

Diabetes Will Double by 2050

Analysis by [Dr. Joseph Mercola](#)

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STORY AT-A-GLANCE

- › In 2021, 529 million people had diabetes worldwide, for a prevalence of 6.1%, making it among the top 10 leading causes of death and disability
- › The number of people with diabetes globally may roughly double by 2050, reaching more than 1.31 billion
- › Close to half the 204 countries and territories included in the study will have a diabetes prevalence rate over 10%
- › The study revealed that nearly all global cases of diabetes — 96% — are Type 2, with high body mass index coming in as the primary risk factor, accounting for 52.2% of related disability and mortality
- › Diabetes prevalence is increasing worldwide primarily due to a rise in obesity, the systematic analysis concluded

In 2021, 529 million people had diabetes worldwide, for a prevalence of 6.1%, making it among the top 10 leading causes of death and disability.¹ However, this figure may roughly double by 2050, reaching more than 1.31 billion,² according to a team of scientists with the Institute for Health Metrics and Evaluation (IHME) at the University of Washington's School of Medicine.³

The systematic analysis used data from the Global Burden of Diseases study, revealing that diabetes prevalence in regions such as North Africa and the Middle East may reach

as high as 16.8% – up from 9.3%⁴ in 2021. Further, close to half of the 204 countries and territories included in the study will have a diabetes prevalence rate over 10%.⁵

Type 2 Diabetes Accounts for 96% of Cases

The study revealed that nearly all global cases of diabetes – 96% – are Type 2, with high body mass index coming in as the primary risk factor, accounting for 52.2% of related disability and mortality. The next most common risk factors included:⁶

- Environmental/occupational risks
- Tobacco use
- Low physical activity
- Alcohol use

Those 65 and older were also more likely to be affected. This age group had a diabetes prevalence rate of more than 20% worldwide, which rose to 24.4% for those aged 75 to 79. Breaking it down by region, over-65s in North Africa and the Middle East had a diabetes prevalence rate of 39.4%, compared to 19.8% in Central Europe, Eastern Europe and Central Asia.⁷

The study, which was funded by the Bill & Melinda Gates Foundation, found diabetes rates are expected to increase in every country in the world. In Latin America and the Caribbean, for instance, diabetes is expected to affect 11.3% of the region's population by 2050.⁸ According to the study's lead author, IHME's Liane Ong:⁹

"The rapid rate at which diabetes is growing is not only alarming but also challenging for every health system in the world, especially given how the disease also increases the risk for ischemic heart disease and stroke.

While the general public might believe that T2D is simply associated with obesity, lack of exercise, and a poor diet, preventing and controlling diabetes is quite complex due to a number of factors. That includes someone's genetics, as

well as logistical, social, and financial barriers within a country's structural system, especially in low- and middle-income countries."

The team studied the following 16 risk factors, and all of them were linked to Type 2 diabetes:¹⁰

Ambient particulate matter pollution	Household air pollution from solid fuels	Smoking
Secondhand smoke	High alcohol use	High body-mass index (BMI)
Diet low in fruits	Diet low in vegetables	Diet low in whole grains
Diet high in red meat	Diet high in processed meat	Diet high in sugar-sweetened beverages
Diet low in fiber	Low physical activity	High air temperature
Low air temperature		

The researchers pointed out disparities in different regions of the world that may be driving up rates disproportionately. Study author Lauryn Stafford, post-bachelor fellow at IHME, explained:¹¹

"Some people might be quick to focus on one or a few risk factors, but that approach doesn't take into account the conditions in which people are born and live that create disparities worldwide. Those inequities ultimately impact people's access to screening and treatment and the availability of health services.

That's precisely why we need a more complete picture of how diabetes has been impacting populations at a granular level."

Rise in Obesity Driving Soaring Diabetes Rates

Unlike Type 1 diabetes, which is caused by an autoimmune reaction, during which the body mistakenly attacks and destroys insulin-producing cells in the pancreas known as beta cells, Type 2 diabetes is often caused by lifestyle factors.

While multiple factors were linked to Type 2 diabetes, The Lancet study, in fact, tied rising Type 2 diabetes rates to increases in global obesity:¹²

"Type 2 diabetes, which makes up the bulk of diabetes cases, is largely preventable and, in some cases, potentially reversible if identified and managed early in the disease course. However, all evidence indicates that diabetes prevalence is increasing worldwide, primarily due to a rise in obesity caused by multiple factors."

