Manuscript version: Working paper (or pre-print)
The version presented here is a Working Paper (or ‘pre-print’) that may be later published elsewhere.

Persistent WRAP URL:
http://wrap.warwick.ac.uk/134489

How to cite:
Please refer to the repository item page, detailed above, for the most recent bibliographic citation information. If a published version is known of, the repository item page linked to above, will contain details on accessing it.

Copyright and reuse:
The Warwick Research Archive Portal (WRAP) makes this work by researchers of the University of Warwick available open access under the following conditions.

Copyright © and all moral rights to the version of the paper presented here belong to the individual author(s) and/or other copyright owners. To the extent reasonable and practicable the material made available in WRAP has been checked for eligibility before being made available.

Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge. Provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.

Publisher’s statement:
Please refer to the repository item page, publisher’s statement section, for further information.

For more information, please contact the WRAP Team at: wrap@warwick.ac.uk.
RESEARCH PROTOCOL

For NHS Ethics

A new mental health 0-19 crisis service model for Children and Young People (CYP), and its effectiveness in promoting recovery, resilience and prevention of future mental health crises

Short title: The 0-19 model and its crisis service
Date: 13th of March, 2019

Version: 3.2

PhD Student: Frane Vusio

Investigation Team Contact Details:

Chief Investigators:

- **Dr Maximillian Birchwood** – University of Warwick
  m.j.birchwood@warwick.ac.uk
- **Dr Andrew D. Thompson** – University of Warwick
  andrew.d.thompson@warwick.ac.uk

PhD Student:

- **Frane Vusio** – the University of Warwick and NHS Solar Services Solihull
  F.Vusio@warwick.ac.uk
  frane.vusio@nhs.net

Local Collaborators:

- **Elaine Murray** – Solar Service
  elaine.murray5@nhs.net
- **Stephen Harrison** – Solar Service
  stephen.harrison10@nhs.net
Contents

2. Lay Summary: ........................................................................................................................................6
3. Background: ........................................................................................................................................7
  3.1. Children and Youth Mental Health - the United Kingdom context ..............................................7
  3.2. National context for CYP mental health provision and crisis care ...............................................8
  3.3 The Solihull context: Demographics and Diversity ........................................................................9
  3.4 The 0-19 Mental (Solar) Health Service Model ..............................................................................10
  3.5 Solar and its primary aims .............................................................................................................11
  3.6. Crisis care within the 0-19 model ..................................................................................................12
  3.7 Identified Gaps in the current literature ..........................................................................................13
    3.7.1 Experience of CYP navigating the mental health crisis services .............................................13
    3.7.2 Relapse and rates of the resilience of children and young people after being discharged from crisis services .........................................................................................................................13
    3.7.3 Scarce number of studies reporting progress with implementation of recommendation by the FIM and Five Year Forward View ...........................................................................14
    3.7.4 Lack of research evidence of the effectiveness of crisis mental health services ..................14
    3.7.5 Effectiveness and appropriateness of mental health crisis treatment ....................................14
4. Purpose of proposed research ............................................................................................................14
5. Research Aims and Objectives ..........................................................................................................15
6. Work Package for the proposed PhD project ..................................................................................16
  6.1 Work package (Qualitative and Quantitative prospective study) ...................................................16
    6.1.1 Overview of Qualitative methodology ....................................................................................16
    6.1.2 Overview of Quantitative methodology ................................................................................17
    6.1.3 Work package analysis ........................................................................................................17
  6.2 Participants commitment (Qualitative segment) throughout WP 2 and 3 .....................................18
7. A quantitative segment of the project - Recovery of CYP post-discharge (ReQuest) ...................18
  7.1 Participant inclusion criteria ..........................................................................................................19
  7.2 Participant recruitment ..................................................................................................................19
7.3 ReQuest outcome measure analysis ................................................................. 21
7.4 Dealing with Missing data .................................................................................. 22
8. A qualitative segment of the project ..................................................................... 22
  8.1 Baseline Interview ............................................................................................... 23
    8.1.1 Sampling ...................................................................................................... 23
    8.1.2 Recruitment ................................................................................................. 24
    8.1.3 Procedure (Data Collection) ....................................................................... 25
    8.1.4 Data Analysis .............................................................................................. 25
  8.2 Semi-Structured Interviews ................................................................................. 27
    8.2.1 Sampling ...................................................................................................... 28
    8.2.2 Recruitment ................................................................................................. 28
    8.2.3 Setting ......................................................................................................... 29
    8.2.4 Data Collection (Procedure) ....................................................................... 29
    8.2.5 Data Analysis of Semi-Structure interviews ............................................... 29
    8.2.6 Thematic analysis approach ...................................................................... 30
  8.3 Telephone Interview with Parents/Carers .......................................................... 31
    8.3.1 Recruitment ................................................................................................. 32
    8.3.2 Participant inclusion criteria ...................................................................... 33
    8.3.3 Telephone Interview analysis .................................................................... 33
9. Triangulation of analysed data ................................................................................. 33
  9.1. Triangulation between qualitative and quantitative data .................................. 33
10. Ethics and permission for conducting a research project .................................... 34
  10.1 Ethical considerations ...................................................................................... 35
  10.2 Consultations with the Solar Service ............................................................... 36
11. Data protection and quality assurance .................................................................. 36
  11.1 Data Storage and Data Security ..................................................................... 37
  11.2 Participant right to withdraw from the research project .................................. 38
12. Lone working and Researcher safety .................................................................... 38

Edgbaston Research Ethics Committee
REC ref. 19/WM/0018
Protocol number: SC.06/18-19
IRAS Project ID: 253272
V3.2| 13th of March, 2019
13. PhD Financial information ..................................................................................................39
14. Cost projections ..................................................................................................................39
  14.1 Projections of Transcription costs ................................................................................40
  14.2 Projections of Total Costs ............................................................................................41
15. Dissemination .......................................................................................................................42
16. References ............................................................................................................................42

List of figures

Figure 1 - Summary of the proposed Research Project ..........................................................17
Figure 2 – The ReQuest outcome measure administration summary ....................................21
Figure 3 - Overview of Qualitative methodology for the proposed project .........................22
Figure 4 - Semi-Structural Interview cycle (Adopted from Van Teijlingen, 2014) ...............28
Figure 5 - Randomisation of participants using randomizer.org .........................................32

List of tables

Table 1- Participants commitment for WP 2 and 3 .................................................................18
Table 2 - The ReQuest YP/PYP participant’s inclusion criteria ...........................................19
Table 3 - Participant Inclusion Criteria ..................................................................................24
Table 4 - Summary of IPA analysis .......................................................................................27
Table 5 – the Predicted number of participants for the Semi-Structure .................................28
Table 6 - Participants Inclusion criteria (Qualitative segment) .............................................29
Table 7 - Parent or Carer Inclusion criteria for a Telephone interview (Post-discharge) .......33
Table 8- Project cost projection ..............................................................................................40
Table 9 - Transcription costs for the project ..........................................................................40
Table 10 - Remaining budget .................................................................................................41
Table 11 - Overall project cost projections ............................................................................41
1. Title of Research Study:

A new mental health 0-19 crisis service model for Children and Young People (CYP), and it is effective in promoting recovery, and resilience by preventing a future mental health crisis

2. Lay Summary:

At the moment, up to 10% of children and young people (CYP) in the UK are suffering from some form of ill mental health. The untreated or undiagnosed mental health condition in childhood or adolescence can further escalate and become a lifelong chronic condition in adulthood. Therefore, early intervention and prevention, alongside with appropriate mental health crisis service, play a pivotal role in maintaining the mental health of CYP, so that CYP can grow into healthy adults. Currently, mental health crisis services are a relatively new area of mental health provision, which remains insufficiently investigated. This is particularly visible in mental health crisis services for CYP, with visible gaps within existing knowledge. Still, it is unclear to us, what available models of crisis provision are available for CYP; what are their effectiveness and efficiency; what are appropriate treatments for treating CYP in the crisis; how good are these models in developing resilience, recovery and preventing future relapse of a mental health crisis for CYP. Most importantly, there is a gap with research in a mental health crisis for CYP that evaluates available models using sound methodological and empirical approaches.

In order to fill those gaps, the current project will use the newly created 0-19 model and its crisis service, as a unique model, which is stepping out from the regular CAMHS form of service. The 0-19 model is fully transformed, according to the recommendation of the Future in Mind, Five Year Forward View for Mental Health and other policies, and as such is based on integrated service, made in partnership with both statutory and voluntary organisations.

