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| Host department: UCLChoose an item. |
| Project Title: |
| Fluoroquinolone antibiotic treatment and adverse neuropsychiatric health outcomes in young people |
| Proposed supervisory team:  |
| Professor Irwin Nazareth (Academic GP and lead for the PCPH Mental Health Group, UCL)Dr Laura Horsfall (Senior Epidemiologist, Clinical Epidemiology and Electronic Health Records Research Team, UCL PCPH)Dr Thomas Pasvol (Barts and the London School of Medicine and Dentistry)We offer expertise in electronic health records, primary care, mental health, antibiotic prescribing, design and evaluation, and quantitative methodology (descriptive epidemiology, causal inference, risk prediction). We are a friendly and inclusive supervisory team who will support your training, personal development, and independent interests within the general project theme. |
| Potential for cross consortium networking and educational opportunities: |
| There are excellent opportunities for collaboration and learning:* Departmental Clinical Epidemiology and Electronic Health Records Research Team and the Mental Health Group with close links to UCL Psychiatry
* PhD students across UCL, e.g. Methodology groups
* NIHR School for Primary Care Research (national)
* Collaborations with NHS clinical service providers and policymakers locally and nationally
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| Project description: |
| Since their discovery in the 1960s, fluoroquinolone antibiotics have become increasingly popular antimicrobials for moderate to severe infections and are on the World Health Organization’s List of Essential Medicines. Fluoroquinolone antibiotics are known to cause very rare but severe adverse reactions that have only recently received attention from regulatory agencies. Warnings and legal restrictions are now in place across the US and Europe, but these antibiotics are still very popular in low- and middle-income countries. The decision to restrict these drugs in high-income countries was not based on large-scale quantitative analyses that might support action in other settings. These projects aim to describe sociodemographic and time trends of fluoroquinolone antibiotics and their associated adverse drug events (ADEs) in UK primary care. 1. A systematic review of fluoroquinolone antibiotic treatment and adverse neuropsychiatric health outcomes
2. A 20-year descriptive study of sociodemographic time trends in fluoroquinolone antibiotic prescriptions in the UK: a population-based cohort study using electronic health records.
3. Fluoroquinolone antibiotic treatment and adverse neuropsychiatric health outcomes in young people: a population-based cohort study using electronic health records.
4. The impact of regulatory decisions on fluoroquinolone antibiotics in high-income countries on prescription rates in low- and middle-income countries.

The trainee will learn how to manage and analyse electronic health records from the primary care setting. They will learn systematic review methods, descriptive epidemiology, and causal inference. The studies using electronic health records have been approved and data pre-extracted. The final study on global trends will require data access approvals. |

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| Training and development provision by host: |
| *Formal training:* Students will have access to high-quality (free) training available through the [UCL Doctoral Training](https://www.grad.ucl.ac.uk/) programme (e.g. >51 courses on Research skills and statistics): as well as department seminars, training, and research group meetings.  |
| *Informal training:* Students will be offered individual and small group support for learning including systematic review methods, quantitative methodologies, writing, career development etc. There is a large, motivated and supportive community of PhD students at the Research Department of Primary Care and Population Health (PCPH).  |
| *PPIE:* This is essential. PCPH has an Expert by Experience panel, and PPI recruitment can also be more targeted. |