

Behavior change program linked to 20% reduction in risk of diabetes

February 28 2023, by Mike Addelman



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An NHS behavior-change program has been linked to a significant reduction in the risk of developing type 2 diabetes mellitus in adults with raised blood sugars.

The analysis, carried out by University of Manchester researchers shows that when controlling for the characteristics of participants, the risk of [diabetes](#) progression was 20% lower in people with pre-diabetes referred to the NHS Diabetes Prevention Program (NDPP) when compared to similar patients not referred to NDPP.

The study is published today (Feb. 28) in the journal *PLoS Medicine*.

The NHS Healthier You Diabetes Prevention Program in England is offered to non-diabetic adults with raised blood sugars—or pre-diabetes—providing exercise and dietary advice to help reduce people's risk of developing the disease.

Across the 2,209 GP practices for which the researchers had data, more than 700,000 people were identified with pre-diabetes and about 100,000 had a code in their [health records](#) indicating they were referred to the program.

18,470 patients referred to NDPP were matched to 51,331 similar patients not referred to NDPP.

The probability of converting to type 2 diabetes at 36 months after referral was 12.7% for those referred to the NDPP and 15.4% for those not referred to the NDPP.

Using a figure of 1,000 people referred to NDPP and 1,000 not referred to NDPP, by 36 months after referral, the team calculate they would expect 127 conversions to type 2 diabetes in the group referred to the program and 154 in the group not referred.

The mechanism for the difference is likely to be through [weight reduction](#), with previous work showing that people who attended the NHS DPP were associated with a significant reduction in weight—the

key factor in reducing risk—of 2.3 kg on average.

In addition, prior work also showed levels of HbA1c—the average blood sugar levels for the previous two to three months—reduced by a significant 1.26 mmol/mol.

Most of the previous trial results have shown that weight loss is the key factor in reducing risk of the disease; increased BMI was also a key factor.

Dr. Rathi Ravindrarajah from The University of Manchester said, "Our findings show that the NDPP appears to be successful in reducing the progression from non-diabetic hyperglycemia to type 2 diabetes.

"Even though we were only able to examine referral to the program, rather than attendance or completion, it still showed a significant reduction in risk of 20%.

"That suggests the decision to implement program quickly and at scale in England was the right one.

"And as the results are reproducible, it also supports the continuation of similar programs to Northern Ireland, Scotland and Wales."

Professor Evangelos Kontopantelis from The University Manchester said, "Type 2 diabetes is a major public health concern which has been rising globally, with over 3 million people in the U.K. currently diagnosed with it.

"Previous studies have shown that both [lifestyle modifications](#) through diet and physical activity and medication can prevent progression to this condition.

"This study is good news for the Healthier You Diabetes Prevention Program which we show beyond doubt is a powerful way to protect your health."

Health and Social Care Secretary Steve Barclay said, "The NHS Diabetes Prevention Program has seen promising results with a 20% reduction of risk to those taking part developing type 2 diabetes, empowering people suffering with pre-diabetes to take control of their own health.

"Type 2 diabetes costs the NHS around £10 billion a year, but this evidence-based program is an example of how we can help people make [lifestyle changes](#) to prevent the disease progressing, while ensuring value for the taxpayer."

NHS national clinical director for diabetes and obesity, Professor Jonathan Valabhji, said, "This important study is further evidence that the NHS is preventing type 2 diabetes and helping hundreds of thousands of people across England to lead healthier lives.

"We completed roll out of the NHS Diabetes Prevention Program in 2018, and now over 1.2m people have been offered support with lifestyle changes including better quality nutrition, weight loss, and increased [physical activity](#), which this study shows is preventing development of this life-changing condition."

More information: *PLoS Medicine* (2023).
www.fundingawards.nihr.ac.uk/award/16/48/07

Provided by University of Manchester

Citation: Behavior change program linked to 20% reduction in risk of diabetes (2023, February

28) retrieved 12 May 2024 from

<https://medicalxpress.com/news/2023-02-behavior-linked-reduction-diabetes.html>

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