Thank you to all participants who took part in the BARDOS trial. It would not have been possible to undertake this study without their help.

BARDOS was completed at the Imperial College Clinical Research Facility at Hammersmith Hospital, London between September 2021 and June 2025. It was run by Professor Tricia Tan, with Dr Yasmin Tabbakh undertaking the study visits along with help from the rest of the research team. The trial was funded by NovoNordisk UK Research Foundation and Leadiant Biosciences and sponsored by Imperial College London.

The study was looking at the effects of bile acids on both diabetes and gut hormone release. Gut hormones (such as glucagon like peptide 1 or GLP1) are released after a meal and help regulate appetite and have had major implications in weight loss with rise of use of GLP1 analogues such as Mounjaro and Ozempic. There has been some limited research trials quoting the benefits of bile acids in diabetes and their role to potentiate gut hormones which in turn could suppress appetite, but these were small scale trials and BARDOS was designed to explore this further.

36 participants who had pre diabetes or diabetes (on tablet medication only) were included in the study and they were individually randomised to receive either a primary bile acid (Chenodeoxycholic acid or CDCA), a secondary bile acid (Ursodeoxycholic acid or UDCA) or a placebo tablet for a period of 6 weeks. They came in for 4 scheduled visits to check changes in their weight, BMI and body composition, to check levels of gut hormones after a meal, and to assess their energy expenditure which is a measure of how well you burn calories. All patients also undertook a specialist test called a hyperinsulinaemic euglycaemic clamp which involved an insulin infusion and careful monitoring of their blood glucose levels. This would assess their diabetes and check for any improvement following the treatment. Patients were also asked to give a stool sample to assess whether bile acids had an influence on their gut microbiome, another important factor in diabetes control and weight loss.

The study has been analysed and showed that there was no change in GLP1 levels in patients or changes in their insulin resistance (a measure of diabetes). The microbiome work is currently still being analysed.

This study is the first mechanistic randomised controlled trial which has assessed the effects of bile acids on gut hormones and insulin resistance on a medium timescale (6 weeks) and it importantly it has shown that the effects of bile acids are not as directly involved in weight loss and diabetes as previously thought. This may redirect ongoing research elsewhere to other therapeutic agents.