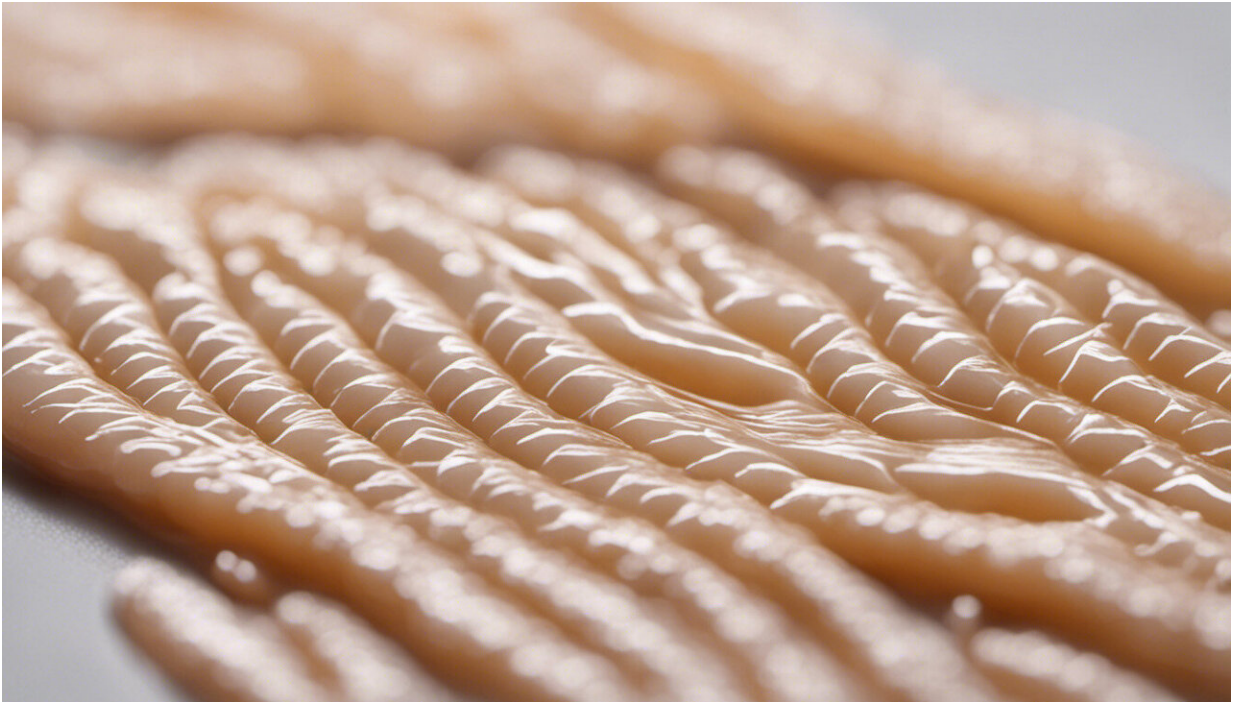


# Diabetes—the good news and the bad news, and what next for the future

July 25 2018, by Calum Sutherland

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[Alarming stories](#) about the [diabetes](#) epidemic that threatens millions of lives – and the NHS itself – have become commonplace, and with good reason. Around 4.6m people in the UK are living with diabetes while a further 12.3m are at increased risk of developing it. The NHS spends an estimated £14 billion a year on treating diabetes and its [complications](#).

But there is some positive news amid the gloom. I chaired the 2018 [World Congress on Prevention of Diabetes and its Complications](#), where experts from around the world came together to discuss progress in both science and prevention programmes.

## **Type 1: preventable?**

Sometimes known as [juvenile diabetes](#) due to the age patients are normally diagnosed, type 1 is an [autoimmune disease](#) that attacks insulin-producing cells, leaving patients facing a lifetime of injections and deteriorating health. Improved care has focused on the ways that insulin is delivered and on minimising the impact of health [complications](#) on daily life. Scientists are now more convinced than ever that this type of diabetes can be [prevented](#). Although type 1 diabetes is only 5% of all diabetes, it still accounts for tens of thousands of patients who face health challenges every day and require a lifetime of medical support. The impact of prevention of type 1 diabetes would be significant.

