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| Host department: Manchester | |
| Project Title: | |
| Artificial Intelligence triage in online consultations | |
| Proposed supervisory team: | |
| Primary supervisor – Dr Ben Brown, GP and Clinical Senior Lecturer (Manchester)  Secondary supervisors  Dr Sudeh Cheraghi-Sohi, Research Fellow (Manchester)  Dr Nicola Cornwall, Lecturer in Applied Health Research (Keele)  Professor Evan Kontopantelis (Manchester) | |
| Potential for cross consortium networking and educational opportunities: | |
| The candidate will have opportunities for learning and personal development across the NIHR SCPR. They will be supported to attend 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. The candidate will have access to methodological and career skills training from the Doctoral Academy at the University of Manchester and the NIHR Academy. | |
| Project description: | |
| *Background*  GP practices in England provide over 30 million appointments per month, some of which are for medical conditions that require urgent treatment like infections or heart attacks. Delays in urgent care can lead to patient harm including hospital admission or death. A key challenge is to identify which patients require urgent help. Over the past two years, almost all GP practices in England provided online consultations, which enable patients to request help from their healthcare teams by submitting forms over the internet. Online consultations come to the GP practice unprioritised and can exacerbate delays in providing urgent care. One potential solution is for the online consultation system to automatically detect and highlight urgent and emergency requests as soon as they are submitted. One online consultation system called PATCHS ([www.patchs.ai](http://www.patchs.ai)) has developed a novel approach to doing this using artificial intelligence (AI), which is used in GP practices across England. The approach uses deep learning and natural language processing, which purports to be easier to use for patients and GP practice staff than traditional approaches to patient triage that use multiple choice questionnaires.  *Aims*  The aim of this PhD project is to evaluate the use of AI Triage in GP practices using PATCHS. The primary approach will be qualitative utilising interview and observation-based techniques, though dependent on candidate preference and previous experience opportunities for using quantitative methodologies will also be possible.  *Methods*  The candidate will join a wider team who are evaluating PATCHS AI Triage. Qualitative evaluations will be based on in-depth ethnographic case studies at purposively selected GP practices. These will be supplemented by interviews with GP practice staff and patients at case study sites and other GP practices. The objective will be to capture emerging changes in implementation, experiences of AI Triage and unanticipated or complex causal pathways, to generate new theory of how AI Triage works in practice. If carried out, quantitative evaluations will focus on descriptive analyses of AI Triage implementation (fidelity, dose, and reach), and prediction accuracy.  *How the results of the research will be used*  In addition to contributing to scientific publications and presentations, results from the project will be used to inform NHS Digital policy on how to design and evaluate AI Triage in practice. They will also be used to create ‘how-to’ guides for GP practices and patients on how best to use AI Triage.  *Training and support*  The PhD candidate will be supervised by experts in online consultations, qualitative and quantitative methodologies. The candidate will receive training in qualitative and quantitative methods as appropriate, as well as access to a wide range of development opportunities from the University of Manchester Doctoral Academy, the NIHR Academy, and the SPCR. | |
| Indicative project costs: | |
| Research costs | £21,000.00 |
| Training expenses | £10,000.00 |
| Estimated total | £31,000.00 |
| Training and development provision by host: | |
| *Formal training:* The candidate will participate in the Doctoral Academy Training Programme of the Faculty of Medicine, Biology & Health (FBMH). It comprises of personal and professional training and development that can be tailored to the individual candidate’s learning needs and ambitions. 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:* Clinical academic trainees in Greater Manchester receive support from the Integrated Clinical Academic Training (ICAT) programme, with access to trainee networking events and research showcases to build new collaborations. PhD students at the Centre for Primary Care & Health Services Research (CPCHSR) can access seminars run by the Centre and other research departments within FBMH spanning a range of disciplines and research methodologies. Doctoral training workshops and conferences organised by the NIHR SPCR, NIHR Academy, and Wellcome Trust are also available to attend. Candidates will be encouraged to participate in Early career researcher mentoring programmes within the University of Manchester and the NIHR. | |
| *PPIE*: CPCHSR hosts a dedicated PPIE group and has strong connections with voluntary sector organisations to enable inclusive involvement and participation in research. 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. | |