



Application number/Title: 24559 - Weighing benefits and risks of therapies for the treatment of chronic inflammatory diseases

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Keywords provided by the Applicant PI to describe the research project:

Adverse-effects, chronic-diseases, decision-making, therapy, care quality

Application Lay Summary:

1a: Steroids are medications used to treat many diseases of long duration, such as asthma. For many conditions there are no approved alternatives to steroids or they are too costly. Our research aims to develop methods that allow clinicians and policymakers to balance harms and benefits of treatments in patients with common long-lasting diseases. This will be achieved by comparing side effects of treatments (e.g. diabetes, infections), developing new methods to identify patients likely to experience side effects and quantifying their full costs. This will allow building a strong case to support the introduction of new effective treatments into the NHS.

1b: The methods developed and the knowledge gained to identify what patients are more likely to experience side effects of therapy will allow tangibly improving the quality of life of people with multiple chronic diseases currently treated primarily with steroids and will empower patients to ensure that their needs are recognised and not neglected in service delivery. The new methodologies will have the potential to inform the establishment of priorities for the development of genetic diagnostic tests and to be applied in future treatment studies to improve patient care and quality of life.

1c: The proposed research is based on the analysis of UK Biobank data and of linked existing patient data from primary and hospital care. Methods to predict the risk of treatment side effects in patients with different chronic diseases that take account of the type of drug, its dose, duration and mode of administration

of drugs, as well as of the type of chronic disease will be developed and validated to be used in clinical practice and by policymakers.

The results of this research will be presented at scientific meetings, Patient and Public Involvement groups and published in scientific journals.

1d: Full cohort