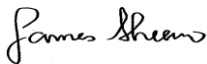


# King's Health Economics

## Health Economics Analysis Plan (HEAP) for the SPARKLE study

**Acknowledgement:** This HEAP is adapted from Supplementary material 1. Health Economics Analysis Plan (HEAP) template v1.0 in Jo Thorn et al Value in Health 24, ISSUE 4, P539-547, APRIL 01, 2021 Content of Health Economics Analysis Plans (HEAPs) for Trial-Based Economic Evaluations: Expert Delphi Consensus Survey

|       |   | Guidance/Examples   |                |   |                           |                |   |  |      |  |  |                      |  |  |  |  |  |  |  |  |  |  |
|-------|---|---|----------------|---|---------------------------|----------------|---|--|------|--|--|----------------------|--|--|--|--|--|--|--|--|--|--|
| 1.1   | Title   | Health Economics Analysis Plan for the Supporting Parents & Kids Through Lockdown Experiences (SPARKLE) Trial: A parallel randomised controlled trial of a digital parenting support app implemented in the general population during the COVID-19 pandemic   |                |   |                           |                |   |  |      |  |  |                      |  |  |  |  |  |  |  |  |  |  |
| 1.2   | Trial registration number                     | Clinicaltrials.gov: NCT04786080   |                |   |                           |                |   |  |      |  |  |                      |  |  |  |  |  |  |  |  |  |  |
| 1.3   | Source of funding                             | Grant ES/V016393/1 from the Economic and Social Research Council, UK.   |                |   |                           |                |   |  |      |  |  |                      |  |  |  |  |  |  |  |  |  |  |
| 1.4   | Purpose of HEAP                               | The purpose of this HEAP is to describe the analysis and reporting procedure intended for the economic analyses to be undertaken. The health economics analysis plan is designed to ensure that it is consistent and there is no conflict with the protocol and associated statistical analysis plan and it should be read in conjunction with them.  |                |   |                           |                |   |  |      |  |  |                      |  |  |  |  |  |  |  |  |  |  |
| 1.5   | Trial protocol version                        | This document has been written based on information contained in the trial protocol version 1.1 dated 10 July 2021  |                |   |                           |                |   |  |      |  |  |                      |  |  |  |  |  |  |  |  |  |  |
| 1.6   | Trial Statistical Analysis Plan (SAP) version | SAP Version: 1.0, Date: 16 July 2021  |                |   |                           |                |   |  |      |  |  |                      |  |  |  |  |  |  |  |  |  |  |
| 1.7   | Trial HEAP version                            | HEAP Version: 1.0, Date: September 2021   |                |   |                           |                |   |  |      |  |  |                      |  |  |  |  |  |  |  |  |  |  |
| 1.8   | HEAP revisions                                | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Date</th> <th style="width: 15%;">HEAP version</th> <th style="width: 15%;">Protocol version and date</th> <th style="width: 15%;">Section number</th> <th style="width: 45%;">Reason for change/Amendment made (include individual making the change)</th> </tr> </thead> <tbody> <tr> <td></td> <td style="background-color: #e0ffff;">V1.0</td> <td></td> <td></td> <td style="background-color: #e0ffff;">Initial version (JS)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | Date           | HEAP version  | Protocol version and date | Section number | Reason for change/Amendment made (include individual making the change) |  | V1.0 |  |  | Initial version (JS) |  |  |  |  |  |  |  |  |  |  |
| Date  | HEAP version                                  | Protocol version and date   | Section number | Reason for change/Amendment made (include individual making the change) |                           |                |   |  |      |  |  |                      |  |  |  |  |  |  |  |  |  |  |
|       | V1.0  |   |                | Initial version (JS)  |                           |                |   |  |      |  |  |                      |  |  |  |  |  |  |  |  |  |  |
|       |   |   |                |   |                           |                |   |  |      |  |  |                      |  |  |  |  |  |  |  |  |  |  |
|       |   |   |                |   |                           |                |   |  |      |  |  |                      |  |  |  |  |  |  |  |  |  |  |
| 1.9   | Roles and responsibilities                    | This HEAP was prepared by Dr James Shearer (trial health economist) and approved by Prof Sarah Byford (senior health economist). The trial health economists, JS and SB, are responsible for conducting and reporting the economic evaluation in accordance with the HEAP.  |                |   |                           |                |   |  |      |  |  |                      |  |  |  |  |  |  |  |  |  |  |
| 1.10a | Signature(s) of person(s) writing HEAP        | <br>28/07/2021   |                |   |                           |                |   |  |      |  |  |                      |  |  |  |  |  |  |  |  |  |  |

|       |                                      |   |            |
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| 1.10b | Signature of senior health economist |  | 31/08/2021 |
| 1.10c | Signature of Chief Investigator      |  | 03/09/2021 |

