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New study to develop personalised treatments for psoriasis

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A world-leading taskforce led by The University of Manchester has begun work to create a new test to help medics work out which treatment plan is most likely to improve the disabling skin condition psoriasis, based on a patient's individual biological make-up.

The team, known as Psoriasis Stratification to Optimise Relevant Therapy (PSORT) is a unique partnership between five UK universities: Manchester, King's College London, Newcastle, Queen Mary and Liverpool, 10 pharmaceutical and diagnostics companies and the Psoriasis Association and NHS partners representing patients.

It has been set up as the result of a £5million funding investment from the Medical Research Council (MRC) and an additional £2million contribution from industry partners.

The four-year study will develop a targeted approach to treatment which could soon become reality for the one million NHS patients who suffer from the painful and potentially embarrassing skin condition - an approach known as stratified medicine.

Professor Chris Griffiths, a world-leading dermatologist based at The University of Manchester's Institute of Inflammation and Repair, is leading the groundbreaking study.

Professor Griffiths, who is also a Consultant Dermatologist at Salford Royal NHS Foundation Trust and Chair of the Experimental Medicine

Strategy Board for Manchester Academic Health Science Centre (MAHSC), said: "We will use state-of-the-art techniques to investigate different factors that may influence how well a particular treatment works. This will include studying the levels of the drug in a patient's body – which vary from person-to-person even when they are taking the same dose, as well as specific changes in the skin and blood; and differences in a patient's genetic make-up. By then bringing all this information together, through computer analysis, we will have the power to predict an individual's response to a particular treatment. It means patients will benefit from more effective treatment for their psoriasis that is individually tailored to them."

Professor Jonathan Barker, from King's College London who will also play a key role in the study, added: "This research builds upon world-leading research that exists in the UK stretching from gene discovery through to understanding what patients want out of treatment. The research networks that have been built within the NHS are unparalleled worldwide and provide the basis for these critically important studies."

Psoriasis is a disease well suited to 'stratification'. Because it affects a very visible part of the body (the skin), it is easy for doctors and patients to monitor the condition and how it responds to treatment. The biological samples needed to test a patient can also be collected in a relatively non-invasive way via skin biopsy. The research will also save NHS costs by reducing prescriptions for drugs that have little or no effect, and pharmaceutical companies will be able to use the information generated to develop more effective drugs for psoriasis.

Dr Des Walsh, Head of Stratified Medicine at the MRC, said: "Even the most advanced drugs rarely work for all patients who take them. In recent years, we've begun to understand more about the subtle biological variations that help explain why some people taking a particular drug will get better, while others will show no improvement or suffer serious

side effects. By investing in collaborations like PSORT, the MRC is helping scientists and doctors to make the first steps towards prescribing drugs and therapies that are tailored to individual patients, leading to a vast improvement in their quality of life."

During the four-year study, the team will collect and evaluate comprehensive information on 7,000 patients including responses (good and bad) to biological therapies.

The studies have been designed to ensure the outcomes will meet the needs of patients, the healthcare system and industry, as well as informing future medical research.

In the past 10 years there has been a dramatic improvement in outcomes for patients with severe psoriasis thanks to the introduction of a new class of injectable drugs called biologics. These work by blocking specific parts of the immune system which are important in causing psoriasis. However, these drugs are very expensive - it costs about £10,000 a year to treat one patient - and about half those who take them may fail to respond at some stage. Currently, doctors have no way of knowing whether a particular drug will work for a patient.

Stiefel, a GSK company, is a member of the taskforce. Simon Jose, Stiefel President, said: "We are delighted to be part of this ground-breaking study, which could lead to improvements in outcomes for psoriasis sufferers. If we can predict patient responses to individual therapies, we could then personalise treatments for each patient which could lead to better outcomes. Open collaborations, like this one, are vital and create new possibilities for innovation in dermatology."

Psoriasis patient Lydia Warner, aged 50, from South Wales, began having symptoms aged 25 and over the years has been through the experience of 'trial and error' prescribing for her psoriasis before finding

a biologic therapy that is working for her.

The mother-of-two said: "Research like this is crucial has it will help stop patients going through what I've been through and will mean they get the treatment that is right for them earlier letting them concentrate on their lives."

The findings will also help scientists to understand the mechanics behind this difference in response and may also improve treatment of other immune inflammatory diseases, such as arthritis and Crohn's disease.

More information: www.psort.org.uk

Provided by University of Manchester