Thank you.

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| Host department: Oxford |
| Project Title: Improved management of recurrent UTI using insights from routinely and prospectively collected data |
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| Proposed supervisory team: |
| Gail Hayward, Thomas Fanshawe, Chris Butler, Beth Stuart, Haroon Ahmed ( for sail)  Other members of the supervisory team |
| Potential for cross consortium networking and educational opportunities: |
| People AMR network  HRC network |
| Project description: |
| Urinary tract infections (UTIs) are the commonest bacterial infection managed in primary care. Around 6% of all women in the UK have recurrent UTI, where they experience frequent episodes of UTI, which is associated with significant disruption to quality of life. Antibiotics are usually prescribed without recourse to diagnostic tests, and antimicrobial resistance is a growing problem that impacts on our ability to manage these infections in the community. There has been rapid progress in the diagnosis of UTI recently: new technology can now rapidly identify the species of infecting organisms at the point of care. This project provides a unique opportunity to start to answer questions regarding the best approach to managing these recurrent infections, including how to integrate the findings of these new technologies. It will enhance skills in statistical methods and the manipulation and analysis of large routinely collected data. It will leverage existing data sources, including from our unique prospective observational studies and clinical trials.  Objective 1: Identify specific UTI symptom profiles associated with species of urinary pathogen and treatment outcomes.  Plan: Conduct cluster analyses on datasets generated by large primary care UTI trials to correlate symptom profiles with culture results and recovery/relapse patterns; to understand whether antibiotic therapy could be better targeted based on the type of organisms identified.  Objective 2: Understand whether we could identify those patients with recurrent UTI who are more or less suitable for non-antibiotic prophylactic measures.  Plan: Describe impact of with methenamine hippurate, and vaginal oestrogen prophylaxis on recurrent UTI and explore factors associated with more successful prophylaxis using an existing the clinical practice research datalink dataset.  Objective3: Explore how clinicians could better predict which antibiotic classes are likely to be effective to treat UTI  Plan: Explore the association between use of antibiotic classes, nature of the infecting organism and antibiotic susceptibility profile of an incident UTI with antibiotic susceptibility profile of a subsequent UTI in women with recurrent UTI, using the SAIL dataset, unique in including both antibiotic prescriptions and urine culture results. |
| Indicative project costs: |
| Data sources all available  £2000 for access to SAIL  See FAQs |
| Training and development provision by host: |
| *Formal training:*  *Regular doctoral student training sessions covering arnage of methodologies and career development topics, PPI and EDI* |
| *Informal training:*  Departmental seminars and conferences, opportunities through links to modernising medical microbiological group and Ineos Oxford Institute |
| *PPIE*: Access to regular input from a PPI group of women with lived experience of recurrent UTI and links to the charity Bladder Health UK. |