	30.0 (1.9)	0.64	1.3 (-4.2, 6.8)	16.4 (0.9)	16.7 (0.9)	0.84	-0.3 (-2.9, 2.4)
Secondary outcome								
Referrals to CSC	91.8 (5.8)	90.6 (6.1)	0.88	1.3 (-14.8, 17.3)	47.3 (2.5)	48.6 (2.7)	0.73	-1.3 (-8.8, 6.3)
s17 enquiries	86.4 (4.5)	85.8 (4.3)	0.92	0.63 (-11.4, 12.7)	46.1 (2.1)	46.8 (2.3)	0.81	-0.7 (-6.9, 5.4)
Days in care (CSC)	682.8 (77.7)	532.31 (56.6)	0.12	150.5 (-37.2, 338.2)	331.5 (34.6)	275.4 (31.1)	0.23	56.1 (-37.3, 149.4)
Days in foster and kinship care	553.1 (64.1)	487.8 (43.9)	0.40	65.2 (-89.9, 220.4)	276.3 (28.5)	271.2 (28.1)	0.89	5.2 (-74.9, 85.3)
Days in residential care	161.5 (21.9)	166.5 (26.4)	0.89	-5.0 (-71.6, 61.6)	83.2 (11.6)	105.0 (19.1)	0.32	-21.8 (-64.6, 20.9)
Days in secure accommodation	6.3 (3.1)	9.1 (5.1)	0.65	-2.7 (-14.7, 9.3)	3.3 (1.5)	3.8 (2.2)	0.83	-0.6 (-5.8, 4.7)
Days in "other"	86.4 (16.1)	65.8 (15.3)	0.36	20.6 (-21.9, 63.1)	44.5 (8.4)	36.4 (8.2)	0.49	8.1 (-13.8, 30.1)

* Mainstream schools only (N=268), main analysis.

Costs

Table 47 presents the mean costs per school in both unstandardised and standardised (per 1000 students per year) formats for procedures and placements.

The average costs per school for the primary outcome of section 47 enquiries was £37,361.60 for the intervention arm. This compares to an average costs per school of £35,742.90 in the control arm, and resulted in a mean cost difference of £1618.70 (-£4783.6, £8020.9).

When standardised (to per 1000 students per year), the average difference in costs was -£324.30 (-£3344.80, £2696.20) – i.e. costs were slightly higher in the control arm, though the difference is not significant.

The average costs per school for placements – i.e. "the number of days in care" – were consistently higher in the intervention arm. They were estimated as £11,061 and £8613 for the intervention and control arms respectively, a mean difference of £2447.80 (-£605.50, £5501.10). Standardised estimates reflected a mean difference of £907.50 (-£491.20, £2305.90).

The average costs per school for residential care were consistently higher in the control for both standardised and unstandardised estimates, presenting a mean difference of £15,782.40 between trial arms. This estimate was an outlier and impacted the standardised total mean costs per schools for all placements.

The total unstandardised mean cost for downstream placements and procedures combined was £358,431.60 per school in the intervention arm and £340,522.90 (£28,957.10) for the control arm, with the average costs for the intervention higher by £17,912.70 (-£63,658, £99,475.30).

No mean differences in categories of placement costs were significant.

Table 47. Mean costs of procedures and placements (£, 2021)*

Costs of placements and procedures (£, 2021)	Unstandardised				Estimates per year per 1000 students			
	Intervention mean (SE)	Comparator mean (SE)	p-value	Mean difference (bootstrap 95% CI)	Intervention mean (SE)	Comparator mean (SE)	p-value	Mean difference (bootstrap 95% CI)
Primary outcome								
Cost of s47 enquiries	37,361.6 (2427.6)	35,742.9 (2285.8)	0.63	1618.7 (-4783.6, 8020.9)	19,552.9 (1090.6)	19,877.2 (1171.2)	0.84	-324.3 (-3344.8, 2696.2)
Secondary outcome								
Cost of referrals to CSC	44,078.2 (2783.9)	43,354.1 (2898.8)	0.86	724.1 (-6994.9, 8443.2)	22,640.3 (1212.9)	23,241.8 (1281.8)	0.73	-601.6 (-3990.1, 2786.9)
s17 enquiries	41,695.8 (2106.3)	41,012.0 (2089.5)	0.82	683.7 (-5159.8, 6527.3)	22,073.1 (985.8)	22,426.5 (1105.9)	0.81	-353.5 (-3299.0, 2592.1)
Days in care (CSC)	11,061.1 (1256.5)	8613.3 (914.8)	0.12	2447.8 (-605.5, 5501.1)	5363.5 (560.3)	4456.1 (503.5)	0.23	907.5 (-491.2, 2305.9)
Cost of foster and kinship care	52,305.2 (6,046.9)	45,985.3 (4145.9)	0.39	6319.9 (-8146.4, 20,786.2)	26,094.2 (2689.4)	25,606.7 (2651.9)	0.89	487.5 (-6620.4, 7595.3)
Cost of residential care	116,411.9 (15,822.9)	120,426.3 (19,061.5)	0.87	-4014.4 (-52,839.8, 44,810.9)	60,037.6 (8390.6)	75,820.1 (13,764.6)	0.32	-15,782.4 (-47259.5, 15,694.6)
Cost of secure accommodation	4616.2 (2264.9)	6608.7 (3713.8)	0.65	-1992.6 (-10,436.7, 6451.6)	2400.6 (1123.8)	2828.6 (1618.6)	0.83	-427.9 (-4324.7, 3468.8)
Cost of "other" placements	50,905.2 (9480.4)	38,780.3 (9008.4)	0.36	12,124.9 (-13,335.9, 37,585.8)	26,253.7 (4973.7)	21,465.2 (4814.4)	0.49	4788.2 (-8854.3, 18,430.68)
Total cost all placements and procedures	**358,435.2 (27,723.6)**	**340,522.9 (28,957.1)**	**0.66**	**17,912.7 (-63,658, 99,475.3)**	**184,415.6 (13,647.2)**	**195,722.2 (18,800.6)**	**0.63**	**-11,306.7 (-55,017.0, 32,403.7)**

* Mainstream schools only (N=268), main analysis.