The two breakthroughs that underlie this new optimism relate to early detection and prevention therapy. The genetic risk of type 1 diabetes is becoming clearer, and we now have the ability to measure a range of blood factors that appear during the early stages of the disease. Which means we are developing tools to identify those most likely to develop diabetes.

From there, we now have real hope that [immunotherapy](#) can stop the insulin-producing cells being destroyed. This covers a range of treatments – including vaccination – designed to change the way a person's immune system works. The important thing is to find a therapy that specifically shuts off the part of the immune system that attacks the [insulin-producing cells](#), leaving the rest of the defence system intact. Fears that immunotherapy would be too toxic and non-specific for children are being [challenged by evidence](#) in clinical trials. These have

shown that the therapy can be safe, and encouragingly, have shown signs of slowing down the progress of the disease.

## **Type 2: devastating**

This is the most common form of the disease, directly related to obesity and other lifestyle factors. Type 2 diabetes is devastating; within five to ten years patients could lose their kidneys, eyes, or legs. They may suffer cardiovascular and [other deadly diseases](#) linked to diabetes.

Since roughly [four out of every five](#) people with diabetes are overweight, the most effective single way to prevent the disease is to avoid weight gain. For 20 years, Finland, US and Australia have conducted diabetes prevention programmes to encourage [lifestyle changes](#), and they are seeing [positive results](#) in the health of their nations.

Many countries with very high levels of type 2 have followed suit. This involves "encouraging" people to agree to alter habits of a lifetime, and then provide years of support to maintain physical activity and improve their diet.

However, this alone may only reach around half of all type 2 diabetes, so these countries are increasingly targeting the [obesogenic environment](#) that makes it easy to put on weight and hard to lose it. This starts with talking to the food industry, but also has to include legislation to reduce the impact of the most damaging aspects of our diet. A sugar tax has already been introduced in many countries and we'll learn very soon how effective it is in reducing diabetes and its health problems.

The Scottish government was met with [tabloid fury](#) and [corporate lobbying](#) over its [Minimum Unit Pricing](#) for alcohol and [recent plans](#) relating to 2-for-1 pizzas and "all you can eat" buffets. These measures are never popular but they are increasingly necessary. Taxes and

subsidies can help reset the balance between the cost of healthy and unhealthy food. Making high-fat and high-sugar foods more expensive could help to increase demand for healthy alternatives and consequently reduce price.

## Preventing complications

People don't drop dead because they develop diabetes. They can live for decades with the condition, but quality of life is another matter. Type 2 diabetes prevention programmes should also include people who already have the disease.

Lifestyle changes can slow progression and reduce serious health issues, and, in some cases, even reverse the disease. For many, strictly following a low-calorie diet immediately after a diagnosis can put type 2 [in remission](#). But its success depends on individual commitment, so there needs to be support to help each person achieve this difficult goal, and then maintain the lifestyle to prevent the [disease](#) returning.

The possibility of developing immunotherapy to prevent type 1, and proving that type 2 can be sent into remission, are the two most exciting developments in diabetes research for many years.

If it was possible to prevent at least half of type 2 cases – which we believe can be done by changing lifestyle and environmental factors – then the amount spent treating diabetes and its complications could be halved. That's billions freed up for the NHS. Most importantly, it would improve patients' quality of life and life expectancy.

The link between cheap, sugary and fatty food and obesity and type 2 [diabetes](#) is indisputable. The healthy/unhealthy food cost ratio has to change because the evidence is that education – while valuable – is not enough by itself. The [evidence](#) from many countries shows that in most

chronic, lifestyle-related diseases, legislation is faster and often more effective.

The apocalyptic scenarios often painted are not inevitable, but they are likely if we carry on as we are. People need to accept some hard truths about their lifestyle, and bold political leadership is needed to make unpopular decisions for the benefit of the nation's health.

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