The currently proposed research project has main aim to understand the impact of the 0-19 model and its crisis service on the CYP age 0-19, their parents and carers and range of stakeholders across a range of service settings and types. The current PhD project proposes a mixed methods approach to guide this research, as this methodology would allow us to understand how much 0-19 model’s crisis service is helping CYP with developing resilience and developing self-management needed to early recognise and prevent future crises, as
well as the extent of recovery that CYP experiences post-discharge from 0-19 crisis service. Besides, the currently proposed methodology would acknowledge both CYP and parental experiences of engagement, their perspectives, as well as their satisfaction with current crisis service provision. It is also important to acknowledge the community perspective, as the 0-19 model and its crisis service are part of the community and as such, classified as community mental health service. Therefore, it is important to understand how much current 0-19 model and its crisis service are accepted in their community, and how much they contribute to the community. These views from different stakeholders can help to develop further and improve the current 0-19 model and its crisis service. The findings from this research project may inform local and national policymakers and related services in the development of similar and future crisis interventions for CYP.

3. Background:

3.1. Children and Youth Mental Health - the United Kingdom context

Last conducted survey in the United Kingdom on the child and youth prevalence of mental health disorder showed that every one out of the ten children or young people (CYP) are suffering from some mental health issue (Office for National Statistics 2005; Longfield and Lennon, 2017). Furthermore, evidence from a study conducted in 2005 indicated that 50% of the adult population manifested mental health difficulties before reaching the age of 14, while 75% manifested some mental health disorder by the age of 24 (Kessler et al., 2005). Since 2005, more evidence supports the notion that adult mental health issues stem from untreated and undiagnosed mental health issues that could have roots in childhood and adolescence (Green et al., 2005; Merikangas, Nakamura and Kessler, 2009). Therefore, early intervention has the potential for prevention of not just mental health crisis in young people, but also a reduction in expensive and longer-term mental health disorders that could develop in youth and persist into to the full adulthood.

On the other hand, the provision of existing services may be seen as outdated (Wilson et al., 2017), a rigid and unattractive provision that is unable to meet children and young people’s more complex needs (Gulliver, Griffiths and Christensen, 2010). Additionally, there are numerous barriers to CYP access to existing services, such as long waiting lists, which adversely impacts CYP mental health and the help-seeking behaviour process (Anderson, Steen and Stavropoulos, 2017; Clement et al., 2015; Gondek et al., 2016; Reardon et al., 2017; Hodgekins et al., 2017). Besides, complex pathways of care and ineffective
transition models from CAMHS to Adult mental health services (AMHS) produce difficult and often unpleasant experiences for young people (Paul, Street, Wheeler and Singh, 2015) which also could contribute towards barriers to access (Bhugra, Harding and Lippett, 2004), affecting further engagement with mental health services and resulting in more substantial needs for crisis intervention (Compton, 2005; Waddell, Shepherd, Schwartz and Barican, 2014; House of Commons, Health Committee, 2014-2015).

3.2. The national context for CYP mental health provision and crisis care

The House of Commons Health Committee for children and an adolescent mental health report showed how serious are existing problems with the provision of CYP mental health services in England (House of Commons, Health Committee, 2014-2015). The report identified problems that are ranging from poorly planned and executed transitions of young people from CAMHS to AMHS, along with waiting list that further deterioration of mental health of CYP, issues with access to CAMHS and inadequate data collection and management (House of Commons, Health Committee, 2014-2015).

This report was backed up by the publication of the Future in mind that set in motion changes needed to tackle current problems with CYP mental health provision, through the transformation of existing services that could help to improve the current state of CYP Mental health provision within the United Kingdom (Department of Health & NHS England, 2015). This led NHS England to adopt ‘Five Year Forward View for Mental Health’ the transformation plan for existing services that would reshape their provision so that services would be both efficient and effective CYP mental health service with timely access to evidence-based practice (NHS England, 2016). As a result, services will be integrated mental health providers, with early intervention, and prevention, and provision of mental health care in the stigma-free environment (NHS England, 2016).

Besides, recently publish Green paper, is the present government response to more evident issues with CYP mental health and its provision (Department of Health, 2017). The main highlights of this document are proposed changes within areas of achieving shorter waiting time. Waiting times, according to the green paper, should be up to 4 weeks maximum for CYP (Department of Health, 2017). Furthermore, the document also indicated that improvement of mental health provision for young people 16-25 years old is much needed, along with an emphasis on the prevention of mental health, an increase in support both for CYP and their families, and much higher involvement of educational
institution with regards to mental health (Department of Health, 2017). However, the current document is just a starting point of much-needed change, which according to British Psychological Society is late and surely not enough response to more urgent pressing issues with current funding and state of CYP mental health provision (British Psychological Society, 2017).

3.3 The Solihull context: Demographics and Diversity

According to the statistical data from 2016, it is estimated that 62,600 CYP age 0-19 residing in the Solihull borough, while 53,600 of those are 0-18 years old are registered at Solihull GP practices (Solihull Council and CCG, 2015). Besides, 29% of children and young people age 0-19 is evident in Northern parts of the Solihull Borough, in comparison to other parts of the Borough which constitute 23% of children and young people same age range (Solihull Council and CCG, 2015). However, future predictions by the council are estimating an increase in the number of CYP by 4% up to 2021, with a more significant increase of 1400 children age 10-14 (Solihull Council and CCG, 2017).

Furthermore, Solihull experienced in the last ten years and the increase in numbers of black and minority ethnic background children and young people. According to official statistics, 15% of children and adolescents aged 15 and under are from black and ethnic minority (BME) groups in the Solihull Borough (Solihull Observatory, 2017). There is a large pool of research evidence stating that young people who are coming from BME backgrounds are less likely to engage with mental health services (Plaistow et al., 2014). Even if they are engaged, the majority of BME will have limited engagement with the existing provision, drop out from the treatment, becoming part of ‘Did not attend’ (DNA) statistics or have poorer treatment outcomes in comparison with their white peers (Brimblecombe et al., 2015). This is evident in particular due to existing barriers to access, such as fear of stigma, the influence of their own culture, lack of conversational knowledge of English and particular cultural norms (Kessler et al., 2002).

Also, the inequality gap is evident in parts of Solihull, especially between North parts which are undergoing regeneration, in comparison to the rest of the Solihull borough (Solihull Council and CCG, 2015, 2016 and 2017). An official Solihull borough statistics is estimating that 1 out of 6 children lives in relative poverty (Solihull Council and CCG, 2015). This is particularly important, as socioeconomic factors such as inequality, growing up in
deprivation and disadvantaged background can have discernible effects on children and young people mental health (Dogra, Singh, Svirydzenka and Vostanis, 2012).

### 3.4 The 0-19 Mental (Solar) Health Service Model

In April 2015, the new 0-19 model was commissioned, replacing the previous Solihull CAMHS service model 0-17 run by the Heart of England Foundation Trust (Solihull Council and CCG, 2015). In the previous model of care, the gap between services was evident as CAMHS provided a service till seventeen years, while the adult service provided a service from eighteen years onwards (Solihull Council and CCG, 2015). On the other hand, with the implementation of the new 0-19 model of service provision, young people will transition to adult services at the right time for them, with the transition being more guided by need and not by age, as recommended by Future in Mind (Department of Health, 2015).

Furthermore, the recommendation made by Future in Mind and ‘Five years forward plan’ also helped to shape and form the local transformation plan. The Solihull local transformation plan helped the 0-19 model to transform its service provision from an outdated CAMHS service into a new model of care (Solihull Council and CCG, 2015, 2016 and 2017). This would not be possible without the partnership with Barnardo’s, who took the important role of providing primary mental health services, alongside the Birmingham and Solihull Mental Health Foundation Trust, which started to run specialist and crisis services at Solar (Solihull Council and CCG, 2016).

In 2017 this new model of children and young people (CYP) provision progressed into a ‘service without tier system,’ while merging primary care mental health services with specialist community CYP mental health services into a single point of access (Solihull Council and CCG, 2017). This has allowed children and young people not only to be referred to the health system but also to self-refer.

To establish the impact of its service, 0-19 model started to electronically record outcome measures into its IT system, RIO, from 2017 (Solihull Council and CCG, 2017). The analysis of these data could help to inform the service about the quality of care they are providing but also inform patients about the quality of care they receive.

Creation of new model 0-19 of service provision has an opportunity to contribute towards the continuation of the transformation of the current provision of CYP mental health
provision, as well as meeting Health Committee House of Commons recommendations (2014-2015). These recommendations are emphasising early detection and early intervention, along with the improvement of access to treatments and engagement of both children, young people and their families (House of Commons, Health Committee, and 2014-2015).

3.5 Solar and its primary aims

The first primary aim of the 0-19 model (Solar service) is to meet the unmet mental health and emotional needs of children and young people while providing support to them throughout their use of the service (NHS England, 2014/2015). This journey starts with (self) referral and ends up when children and young people are ready to leave the service.