112

Cost-effectiveness analysis

Table 48 presents the cost-effectiveness analysis, A cost-effectiveness analysis measures the mean differences in costs divided by the mean differences in effects, here reported as per section 47 enquiry prevented, and this is presented as an incremental cost-effectiveness ratio (ICER). The mean total costs per school in the intervention arm (£465,206.40) were higher when compared with the control arm (£368,561.10), resulting in a mean total cost difference of £96,645.30 (£19,065.20, £174,225.30).

Mean section 47 enquiries per school were also higher in the intervention arm compared with the control arm (31.4 compared with 30.0), resulting in a dominated cost-effectiveness outcome for SWIS. This can be interpreted by way of SWIS both being more expensive and accruing more section 47 enquiries than controls, on average, within the current trial time horizon. The probabilities of SWIS being cost-effective for averting a section 47 referral at threshold values of £1000, £10,000 and £20,000 were estimated at 1.3%, 1.1% and 6.1%, respectively.

Table 48. Incremental cost-effectiveness per section 47 enquiry prevented (£, 2021)*

Unstandardised					
Total costs (£)			**s47 enquiries**		
Intervention mean (SE)	Control mean (SE)	Mean difference (bootstrap 95% CI)	Intervention mean (SE)	Control mean (SE)	Mean difference (bootstrap 95% CI)
465,206.4 (27,402.9)	368,561.1 (29,867.0)	96,645.3 (19,065.2, 174,225.3)	31.4 (2.0)	30.0 (1.9)	1.3 ** (-4.2, 6.8)

Unstandardised						
ICER	**Probability of CE**	**Probability of CE**	**Probability of CE**	**NMB SWIS >control £1000**	**NMB SWIS >control £10,000**	**NMB SWIS >control £20,000**
Incremental cost-effectiveness	Threshold value: £1000	Threshold value: £10,000	Threshold value: £20,000	NMB mean (95% CI)	NMB mean (95% CI)	NMB mean (95% CI)
Dominated***	0.013	0.011	0.061	-93,786.7 (-171,717.8, -11,764.7)	-81,861.6 (-149,061.6,-15,223.2)	-68,611.4 (-158,212.1, 16,842.8)

* Mainstream schools only (N=268), main analysis – unstandardised estimates.

** A positive integer represents an increase in section 47 enquiries.

*** The intervention has a higher cost and also results in more section 47 enquiries.

Consistent with the unstandardised estimates presented in the table above, Table 49 presents the standardised mean total cost per school in the intervention arm (£244,944.80), which was higher when compared with the control arm (£210,548.70) and resulted in a mean total cost difference of £34,396.10 (-£14,446.20, £83,238.30). The standardised estimate for the increment in section 47 enquiries was -0.3 (-2.9, 2.4). This value is slightly lower for the control schools compared with the intervention schools, although it is close to zero, resulting in a negative value for the incremental cost-effectiveness ratio. The negative integer represents a decrease in section 47 enquiries – i.e. a very small positive effect on section 47 enquiries prevented.

An ICER is expressed as the ratio of the difference in mean costs by the difference in mean effectiveness and can be interpreted as the cost of obtaining an extra unit of effectiveness. In Table 49 the ICER can be interpreted as an additional cost of £126,281.10 to prevent one section 47 enquiry, standardised per year per 1000 students. The probabilities of SWIS being cost-effective at averting a section 47 referral at threshold values were low, and at £1000, £10,000 and £20,000 were 7.4%, 17.4% and 26.8%, respectively.

Table 49. Incremental cost-effectiveness per section 47 enquiry prevented, estimates per year per 1000 students (£, 2021) (N=268)*

Estimates per year per 1000 students, with cluster-robust standard errors

Total costs (£)			s47 enquiries		
Intervention mean (SE)	Control mean (SE)	Mean difference (bootstrap 95% CI)	Intervention mean (SE)	Control mean (SE)	Mean difference (bootstrap 95% CI)
244,944.8 (13,445.2)	210,548.7 (19,147.7)	34,396.1 (-14,446.2, 83,238.3)	16.4 (0.9)	16.7 (0.9)	-0.3** (-2.9, 2.4)

Estimates per year per 1000 students, with cluster-robust standard errors

ICER	Probability of cost effectiveness	Probability of cost effectiveness	Probability of cost effectiveness	NMB SWIS >control £1000	NMB SWIS >control £10,000	NMB SWIS >control £20,000
Incremental cost-effectiveness	Threshold value: £1000	Threshold value: £10,000	Threshold value: £20,000	NMB mean (95% CI)	NMB mean (95% CI)	NMB mean (95% CI)
-126,281.1*** (-678,691.4, 426,129.3)	0.074	0.174	0.268	-33,812.5 (-79,306.3, 8709.3)	-36,121.9 (-73,896.1, 2278.4)	-38,687.9 (-86,828.4, 8314.8)

* Mainstream schools only (N=268), main analysis – unstandardised estimates.

