**Please ensure that this proposal is no longer than two A4 sides**. Thank you.

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| Host department: Bristol |
| Project Title: |
| Predictors Onset Persistence and Psychological Impact of Acne |
| Proposed supervisory team: Names and areas of expertise to be included |
| Matthew Ridd, GP and Professor of Primary Health Care, University of Bristol  Sarah Sullivan, Research Fellow in Psychiatric Epidemiology, University of Bristol  Nick Francis, GP and Professor of Primary Care Research, University of Southampton |
| Potential for cross consortium networking and educational opportunities: |
| Supervisors Ridd and Francis are co-chair and member respectively of the SAPC Primary care dermatology research group, which the student will join and be invited to present at its annual meeting. Here they will be able to solicit feedback on their progress and network with other researchers interested in acne/with experience of using similar research methods.  Bristol and Southampton have strong links with the Centre for Evidence Based Dermatology, which hosts the UK Dermatology Controlled Trial Network. Ridd and Francis are co-applicants on the “Spironolactone for Adult Female Acne” trial (HTA 16-13-02) and the recently funded Programme Grant for Applied Research, “Developing and testing an online intervention to support self-management, improve outcomes and reduce antibiotic use in acne” (NIHR202852). There will be opportunities for the student to attend project meetings and draw on methodological and topic expertise.  Avon Longitudinal Study of Parents and Children (ALSPAC) has rich longitudinal data on both skin conditions and mental health. These data offer unrivalled opportunities to investigate hypotheses and are frequently used for PhD projects. The student will benefit from being part of the “doctorate ALSPAC community”. Sarah Sullivan (a co-supervisor) has already supervised two PhD students who have used ALSPAC data and is very familiar with the mental health data contained therein.  Dr Ketaki Bhate, Consultant Dermatologist and researcher at the London School of Hygiene and Tropical Medicine, has agreed to collaborate on the project, drawing on her clinical and research interest in acne. |
| Project description: |
| Acne is an inflammatory skin disorder comprising papules/pustules, comedones, hyper-pigmentation and scarring. Almost all teenagers are affected to some degree, with 20% being moderately-to-severely affected. There is accompanying psychosocial morbidity and the physical impairment/disfigurement caused by hyper-pigmentation or scarring can be permanent. Attendance in both primary and secondary care consume considerable NHS resources. However, there is little published on natural history and conflicting evidence surrounding the relationships between acne and diet, psychological-stress and obesity.  Further research is needed to better understand both risk factors for the development and persistence of acne; and the psychological consequences of having acne. This work will provide evidence that could lead to healthcare improvements and better understanding of the link between acne and mental health in adolescence, which is a vulnerable period for mental health disorders.  This study has three aims:   1. To investigate the prevalence of acne in the ALSPAC cohort 2. To investigate risk factors for acne onset and persistence 3. To investigate the incidence, and predictors, of psychosocial morbidity in people with acne   Using data from the Avon Longitudinal Study of Parents and Children (ALSPAC) birth cohort, first the prevalence, incidence-rate and cumulative-incidence of acne between will be estimated using data from study clinics where acne was examined in detail by trained healthcare professionals. The sex, age, ethnicity and socioeconomic distributions of young people with acne according to disease severity and comparing with those who do not have acne will be described. Persistence of acne across examinations at ages 9-13 will be described.  Linear and logistic regression models will be used to identify what factors (such as dairy-rich or high glycaemic-index diets, psychological- stress and obesity early in childhood) are associated with acne onset, persistence and severity of acne; and whether the risk of depression, low self-esteem and time-off-school are increased in those patients who have had acne. |

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| Training and development provision by host: |
| Formal training:Bespoke according to needs, but suggested courses include:  Population Health Sciences [Short-courses](http://www.bristol.ac.uk/medical-school/study/short-courses/) at University of Bristol (Questionnaire Design, Application and Data Interpretation (3 days); Stata (3 days); Linear and logistic regression (4 days); Writing a journal article (3 days).  Bristol Medical School Graduate Studies programmes (1/2 days): Basic Statistics/Basic Epidemiology; Library induction and literature searching (for systematic reviews); Introduction to EndNote; Open access; Introduction to STATA and hints and tips; Introduction to R; Quality papers; Research Reproducibility; Patient & Public Involvement; Public Speaking & Public Engagement; PhD plans and early results symposium; Thesis production and examination procedures  University of Bristol “develop” and IT courses (in person, online and blended; small group or self-directed; 1 hour-2 days) according to need, covering: Microsoft applications; personal and professional skills; career development; managing people and teams; leadership, wellbeing. |
| Informal training: The PhD will be carried out within a thriving, multi-disciplinary environment. There are many opportunities to attend and present at seminars, within the Skin and Allergy Research Group, Centre for Academic Primary, Population Health Sciences and wider University. As part of their regular supervision, the student will receive career advice, mentoring, and support. The student will be encouraged and supported to submit abstracts to relevant conferences. External mentorship will be offered. |
| PPIE:We will draw on existing groups (e.g. from the Spironolactone for Adult Female Acne trial) and patient organisations (e.g. Acne support) for the experience and opinions of patients and carers, to inform the design, delivery and dissemination of this project. The student will regularly share their plans and progress with PPI groups, inviting and responding to feedback as appropriate. |