The second primary aim of the 0-19 model is to provide focused children and family care that is compassionate and provided in a stigma-free environment, which will promote their recovery and prevent the reoccurrence of mental health issues (Solihull Council and CCG, 2015). Furthermore, the third primary aim is to provide parents and carers with much-needed support, aiding them in understanding their children’s mental health and emotional needs and behaviours (Solihull Council and CCG, 2017; NHS England, 2014/2015).

In addition to this, the fourth aim focuses on creating more timely access to information and services for families and practitioners (NHS England, 2014/2015). The last fifth aim is to place a focus on creating and strengthening ties with schools and primary care settings to identify and provide support to children and young people with mental health issues (Solihull Council and CCG, 2015). Besides developing its primary aims, Solar also devised a series of 17 primary objectives which should guide the service operation until 2020 (NHS England, 2014/2015).

The implementation of the 0-19 model, its aims, impact, and outcomes are essential not just for international and national interest, but more importantly local interests. The 0-19 model will justify its commission only if it is capable of doing what is intended, to ensure positive changes with regards to mental health and well-being to local children and young people and communities that 0-19 model is serving.
3.6. Crisis care within the 0-19 model

The 0-19 model is following recommendations made by The Future in Mind with regards to the provision of mental health crisis care. According to Future in Mind, it is essential that children and young people who are experiencing mental health crisis receive adequate support or intervention according to the recommendation made by the Crisis Concordat (Department of Health, 2015; Department of Health and Concordat signatories, 2014). This also includes the provision of out-of-hour’s mental health service along with providing the rapid and full assessment of CYP mental health crisis (Department of Health, 2015).

The 0-19 model implemented Provision of the single point of access (SPOA), a defined acute and crisis care pathway with an emergency out of hours support and intensive community services to pre-empt hospital admission back in 2015 when the 0-19 model was officially commissioned (Solihull Council and CCG, 2015). The Single Point of Access (SPOA) was directing all new referrals for the same day and urgent (needing assessment within 1-7 working days) assessments to the Intensive Community Outreach Service (ICOS). In that time, the ICOS was managing all CYP presenting in crisis and was delivering the acute and crisis pathway of the service to facilitate easier access to services for distressed children and young people and their families (Solihull Council and CCG, 2015). The Integrated ICOS team had four main functions. It provided a Rapid Response for urgent assessments, delivered brief Crisis Interventions and long-term intensive Outreach Support and facilitated Stepped Transition providing a virtual ward experience in the community and gatekeeping inpatient admissions (Solihull Council and CCG, 2015).

During the 2015/2016, on average 1-2 children and young people (63 in total) have experienced a mental health crisis each week, both within and out of working hours (Solihull Council and CCG, 2016). The ICOS provided a service between 9 am - 5 pm, Monday to Friday. Outside of these hours children and young people were presented directly to A&E and if required were admitted to a paediatric ward, where they would be seen by the 0-19 model’s crisis service staff next working day (Solihull Council and CCG, 2016).

Solihull Together for Better Lives, one of eight Urgent and Emergency Care Vanguard sites, has been awarded funding (£482,530) to implement an accelerator project to improve children and young people’s mental health in a crisis (Solihull Council and CCG, 2016). Therefore, today there is a visible improvement in the provision of crisis care, in
comparison when the service was run by the ICOS team back in 2015 (Solihull Council and CCG, 2016).

Currently, the crisis service is a member of the Vanguard Urgent and Crisis service model, operating daily from 8 a.m. to 8 p.m., including weekends (Solihull Council and CCG, 2017). CYP, who experience mental health crisis are triaged within one hour of referral, while an assessment is completed within 4 hours, as recommended by Crisis Concordat (Department of Health and Concordat signatories, 2014). Besides, outside of the working hours CYP are seen directly by A&E staff, and if required can be admitted to a paediatric ward. However, CYP must be seen the next working day by a member of the 0-19 model and its crisis service. At the moment, the duty crisis line is currently staffed by a clinician from 9-5, Monday to Friday, while outside of these time, calls are transferred to the central switchboard (Solihull Council and CCG, 2017).

Further plans for developing crisis service include more coverage for the crisis line to be managed by a skilled clinician from 8 a.m. to 8 p.m., seven days a week. Furthermore, development of a range of support available to CYP by supplementing the skills of the existing team with an occupational therapist and joint work with “Forward Thinking Birmingham” to cover out of hours crisis service and crisis care(Solihull Council and CCG, 2017).

3.7 Identified Gaps in the current literature
3.7.1 Experience of CYP navigating the mental health crisis services
It is also important to mention that there is an existing gap in the UK, with no published research, which specifically addresses the experiences of CYP, and their parent/carers, travelling through crisis services, from the point of referral to the point of discharge from the mental health crisis services.

3.7.2 Relapse and rates of the resilience of children and young people after being discharged from crisis services
There is a lack of research evidence with regards to recovery and relapse within either CYP or adult populations after discharge from mental health crisis services (Paton.et. al, 2016). There is a need for models of prevention of relapse, specially designed for CYP after they are discharged from crisis services. Moreover, there is a gap in quantitative/qualitative research which addresses relapse and rates of the resilience of CYP after being discharged from the crisis services. As stated in the study by Werbeloff et al. (2017), the majority of
literature on the topic of relapse and re-admission of patients in mental health crisis back into the service is from acute and psychiatric admissions for the adult population.

3.7.3 Scarce number of studies reporting progress with implementation of recommendation by the FIM and Five Year Forward View.
There are currently no empirical studies that investigate the implementation of recommendations from the FIM and Five Year Forward plan and how their recommendations are working in everyday practice. Furthermore, this project could show how much-existing services are capable of delivering desired outcomes as initially proposed by the FIM.

3.7.4 Lack of research evidence of the effectiveness of crisis mental health services
The currently proposed project would make a significant contribution to the research pool, as there is an insufficient number of published and methodologically led research from existing crisis services for CYP.

3.7.5 Effectiveness and appropriateness of mental health crisis treatment
Finally, as the crisis models for CYP are predominately created as transformed versions of the adult crisis models, we still don’t have a clear understanding how much existing crisis intervention and crisis treatments are appropriate and helpful specifically for CYP. There is quite limited evidence from the literature that examines the effectiveness and appropriateness of the crisis interventions applied to CYP population.

4. Purpose of the proposed research

The purpose of this proposed research project is to understand the impact of the 0-19 model and its crisis service on the CYP age 0-19, their parents and carers, and range of stakeholders across different service settings and types. The current PhD project proposes a mixed-methods approach to guide this research project, as this methodology would allow us to capture both CYP and parental experiences of engagement, their perspectives, as well as the satisfaction of service users, their families and community stakeholders with current crisis service provision. Moreover, the proposed methodological approach has the potential to understand how effective, and clinically efficient a 0-19 crisis service is. The proposed research project will complement a systematic review which is currently in progress, and that aims to synthesise available alternatives to inpatient/acute setting and their effectiveness.
The findings from this research project will be used to inform current and future mental health services and practices for CYP, and contribute towards much-needed support for similar research in nation-wide research project s of similar CYP mental health crisis models. Furthermore, findings from this research project will inform the 0-19 model and its crisis service on the part of the provision that may require additional improvement to meet the continually evolving needs of their service users. This research protocol outlines the proposed research methodology for the 0-19 model and its crisis service in Solihull.

5. Research Aims and Objectives

The main aims of this proposed project are to:

Aim 1) To assess the accessibility, acceptability and effectiveness of the crisis pathway in the 0-19 model.

Objectives:
- Understand and describe experiences of CYP and their mental health crisis from the first symptoms and acceptance to crisis service all the way post discharge from the crisis service.
- Ascertain the accessibility and acceptability to users of the crisis service.
- Understand the interactions between the 0-19 crisis team and acute inpatient services.
- Understand the impact that 0-19 crisis service has on the local community.
- To establish is the 0-19 model accessible and acceptable to the range of community stakeholders.
- Investigate the recovery and resilience of CYP going through the crisis pathways in the 0-19 model.
- Investigate overall patient/parental satisfaction with 0-19 crisis provision

Research questions:
- How effective, accessible and acceptable is the crisis provision of the 0-19 model for children and young people and their parents?
  - Is 0-19 crisis model effective in reducing A&E and acute admissions or out of area placements?
  - What impact the 0-19 crisis service model has on the local community?
- Is the 0-19 crisis service model successful at improving recovery and resilience of children and young people, six months after their discharge from the service?
  o How effective is the 0-19 crisis model in reducing relapse rates of children and young people post discharge?
  o How effective is the 0-19 crisis pathway to admission for children and young people?

6. Work Package for the proposed PhD project

The work package is designed to gain a more in-depth understanding of experiences with 0-19 model and its crisis service from a range of community stakeholders, as well as to investigate service effectiveness and performance of 0-19 crisis service. Lastly, the work package will analyse obtained data, with a focus on the interpretation of analysis and focus on thesis writing.