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|-----|--------------------------------|---|
| 2.1 | Trial background and rationale | <p>The COVID-19 related lockdowns and distancing measures have presented families with unprecedented challenges. A UK-wide cohort study tracking changes in families' mental health since early lockdown (Co-SPACE) found a significant rise in primary school-aged children's behaviour problems and associated family-related stress. Three-quarters of parents in Co-SPACE also reported wanting extra support. In SPARKLE, we will examine whether providing Co-SPACE families with a smartphone application delivering information and parenting support, Parent Positive, can reverse the negative effects of the pandemic on children and parents.</p>   |
| 2.2 | Aim(s) of the trial            | <p>SPARKLE has six aims:</p> <ul style="list-style-type: none"> <li>i) To test whether Parent Positive reduces the average levels of parent-reported child conduct problems in a self-selected community sample, measured over a one (primary outcome) and two month (secondary outcome) period, when compared to Follow-up As Usual (FAU).</li> <li>ii) To test whether Parent Positive reduces the average levels of parent psychological distress, parental child-related stress and worries, family conflict and child emotional problems (additional secondary outcomes) in a self-selected community sample, measured over a one and two month period, when compared to FAU.</li> <li>iii) To assess the extent to which the effects of Parent Positive on the primary and secondary conduct problems outcome are moderated by levels of (i) pre-existing levels of conduct problems and (ii) Parent Positive usage levels as monitored during the one month intervention period. Usage of Parent Positive will be monitored for two months for descriptive purposes.</li> <li>iv) To test the cost-effectiveness of Parent Positive compared to FAU over a two month follow-up period.</li> <li>v) Exploratory: To assess whether the effects of Parent Positive on primary and secondary outcomes are moderated by baseline characteristics - family social economic status and composition, parental psychological distress, child age, symptoms of attention-deficit/hyperactivity disorder and emotional problems.</li> <li>vi) Exploratory: (ii) to explore the impact of lockdown circumstances and policies at baseline on the effects of Parent Positive on primary and secondary outcomes. Data on lockdown circumstances will be collected at one and two months post-randomisation for descriptive purposes.</li> </ul> |

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| 2.3 | Objectives and/or research hypotheses of the trial | <p>Hypotheses:</p> <p>i) At both one and two months post-randomisation, Parent Positive will reduce the average levels of parent-reported child conduct problems in a self-selected community sample, when compared to FAU.</p> <p>ii) Parent Positive will reduce the average levels of parent psychological distress, parental child-related stress and worries, family conflict and child emotional problems (secondary outcomes) in comparison to FAU.</p> <p>iii) The effects on the primary and secondary conduct problems outcome will be greater where (i) children had higher baseline levels of conduct problems (i.e., more need for Parent Positive) and (ii) parents spent more time using the app.</p> <p>iv) Parent Positive will be cost-effective compared to FAU as a result of improved outcomes and cost savings.</p> |
| 2.4 | Trial population                                   | <p>First, the following Co-SPACE inclusion criteria will apply: parent is willing and able to give informed consent, must be at least 18 years old and lives in the UK. There are no exclusion criteria for Co-SPACE. Second, SPARKLE-specific criteria will be: parent has a child aged 4-10 years and has access to a smartphone with operating system OS 8-9 or higher (Android devices) or iOS 12-13 or higher (Apple devices). There will be no further exclusion criteria. Children will not be selected based on pre-existing conduct problems.</p>  |
| 2.5 | Intervention(s) and comparator(s)                  | <p>Intervention: Parent Positive: This is an app developed for use on a smartphone providing a flexible digital space where parents can get support and advice to help them manage their children’s behaviour.</p> <p>Comparator: Individuals randomised to FAU will receive no intervention for the first 2 months while the data for baseline (T1), T2 and T3 are collected.</p>  |
| 2.6 | Trial design                                       | <p>This study is a two-month, parallel-arm, superiority randomised controlled clinical trial comparing the effect of Parent Positive as compared to follow up as usual (FAU), with a primary outcome of parent-reported child conduct problems at one-month post-randomisation. The study will be embedded into an existing UK-wide, large, self-selected community cohort (Co-SPACE), with all current and new participants aged ≥ 18 years who have children aged 4-10 years invited to take part in the trial.</p>   |
| 2.7 | Trial start and end dates                          | <p>Start date: 19th May 2021. End date for recruitment: 26th July 2021. The follow-up period will run for 2 months until 10<sup>th</sup> October 2021, as participants will have 14 days to respond to the final survey.</p>  |
| 3.1 | Aim(s) of economic evaluation                      | <p>The aim of the economic evaluation is to address the question “Is Parent Positive cost-effective compared to FAU over a one-month follow-up period?”.</p>  |

