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| Host department: Manchester |
| Project Title:  |
| ‘Optimising the equitable application of oncogenomics for early cancer detection in primary care’ |
| Proposed supervisory team:  |
| Dr Sam Merriel (Manchester)Prof Sarah Bailey (Exeter)Other members of the supervisory team Prof Caroline Sanders (Manchester) |
| Potential for cross consortium networking and educational opportunities: |
| The candidate will be afforded excellent opportunities for learning and development across the NIHR SCPR. They will be supported to attend NIHR SPCR trainee conferences and Showcases to meet with primary care research colleagues and receive expert training and insight into developing their career as a primary care academic. They will have access to methodological and career skills training from the Doctoral Academy at the University of Manchester and the NIHR Academy. The candidate will be able to undertake research department visits to another NIHR SPCR institution with experts in early cancer detection in primary care (Exeter). The visits will augment their learning in this field and help to establish their research networks to improve their chances of success as an early career primary care academic. |
| Project description: |
| *PhD aims*The aim of this PhD is to explore the optimal and equitable integration of oncogenomic data into cancer risk stratification in a primary care setting. The main research questions this PhD would seek to answer are:1. Which cancer types would benefit from integrating oncogenomic data into primary care cancer risk stratification for early-stage cancer diagnosis?
2. How acceptable is the use of oncogenomic data as part of cancer risk stratification in primary care to patients and clinicians and what are the barriers and enablers for integration into practice?
3. How can ethnic and sociodemographic disparities in oncogenomic research be addressed to reduce inequalities in cancer outcomes?

The PhD will involve three linked studies that will generate evidence to answer the main research questions:*Study 1*A national modified Delphi study involving clinicians (GPs, surgeons, oncologists, radiologists, endoscopists, clinical geneticists), patients with cancer or known oncogenomic risk factors, health care service decision makers (commissioners, cancer alliance leaders) and under-represented groups in oncogenomic research. The aim will be to achieve consensus on priority cancer types needing new approaches for early detection in primary care. Participants will undertake two rounds of online consensus surveys, rating their agreement with statements relating to priority cancer types and new diagnostic approaches. A consensus workshop with representatives from key stakeholder groups will be conducted to refine and agree consensus statements.*Study 2*A systematic review will be undertaken to summarise the evidence on acceptability, barriers, and enablers of using oncogenomic data for cancer risk stratification in primary care, with a focus on patients and cancer inequalities. Pre-specified search strategies for major scientific publication databases including PubMed and EMBASE will be conducted. Study quality will be assessed using the Mixed Methods Appraisal Tool. A convergent integrated narrative synthesis of qualitative, quantitative, and mixed methods studies will identify key themes. The systematic review protocol will be registered on PROSPERO and conduct will follow the PRISMA statement.*Study 3*Qualitative interviews and focus groups with GPs, nurses, patients, NHS commissioners, and cancer clinical leaders. Recruitment will be undertaken via the National Institute for Health and Care Research Clinical Research Networks, community groups for under-represented populations (including the Caribbean & African Health Network), NHS Integrated Care Boards, and Cancer Alliances. Semi-structured interviews and focus groups will explore the acceptability and feasibility of using oncogenomic data for cancer risk stratification in primary care, as well as potential barriers and enablers for equitable access. An interview guide informed by Sekhon’s Theoretical Framework of Acceptability will be used flexibly. Interviews will be audio recorded and transcribed verbatim. Inductive and deductive thematic analysis of qualitative data will be performed.*Patient & Public Involvement (PPI)*Meaningful engagement with under-represented populations in oncogenomic research will help improve the design, conduct, and interpretation of this PhD. The candidate will utilise existing PPI and community engagement resources within the host department, such as the PRIMER group, across the University, and Prof Bailey’s current cancer PPI group in Exeter which includes representatives from local places of worship, to establish a PhD PPI group to support them in undertaking the PhD. The PPI group will be made up of patients and members of the public from a diverse range of backgrounds. They will meet with the candidate twice yearly to input into all aspects of the PhD and support the candidate with results interpretation and dissemination. |
| Indicative project costs:  |
| Research costs | £12,045.00 |
| Training expenses | £38,000.00 |
| Estimated total | £50,045.00 |
| Training and development provision by host: |
| *Formal training:* The Doctoral Academy Training Programme of the Faculty of Medicine, Biology & Health (FBMH) at the University of Manchester is available to all PhD candidates at the University. It comprises a suite of personal and professional training and development opportunities that can be tailored to the individual candidate’s learning needs. Training is aligned to the nationally agreed Researcher Development Framework, with access to a wider programme of Researcher Development Training delivered by the University for staff and post-graduate researchers.  |
| *Informal training:* Doctoral candidates within the Centre for Primary Care & Health Services Research (CPCHSR) can access a broad range of seminars run by the Centre and other research departments within FBMH. They will be able to attend doctoral training workshops and conferences organised by the NIHR SPCR, NIHR Academy, and the Wellcome Trust. They will also have access to ECR mentoring programmes within the University and the NIHR. |
| *PPIE*: CPCHSR ensures equality, diversity, and inclusion (EDI) is prioritised across strategies for PPIE and capacity building and is committed to engaging with patients and diverse communities for all stages of research that is inclusive for all. The Centre hosts a dedicated PPIE group and has strong connections with voluntary sector organisations enable inclusive involvement and participation in research. Prof Sanders brings a wealth of EDI expertise and experience to the Centre through her role as Public and Community Involvement and Engagement lead for the Manchester Academic Health Sciences Centre (MAHSC) and the NIHR ARC GM Research Engagement Network Development programme, which will be utilised to support the PhD candidate. |