6.1 Work package (Qualitative and Quantitative prospective study)

The WP will have a predominant focus on the 0-19 models crisis service, in order to understand how much 0-19 model’s crisis service is helping CYP with developing resilience and developing self-management needed to early recognise and prevent future crises, as well as the extent of recovery that CYP experiences post-discharge from 0-19 crisis service. In addition, a range of qualitative research will be done with the range of community stakeholders in order to establish what impact the 0-19 crisis service model has on its local community. This overall package will be done using the mixed methodology.

6.1.1 Overview of Qualitative methodology

Baseline interviews will be conducted with CYP and their parents in order to establish overall experience and satisfaction from the point of referral to the crisis service to the point of their discharge and their post-discharge experience. Furthermore, a series of semi-structured interviews will be conducted with community stakeholders, with the aim to establish how much impact on the local community crisis service has. In addition, a short Telephone survey will be administrated to CYP’s parents six months after CYP are discharged from the crisis service. This will allow us to capture the effectiveness of the service in developing resilience, prevention of relapse and post-discharge experience of CYP.
6.1.2 Overview of Quantitative methodology
The Request outcome measure for recovery will be administrated to both CYP and their parents/carers in regular intervals, starting with their discharge (month 0), with the regular administration at month 3 and 6 post discharge.

6.1.3 Work package analysis
Last work package will primarily focus on data analysis and interpretation of findings. Furthermore, triangulation of data, both qualitative and quantitative will take place, as a part of this package. The student will use this work package to focus on thesis writing, as submission date for this PhD project is August 31st, 2020.

![Diagram of the proposed Research Project]

*Figure 1 - Summary of the proposed Research Project*
6.2 Participants commitment (Qualitative segment) throughout WP 2 and 3

<table>
<thead>
<tr>
<th>Interview</th>
<th>No. of times</th>
<th>No of participants</th>
<th>Length</th>
<th>Description</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline interview</td>
<td>10</td>
<td>5 CYP (age 10-19) and 5 parents</td>
<td>~90min</td>
<td>Interviews will be conducted with CYP (and their families) who experienced a mental health crisis in the last three months. Interviews will take place either at the participant’s residence or within the 0-19 model. PhD student will facilitate baseline interviews</td>
<td>To establish a baseline and explore CYP experiences and their carers/parents perspective with regards to 0-19 model and its crisis service</td>
</tr>
<tr>
<td>Semi-structured Interviews with a range of community stakeholders</td>
<td>10</td>
<td>In total up to 10</td>
<td>~45min</td>
<td>PhD student will conduct interviews. These are likely to take place over the phone but if preferred, will take place at either a participant’s place of work or a local venue known to them during working hours with flexibility for early evening interviews</td>
<td>Interviews will be held in order to capture the in-depth perspective of a range of stakeholders with regards to 0-19 mental health crisis model in their area</td>
</tr>
<tr>
<td>Telephone Semi-structured interview with Parents/Carers</td>
<td>30</td>
<td>In total up to 30</td>
<td>~10-15 min</td>
<td>PhD student will conduct telephone interviews with parents and carers of CYP admitted to crisis service.</td>
<td>Interviews will try to understand the parental perception of whether the 0-19 model and its crisis service helped their children to recover from a mental health crisis. Besides, a telephone interview will aim to investigate whether CYP experienced relapse or improvement in their overall mental health post discharge</td>
</tr>
</tbody>
</table>

Table 1- Participants commitment for WP 2 and 3

7. A quantitative segment of the project - Recovery of CYP post-discharge (ReQuest)

In order to establish recovery rates after children and young people are discharged from the crisis service, it is proposed to use a newly developed measure called the ReQuest, developed by the University of Surrey (John et.al, 2015). The ReQuest recovery measure has two distinctive questionnaires, designed to assess the recovery rates in children and young people, and additional measure to establish the rate of CYP recovery perceived by their parents and carers (John et.al. 2015). This recovery outcome measure has shown good psychometric properties, displaying good validity and reliability (John et.al. 2015). As such, this measure of
recovery has the potential for routine administration within CAMHS, and at the moment the ReQuest recovery tool is undergoing a rigorous evaluation within NHS CYP inpatient setting (Bently, University of Manchester, 2017).

“The advantage of utilising recovery-based measures in addition to standardized symptom-based outcome measures is that they may provide a more holistic picture of service effectiveness by capturing dimensions that symptom-focused measures do not” (John et al., 2015)

Also, Quantitative outcome measures are an important part of the research project and quality measurement. However, outcome measures are not sufficient by themselves (Cotgrove, 2018). To see the full picture, it is crucial to combine outcome measures with experiential data, obtained through utilisation of qualitative methodology.

7.1 Participant inclusion criteria

<table>
<thead>
<tr>
<th>Children and Young People</th>
<th>Parents and Carers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accepted to Solar crisis service</td>
<td>Acceptance of their child to crisis service</td>
</tr>
<tr>
<td>Ready to be discharged from the crisis service</td>
<td>Their child is ready to be discharged</td>
</tr>
<tr>
<td>Age 10-19 *</td>
<td>Their child is age 10-19 *</td>
</tr>
<tr>
<td>Treated in the crisis team for depression, anxiety, or suspected cause of the crisis is related to depression, anxiety or co-morbidity</td>
<td>Their children treated for depression or anxiety or suspected cause of the crisis is related to depression, anxiety or co-morbidity</td>
</tr>
<tr>
<td>English language proficiency</td>
<td>Knowledge of English (both verbal or written)</td>
</tr>
<tr>
<td>Solihull resident</td>
<td>Solihull resident</td>
</tr>
<tr>
<td>Every effort will be made to include as much as possible members of BME background</td>
<td>Table 2 - The ReQuest YP/PYP participant’s inclusion criteria</td>
</tr>
</tbody>
</table>

* In the original study (John et al. 2015) there was a small negative correlation (r= .25) between the age of the participant and ReQuest-YP total scores. The authors (John et al. 2015) offered a hypothesis that recovery measures score is a reflection of the maturation process. As the test was conducted only on young people age 10-18, we will not include CYP age 0-10.

7.2 Participant recruitment

The PhD student in cooperation with crisis team leader will together assess what potential individual cases will fit criteria for the ReQuest administration, prior to their discharge from the service. The crisis team leader will generate the sample number without the involvement of
the researchers seeing any details, to make sure that patients’ confidentiality is preserved. Once when the sample size is being formed, the crisis team will inform patients and their parents about research and try connecting them with researchers. If patients/parents are happy to be met with the researcher to learn more about the study, the crisis team will offer ‘expression of interest form that parents/patient will have to sign it. The crisis team will inform the research team how many parents/ patients gave consent to meet with the research team. Before the ReQuest measure is administrated, the PhD student will contact young person parents and present them the ReQuest outcome measure. The PhD student will explain to the patient’s/parent’s overall administration procedure, as well as that administration is required both for a young person and their parent or carer at the same time. The researcher will supply participants of the study with all necessary documentation such as Participant information sheets and consent forms for them to read them over a 24h period. Once when 24h has expired, the researcher will contact participants in order to obtain their consent forms and arrange a date suitable for them to undertake the administration of the ReQuest outcome measures.

Both young person and their parent will be given consent form that will ask them to consent for taking ReQuest outcome measure at discharge phase, and additional administration of ReQuest at time point three- and six-months post-discharge.

All young people age 10-19 who fit inclusion criteria and who consent to participate and are ready to be discharged from the service will be given ReQuest outcome measure, prior to their discharge. Their parents who also gave consent to participate will also be given a copy of the ReQuest PYP that will try to explore the parental perception of their child’s recovery.
For the administration of ReQuest YP/PYP at month 3 and month 6, both parent and young person will be invited to complete the ReQuest in the Solar clinic (model 0-19), as face-to-face invitation likely will increase response rates, but an alternative will be offered in form of online questionnaire that CYP and their parents will be able to access, in case of more convenience to participants. Parent/young person will be compensated for their travel for month 3 and 6 administration of the ReQuest. In case that parent/young person rather prefer that month 3 and 6 administration is taken in their own home, the PhD student will travel to them in order to administrate the ReQuest.

7.3 ReQuest outcome measure analysis
Initially, the ReQuest outcome measures for young people and parents will be compared in order to establish a correlation between reports. This will show us whether there is a positive or negative correlation between ReQuest YP (responses given by young people) and ReQuest PYP (responses given by their parents). In the study John et.al (2015) it is mentioned that there is a strong positive correlation between responses given by CYP and their parents.

For ReQuest outcome measure, paired T-Tests will be performed to compare the outcome measures before and after treatment. A further statistical test will be performed in consultations with supervisor and statistician.
7.4 Dealing with Missing data
All missing data will be treated with imputation if the missing data is not passing more than 50% of the overall sample.