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| 3.2     | Objective(s) of economic evaluation    | The primary objective of the health economic evaluation is to estimate the cost-effectiveness of Parent Positive versus FAU for parents enrolled in Co-SPACE in a within-trial economic evaluation.  |
| 3.3     | Overview of economic analysis          | The within-trial economic analysis will be performed using individual participant level data from the SPARKLE trial. The analytical approach will take the form of a cost-utility analysis. Based on trial evidence, incremental cost-effectiveness (or cost-utility) ratios will be calculated by taking a ratio of the difference in the mean costs and mean effects (QALYs).  |
| 3.4     | Jurisdiction(s)                        | The trial is conducted in the UK which has a national health service (NHS), providing publicly funded healthcare, primarily free of charge at the point of use.  |
| 3.5     | Perspective(s)                         | The primary economic analysis will be from the National Health Service (NHS) and personal social services perspective preferred by National Institute for Health and Care Excellence (NICE), including any education-based health and social services, given the age of the population.  |
| 3.6     | Time horizon(s)                        | The primary economic analysis will compare the costs and consequences of each arm over one month after randomisation. A secondary economic analysis will compare the costs and consequences of each arm over two months after randomisation.   |
| 4.1     | Statistical software                   | Stata version 16.0 or higher will be used for the main economic analysis.  |
| 4.2     | Identification of resources            | The following items of health care resource use that may differ between arms will be measured: Community health, social care and education services; Hospital services; Parent training and parent support services; and Mental health medication. In addition, the resources needed to deliver the Parent Positive intervention will be measured: App development and maintenance costs; Super-Parent (parents moderating the app communication platform) time, training and supervision; and clinical experts' time. |
| 4.3     | Measurement of resource-use data       | Resource-use data will be collected at month 1 and month 2 post randomisation via Co-SPACE using online versions of the Child and Adolescent Service Use Schedule (CA-SUS) completed by participating parents. Time, training, and supervision time for Super-Parents and clinical experts will come from study records.   |
| 4.4 (a) | Valuation of resource-use data         | All resource use will be valued in monetary terms using appropriate UK unit costs or participant valuations estimated at the time of analysis (2020-2021). The source, unit and value of any published unit costs will be reported.  |
| 4.4 (b) | Valuation of intervention resource-use | The cost of the Super-Parents and the clinical experts will be estimated on the basis of their salaries, on-costs (superannuation and national insurance), overhead costs (administrative, managerial, capital etc.), and the cost of time for supervision including the cost of providers of supervision.   |

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| 4.5           | Identification of outcome(s)                  | Strengths and Difficulties Questionnaire (SDQ) scores will be mapped to the Child Health Utility index 9D (CHU-9D) using a published mapping algorithm developed in a sample of 200 caregivers of young people in Australia attending child and adolescent mental health services (Furber, Segal, Leach, & Cocks, 2014). The CHU-9D is a generic measure of children's health state preferences consisting of nine dimensions (sad, worried, pain, annoyed, tired, homework or schoolwork, daily routine, activities and sleep) rated using five levels (Stevens,2012). The CHU-9D is recognized as a valid and responsive utility measure designed exclusively for use in children (Canaway & Frew, 2013). |
| 4.6           | Measurement of outcome(s)                     | Measurements will be recorded prior to randomisation at baseline, one month and two months post randomisation. Baseline and research follow-up assessments will take place online.  |
| 4.7           | Valuation of outcome(s)                       | Utility scores derived from the mapped CHU-9D will be used to calculate QALYs over the one month (primary) and two month (secondary) follow-up period using the area under the curve approach and adjusting for imbalances in baseline CHU-9D scores.   |
| Optional 4.8  | Monitoring collection of health economic data | The trial health economist(s) will work closely with the trial team throughout the data collection period. Data extracts will be checked throughout the trial period to monitor quality of the data and amend any forms or procedures if necessary.   |
| Optional 4.9  | Database management                           | Economic data will be securely stored on the trial database and managed by the trial researchers, Melanie Palmer and Olly Robertson.  |
| Optional 4.10 | Data entry                                    | All relevant data is entered online by trial participants. The database will use controls to limit data entry to plausible values.  |
| Optional 4.11 | Data archiving                                | A copy of health economic analysis files, derived datasets, interim datasets and final analysis will be locked and archived. Archived datasets will be held by KCL and will conform to the department data security policy and department data compliance and Data Protection Act policies.   |
| Optional 4.12 | Data availability                             |   |
| 5.1           | Analysis population                           | The full analysis set will include all randomised participants, which is in accordance with the "intention to treat" (ITT) principle.   |
| 5.2           | Timing of analyses                            | All planned economic analyses will be conducted once all participants have been followed-up for two months. There are no planned interim analyses.  |
| 5.3           | Discount rates for costs and benefits         | Costs and benefits will not be discounted as the trial is less than 12 months.  |

