

New research to reduce drug side-effects

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They are a group of drugs which millions of people rely on to keep pain at bay but they can have unwanted side-effects which are sometimes more serious than the original health problem. Now scientists at The University of Nottingham are taking part in the largest-ever study on the safety of Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) that has ever been performed.

The project is called SOS (Safety Of non-Steroidal anti-inflammatory drugs) and will study the medical information of 35 million people in Europe to assess the incidence and nature of harmful side-effects on the cardiovascular and gastrointestinal systems of patients. It's hoped the results will lead to better guidance for doctors on how to balance the advantages of prescribing the drugs with the associated risks of heart and digestive problems.

NSAIDs are widely used in medicine for treating pain, inflammation and [degenerative diseases](#) like arthritis. The most commonly-used are aspirin and ibuprofen. But their use is associated with an increased risk of minor and serious gastrointestinal complications. It's estimated that there are thousands of these cases in the European Union every year. Prompted by these problems, a new class of NSAIDs called 'Coxibs' have been developed to reduce the risk of this type of side-effect, but the use of these new drugs has since been linked with an increased risk of heart problems such as [heart attack](#) and stroke.

Clinicians and scientists now agree that the risk of stomach problems has to be balanced against the risk of cardiovascular interference. Both risks

may differ in one person and for the 30 different types of NSAIDS available in the EU. Up to now research studies have been too small to be effective in terms of providing decision models for doctors and drug regulators but it's hoped this new large survey will result in a much more accurate prescription method to minimize drug-related harm.

Over the next two and a half years, published literature on previous clinical trials and observational studies will be scrutinized to identify any methodological inconsistencies and knowledge gaps and this information will be used to design and carry out an EU-wide observational study. This study will be the biggest of its kind ever undertaken in this field. It will include data from more than 35 million Europeans, taken from existing healthcare databases in the UK, the Netherlands, Germany and Italy. The researchers will use the data to create a variety of decision models to help doctors prescribe the most suitable type of NSAID for a particular patient and lower the risk of unwanted gastrointestinal or cardiovascular side-effects.

The University of Nottingham is working with ten other leading European research institutions on the three-year project which is being funded with a 2.8 million Euros grant from the EC's 7th Framework Programme. Fundamental to the project is QResearch, a not-for-profit partnership between The University of Nottingham and leading primary care system supplier EMIS, which uses data collected over the past 17 years.

Professor of Clinical Epidemiology and General Practice, Julia Hippisley-Cox, who founded QResearch, said: “The SOS project will help quantify and compare the risks of different NSAIDs based on an individual's profile and should help lead patients and doctors make better decisions regarding treatment options”.

Project website: www.sos-nsaids-project.org

Provided by University of Nottingham ([news](#) : [web](#))

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