** A positive integer represents an increase in section 47 enquiries.

*** The intervention has a higher cost and also results in more section 47 enquiries.

Cost-consequences analysis

Table 50 presents the results of the cost-consequences analysis for SWIS with unstandardised estimates for costs and outcomes. For SWIS, the key cost driver was social worker time, estimated at a mean cost of £72,260.10 (£3733.40) per school, with the total mean cost per SWIS school estimated to be £106,771.30. Mean cost differences between the trial arms for the primary outcomes were small (£1618.70) and not significant. Mean cost differences between trial arms for procedures including referrals and section 17 Child in Need assessments were similarly small and insignificant. The main cost drivers for placements (generated from number of days in care) were residential care followed by foster care. The mean total cost for all placements and procedures was £358,431.60 per school for the intervention schools, and £340,522.90 for control schools, representing a higher mean total cost associated with SWIS of £17,908.70.

Table 50. Cost-consequences analysis for SWIS compared with control (£, 2021)*

Unstandardised

Costs (£)	Intervention mean (SE)	Control mean (SE)	Mean difference (bootstrap 95% CI)	Consequences (£)	Intervention mean (SE)	Control mean (SE)	Mean difference (bootstrap 95% CI)
SWIS social worker time	72,260.1 (3733.4)	0.0	-	Cost of s47 enquiries	37,361.6 (2427.6)	35,742.9 (2285.8)	1618.7 (-4783.6, 8020.9)
SWIS administration and management	29,033.7 (1753.2)	0.0	-	Cost of referrals to CSC	44,078.2 (2783.9)	43,354.1 (2898.8)	724.1 (-6994.9, 8443.2)
SWIS consumables	5477.5 (413.1)	0.0	-	Cost of s17 enquiries	41,695.8 (2106.3)	41,012.0 (2089.5)	683.7 (-5159.8, 6527.3)
Control schools: referral and assessment	0.0	28,038.2 (1872.1)	-	Cost of days in care (CSC)	11,061.1 (1256.5)	8613.3 (914.8)	2447.8 (-605.5, 5501.1)
Total costs	**106,771.3 (4347.3)**	**28,038.2 (1872.1)**	**78,733.1 (69,316.1, 88,150.1)**	Cost of foster and kinship care	52,305.2 (6046.9)	45,985.3 (4145.9)	6,319.9 (-8146.4, 20,786.2)
				Cost of residential care	116,411.9 (15,822.9)	120,426.3 (19,061.5)	-4014.4 (-52,839.8, 44,810.9)
				Cost of secure accommodation	4616.2 (2264.9)	6608.7 (3713.8)	-1992.6 (-10,436.7, 6451.6)
				Cost of "other" placements	50,905.2 (9480.4)	38,780.3 (9008.4)	12,124.9 (-13,335.9, 37,585.8)
				Total cost of all placements and procedures	**358,435.2 (27,723.6)**	**340,522.9 (28,957.1)**	**17,912.7 (-63,658, 99,475.3)**

* Mainstream schools only (N=268) reflecting 21 LAs, main analysis – unstandardised estimates.

Table 51 presents the results of the cost-consequences analysis for SWIS with estimates revised to per 1000 students per year for mean costs and outcomes. All costs were lower when compared with the unstandardised estimates presented in Table 50, and mean cost differences between the trial arms were consistent, with the exception of costs for procedures, where the mean cost for control schools was very slightly higher than the intervention schools, though the difference was not significant. The main cost driver in the control schools was residential care, which eclipsed other mean cost differences. The size of the estimate for residential care effectuates a negative total mean cost difference for all placements of £11,306.70, and this represents a higher though insignificant mean total cost to control schools.

Table 51. Cost-consequences analysis with estimates per year per 1000 students (£, 2021)*

Estimates per year per 1000 students

Costs (£)	Intervention mean (SE)	Control mean (SE)	Mean difference (bootstrap 95% CI)	Consequences (£)	Intervention mean (SE)	Control mean (SE)	Mean difference (bootstrap 95% CI)
SWIS social worker time	40,901.7 (2435.7)	0.0	-	**Cost of s47 enquiries**	19,552.9 (1090.6)	19,877.2 (1171.2)	-324.3 (-3344.8, 2696.2)
SWIS administration and management	16,674.3 (1195.9)	0.0	-	**Cost of referrals to CSC**	22,640.3 (1212.9)	23,241.8 (1281.8)	-601.6 (-3990.1, 2786.9)
SWIS consumables	2953.3 (203.4)	0.0	-	**Cost of s17 enquiries**	22,073.1 (985.8)	22,426.5 (1105.9)	-353.5 (-3299.0, 2592.1)
Control schools: referral and assessment	0.0	14,826.5 (822.3)	-	**Cost of days in care (CSC)**	5363.5 (560.3)	4456.1 (503.5)	907.5 (-491.2, 2305.9)
Total costs	**60,529.2 (3036.2)**	**14,826.5 (822.3)**	**45,702.7 (39,419.8, 51,985.7)**	**Cost of foster and kinship care**	26,094.2 (2689.4)	25,606.7 (2651.9)	487.5 (-6620.4, 7595.3)
				Cost of residential care	60,037.6 (8390.6)	75,820.1 (13,764.6)	-15,782.4 (-47,259.5, 15,694.6)
				Cost of secure accommodation	2400.6 (1123.8)	2828.6 (1618.6)	-427.9 (-4324.7, 3468.8)
				Cost of "other" placements	26,253.7 (4973.7)	21,465.2 (4814.4)	4788.2 (-8854.3, 18,430.68)
				Total cost of all placements and procedures	**184,415.6 (13,647.2)**	**195,722.2 (18,800.6)**	**-11,306.7 (-55,017.0, 32,403.7)**

* Mainstream schools only (N=268) reflecting 21 LAs, main analysis – unstandardised estimates.