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| 5.4 | Cost-effectiveness threshold(s) | Cost-effectiveness acceptability curves will be constructed to show the probability that SPARKLE is more cost-effective than FAU using different ceiling ratios. The primary economic analysis will use the reported NICE cost-effectiveness threshold of £20,000 to £30,000 per QALY.  |
| 5.5 | Statistical decision rule(s)    | Mean differences in costs, and QALYs between the treatment groups will be estimated with associated 95% confidence intervals.   |
| 5.6 | Analysis of resource use        | Differences in the use of services between randomised groups will be described but not compared statistically.  |
| 5.7 | Analysis of costs               | Differences in overall mean costs between the arms will be analysed using Generalised Linear Models (GLM) with bootstrapped 95% CIs adjusting for the covariates outlined in the SAP (intervention group, time point, intervention group by time point interaction, SDQ conduct problem sub-scale score at baseline, child gender and child age) plus any baseline predictors of missing data and baseline values of the variables of interest (CHU-9D scores).   |
| 5.8 | Analysis of outcomes            | Differences in overall mean outcomes between the arms will be analysed using Generalised Linear Models (GLM) with bootstrapped 95% CIs adjusting for the covariates outlined in the SAP (intervention group, time point, intervention group by time point interaction, SDQ conduct problem sub-scale score at baseline, child gender and child age) plus any baseline predictors of missing data and baseline values of the variables of interest (CHU-9D scores).  |
| 5.9 | Data cleaning for analysis      | <p>All data used in the economic evaluation will be checked and cleaned in the following ways:</p> <ul style="list-style-type: none"> <li>• Check no patient IDs are duplicated in each time point;</li> <li>• Check no patient IDs are missing from each time point;</li> <li>• Check values are plausible (e.g. CHU-9D item scores must be between 1-5);</li> <li>• Check CA-SUS items are plausible in combination (e.g. in a two month follow-up children cannot spend more than 60 nights in hospital or use community services when in hospital for 60 nights);</li> <li>• Check patterns of missing data are consistent (e.g. if clinical outcomes are missing, is it plausible that CA-SUS data is still present).</li> </ul> |

In order to make data management transparent and replicable, the original data set provided to the economist will not be edited, rather, all data corrections and manipulation will be performed in a STATA do file so all changes are logged and explained.

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| 5.10 | Missing data                                   | Trial data will be examined for any missing data. The appropriate method for dealing with missing data will depend on the prevalence of missing data and likely mechanism of missingness. For example, multiple imputation methods may be used if the data is missing at random (MAR). |
| 5.11 | Analysis of cost-effectiveness                 | Cost and QALY data will be combined to calculate an incremental cost-effectiveness ratio (ICER) and net monetary benefit (NMB) statistic from the NHS and PSS perspective.   |
| 5.12 | Sampling uncertainty                           | The nonparametric bootstrapping approach will be used to determine the level of sampling uncertainty surrounding the mean ICER by generating 1,000 estimates of incremental costs and benefits.  |
| 5.13 | Subgroup analyses or analysis of heterogeneity | There are no planned subgroup analyses.  |
| 5.14 | Sensitivity analyses                           | There is one planned sensitivity analysis. A complete case analysis will explore the impact of missing data.   |
| 7.1  | Reporting standards                            | CHEERS guidelines will be followed when reporting the health economic evaluation, in a format appropriate to stakeholders and policy makers.   |
| 7.2  | Deviations from the HEAP                       | Any deviation from the HEAP will be described and justified in the final published report.   |
| 8.1  | Health economic collection tools               | The bespoke SPARKLE CA-SUS are attached. There are three versions, one for use at one month follow-up and two for use at two month follow-up dependent on if the one month follow-up was completed or not.   |
| 8.2  | Cross-referencing to other trial documents     | The analysis described in this plan adheres to the SPARKLE Data Management Plan (version 2.0, 11 January 2021).  |

# **SPARKLE Child and Adolescent Service Use Schedule (CA-SUS)**

*SPARKLE CA-SUS (T2 last month) V1.0 22.03.2021*

## **USE OF HEALTH, EDUCATION AND SOCIAL CARE SERVICES**

### **INSTRUCTIONS**

It would be helpful for us to know what health, social care or education services your child has used since you signed up to the SPARKLE study approximately 1 month ago.

Some of the services listed may not be relevant to your child, but it would still be helpful for us to know this, so please select 'No' if they have not used any of the items listed.

We understand that you may not remember the exact number of appointments your child has attended, but please give us your best guess.



**1. COMMUNITY HEALTH, SOCIAL CARE AND EDUCATION SERVICES**

We would like to know if your child has had any appointments with any health, social care or education professionals or services that took place in the community, at home or at school since you signed up to the SPARKLE study approximately 1 month ago. Please include appointments that you had on behalf of your child.