8. A qualitative segment of the project

As it is visible from figure 3, the qualitative methodology will be comprised from the baseline interview that will be conducted with five CYP and their family members and analysed by Interpretative Phenomenological approach (IPA). Baseline interviews will provide a comprehensive understanding of what are experiences of CYP and their families of accessing and travelling through the 0-19 model and its crisis service from the point of their referral to
the point of their discharge from the crisis service, as well as post-discharge experience. Lastly, a post-discharge telephone survey will be created, based on previous qualitative interviews and administrated to parents of CYP who are recently discharged from the 0-19 model crisis service. The justification for the use of proposed qualitative methods, description of qualitative methodologies and their analysis is presented in upcoming sections.

8.1 Baseline Interview
An initial small number of interviews should be conducted with CYP and their parents, using the Interpretive Phenomenological Analysis (IPA) in the analysis of baseline interviews. The IPA (Smith and Osborn, 2007) has well documented methodological value in achieving a richness and an in-depth understanding of patients/carers experiences (McCann, Lubmann, and Clark, 2011). Furthermore, the IPA method is considered to be empowering, as it is capable of giving a voice to both service users and their families (Larkin, Simon and Clifton, 2008). Additionally, IPA can work with the small sample of the participants recruited and contribute towards the understanding of service user’s experiences (Smith and Osborn, 2003).

More importantly, IPA is recommended in the situation when there is a need to understand processes and changes, as well as situations when research deals with the new or under-investigated area or services (Smith, 2004). This type of qualitative method is often employed in clinical psychology research (Smith, 2016). Besides research, the IPA is also employed in mental health research and service evaluations (Larking and Thompson, 2011), and use of this approach has well-documented value (Harris et al., 2012). Therefore, we consider this approach to be appropriate for an initial segment of the research project.

The primary goal of the IPA approach for this research project is to capture experiential data of CYP and their families with regards to 0-19 mental health and its crisis service accessibility, acceptance of the service, satisfaction with received care and post-discharge experience with the 0-19 model crisis service.

8.1.1 Sampling
For baseline interviews, five CYP who recently experienced a mental health crisis will be recruited, alongside their family members. A purposive sampling strategy will be applied in the recruitment process, as this is mostly used sampling method applied in qualitative research, where participants are selected on the bases of their likelihood of generating useful and relevant data (Green and Thorogood, 2014).
8.1.1.1 Participant inclusion criteria

<table>
<thead>
<tr>
<th>Children and Young People</th>
<th>Parents and Carers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previously or currently accepted to Solar crisis service</td>
<td>The child has previously been accepted to crisis service</td>
</tr>
<tr>
<td>Ready to be discharged from the crisis service or discharged within the last three months</td>
<td>Their child is ready to be discharged or being discharged within the last three months</td>
</tr>
<tr>
<td>Age 10-19</td>
<td>Their child is age 10-19</td>
</tr>
<tr>
<td>English language proficiency</td>
<td>Knowledge of English (both verbal or written)</td>
</tr>
<tr>
<td>Solihull resident</td>
<td>Solihull resident</td>
</tr>
</tbody>
</table>

Table 3 - Participant Inclusion Criteria

8.1.2 Recruitment

Recruitment for an initial phase of the research project will be made in cooperation with 0-19 model crisis service and their staff member. The PhD student will coordinate recruitment activity with the head of the crisis service, who is familiar with caseload and individual cases that are not in immediate crisis. Participants who are experiencing a mental health crisis or participants that are just admitted to the service, will not be included in this part of the research project. Only participants that are stabilised enough and are approaching towards their discharge will be asked to participate, as well as participants who already left the service within three months from the date of discharge.

Recruitment of the CYP and patients parents will follow identical recruitment procedure as outlined in section 7.2. Once when the head of the crisis service identify CYP who are capable of consenting and indicated willingness to participate in the research project by filling out ‘consent to approach’ form, the information will be passed to the PhD student, who will contact the parents/carers of the CYP via telephone to present the research project and try to recruit them to participate in the interview stage. If parent/carer reject the possibility to participate in the interview, the PhD student will thank them for their time, and not contact that family again. However, if the parents/carers accept participation in the interview, the student will discuss an appropriate date and time suitable for the family to participate in the interview. The student will offer to parents possibly that interview can be conducted in the Solar service or at their home address, whatever is more convenient for the family.

It is important to highlight that the current research project will not interview young children (age 0-10), directly in semi-structured interviews. All children/young people age 10-16 should be accompanied by a parent during the interview. Young people age 16 and above will be treated as adults (i.e consent form will be gain from them directly). The participation of the
parents will be encouraged as a matter of good research practice. Young people, age 13-16 will have an option to choose whether they want their parents present during the interviews. However, parental consent will still be required.

8.1.3 Procedure (Data Collection)
Information packs that contain participant information sheet (PIS) for both CYP and their parents/carers, consent forms for adolescents and parents and demographic sheet survey will be prepared by the PhD student before an interview with family starts. The PhD student will prepare the room for the interview, by making sure that the digital encrypted recorder (Olympus DS-7000 Digital Encrypted Voice Recorder and it’s backup) is fully operational. The participants will be greeted and invited into the room, where participants will be instructed by the PhD student about the project and the current research project. The student will provide participants with their information packs, and talk them through each paper.

In the end, the student will give a few minutes time to the family to absorb information and fill in all necessary documents from the information pack. In case that family or its member have any additional question or requires clarification, the PhD Student will be present to answer those questions before an official interview starts. Once the family finished signing all the documents, the student will collect the papers, and set the scene for the interview stage. The student will emphasise once again that an interview will be recorded for transcription, and that participant confidentiality will be protected. At the end of the interview, family and its members will be reminded that their data will be anonymised and confidential, as well as their right to withdraw from the research project.

8.1.4 Data Analysis
Initial baseline interviews conducted with CYP and their families will be transcribed and analysed using IPA approach. The IPA approach will be applied only to initial baseline interviews, and after analysis is completed for initial baseline interviews, the IPA approach will not be used anymore for the rest of the research project. Instead, the IPA approach will be replaced with the thematic analysis approach for all semi-structured interviews.

The Interpretive Phenomenological Analysis will be performed on the qualitative data obtained from the baseline interview in order not just to capture main emerging themes, but also more in-depth information such as stories that participants are storytelling, language used to describe experiences, roles and relationships described and positionality. To achieve this, an appropriate transcription of recorded data will be required. The recorded data will be
transcribed by the University of Warwick recommended transcribing service, who will assign an appropriate alias to participants in order to protect their real identities. In addition, any identifiable information will be excluded from the transcript and replaced with brackets. This will be done by replacing confidential information with a generic label, i.e. [job position] or [area], in order to protect participant’s confidentiality. All transcripts will be made in landscape format using Microsoft Word processing software with an appropriate enumeration of lines and pages. Also, double spacing and wide margins will be applied in order to make enough space for note taking during the next stage of analysis.

Once when transcription of data is completed, the PhD student will start familiarising himself with the transcript, to understand participant’s experience of accessing and travelling through the 0-19 model’s crisis service and their post-discharge experience. During this process, the student will often re-read the transcript, while making notes of any thoughts and feelings that will emerge while undertaking this whole process. All notes will be written manually on the margins of the transcript and later typed electronically. For transparency purpose, both notes and transcripts will be included in the appendix part of the final thesis.

Further analysis of the transcript will be based on each participant, one transcript at the time, as suggested by Smith and Osborn (2007). Once when initial exploration and notation of the transcript has been finalised, an identification of emergent themes will be conducted and further develop into categories and subcategories, as well as networking themes into a structure. Furthermore, transcribed data will be analysed to obtain central emerging themes using NVivo software. The NVivo software will also allow colouring particular code parts of the transcripts that are providing more in-depth information, such as stories that participant, the language used to describe experiences, roles and relationships described and positionality. Finally, after all, transcripts are analysed, and themes and subthemes are identified, the PhD student will look for common patterns that are present in all transcripts, to understand is there any commonly reported themes or subthemes among interviewed participants. Both data collection and analysis will take place alongside each other. This would allow identifying all important themes that could be used and explored further in following baseline interviews.