Sensitivity analyses

Table 52 presents a sensitivity analysis, where the costs of SWIS social worker time was varied to explore its impact on cost-effectiveness for the outcomes considered. Social worker time was the main input and key cost driver of the intervention and in the baseline analysis was estimated to be 89% full-time equivalent (FTE). Social worker time was revised to 25% FTE, 50% FTE and 75% FTE. At 25% FTE, the mean difference in costs per school between the intervention and control was £1953.70 (-£2410.70, £6318.20). At 50% FTE, the mean difference in costs per school between the intervention and control arms was £31,945.68 (£25,908.53, £37,982.82). At 75% FTE, the mean difference in costs per school between the intervention and control arms was £61,937.74 (£53,938.60, £69,936.90).

All three sensitivity analyses aiming to test the robustness of the key intervention costs identified that the cost of the intervention emerged as higher than the control. The mean difference in the primary outcome was 1.3, with bootstrapped 95% CI of (-4.2, 6.8) and the positive integer represents an increase in section 47 enquiries standardised per year per 1000 students. The cost-effectiveness outcome is dominated as the intervention is associated with a higher mean cost across all three scenarios of social worker staffing inputs, and the intervention resulted in more section 47 enquiries over the within-trial time horizon.

Table 52. Sensitivity analysis 5. Social worker time revised to 25%, 50% and 75% full-time equivalent (FTE) (£, 2021)*

Revised proportion of social worker time	Total costs (£)			s47 enquiries			ICER
	Intervention mean (SE)	Control mean (SE)	Mean difference (bootstrap 95% CI)	Intervention mean (SE)	Control mean (SE)	Mean difference (bootstrap 95% CI)	Incremental cost-effectiveness
25%	29,991.9 (1221.2)	28,038.2 (1872.1)	1953.7 (-2410.7, 6318.2)	31.4 (2.0)	30.0 (1.9)	1.3** (-4.2, 6.8)	Dominated ***
50%	59,983.88 2442.308	28,038.2 1872.137	31,945.6 (25,908.53, 37,982.82)	31.4 (2.0)	30.0 (1.9)	1.3** (-4.2, 6.8)	Dominated ***
75%	89,975.8 (3663.5)	28,038.2 (1872.1)	61,937.7 (53,938.6, 69,936.9)	31.4 (2.0)	30.0 (1.9)	1.3** (-4.2, 6.8)	Dominated ***

* Mainstream schools only (N=268), main analysis.

** A positive integer represents an increase in section 47 enquiries.

*** The intervention has a higher cost and also results in more section 47 enquiries.

Subgroup analyses

Table 53 presents a subgroup analysis examining the mean costs of SWIS by quality of implementation. Costs were revised to account for quality of implementation categorised to bronze (the reference category), silver and gold levels of implementation quality. The differences in costs are presented as incidence rate ratios in keeping with the main statistical analysis, and with cluster-robust standard errors to take account of the 21 local authority clusters. They were also adjusted for estimates of the primary outcome at baseline and for the percentage of students eligible for free school meals. When compared with bronze levels of implementation quality, mean costs per school were higher in the silver category compared with gold (IRR 1.385 versus IRR 1.318).

Table 53. Subgroup analysis 1. Mean costs of SWIS by quality of implementation*

All costs	IRR	Robust SE	z	P.[z]	95% CI	
% FSM	1.0214	0.012	1.80	0.071	0.998	1.045
Baseline year	1.001	0.002	0.51	0.608	0.996	1.006
Implementation						
Bronze	1					
Gold	1.318	0.477	0.76	0.445	0.6482	2.681
Silver	1.385	0.518	0.87	0.384	0.665	2.884
constant	215.563	79.845	14.51	0.000	104.300	445.515

* IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

Table 54 presents a subgroup analysis examining the temporal effects of the intervention with mean costs per term. Costs were revised to account for temporal effects and were measured across the six school terms. The differences in costs are presented as incidence rate ratios in keeping with the main statistical analysis, and with cluster-robust standard errors to take account of clustering at baseline. They were also adjusted for estimates of the primary outcome at baseline and for the percentage of students eligible for free school meals.

When compared with control schools (reference category), mean costs were higher in the intervention arm (IRR 1.03). When compared with the first school term, costs were similar in terms two to four (and slightly higher in term three (IRR 1.039)), and lower in terms four to six, with term six presenting the lowest cost (IRR 0.283), which could reflect the completion of the intervention and reallocation of social workers elsewhere and/or census of placement cost data.

Table 54. Subgroup analysis 2. Temporal effects – analysis of mean costs per term*

All costs	IRR	Robust SE	z	P.[z]	95% CI	
Control	1					
Intervention	1.034	0.110	0.32	0.750	0.839	1.274
% FSM	1.031	0.012	2.75	0.006	1.008	1.054
Baseline year	1.003	0.002	1.37	0.171	0.998	1.008
School term						
1	1					
2	0.983	0.167	-0.10	0.923	0.705	1.372
3	1.039	0.097	0.41	0.683	0.864	1.249
4	0.815	0.126	-1.31	0.189	0.601	1.105
5	0.611	0.085	-3.51	0.000	0.464	0.804
6	0.283	0.041	-8.51	0.000	0.211	0.378
constant	34.289	11.757	10.31	0.000	17.510	67.147

* IRR is the incidence rate ratio; SE is the cluster-robust standard error; CI is the confidence interval; and % FSM is the percentage of students eligible for free school meals.