For each professional or service listed, please tell us if your child (or you on behalf of the child) had any appointments by selecting 'Yes' or 'No'. If the answer is 'Yes', please tell us how many appointments in total your child (or you on behalf of the child) had with each professional or service since you signed up to the SPARKLE study approximately 1 month ago.

Please include all appointments, whether they took place face-to-face, by telephone or online by video conference.

|  | Yes                      | No                       | If yes, please enter the total number of appointments your child (or you on behalf of your child) had since you signed up to the SPARKLE study approximately 1 month ago |
|--|--------------------------|--------------------------|--|
| General practitioner (GP)  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| Practice nurse (a nurse based in a GP surgery)   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| Any other nurse in the community, for example a school nurse or health visitor   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| Community paediatrician (a doctor in a child health centre)  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| Any mental health worker, for example a CAMHS worker or a psychiatrist   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| Any therapist providing 'talking therapy' (for example a counsellor, clinical psychologist or family therapist) in the community, at home or in school. Please exclude any mental health worker contacts from the previous question. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| Any speech & language therapist in the community, at home or in school   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| Social worker, social services youth worker or family support worker   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| Any helpline or advice service, for example the Samaritans, MIND, Childline  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| Educational psychologist   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |

**Special Education Needs Co-ordinator –  
SENCO**

## **2. PARENT TRAINING AND PARENT SUPPORT SERVICES**

We would like to know if you or another parent/carer have attended any parent training classes (for example, Incredible Years Parent Training, Triple P, 1-2-3 Magic, Empowering Parents, Empowering Communities) or any parent support services since you signed up to the SPARKLE study approximately 1 month ago.

For each service listed below, please tell us if you or another parent/carer have attended the service by selecting 'Yes' or 'No'. If the answer is 'Yes', please tell us how many contacts in total you or another parent/carer had with each service since you signed up to the SPARKLE study approximately 1 month ago.

Please include all sessions, whether they took place face-to-face, by telephone or online by video conference.

**If you received access to Parent Positive, please DO NOT INCLUDE YOUR USAGE OF THIS.**

|   | <b>Yes</b>               | <b>No</b>                | <b>If yes, please enter the total number of contacts you or another parent/carer had in total since you signed up to the SPARKLE study approximately 1 month ago</b> |
|---|--------------------------|--------------------------|--|
| <b>Parent training classes (for example, Incredible Years Parent Training, Triple P, 1-2-3 Magic, Empowering Parents, Empowering Communities)</b> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| <b>Parent support group</b>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |

### 3. HOSPITAL SERVICES INVOLVING AN OVERNIGHT STAY

We would like to know if your child has stayed overnight in hospital since you signed up to the SPARKLE study approximately 1 month ago. For each reason listed, please tell us if your child has stayed overnight in hospital for this reason by selecting 'Yes' or 'No'. If the answer is 'Yes', please tell us how many nights in total your child has stayed overnight in hospital for this reason since you signed up to the SPARKLE study approximately 1 month ago.

If your child had overnight stays in a hospital on more than one occasion for the same reason, please report the total number of nights for all occasions.

| Reason   | Yes                      | No                       | If yes, please enter the total number of nights your child stayed in hospital for this reason since you signed up to the SPARKLE study approximately 1 month ago |
|--|--------------------------|--------------------------|--|
| Overnight stay in hospital due to an accident or injury  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| Overnight stay in hospital for any other physical health reason. This could include any physical health problems or illnesses but should exclude accidents or injuries reported in the previous question | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| Overnight stay in hospital for mental health reasons   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |

**4. HOSPITAL SERVICES THAT DID NOT INVOLVE AN OVERNIGHT STAY**

We would like to know if your child has had any outpatient or day patient appointments in a hospital since you signed up to the SPARKLE study approximately 1 month ago or any appointments with hospital staff that, as a result of Covid-19, took place online or by telephone. These are hospital appointments where your child DID NOT stay in hospital overnight.

For each reason listed, please tell us if your child has had any outpatient or day patient appointments in a hospital by selecting 'Yes' or 'No'. If the answer is 'Yes', please tell us how many appointments in total your child had for each reason since you signed up to the SPARKLE study approximately 1 month ago.

|   | Yes                      | No                       | If yes, please enter the total number of outpatient or day patient appointments your child had in a hospital since you signed up to the SPARKLE study approximately 1 month ago |
|---|--------------------------|--------------------------|---|
| <b>Hospital appointment due to an accident or injury</b>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| <b>Hospital appointment for any other physical health reason. This could include any physical health problems or illnesses but should exclude accidents or injuries reported in the previous question</b> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| <b>Hospital appointment for mental health reasons</b>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |

**5. ACCIDENT AND EMERGENCY**

We would like to know if your child has been to an Accident and Emergency Department (A&E) since you signed up to the SPARKLE study approximately 1 month ago. Please tell us if your child has been to an A&E Department by selecting 'Yes' or 'No'. If the answer is 'Yes', please tell us the total number of times your child visited an A&E Department since you signed up to the SPARKLE study approximately 1 month ago.

|  | <b>Yes</b>               | <b>No</b>                | <b>If yes, please enter the total number of times your child visited an Accident and Emergency Department since you signed up to the SPARKLE study approximately 1 month ago</b> |
|--|--------------------------|--------------------------|--|
| <b>Accident and Emergency Department</b> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |

## 6. AMBULANCE

We would like to know if your child has received any treatment by an ambulance crew or been taken to hospital by an ambulance since you signed up to the SPARKLE study approximately 1 month ago. Please tell us if your child has been treated by someone in an ambulance by selecting 'Yes' or 'No'. If the answer is 'Yes', please tell us the total number of times your child was treated by someone in an ambulance/taken to hospital by ambulance since you signed up to the SPARKLE study approximately 1 month ago.

|   | Yes                      | No                       | If yes, please enter the total number of times your child was treated by an ambulance crew since you signed up to the SPARKLE study approximately 1 month ago |
|---|--------------------------|--------------------------|---|
| <b>Treatment by an ambulance crew including any travel to hospital in the ambulance</b> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |

## 7. MEDICATION

We would like to know if your child has been prescribed any medication for mental health problems since you signed up to the SPARKLE study approximately 1 month ago. For example, this could include medication for depression, anxiety, attention-deficit/hyperactivity disorder (ADHD), behavioural difficulties, sleep disorder, or tics. Please exclude any medication you have bought yourself 'over-the-counter'. Please tell us if your child has been prescribed any medication for mental health problems by selecting 'Yes' or 'No'.

| Yes                      | No                       |
|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |

If the answer is 'Yes', for each category of medication listed below, please tell us if your child has been prescribed any medication since you signed up to the SPARKLE study approximately 1 month ago by selecting 'Yes' or 'No'.

| Medication for:   | Yes                      | No                       |
|---|--------------------------|--------------------------|
| Depression or Anxiety   | <input type="checkbox"/> | <input type="checkbox"/> |
| Attention-Deficit /Hyperactivity Disorder (ADHD), Irritability or Behaviour | <input type="checkbox"/> | <input type="checkbox"/> |
| Sleep disorders   | <input type="checkbox"/> | <input type="checkbox"/> |
| Tics/Tourette's   | <input type="checkbox"/> | <input type="checkbox"/> |

SPARKLE CA-SUS (T2 last month) V1.0 22.03.2021

CA-SUS designed by Sarah Byford at King's College London

For further information please contact:

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# **SPARKLE Child and Adolescent Service Use Schedule (CA-SUS)**

*SPARKLE CA-SUS (T3 last month) V1.0 22.03.2021*

## **USE OF HEALTH, EDUCATION AND SOCIAL CARE SERVICES**

### **INSTRUCTIONS**

It would be helpful for us to know what health, social care or education services your child has used since you last completed these survey questions approximately 1 month ago.

Some of the services listed may not be relevant to your child, but it would still be helpful for us to know this, so please select 'No' if they have not used any of the items listed.

We understand that you may not remember the exact number of appointments your child has attended, but please give us your best guess.

**1. COMMUNITY HEALTH, SOCIAL CARE AND EDUCATION SERVICES**

We would like to know if your child has had any appointments with any health, social care or education professionals or services that took place in the community, at home or at school since you last completed these survey questions approximately 1 month ago. Please include appointments that you had on behalf of your child.

For each professional or service listed, please tell us if your child (or you on behalf of the child) had any appointments by selecting 'Yes' or 'No'. If the answer is 'Yes', please tell us how many appointments in total your child (or you on behalf of the child) had with each professional or service since you last completed these survey questions approximately 1 month ago.

Please include all appointments, whether they took place face-to-face, by telephone or online by video conference.

|  | Yes                      | No                       | If yes, please enter the total number of appointments your child (or you on behalf of your child) since you last completed these survey questions approximately 1 month ago |
|--|--------------------------|--------------------------|---|
| General practitioner (GP)  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Practice nurse (a nurse based in a GP surgery)   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Any other nurse in the community, for example a school nurse or health visitor   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Community paediatrician (a doctor in a child health centre)  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Any mental health worker, for example a CAMHS worker or a psychiatrist   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Any therapist providing 'talking therapy' (for example a counsellor, clinical psychologist or family therapist) in the community, at home or in school. Please exclude any mental health worker contacts from the previous question. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Any speech & language therapist in the community, at home or in school   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Social worker, social services youth worker or family support worker   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Any helpline or advice service, for example the Samaritans, MIND, Childline  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Educational psychologist   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |

**Special Education Needs Co-ordinator –  
SENCO**

## 2. PARENT TRAINING AND PARENT SUPPORT SERVICES

We would like to know if you or another parent/carer have attended any parent training classes (for example, Incredible Years Parent Training, Triple P, 1-2-3 Magic, Empowering Parents, Empowering Communities) or any parent support services since you last completed these survey questions approximately 1 month ago.