**IMPORTANT:** Once when IPA analysis is completed, identified themes will guide construction of interview schedule for semi-structure interviews. Both Edgbaston Research Ethics Committee/IRAS and the University of Warwick Ethics committee will be notified and provided with copy of telephone and semi-structure interview guide (amendment) in order to make sure they adhere to research project guidelines.
Table 4 - Summary of IPA analysis

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Step</td>
<td>Transcription will be made in landscape format using MS Word with an appropriate enumeration of lines and pages. Also, double spacing and wide margins will be applied to make enough space for note taking during the next stage of analysis.</td>
</tr>
<tr>
<td>2nd Step</td>
<td>Transcribed data will be analysed to obtain central emerging themes, but also more in-depth information such as stories that participants are telling, the language used to describe the experiences, roles and relationships described and positionality.</td>
</tr>
<tr>
<td>3rd Step</td>
<td>Once when transcription of the data is completed, familiarisation with the transcript will allow the researcher to become more acquainted with the participant’s experiences. This will be achieved with re-reading transcript, along with note taking any thoughts and feelings that will emerge while undertaking the whole process. All notes will be written manually on the margins of the transcript and later typed electronically. For transparency purpose, both notes and transcript will be included in the appendix part of the final thesis.</td>
</tr>
<tr>
<td>4th Step</td>
<td>Further analysis of the transcript will be based on each participant, one transcript at the time, as suggested by Smith and Osborn (2007). Once when initial exploration and notation of the transcript has been finalised, an identification of emergent themes will be conducted and further develop into categories and subcategories, as well as networking themes into a structure. For this purpose, colour coding will be applied to each theme.</td>
</tr>
</tbody>
</table>

8.2 Semi-Structured Interviews
Semi-structured Interviews are considered as a set of predetermined questions, used to gain a more substantial and in-depth understanding of one particular phenomenon (Bryman, 2016). It is envisaged that semi-structured interviews will follow baseline interviews, as this will allow that data obtained from the baseline interviews could be used for semi-structured interviews with a range of local community professional members (stakeholders). The value of semi-structured interviews for this project is the ability to explore and to probe sensitive areas, such as mental health crisis or satisfaction with given care.
8.2.1 Sampling
For the current project, it is predicted that the following number of the participant will be invited for interviews:

<table>
<thead>
<tr>
<th>Participants</th>
<th>Mode of Administration</th>
<th>Number of Interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local community professional members</td>
<td>After the baseline interviews</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 5 – the Predicted number of participants for the Semi-Structure

8.2.2 Recruitment
The local community professionals for the current research project will be recruited from various sources, both within the 0-19 model and its crisis services and out of the organisation. It is predicted that the snowballing strategy will be applied to recruitment. Furthermore, it is important to emphasise that the participant’s recruitment will follow strict inclusion and exclusion criteria. To protect the confidentiality of service users and their families, invitations to interviews will be given via the PhD student who is going to be embedded in the crisis team. Besides the student, service managers, clinical leads and the commissioner will circulate Information sheets, and consent forms to invite stakeholders to take part in the research project. These circulated documents will provide participants with all necessary information with regards to the rationale for the research project; data recording; protection of participant’s confidentiality and dissemination of data/findings.
Local Community Mental Health Professionals recruitment criteria:

| Experience of working with CAMHS services, Crisis teams or experience of referring CYP to crisis services. |
| Knowledge about the existence of Solar and its crisis service |
| Age span 18-67 |
| Have capacity to provide informed consent to participate |
| Ability to read and write in English |
| Ability to converse in the English language |

Table 6 - Participants Inclusion criteria (Qualitative segment)

8.2.3 Setting
It is predicted that some semi-structured interviews will take place at Solar service, with the possibility that some interviews could be taken in community stakeholders offices or over the phone.

8.2.4 Data Collection (Procedure)
Participants will be provided with the PIS form before the start of the interview, as well as a demographic survey and consent form. Participants will receive a short overview of the interview guide so that they can familiarise themselves with the content of the interview. After an overview of the research project and introductions, the participant will complete the consent forms. If the interview is conducted over the phone, the participant will have to give a verbal consent which will be recorded. The PhD student will emphasise that all data will be treated with confidentiality and anonymity.

8.2.5 Data Analysis of Semi-Structure interviews
All participants recorded responses will be transcribed using recommended transcription service (APPEN) by the University of Warwick, anonymised and analysed using the thematic analysis approach. Data analysis will be performed using six stages of thematic analysis, as detailed below in the section 8.4.6
8.2.6 Thematic analysis approach

As previously mentioned, the use of IPA should open the way for the thematic analysis, which would be used for all remaining interviews.

The thematic analysis would enable us to explore participants responses in order to identify emerging commonalities and underlying patterns are describing participant opinions with regards to the impact that Solar has on the local community, experiences with crisis care and how much Solar crisis provision impacted children, young people and parents/carers.

The rationale behind employing thematic analysis is primarily due to its epistemological flexibility and compatibleness with many other theoretical positions available (Braun and Clarke, 2006). Furthermore, the flexibility of this analysis approach makes the thematic analysis useful for interviews (Joffe and Yardley 2004).

The Thematic analysis is widely employed in psychological and social science research to gain an understanding of the particular social phenomenon (Frost, 2011).Because the Thematic analysis methodology is considered an appropriate, flexible and well-utilised method in mixed methods research, we find this qualitative framework appropriate for this particular research project.

8.2.6.1 Data Analysis using the thematic analysis approach

The Thematic analysis will be used to analyse audio records and transcripts for all semi-structured interviews conducted after initial baseline interviews, that will be analysed using IPA approach.

Once when audio recording is fully transcribed by the University of Warwick recommended transcribing service APPEN, the analysis of themes and subthemes can begin. For this purpose, the NVivo software will be utilised to identify particular themes that are emerging from the transcript. The Thematic analysis will be performed by adopting six necessary steps, recommended by Braun and Clarke (2006).

8.2.6.2 Six stages of thematic analysis

- An initial stage of data analysis should be used for in-depth familiarisation with the data, by using (re)reading strategy applied to transcript, which should help the researcher to
make initial notes of emerging ideas, without imposing subjective viewpoints or professional opinions (Chapman, Hadfield and Chapman, 2015).

- In the second stage, the researcher should organise data into particular codes, which can be later clustered together according to the meaning and similarity between codes (Boyatzis, 1998). This particular stage is of great importance for the overall analysis, as identified codes will become the foundation for future analysis. This particular stage can create a risk of losing objectivity, and therefore, it is crucial at this stage to maintain validity (Chapman, Hadfield, Chapman, 2015).

- In the third stage of the thematic analysis, identified codes that share similarity will be clustered into a particular set of themes (Chapman, Johnson and Kilner, 2014). The double-checking procedure should be in place, making sure that all identified themes are covering all identified codes, as well as possible to break themes into sets of subthemes.

- A double-checking procedure will be used to ensure that all identified themes cover all identified codes and set of subthemes. An independent person, Dr Deborah Biggerstaff, will be consulted, to verify the extracted codes, subthemes and themes, to make sure that these are not overestimated or accidentally extracted, and that extracted themes are an accurate reflection of the transcripts (Mays and Pope, 2000).

- The fifth stage is involving defining and naming each theme, while in the last stage, the researcher can start to use representative quotations to illustrate each theme.

It is important to mention that thematic data analysis using for the above mention phases will be performed on data obtained from both semi-structured interviews.

8.3 Telephone Interview with Parents/Carers
Parents and carers of a cohort of CYP (up to 30 parents), which have agreed to take outcome measure ReQuest, will be randomly chosen for follow up. Short 10 minutes survey will be designed after all qualitative interviews are completed and analysed. The survey will be administrated to the parents as a telephone survey, six months after their children have been discharged from the 0-19 crisis service. This will allow us to understand:

- How many CYP experienced improvement in their mental health?
- How many CYP experienced relapse or decline in their mental health post discharge.
• Subjective parental perception of whether the 0-19 model and its crisis service helped their children to improve their resilience and help towards self-managing their mental health
• Information on whether their child has sought any additional mental health help from other mental health providers after being discharged from the 0-19 model and its crisis service
• Parental satisfaction with the 0-19 model and its crisis service
• Any areas that according to parent’s opinions would improve the crisis provision within 0-19 model

8.3.1 Recruitment
Participants for this segment of the qualitative study will be randomly selected, using randomisation online tool randomizer.org. Using the ReQuest form and their participant’s unique identifier, participants will be divided into 7 sets comprised of five participants. One additional set will be run with five participants that will serve as back up, in case that an extra number of participants is required.

Figure 5 - Randomisation of participants using randomizer.org
During the administration of the ReQuest outcome measure, parents and carers will be informed about telephone follow up survey and will be asked to sign a consent form that will indicate their consent to be contacted if randomly selected. The consent form will also have an order of administration number that will be used to select participants randomly. The order of the administration of the ReQuest outcome measure (1-100) will indicate which participants correspond to which number randomly selected to be included in the final part of the study. All participants with the corresponding number will be contacted. From the figure above, it is visible that in set one, 28th, 41st, 4th, 62nd and the 81st participant will be included in the follow-up telephone survey.

