Project Details	
Project Code	MRC23PHSCa Rice
Title	Identifying targets to prevent early onset depression in the children of depressed parents.
Research Theme	Population Health Sciences
Summary	1 in 4 children and young people in the UK have a parent with a diagnosis of depression. This project aims to identify the reasons why children with a depressed parent may develop depression themselves (inter-generational transmission). It will use a combination of data sets to address this question (health record and detailed longitudinal data). There will be opportunities to involve young people, third sector and government organisations.
Description	Major depression is the most common mental illness (Vos et al, 2012). 1 in 4 children and young people in England have a parent with a diagnosis of depression (Abel et al., 2019). Data from Wales show that 60% of young people with a diagnosis of depression have a depressed parent (Brophy et al, under review). These young people are the focus of this project. The children of depressed parents are at increased risk of experiencing a range of mental health problems including depression (Garber, 2006) with genetically informed designs showing that environmental risks account for much of this intergenerational transmission (Lewis et al, 2011). Multiple scientific reports identify the children of parents with depression as meriting special consideration for early identification and receiving preventive interventions. However, for such strategies to be effective, they need to target modifiable mechanisms of illness and to be focused on those most in need. Such evidence is currently lacking. This research involves testing hypotheses about how parental depression is associated with depression in children using combination of big data and deeply phenotyped datasets and aims to: 1. Test modifiable social and psychological factors as mediators of the association between parental and child depression - to identify the most promising targets for preventive interventions. 2. Identify which young people at increased familial risk are most vulnerable of developing depression - to ensure that preventive interventions can be focused on those most in need. 3. Provide an outstanding inter-disciplinary training experience comprising new learning about quantitative methods and child and adolescent mental health as well as talking and working with young people affected by depression and third sector and government organisations. The supervisory team has expertise in advanced longitudinal analyses including causal inference (JH Bristol and LR Cardiff), population "big data" (SB Swansea) and subject expertise in social and psychological factors associated with depression (FR Cardiff). The project involves analysis of several different data sets each with complementary strengths because the combination of these can be used to strengthen causal inference about the likely key mediators of the link between parental depression and child depression. The data sets include a large sample of parents and children with diagnoses of depression (sample size=1,080,118 parent-child pairs) as well as smaller longitudinal data sets (sample sizes=350 parent-child pairs/trios) with very detailed assessments on a wide number of mental health and

potentially modifiable mediating mechanisms (psychological, social). In this project, the student will be trained in "big-electronic-data" and experimental and "quasi-experimental" approaches which circumvent some of the pitfalls of standard observational epidemiology.   In year 1, the student will undertake a review of possible mediators to focus on in their PhD and speak to young people affected by depression. Training in linking anonymous data sets and quantitative methods including "quasi-experimental" methods for causal inference will be given. In year 1, routine "big data" will be used to identify which young people with a depressed parent are most likely to develop depression themselves.
In year 2, the student will use the findings from year 1, to test detailed hypotheses about mediators of the association between parental and child depression in detailed longitudinal data.   Year 3 and 4 will involve combining and comparing research findings across samples to assess and strengthen causal inference. It will involve writing up the thesis, making revisions to submitted papers, public engagement and dissemination of findings. It will also involve a 3-month period spent in a 3rd sector organisation or governmental department to understand how research informs policy and practice.

Supervisory Team

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