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| Host department:Southampton |
| Project Title: Developing and feasibility testing a behavioural intervention to support the use of decision aids to safely reduce the use of antibiotics for acute infections in primary care |
| Proposed supervisory team: |
| Dr Ingrid Muller (Qualitative and PBA intervention development expertise) and Dr Mark Lown (GP; technical expertise)  Professor Paul Little (clinical and quantitative expertise)  Professor Chris Butler (Oxford) (clinical trial and routine data expertise)  Professors Francis, Moore, Stuart, Hay and Dr Sarah Tonkin-Crine (Oxford) will also form part of the wider supervisory team |
| Potential for cross consortium networking and educational opportunities: |
| This project build on long term networking among several departments in the consortium with strong interests in antimicrobial stewardship (Southampton, Oxford and Bristol).  In addition to the opportunities for key mid level researchers (leads Lown and Muller) the project will provide educational opportunities for other early career clinical researchers (e.g. ACF) and non-clinical researchers who wish to join the project – particularly in seeing how the Person-Based Approach is used in developing complex pragmatic interventions to change behaviours. |
| Project description: |
| Background. One in three people see doctors or nurses each year with common infections, such as colds, flu, chest, ear, sinus and urine infections. Half of these receive antibiotic, and even though consultations have reduced the rate of prescribing has increased since the COVID-pandemic; but antibiotics mostly don’t help. Overuse of antibiotics causes antibiotic resistance (i.e. where antibiotics no longer work well) which is increasing and is a major threat to public health. Systematic reviews suggest that aids to help guide prescribing (‘decision-tools’) are one of the most encouraging methods to reduce antibiotic prescribing, but they have been trialled in very few infections. Recent research has provided potential algorithms for a range of infections that could potentially be developed into pragmatic decision tools. However, almost no studies that have tried to reduce antibiotic prescribing in general practice have worked with clinicians and patients to develop and use these decision tools effectively. Also, few studies have used approaches that could easily be used nationwide, nor looked at the whole range of infections in all ages.  Aim. To develop and test a package to help doctors, nurses and patients make best use of antibiotics for common infections in primary care  Possible component projects:   * qualitative interview studies of patients and clinicians to explore their views of decision aids * complex intervention development using the Person-Based Approach with key stakeholders, incorporating the decision aids into a broader evidence-based intervention (including peer -led audit, and communication skills training) : this will involve the key steps of using the PBA to develop complex interventions: create a behavioural analysis table, logic model and guiding principles for important influences on key behaviours (identified from stakeholders, previous studies, the published literature, and relevant theory) and how these will be addressed - to focus group discussions and document reasons for decisions. * a feasibility study in primary care practices, and time/progress permitting a feasibility trial among 10 practices (with a view of a subsequent full trial application)   Potential impact  This programme of research will lead to an evidence-based intervention designed to provide more targeted use of antibiotics for the range of acute infections which could be used nationwide. |

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| Training and development provision by host: |
| *Formal training:*  The training plan will be informed by an analysis of the academic needs of the candidate carried out in the first month. Training will be directed towards helping the candidate develop as an independent researcher, as well as towards the needs of the programme.  The formal taught postgraduate research training programme at the University of Southampton includes epidemiology, statistics, research governance and study design. In addition, transferable skills courses are offered including Good Clinical Practice, time management, leadership, grant writing, and presentation skills. The candidate will also be able to access free on-line masterclasses on systematic reviews and meta-analysis, workshops on PBA, research governance, ethics, patient and public involvement and engagement, developed by leaders in the SPCR. |
| *Informal training:*  The Fellow will also be offered mentorship from a senior primary care academic working in an external institution, meeting twice a year. Mentors receive formal training, developed by the Society for Academic Primary Care, to ensure independence and appropriate support. The Fellow will also have access to informal mentoring from senior members of the collaboration at an annual training meeting, and to participate in national and international (Brisbane) exchange programmes. |
| *PPIE:*  Two named PPI individuals joined the research team from the start and were involved in the development of the application. Our PPI collaborators had also been involved in previous projects in the group, were already well aware of the risks of antibiotic resistance, and interested in the key aim of the project to reduce antibiotic use.  Our collaborators supported the proposed elements of the intervention, which were all seen as important - but particularly the use of interactive discussion in the consultation using informative patient facing materials including the importance of decision aids having an output that could be discussed with patients.  The discussion about what the key outcomes should be to use when it comes to the main trial (should a main trial be funded) was difficult for both PPI collaborators and the academic collaborators alike – in the end both antibiotic use (from the patient diaries) and antibiotic prescribing (from routine data) were seen as important, as was the documentation of complications (particularly should antibiotic use be effectively reduced). The project will allow further discussion of these issues with all stakeholders.  We had additional external PPI review to refine proposals for PPIE engagement from several sources:   1. from an NIHR PGfAR panel at two stages of reviewing 2. from our department review panel: two PPI members 3. external reviews from PPI members for an SCPR grant   We will work with PPI collaborators (including both the two named PPIE collaborators involved to date, but also a series of PPI stakeholder panels) to ensure that this research is addressing the needs of patients and the public, and is feasible and acceptable to patients. |