8.3.2 Participant inclusion criteria

<table>
<thead>
<tr>
<th>A parent or Carer Inclusion criteria for a Telephone interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have child age 10-19 that has been accepted and discharged from Solar crisis service</td>
</tr>
<tr>
<td>Have a child discharged from the Solar crisis service within last 6 months</td>
</tr>
<tr>
<td>Actively being engaged with Solar staff members during the time that their child spent in crisis service</td>
</tr>
<tr>
<td>Child completed all three administration of the ReQuest outcome measure</td>
</tr>
<tr>
<td>Parent completed all three administration of the ReQuest outcome measure</td>
</tr>
<tr>
<td>Proficiency with the use of the English language, both verbally and in writing</td>
</tr>
<tr>
<td>Ability to consent</td>
</tr>
</tbody>
</table>

Table 7 - Parent or Carer Inclusion criteria for a Telephone interview (Post-discharge)

8.3.3 Telephone Interview analysis

A telephone interview will be comprised of a combination of qualitative and quantitative questions that will be asked parents to answer. The qualitative data will be analysed using the six-stage thematic analysis as outlined in section 8.2.6.1/8.2.6.2, while quantitative data will be analysed using descriptive statistics. Any other quantitative analysis will be made in consultations with a departmental statistician.

9. Triangulation of analysed data

One can describe triangulation as a funnelling process that tries to merge two separate data sources to improve our understanding of one particular observed phenomenon (Denzin, 1970; Nash, 2014).

9.1. Triangulation between qualitative and quantitative data

There is a similarity between Mixed-Methods research and process of triangulation regards to the integration of both qualitative and quantitative data, with observable differences with
regards to epistemological approaches (Nash, 2014). However, from the literature, it is obvious a split between two streams (Nash, 2014).

One stream supports the notion that Mixed-methods is triangulation (Casey and Murphey, 2009) and the other which supports the differences between mixed methods and triangulation (Holloway and Wheeler, 2002). However, in the case when one uses Mixed-method research, data analysis, in this case, can be described as the integration of data, rather than triangulation, despite pragmatism, which towards data considers triangulation as a most likely approach analysis (Nash, 2014). For this PhD project, further consultation with supervisors will be made to apply appropriate triangulation model for mixed-methods.

10. Ethics and permission for conducting a research project

<table>
<thead>
<tr>
<th>Edgbaston Research Ethics Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>• REC ref. 19/WM/0018</td>
</tr>
<tr>
<td>• Protocol number: SC.06/18-19</td>
</tr>
<tr>
<td>• IRAS Project ID: 253272</td>
</tr>
</tbody>
</table>

It would be important to emphasise that the the both University of Warwick Sponsorship and Research Ethics Committee (REC) approval are required for this proposed project. In order to conduct a research project, formal research ethics are required, as stated by the Birmingham and Solihull Mental Health Foundation Trust (BSMHFT). The protocol for the research project will be sent to Edgbaston Research Ethics Committee for their evaluation, and their approval.

The current research project will not commence until the protocol, participants information sheets and consents forms receive The University of Warwick Sponsorship approval and full approval by the Edgbaston Research Ethics Committee (REC ref. 19/WM/0018; Protocol number: SC.06/18-19; IRAS Project ID: 253272)

In case that Edgbaston Research Committee or Warwick Sponsorship office recommends particular amendments to the proposed protocol, appropriate amendments and changes will be addressed promptly, according to guidance and recommendation made by the REC or Sponsorship office. Once when REC approves currently proposed research project, the Birmingham and Solihull Mental Health Foundation Trust (BSMHFT) will be informed and
requested formal permission for conducting a research project on the 0-19 model of mental health provision. The current research project will be conducted in line with the ethical principles of Declaration of Helsinki (1996); the British Psychological Society - Code of Human Research Ethics (2014) and the Department of Health Research Governance for Healthcare and Social Care (2005).

10.1 Ethical considerations

It is predicted that this research project will not cause any physical injuries to the participants. However, a possible ethical concern is the risk of causing emotional or psychological distress to participants using interviews or discussions. The discussion may result in distress for the participants since the current topic (CYP mental health) can be sensitive and emotionally distressing for participants or their parents/carers. The risk of causing emotional distress to participants has been discussed with both academic supervisors as well as with the 0-19 models crisis team. These discussions concluded that the benefits of involving CYP and their parents/carers in the current research project outweigh the possible risks.

Furthermore, measures will be placed to mitigate identified risks, such as making sure that participants are aware of the possible risks through the consent form. Moreover, the consent form will require participants to actively opt-in to the research project. Furthermore, participants will be informed both through the consent and verbally, about their rights to withdraw at any point in time/or stage from the research project, without giving a particular reason. In addition, participants will be made aware that in case of their withdrawal, their data will be destroyed, unless data has already been transcribed and analysed.

To minimise the risk of causing distress to the patients in crisis, the 0-19 models crisis team will be consulted to identify the patients who are not in immediate crisis. Instead, patients with recent (towards the end of discharge or up to 3 months from the discharge point) experiences of crisis will be recruited, what would help to minimise the risk of causing the emotional/psychological distress.

Furthermore, CYP who are just admitted to crisis service will be excluded, as participation could negatively impact their current mental health, as well as their ability to accurately convey their experience. To further reduce weight to the CYP who are in the crisis, an interview time will be adjusted so that they last up to 40 minutes. Furthermore, appropriate steps have been taken to ensure that sensitivity is achieved with all the parts of interviews and surveys, to minimise the potential risk of inflicting emotional or mental health distress to participants.
Additionally, to minimise discomfort and distress to participants of the research project, the interviews will be conducted in the familiar, safe and relaxing environment. Also, in cooperation with the Solar services, the mental health practitioner will be available, and on standby, in case any participant undergoes mental health distress. Participants will be informed about available support, as well as appropriate channels to address any concerns. Additional attention will be devoted to maintaining the confidentiality of the participants involved in the interviews. This will be achieved, by reminding participants of the confidentiality at the beginning, middle and the end of each interview.

10.2 Consultations with the Solar Service
Official consultations between the 0-19 model and its crisis service and the UoW were conducted twice so far. The first consultation took place in December 2017 with the goal to establish a dialogue with the service and to understand what Solar expectations are with regards to this PhD project. Recently, the second consultation took place to present research project questions and proposed methodology to the service. Both research questions and methodology were well received by the Service, which leads to their approval of the currently proposed research project questions and methodology. Furthermore, practical experiences from the 0-19 model’s staff helped with reducing any risk or questionable ethical problem identified in the above section. The service fully supported the presentation of the research project and submission for the Ethics approval at the UoW, Medical School.

10.3 GP involvement in this study
Some research projects require that the research participant’s GP is to be informed if they are involved in studies that may affect their normal health status. There are other studies/circumstances which may not impact on the health of the participant. Therefore, it would not be appropriate for researchers to contact patient GP, or in some cases, it may not be possible. As in this research study, we are not performing any intervention or clinical trial, nor we are having any negative effect on the normal health status of the participant, we believe that it’s not necessary to contact patients GP. In addition, Solar service staff members are going to be actively engaged and aware of the recruitment process and participants that are recruited.

11. Data protection and quality assurance
The proposed research project has set primary focus on the investigation of perceptions of change or improvement, suggestions for further developing existing 0-19 service provision in the future, and current service satisfaction of service users, their families, and range of stakeholders with 0-19 model and its crisis service provision. The limits of confidentiality and duty of care will be explained to all participants at the beginning, middle and at the end of the interview. Furthermore, participants will be reassured that their participation is voluntary, and as such, they have right to withdraw from the current research project at any point of the interview, or research project, unless their data already has been transcribed. In case that participant data has not been transcribed yet, participant data will be destroyed in case of participant expressing wish to leave the research project. In addition to this, participants will be informed that they do not require to disclose any information that they do not wish to.

Data produced by the interviews will be transcribed in such fashion that any identifiable information will not be used, which will ensure the anonymity of all participants. This is particularly important in case if there is a need for secondary research with existing data sets. Written reports along with all materials produced by this research project will be stored securely, with limited access only to members of a research team who will conduct a research project. Any identifiable information obtained from the service users, their careers and families, and stakeholders will be kept secured using the encrypting software. Only members of the research project team will have access to the stored information.

The need for dissemination of findings obtained data, and publication of the final report will be made in agreement and discussion with Birmingham and Solihull Mental Health Foundation Trust and the University of Warwick.

11.1 Data Storage and Data Security
Following the University of Warwick’s (UoW) guidelines, once created, all data will be kept for ten years. To remain compliant with the UoW guideline, all participants’ paper consent forms or any other paper files produced by the participant will be securely stored in a filing cabinet at the UoW Farmhouse (room F109). Furthermore, all electronic data produced by the research project will be kept at the University of Warwick, Medical School in an encrypted format.