STRENGTHS AND LIMITATIONS

Strengths

This randomised controlled trial involved over 250 schools. To our knowledge this is the largest school-based RCT ever undertaken in social work research. It was informed by a pilot study involving three local authorities, which indicated that SWIS was a promising approach to reducing rates of CSC outcomes. The current trial had a sufficient sample size to ensure a high power to statistically detect a meaningful effect size of the primary outcome, had there been such an effect. Outcomes were reported independently by local authorities using standardised protocols. Loss to follow-up was very low, with no missing data in the primary or secondary outcomes, and all schools were retained at the 23-month follow-up. There was little imbalance between arms in outcomes at baseline. A pre-specified analysis plan took account of clustering and multiplicity, and the findings were robust across a range of sensitivity analyses. An extensive economic evaluation examined the cost-effectiveness of the intervention from a public sector perspective, and a comprehensive implementation and process evaluation complemented these analyses and helped to contextualise the findings and the results.

Limitations

Nevertheless, there were also limitations. The number of days in care is unknown for children who had not left care by the end of the trial. Response rates to the surveys of social workers, school staff and students (Appendix 5) were relatively low at 34–51%, 43–60% and 11% respectively, which could have introduced selection bias. Unfortunately, we do not have any information on the characteristics of those who did and did not respond to investigate the possibility of bias. Similarly, there was a relatively low completion rate for information used in the health economic evaluation on the time spent by social workers in schools, which could lead to an under- or over-estimation of costs. As the between-group differences were small, this may have introduced imprecision in the health economic estimates but is unlikely to have changed the pattern of results. We used a three-way triangulation approach to review other data sources including from the IPE to explore the potential impact of social worker time on-costs and to inform a range of cost-related sensitivity analyses to account for these differences.

We were unable to undertake our planned observations of social workers undertaking SWIS work in schools, due to social distancing measures introduced during the COVID-19 pandemic. These would have provided deeper insights into the integration of the social workers into school life, and the way they worked with staff and students.

DISCUSSION

This randomised controlled, pragmatic trial shows no evidence of benefit from SWIS in relation to reducing the rates of section 47 enquiries, CSC referrals, section 17 assessments, the number of children entering care or the number of days children spent in care. In the absence of evidence of benefit, the SWIS intervention cannot be considered cost-effective for the primary outcome of section 47 enquires, or for the other outcomes we measured within the time horizon for this analysis.

The most probable explanation for these findings is that the intervention does not affect these outcomes. It is unlikely that this result can be attributed to the influence of COVID-19, even though the pandemic presented a challenge for implementing SWIS. It affected the extent to which students and social workers were in schools at certain points, and the work they were able to do. However, when we examined effects on our outcome measures over the course of the trial period, we found no evidence of patterns associated with the acute phases of the pandemic.

It is also unlikely that SWIS was not implemented well enough, given what we found in the IPE. SWIS was mostly delivered in line with the manual and was implemented relatively well, and it was viewed favourably by social workers, school staff and students. This is important because it is common for social programmes to fall short of implementation objectives, for null findings to be attributed to poor implementation (Fixsen et al., 2009; Solomon et al., 2014) and

for positive findings to rely on high levels of fidelity to the model (Bezeczky et al., 2019). In contrast, the element of flexibility in the manual permits a range of approaches. All but one school received some input from a social worker, and most had a SWIS social worker in place for the majority of the scale-up period. Moreover, for the schools we had sufficient data on to calculate a quality rating, 69% implemented SWIS to a "gold" standard.

Our analysis of patterns across the different time periods of the trial, and of the impact of different levels of implementation quality, add weight to the conclusion that SWIS is not effective on these outcome measures. That we found no convincing relationship between implementation quality and impact suggests it does not matter how well SWIS was delivered. Indeed, other subgroup analyses also showed no signs of any changes in outcome indicators being associated with periods where implementation was better or worse, or with periods of greater or lesser disruption caused by the pandemic. Although it is possible that the pandemic inhibited SWIS in delivering outcomes, any effect is diluted by the extended period of the study (two years rather than the original one year) and taken together our findings do not suggest this is the case. Regarding the subsample of schools receiving the Supervision for DSL scale-up intervention, this was small and therefore the subgroup analysis was underpowered.

However, there was a contrast between the quantitative results about the impact of SWIS and the qualitative data gathered as part of the IPE. The impressions of those involved were broadly positive, and professionals we interviewed expressed how they believed SWIS could have many positive effects for students, including reducing the risks that lead to CSC involvement. Many of these are outlined in the logic model.

This raises questions about potential longer-term effects and the hypothesis that the time horizon for this analysis is too short for positive effects to be detected, or that positive impacts may only materialise over a longer period. We will address this in the report we are due to publish in 2024. Many social workers felt the informal preventative work they did with students was where the "real" value of SWIS lay, and several practitioners and managers we interviewed suggested that a longer period would be necessary for SWIS work to be reflected in rates of section 47 enquiries, referrals and care outcomes. Yet the prospect of longer-term effects materialising also seems an unlikely expectation, because there were no signs of any "green shoots" detected in relation to these outcomes towards the end of the trial period. These might be expected if the theory of delayed impact were to be substantiated. The fact that current estimates for the primary outcome indicate a slight increase also casts doubt on this theory, as they are counter to what is desired and hypothesised.