For each service listed below, please tell us if you or another parent/carer have attended the service by selecting 'Yes' or 'No'. If the answer is 'Yes', please tell us how many contacts in total you or another parent/carer had with each service since you last completed these survey questions approximately 1 month ago.

Please include all sessions, whether they took place face-to-face, by telephone or online by video conference.

**If you received access to Parent Positive, please DO NOT INCLUDE YOUR USAGE OF THIS.**

|  | Yes                      | No                       | If yes, please enter the total number of contacts you or another parent/carer had in total since you last completed these survey questions approximately 1 month ago |
|--|--------------------------|--------------------------|--|
| Parent training classes (for example, Incredible Years Parent Training, Triple P, 1-2-3 Magic, Empowering Parents, Empowering Communities) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| Parent support group   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |

### 3. HOSPITAL SERVICES INVOLVING AN OVERNIGHT STAY

We would like to know if your child has stayed overnight in hospital since you last completed these survey questions approximately 1 month ago. For each reason listed, please tell us if your child has stayed overnight in hospital for this reason by selecting 'Yes' or 'No'. If the answer is 'Yes', please tell us how many nights in total your child has stayed overnight in hospital for this reason since you last completed these survey questions approximately 1 month ago.

If your child had overnight stays in a hospital on more than one occasion for the same reason, please report the total number of nights for all occasions.

| Reason  | Yes                      | No                       | If yes, please enter the total number of nights your child stayed in hospital for this reason since you last completed these survey questions approximately 1 month ago |
|---|--------------------------|--------------------------|---|
| <b>Overnight stay in hospital due to an accident or injury</b>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| <b>Overnight stay in hospital for any other physical health reason. This could include any physical health problems or illnesses but should exclude accidents or injuries reported in the previous question</b> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| <b>Overnight stay in hospital for mental health reasons</b>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |

**4. HOSPITAL SERVICES THAT DID NOT INVOLVE AN OVERNIGHT STAY**

We would like to know if your child has had any outpatient or day patient appointments in a hospital since you last completed these survey questions approximately 1 month ago or any appointments with hospital staff that, as a result of Covid-19, took place online or by telephone. These are hospital appointments where your child DID NOT stay in hospital overnight.

For each reason listed, please tell us if your child has had any outpatient or day patient appointments in a hospital by selecting 'Yes' or 'No'. If the answer is 'Yes', please tell us how many appointments in total your child had for each reason since you last completed these survey questions approximately 1 month ago.

|   | Yes                      | No                       | If yes, please enter the total number of outpatient or day patient appointments your child had in a hospital since you last completed these survey questions approximately 1 month ago |
|---|--------------------------|--------------------------|--|
| <b>Hospital appointment due to an accident or injury</b>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| <b>Hospital appointment for any other physical health reason. This could include any physical health problems or illnesses but should exclude accidents or injuries reported in the previous question</b> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |
| <b>Hospital appointment for mental health reasons</b>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |

**5. ACCIDENT AND EMERGENCY**

We would like to know if your child has been to an Accident and Emergency Department (A&E) since you last completed these survey questions approximately 1 month ago. Please tell us if your child has been to an A&E Department by selecting 'Yes' or 'No'. If the answer is 'Yes', please tell us the total number of times your child visited an A&E Department since you last completed these survey questions approximately 1 month ago.

|  | <b>Yes</b>               | <b>No</b>                | <b>If yes, please enter the total number of times your child visited an Accident and Emergency Department since you last completed these survey questions approximately 1 month ago</b> |
|--|--------------------------|--------------------------|---|
| <b>Accident and Emergency Department</b> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |

## 6. AMBULANCE

We would like to know if your child has received any treatment by an ambulance crew or been taken to hospital by an ambulance since you last completed these survey questions approximately 1 month ago. Please tell us if your child has been treated by someone in an ambulance by selecting 'Yes' or 'No'. If the answer is 'Yes', please tell us the total number of times your child was treated by someone in an ambulance/taken to hospital by ambulance since you last completed these survey questions approximately 1 month ago.

|   | Yes                      | No                       | If yes, please enter the total number of times your child was treated by an ambulance crew since you last completed these survey questions approximately 1 month ago |
|---|--------------------------|--------------------------|--|
| <b>Treatment by an ambulance crew including any travel to hospital in the ambulance</b> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |



## 7. MEDICATION

We would like to know if your child has been prescribed any medication for mental health problems since you last completed these survey questions approximately 1 month ago. For example, this could include medication for depression, anxiety, attention-deficit/hyperactivity disorder (ADHD), behavioural difficulties, sleep disorder, or tics. Please exclude any medication you have bought yourself 'over-the-counter'. Please tell us if your child has been prescribed any medication for mental health problems by selecting 'Yes' or 'No'.

| Yes                      | No                       |
|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |

If the answer is 'Yes', for each category of medication listed below, please tell us if your child has been prescribed any medication since you last completed these survey questions approximately 1 month ago by selecting 'Yes' or 'No'.

| Medication for:   | Yes                      | No                       |
|---|--------------------------|--------------------------|
| Depression or Anxiety   | <input type="checkbox"/> | <input type="checkbox"/> |
| Attention-Deficit /Hyperactivity Disorder (ADHD), Irritability or Behaviour | <input type="checkbox"/> | <input type="checkbox"/> |
| Sleep disorders   | <input type="checkbox"/> | <input type="checkbox"/> |
| Tics/Tourette's   | <input type="checkbox"/> | <input type="checkbox"/> |

SPARKLE CA-SUS (T3 last month) V1.0 22.03.2021

CA-SUS designed by Sarah Byford at King's College London

For further information please contact:

King's Health Economics

Institute of Psychiatry, Psychology & Neuroscience

King's College London

De Crespigny Park

London SE5 8AF

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# **SPARKLE Child and Adolescent Service Use Schedule (CA-SUS)**

*SPARKLE CA-SUS (T3 last 2 months) V1.0 22.03.2021*

## **USE OF HEALTH, EDUCATION AND SOCIAL CARE SERVICES**

### **INSTRUCTIONS**

It would be helpful for us to know what health, social care or education services your child has used since you signed up to the SPARKLE study approximately 2 months ago.

Some of the services listed may not be relevant to your child, but it would still be helpful for us to know this, so please select 'No' if they have not used any of the items listed.

We understand that you may not remember the exact number of appointments your child has attended, but please give us your best guess.

**1. COMMUNITY HEALTH, SOCIAL CARE AND EDUCATION SERVICES**

We would like to know if your child has had any appointments with any health, social care or education professionals or services that took place in the community, at home or at school since you signed up to the SPARKLE study approximately 2 months ago. Please include appointments that you had on behalf of your child.

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Please include all appointments, whether they took place face-to-face, by telephone or online by video conference.

|  | Yes                      | No                       | If yes, please enter the total number of appointments your child (or you on behalf of your child) had since you signed up to the SPARKLE study approximately 2 months ago |
|--|--------------------------|--------------------------|---|
| General practitioner (GP)  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Practice nurse (a nurse based in a GP surgery)   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Any other nurse in the community, for example a school nurse or health visitor   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Community paediatrician (a doctor in a child health centre)  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Any mental health worker, for example a CAMHS worker or a psychiatrist   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Any therapist providing 'talking therapy' (for example a counsellor, clinical psychologist or family therapist) in the community, at home or in school. Please exclude any mental health worker contacts from the previous question. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Any speech & language therapist in the community, at home or in school   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Social worker, social services youth worker or family support worker   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| Any helpline or advice service, for example the Samaritans, MIND, Childline  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |

**Educational psychologist**

**Special Education Needs Co-ordinator –  
SENCO**

## **2. PARENT TRAINING AND PARENT SUPPORT SERVICES**

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**If you received access to Parent Positive, please DO NOT INCLUDE YOUR USAGE OF THIS.**

|   | <b>Yes</b>               | <b>No</b>                | <b>If yes, please enter the total number of contacts you or another parent/carer had in total since you signed up to the SPARKLE study approximately 2 months ago</b> |
|---|--------------------------|--------------------------|---|
| <b>Parent training classes (for example, Incredible Years Parent Training, Triple P, 1-2-3 Magic, Empowering Parents, Empowering Communities)</b> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |
| <b>Parent support group</b>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |

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| <b>Accident and Emergency Department</b> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>  |



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|  | Yes                      | No                       | If yes, please enter the total number of times your child was treated by an ambulance crew since you signed up to the SPARKLE study approximately 2 months ago |
|--|--------------------------|--------------------------|--|
| Treatment by an ambulance crew including any travel to hospital in the ambulance | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/>   |

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| Yes                      | No                       |
|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |

If the answer is 'Yes', for each category of medication listed below, please tell us if your child has been prescribed any medication since you signed up to the SPARKLE study approximately 2 months ago by selecting 'Yes' or 'No'.

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| Tics/Tourette's   | <input type="checkbox"/> | <input type="checkbox"/> |

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