All data (both identifiable and unidentifiable) from the study will be stored for ten years in accordance with the University’s Records Retention Schedule. The only people in the University of Warwick who will have access to information that identified participant will be...
the person conducting the research study and anyone who needs to audit the data collection process or regulatory bodies, should that be necessary.

The University of Warwick's Research Data Policy states that: “9. Data must be retained intact in an appropriate format and storage facility, normally for a period of at least 10 years from the date of any publication which is based upon it. Where specific regulations with regard to data retention apply, e.g., from funders, these regulations should prevail, particularly where the required retention period is longer than the University requires.”

Data will be stored in line with University policy and General Data Protection Regulations (GDPR).

11.2 Participant right to withdraw from the research project
Participants will be informed about their right to withdraw from the research project at any time in the PIS and again before the interviews commence. Participants will further be informed that they can leave the interview at any point in time, without stating any reason. If the participant decides to leave the research project (withdrawn), they can also demand that their data is destroyed. *This can be done within seven days from the participation in the research project.* Once when data are transcribed, any identifying information is removed, making identification of specific participant data difficult. If the participant decides to withdraw their data before transcription has occurred, every effort will be made to remove their data from the rest of the data of other participants.

It is important to emphasise that participant’s rights to withdraw from the research project are detailed in the PIS document (*Appendix 17.5-17.8*).

12. Lone working and Researcher safety

Research safety will be not compromised while undertaking semi-structured interviews within the Solar service. As some interviews could take place in service user’s homes or community stakeholders offices, PhD Student will comply with the University of Warwick, Medical School, Lone-Working policy, published in January 2018 (*Appendix, 17.19*). Furthermore, Student will liaise with the main supervisor, prior to conducting the lone working interview. During the recruitment stage, a student will be embedded in the 0-19 models crisis team; the student will be teamed up with the crisis staff member. Additionally, the student will be obliged to follow the NHS lone working procedure, while being part of the Solar crisis team. This means that
student will write his time out, approximated return time back to the service and location on the whiteboard at Solar so that Solar manager on duty is aware of the student fieldwork. It is also important to indicate that the student is equipped with a personal alarm system (Vigilant PPS22BL 130dB Panic Emergency Personal Alarm), provided by the Solar service. In addition, the student has done the Suzie Lamplugh Lone working and Personal training at the University of Warwick, Medical School.

13. PhD Financial information

The current studentship is provided by Birmingham and Solihull Mental Health Foundation Trust. The studentship includes full fees for the PhD student along with a tax-free maintenance allowance in line with Research Council UK standard stipend. As the studentship did not include an allowance for reimbursing participants for their participation, 18.3% of the ‘transcription /Subsidence fund’ (worth £1103.11) will be used to purchase high street vouchers, which will be given to participants after their participation in the research project. An additional 10% of the transcription budget will be used to cover the PhD student’s transport costs when semi-structured interviews are conducted at service users’ homes, community stakeholder offices or visits to the main BSMHFT site at Birmingham. This will leave 81.7% of the fund for transcription purposes. There are no conflicts of interest to declare.

14. Cost projections

<table>
<thead>
<tr>
<th>Expense Category</th>
<th>Periodic Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYP IPA Interviews with CYP (5x 90 minutes – each £15)</td>
<td>£75.00</td>
<td>1.43%</td>
</tr>
<tr>
<td>Parents/Carers IPA interviews (5 x 90 minutes – each £15)</td>
<td>£75.00</td>
<td>1.43%</td>
</tr>
<tr>
<td>Community Stakeholder Semi-Structure Interviews (10x)</td>
<td>£100.00</td>
<td>1.90%</td>
</tr>
<tr>
<td>Student Travel and parking costs (Interviews and travel to the service)</td>
<td>£395.55</td>
<td>7.53%</td>
</tr>
<tr>
<td>Participant travel costs (If requested)</td>
<td>£182.56</td>
<td>3.48%</td>
</tr>
<tr>
<td>Totals</td>
<td>£828.11</td>
<td>19.58%</td>
</tr>
<tr>
<td>Remaining budget for the research project</td>
<td>£4421.41</td>
<td></td>
</tr>
</tbody>
</table>
14.1 Projections of Transcription costs

The University of Warwick (UoW) Procurement department has administered a tendering exercise which aims to put together an approved list of UoW transcription providers. This has now been completed, and some 15 transcription companies have submitted a tender. Once the research projects have been completed, the UoW will have access to several providers who are known to be compliant according to University procurement and information security processes. Currently, the only company approved by the UoW is called Appen, who are set-up on Opera as an approved transcription supplier.

It is important to emphasise that all transcription companies are charging by the length of the audio file (i.e. by the recorded minute). Approximated charges that will guide the proposed project will be (on average) around £1.80 per recorded minute.

<table>
<thead>
<tr>
<th>The budget for a research project</th>
<th>£4221.41</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expense Category</strong></td>
<td><strong>Periodic Amount</strong></td>
</tr>
<tr>
<td>IPA transcription (10x 90 minutes)</td>
<td>£1,620.00</td>
</tr>
<tr>
<td>Community Stakeholder semi-structure interviews (10x)</td>
<td>£810</td>
</tr>
<tr>
<td>Totals</td>
<td>£2,430.00</td>
</tr>
<tr>
<td>Remaining budget for the research project</td>
<td>£1,791.41</td>
</tr>
</tbody>
</table>

*Table 9 - Transcription costs for the project*
The budget for a research project

<table>
<thead>
<tr>
<th>Expense Category</th>
<th>Periodic Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ReQuest payment for participant £15 x 100</td>
<td>£1500</td>
<td>56.42%</td>
</tr>
<tr>
<td>Totals</td>
<td>£1500</td>
<td>56.42%</td>
</tr>
<tr>
<td>Remaining budget for the research project</td>
<td></td>
<td>£291.41</td>
</tr>
</tbody>
</table>

Table 10 - Remaining budget

14.2 Projections of Total Costs

<table>
<thead>
<tr>
<th>The initial budget for Service Evaluation</th>
<th>£ 8961.60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget left after Service Evaluation</td>
<td>£ 5,249.52</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expense Category</th>
<th>Periodic Amount</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Evaluation project cost</td>
<td>£1,606.08</td>
<td>17.92%</td>
</tr>
<tr>
<td>Service Evaluation project transcription costs</td>
<td>£2,106.00</td>
<td>23.50%</td>
</tr>
<tr>
<td>Research Project expenditure</td>
<td>£828.11</td>
<td>11.47%</td>
</tr>
<tr>
<td>Transcription for Research project</td>
<td>£2,430.00</td>
<td>32.27%</td>
</tr>
<tr>
<td>ReQuest vouchers</td>
<td>£1500</td>
<td>8.37%</td>
</tr>
<tr>
<td>Totals</td>
<td>£6,544.19</td>
<td>93.53%</td>
</tr>
<tr>
<td>Total Expenditure for Service Evaluation and Research project</td>
<td>£8,470.19</td>
<td></td>
</tr>
<tr>
<td>Remaining budget</td>
<td>£491.41</td>
<td></td>
</tr>
</tbody>
</table>

Table 11 - Overall project cost projections

The remaining budget money will be used for the research project that will follow the service evaluation and as a buffer in case that transition rates will increase, following yearly inflation.
rate, or in the situation where transcription cost was underestimated. The current estimated transcription cost is approximated to £1.80 per minute of the recorded transcript.

15. Dissemination

The participant report will be sent to those participants of the research project who indicated at their consent form that they would like to receive a copy of the final report. Besides the final report, an oral presentation will be offered both to the BSMHFT trust and Solar service. This project will form part of the researchers PhD and will be published as several chapters of his thesis. In addition, manuscripts for publication in peer-reviewed academic journals will be produced with a focus to present the findings to the large scientific community. This will be done in agreement with the Solar service and BSMHFT trust. In order to promote not just findings, but overall Solar service, findings of the research project will be widely disseminated at several national and international conferences, and across BSMHFT trust channels (Research and Innovation conference) and the Clinical Research Network (CRN) West Midlands.

16. References


Birchwood, M., & Singh, S. P. (2013). Mental health services for young people: matching the service to the need. RCP.


Fellow-Smith, D. L. (2016). Mental Health Crisis Care for Children and Young People: Why is it different? What is the current experience?


Research, 43(3), 325-343.


https://www.england.nhs.uk/mental-health/cyp/transformation/


Reardon, T., Harvey, K., Baranowska, M., O’Brien, D., Smith, L., & Creswell, C. (2017). What do parents perceive are the barriers and facilitators to accessing psychological treatment for mental health problems in children and adolescents? A systematic review of qualitative and quantitative


Siddaway, A. (2014). What is a systematic literature review and how do i do one? *University of Stirling*. https://doi.org/10.1016/j.jmwh.2009.03.017