There was an appetite among social workers and school staff for SWIS to be refocused on non-statutory and preventative work. Even though the balance of time spent by social workers was on statutory activities, many felt the informal work they did with children who were not necessarily on CSC plans was more important. Their view, and that of the young people who participated in interviews,

was that this preventative work led to better child wellbeing in the short and medium term. However, the outcomes SWIS intended to change, and therefore those studied in this trial, were of subsequent service use.

As well as these service use outcomes being important measures for policy and practice, their selection for the trial were further justified by the evidence of promise found in the pilots. Nonetheless, arguably the need for child protection and care interventions is largely shaped by social determinants (such as poverty) which are structural and pervasive, and which SWIS does not target (Bywaters et al., 2015). This is similar to many ineffective setting-based behavioural interventions (e.g. school-based obesity prevention) which, for example, target diet and activity, but not the antecedents of these factors (Hung et al., 2015). The one factor that was significant across some of our models was free school meals eligibility, which is related to the social determinants of disadvantage (Gorard, 2012). This may partially explain why SWIS, an intervention which was well received overall, did not have the intended effects.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion, we found no benefit of delivering the SWIS intervention in England for policy-relevant CSC outcomes, and that there was a substantial additional cost associated with the intervention. This is despite the finding that the local authorities implemented SWIS at scale relatively successfully, delivering key elements of what was described in the manual. There was a wide range of qualitative evidence of positive experiences and perceptions of SWIS; however, it is not possible to argue that SWIS reduces more serious harms to children, nor that it pays for itself through reducing the need for CSC interventions. The qualitative evidence shows that school staff feel there is a need for additional support within the community and want help to address unmet need in schools. Some of what social workers were doing as part of SWIS was thought to meet some of these needs, particularly in relation to lower-level concerns (which fall below the threshold for CSC). Policymakers may feel that the existing provision within schools should be reviewed with this in mind, or that other school-based interventions could be developed to target different outcomes. However, such issues were not the primary aim of the intervention, and evaluations such as this specify a limited number of outcome measures. Therefore, the trial was not designed to investigate the impact of SWIS on these other outcomes.

As well as identifying interventions that are effective, it is equally important for research to highlight the approaches that do not work. This study highlights the potential for research designs that combine rigorous between-group comparisons with other types of evaluation. For example, the IPE served as both a stand-alone assessment of implementation and process, and also a means of informing the subgroup analysis of impact. As such, it aided our interpretation of the findings around impact and cost-effectiveness, and increased our confidence in our conclusions. We therefore suggest that future RCTs in CSC build on this design. One way in which they could do this, if resources allow, is by collecting more data on the proposed mechanisms and processes that are thought to produce outcomes. This was largely beyond the scope of this study, though we did begin to explore this in a nested study of domestic abuse, which is the subject of a separate report (Bennett et al., forthcoming).

Our experience of working with a large number of local authorities to collect administrative data was also positive, and this is encouraging for future research. Despite the disruption caused by the COVID-19 pandemic, collecting this data via local authorities worked well. It would not have been possible, or, if it was possible, it would have been very difficult and costly, to have collected CSC outcome data directly from schools. The support from the funder in managing the roll-out of SWIS alongside the trial, and encouraging some local authorities to return data, is likely to have reduced the time we spent on these activities. The coupling of intervention and research funding is therefore a model that should be considered more widely.

In this case, based on the evidence we have at this stage of the trial, we recommend that SWIS is not continued or scaled up further because it does not appear to have the impact on CSC outcomes that policymakers desire. In our follow-up report (2024), we will examine whether there is a longer-term impact on days in care and explore any effects in relation to educational attendance and attainment, which are not yet known at this point in the trial.

REFERENCES

Austin, P. C., Stryhn, H., Leckie, G. & Merlo, J. (2018) Measures of clustering and heterogeneity in multilevel Poisson regression analyses of rates/count data. Stat. Med., 37, 572–589. https://doi.org/10.1002/sim.7532.

Australian Association of Social Workers (2008) Practice Standards for School Social Workers.

Beddoe, L. (2019) Managing identity in a host setting: school social workers' strategies for better interprofessional work in New Zealand schools. Qual. Soc. Work, 18, 566–582. https://doi.org/10.1177/1473325017747961.

Bennett, V., Meindl, M., Smith, P., Adara, L., Pallmann, P., Lugg-Widger, F., White, J. & Westlake, D. (forthcoming) Domestic abuse and schools: evidence from the Social Workers in Schools (SWIS) trial. What Works for Children's Social Care.

Bezeczky, Z., El-Banna, A., Kemp, A., Scourfield, J., Forrester, D. & Nurmatov, U. (2019) Intensive Family Preservation Services to prevent out-of-home placement of children 101.

Biehal, N., Cusworth, L. S., Wade, J. & Clarke, S. E. (2014) Keeping children safe: allegations concerning the abuse or neglect of children in care – final report, Impact and Evidence series. NSPCC.

Brandon, M., Belderson, P., Sorensen, P., Dickens, J., Sidebotham, P., Cleaver, H., Garstang, J., Harris, J. & Wate, R. (2020) Complexity and challenge: a triennial analysis of SCRs 2014–2017.

