

Type 2 diabetes drug trial uses patient experience to find their best drug

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An innovative trial which invited people to take three drugs in turn, then choose their preferred option, has generated insights into which type 2 diabetes drug is best to prescribe to individuals.

Led by the University of Exeter and funded by the Medical Research Council, the TriMaster trial presents today at the Annual Conference for the European Association of the Study of Diabetes (EASD). In a pioneering design, it invited people to try three commonly prescribed drugs for lowering blood glucose levels in type 2 diabetes. Each of the three drugs, pioglitazone, sitagliptin and canagliflozin, was taken in turn, for a period of 16 weeks each. The participants did not know which [drug](#) they were taking at what time. Their clinical features, such as BMI and [kidney function](#), were measured, and they gave feedback on the benefits and side effects of each drug.

The study is the largest of its kind, involving 525 participants across 24 NHS sites who all had type 2 diabetes, and high blood sugar levels on their initial diabetes treatment. The study was a collaboration between the universities of Exeter, Dundee, Glasgow and Oxford and the Royal Devon and Exeter NHS foundation trust.

The findings led to insights which will help clinicians prescribe the best of the three drugs for individual patients in future. They showed simple measures of BMI and how the kidneys worked would help choose the drug likely to lower glucose the most.

Dr. Beverley Shields, of the University of Exeter, led the trial analysis. She said: "Our trial is the first time the same patient has been given three different drugs in turn in diabetes. It is clear that different drugs are right for different people. The outcomes of this study will help clinicians make the best choices for people with type 2 diabetes in future."

People in the trial were asked which drug they preferred and there was a fairly equal split between the three drugs with 39% choosing canagliflozin, 35% choosing sitagliptin and 26% choosing pioglitazone. The top drug chosen by a person was usually the drug that lowered their glucose the most and the drug they had the fewest side effects on when

they took it.

Tim Keehner, 58, from Mid Devon, has type 2 diabetes. He took part in TriMaster after his previous medication failed to lower his [blood glucose levels](#). His experience of the three drugs differed greatly, with one producing side effects such as diarrhea and stomach cramps, while another left him with low energy levels. "One of the drugs left me feeling absolutely fantastic, really energized and with no side-effects. I'm now on that drug permanently and I'm delighted I took part in the trial. It helped me find the right medication for me, and it fixed the issue. It was really valuable to try all three drugs and give instant feedback on the basis of how I felt getting out of bed in the morning, and it's rewarding that it'll make a difference to other people."

Professor Andrew Hattersley, of the University of Exeter, who oversaw the trial, said: "More than four million people in the UK are living with type 2 [diabetes](#). Getting the right treatment is crucial to living as well as possible and avoid complications. The approach of patients trying all possible drugs for a short period , like we did in the trial, is an exciting way that the patient can find the best treatment for them."

Provided by University of Exeter

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