Briggs, A. H., Wonderling, D. E., Mooney, C. Z. (1997) Pulling cost-effectiveness analysis up by its bootstraps: a non-parametric approach to confidence interval estimation. Health Econ., 6, 327–340. https://doi.org/10.1002/(sici)1099-1050(199707)6:4<327::aid-hec282>3.0.co;2-w.

Bywaters, P., Brady, G., Sparks, T., Bos, E., Bunting, L., Daniel, B., Featherstone, B., Morris, K. & Scourfield, J. (2015) Exploring inequities in child welfare and child protection services: explaining the "inverse intervention law". Child. Youth Serv. Rev., 57, 98–105. https://doi.org/10.1016/j.childyouth.2015.07.017.

Carter, B. R. & Hood, K. (2008) Balance algorithm for cluster randomized trials. BMC Med. Res. Methodol., 8, 65. https://doi.org/10.1186/1471-2288-8-65.

Child Safeguarding Practice Review Panel (2022) National review into the murders of Arthur Labinjo-Hughes and Star Hobson. UK government. https://www.gov.uk/government/publications/national-review-into-the-murders-of-arthur-labinjo-hughes-and-star-hobson.

Children Act 2004. Statute Law Database.

Children's Social Care Workforce (2023) Hansard, UK Parliament. https://hansard.parliament.uk//Commons/2022-07-20/debates/F0101D2D-2C80-413B-800F-BE67EA60DFB6/Children'SSocialCareWorkforcehighlight=crisis+social+work+children.

Department for Education (2022a) Characteristics of children in need, reporting year 2022.

Department for Education (2022b) Children looked after in England including adoption: 2021 to 2022. https://www.gov.uk/government/statistics/children-looked-after-in-england-including-adoption-2021-to-2022.

Department for Education (2022c) Children's social work workforce, reporting year 2021.

Department for Education (2023) Children's social work workforce, reporting year 2022. https://explore-education-statistics.service.gov.uk/find-statistics/children-s-social-work-workforce.

Department for Education (2020) Statistics: children in need and child protection. https://www.gov.uk/government/collections/statistics-children-in-need.

Department for Education and Skills (2001) Schools achieving success.

Diss, O. & Jarvie, M. (2016) Unfinished business – where next for extended schools?

Dyson, A. & Jones, L. (2014) Extended schools in England: emerging rationales. IJREE – Int. J. Res. Ext. Educ., 2.

Family Rights Group (2018) Care Crisis Review: Options for Change.

Fixsen, D. L. & Blase, K. A., Naoom, S. F. & Wallace, F. (2009) Core implementation components. Res. Soc. Work Pract., 19, 531–540. https://doi.org/10.1177/1049731509335549.

Ford, I. & Norrie, J. (2016) Pragmatic trials. N. Engl. J. Med., 375, 454–463. https://doi.org/10.1056/NEJMra1510059.

Franklin, C., Kim, J. S. & Tripodi, S. J. (2009) A meta-analysis of published school social work practice studies: 1980–2007. Res. Soc. Work Pract., 19, 667–677. https://doi.org/10.1177/1049731508330224.

Gorard, S. (2012) Who is eligible for free school meals? Characterising free school meals as a measure of disadvantage in England. Br. Educ. Res. J., 38, 1003–1017. https://doi.org/10.1080/01411926.2011.608118.

Hayes, R. J. & Bennett, S. (1999) Simple sample size calculation for cluster-randomized trials. Int. J. Epidemiol., 28, 319–326. https://doi.org/10.1093/ije/28.2.319.

Holmes, L., McDermid, S., Soper, J., Sempik, J. & Ward, H. (2010) Extension of the cost calculator to include cost calculations for all children in need (Research Brief No. DFE-RB056). Loughborough University.

Holt, K. & Kelly, N. (2020) Care in crisis – is there a solution? Reflections on the Care Crisis Review 2018. Child Fam. Soc. Work, 25, 1–7. https://doi.org/10.1111/cfs.12644.

Hood, R., Goldacre, A., Gorin, S. & Bywaters, P. (2020) Screen, ration and churn: demand management and the crisis in children's social care. Br. J. Soc. Work, 50, 868–889. https://doi.org/10.1093/bjsw/bcz035.

House of Commons debate (20 July 2022) Hansard, 718. https://hansard.parliament.uk/commons/2022-07-20/debates/F0101D2D-2C80-413B-800F-BE67EA60DFB6/Children%E2%80%99SSocialCareWorkforce.

Hung, L.-S., Tidwell, D. K., Hall, M. E., Lee, M. L., Briley, C. A. & Hunt, B. P. (2015) A meta-analysis of school-based obesity prevention programs demonstrates limited efficacy of decreasing childhood obesity. Nutr. Res., 35, 229–240. https://doi.org/10.1016/j.nutres.2015.01.002.

Isaksson, C. & Sjöström, S. (2017) Looking for "social work" in school social work. Eur. J. Soc. Work, 20, 191–202. https://doi.org/10.1080/13691457.2016.1188775.

Jagosh, J. (2019) Realist synthesis for public health: building an ontologically deep understanding of how programs work, for whom, and in which contexts. Annu. Rev. Public Health, 40, 361–372. https://doi.org/10.1146/annurev-publhealth-031816-044451.

Jones, K. & Burns, A. (2021) Unit Costs of Health and Social Care. Personal Social Services Research Unit, University of Kent, Canterbury.

Kahan, B. C. & Morris, T. P. (2012) Improper analysis of trials randomised using stratified blocks or minimisation. Stat. Med., 31, 328–340. https://doi.org/10.1002/sim.4431.

Kivimaki, M., Elovainio, M. (1999) A short version of the Team Climate Inventory: development and psychometric properties. J. Occup. Organ. Psychol., 72, 241–246. https://doi.org/10.1348/096317999166644.

Labour Research Department (2022) Social work and the impact of the Covid pandemic.

Lancker, W. V. & Parolin, Z. (2020) COVID-19, school closures, and child poverty: a social crisis in the making. Lancet Public Health, 5, e243–e244. https://doi.org/10.1016/S2468-2667(20)30084-0.

Lau, Y. K. (2020) A critical review of school social work in Hong Kong, in: Gao, J., Baikady, R., Govindappa, L. & Cheng, S.-L. (Eds.), Social Welfare in India and China. Springer Singapore. pp. 101–117. https://doi.org/10.1007/978-981-15-5648-7_6.

Lee, J.-S. (2012) School social work in Australia. Aust. Soc. Work, 65, 552–570. https://doi.org/10.1080/0312407X.2012.675343.

Lepper, J. (2022) Loughton calls for action on social work recruitment crisis. CYP Now. https://www.cypnow.co.uk/news/article/loughton-calls-for-action-on-social-work-recruitment-crisis.

MacAlister, J. (2022) The independent review of children's social care – final report.

MacAlister, J. (2021) The case for change. Independent review of children's social care.

Mansournia, M. A., Nazemipour, M., Naimi, A. I., Collins, G. S. & Campbell, M. J. (2021) Reflection on modern methods: demystifying robust standard errors for epidemiologists. Int. J. Epidemiol., 50, 346–351. https://doi.org/10.1093/ije/dyaa260.

McKeown, B. B. & Thomas, D. (1988) Q Methodology – Quantitative applications in the social sciences. Beverly Hills Sage.

Morse, S. A. (2019) Pressures on children's social care. National Audit Office, London.

Munby, J. (2016) 15th View from the President's Chambers: care cases: The looming crisis. Fam. Law, 46, 1227–1231.

NASW (2012) NASW – Standards For School Social Workers. https://www.scribd.com/document/264674034/NASW-Standards-for-School-Social-Workers.

QSR International Pty Ltd. (2018) NVivo (Version 12), https://www.qsrinternational.com/nvivo-qualitative-data-analysis-software/home

Pearson, M., Brand, S. L., Quinn, C., Shaw, J., Maguire, M., Michie, S., Briscoe, S., Lennox, C., Stirzaker, A., Kirkpatrick, T. & Byng, R. (2015) Using realist review to inform intervention development: methodological illustration and conceptual platform for collaborative care in offender mental health. Implement. Sci., 10, 134. https://doi.org/10.1186/s13012-015-0321-2.

QMethod Software (2022) Q-Methodology Software, Q-Sort, Analysis for Q Methodology.

R Core Team (2020) R: a language and environment for statistical computing.

Silverman, D. (2011) Interpreting Qualitative Data. A Guide to the Principles of Qualitative Research. Sage.

Solomon, P., Hanrahan, N. P., Hurford, M., DeCesaris, M. & Josey, L. (2014) Lessons learned from implementing a pilot RCT of transitional care model for individuals with serious mental illness. Arch. Psychiatr. Nurs., 28, 250–255. https://doi.org/10.1016/j.apnu.2014.03.005.

StataCorp LLC (2021) Stata version 17.

Stokes, L., Dorsett, R., Manzoni, C., Runge, J. & Lisauskaite, E. (2021) Supervision of Designated Safeguarding Leads scale-up.

Thomas, C. (2018) Care Crisis Review: Factors contributing to national increases in numbers of looked after children and applications for care orders. Nuffield Foundation and Family Right Group, London.

Viner, R. M., Russell, S. J., Croker, H., Packer, J., Ward, J., Stansfield, C., Mytton, O., Bonell, C. & Booy, R. (2020) School closure and management practices during coronavirus outbreaks including COVID-19: a rapid systematic review. Lancet Child Adolesc. Health, 4, 397–404. https://doi.org/10.1016/S2352-4642(20)30095-X.

Watson, K. R., Capp, G., Astor, R. A., Kelly, M. S. & Benbenishty, R. (2022) "We need to address the trauma": school social workers' views about student and staff mental health during COVID-19. School Ment. Health, 14, 902–917. https://doi.org/10.1007/s12310-022-09512-7.

Westlake, D., Melendez-Torres, G. J., Corliss, C., El-Banna, A., Thompson, S., Meindl, M., Talwar, R., Folkes, L., Schoenwald, E., Addis, S. & Cook, L. (2020) Social Workers in Schools: An evaluation of pilots in three local authorities in England (final report). What Works for Children's Social Care, London.

Westlake, D., Pallmann, P., Lugg-Widger, F., Forrester, D., Petrou, S., Daher, S., Adara, L., Cook, L., Munnery, K., Bennett, V., Smith, P. & White, J. (2022a) The SWIS trial: protocol of a pragmatic cluster randomised controlled trial of school based social work. PLoS ONE, 17, e0265354. https://doi.org/10.1371/journal.pone.0265354.

Westlake, D., Pallmann, P., Lugg-Widger, F., White, J., Forrester, D., Petrou, S. & Daher, S. (2022b) Social Workers in School Scale-up. What Works for Children's Social Care, https://whatworks-csc.org.uk/wp-content/uploads/V3_SWIS-Trial-Protocol_Revised-March-2022.pdf

What Works for Children's Social Care (2020) WWCSC SWIS Scale-up Implementation Manual.

APPENDICES

What Works for Children's Social Care

CONTACT