They specifically called out "greater availability of shelf-stable and high-calorie products," "limited financial and proximal access to healthy food options" and "increased consumption of ultraprocessed food" as major contributors to obesity and, in turn, diabetes. They also called out increased intake of animal products – likely a nod to Gates' attempts to make fake meat products go mainstream.

The team further stated that "although obesity is theoretically reversible and addressing it could provide the biggest opportunity to limit the advance of diabetes," ... "no program to date has shown long-term, sustained, population-level reductions in obesity."¹³

Instead, they focus on the World Health Organization's five diabetes targets outlined in its Global Diabetes Compact and state that creating change will require a "multifaceted, long-term approach with contributions from policy makers, regulators, educators, public health officials and the medical community." It's true that Type 2 diabetes and obesity can be complex, but there are simple, straightforward strategies that can help.

Omega-6 Linoleic Acid Likely Major Culprit for Causing Diabetes

According to the United States Department of Agriculture (USDA), soybean oil, which is loaded with LA, is far and away the most widely produced and consumed edible oil in the United States. University of California Riverside researchers found in 2015 that soybean oil induces obesity, diabetes, insulin resistance, and fatty liver in mice.

Then in a 2017 study, the same group learned that if soybean oil is engineered to be low in linoleic acid, it induces less obesity and insulin resistance.^{14,15}

The study only reviews the finding but doesn't speculate on mechanisms which are likely related to LA becoming embedded in the inner mitochondrial membranes and causing reverse electron flow in the electron transport chain which increases reductive stress which then radically diminishes the mitochondria's ability to burn glucose.

Because the mitochondria is unable to burn glucose it is metabolized in the cytoplasm through glycolysis (Warburg effect). This pathway is unable to process all the glucose so it leaks out into the cell raising blood sugar. To learn more about linoleic acid please review [my recent article and video and the review paper](#) I had published in the high impact nutrition journal *Nutrients*.

Avoid Statins – They Double Diabetes Risk

In the U.S. alone, 40 million adults take statin cholesterol-lowering medications in the mistaken belief that this will reduce their risk of heart disease.¹⁶ These drugs are also recommended for adults with diabetes,¹⁷ even though they increase the risk of this condition.¹⁸

After accounting for factors such as age, gender, ethnicity, education and body mass index, researchers from The Ohio State University found those who used statins during the study were two times as likely to be diagnosed with diabetes than those who did not take statin medications.¹⁹

Individuals who used statin drugs longer than two years were more than three times as likely to get the disease.²⁰ The data also indicated that individuals taking statin medications had a 6.5% increased risk of high blood sugar as measured by hemoglobin

A1c values. In the event you're taking statins, be aware that they deplete your body of coenzyme Q10 (CoQ10) and inhibit the synthesis of vitamin K2.

This also has a diabetes connection. In a May 2023 paper, Canadian researchers announced they had newly identified a protective role that vitamin K plays against diabetes.²¹ Researchers from the University of Montreal first determined that vitamin K was present in large quantities in beta cells – where insulin is produced – and involved in gamma-carboxylation.

Then, using an animal model, they identified the role vitamin K plays in the gamma-carboxylation inside the beta cells and how the presence of vitamin K may help protect against diabetes. Julie Lacombe conducted the laboratory work and commented in a press release:²²

"We were able to identify a new gamma-carboxylated protein called ERGP. Our study shows that this protein plays an important role in maintaining physiological levels of calcium in beta cells in order to prevent a disturbance of insulin secretion. Finally, we show that vitamin K through gamma-carboxylation is essential for ERGP to perform its role."

The researchers pointed out that this is the first time in 15 years a new vitamin K-dependent protein has been identified. This potentially opens a new area of research in the role vitamin K plays in the body, as well as new therapeutic applications for diabetes – and perhaps another avenue by which statin drugs are contributing to the disease.

Magnesium Deficiency Linked to Type 2 Diabetes

It's estimated that more than half of the U.S. population may not be consuming enough magnesium.²³ The primary role of minerals is to act as cofactors for enzymes, but that's just the bare minimum.

Type 2 diabetics also tend to be more prone to magnesium deficiency, and magnesium depletion has been found in 75% of patients with poorly controlled Type 2 diabetes.²⁴ Further, low magnesium levels have been linked to a higher risk of insulin resistance, a

precursor to Type 2 diabetes,²⁵ as it impairs your body's ability to regulate blood sugar, which is important for the prevention of Type 2 diabetes.

In one study, prediabetics with the highest magnesium intake reduced their risk for blood sugar and metabolic problems by 71%, compared to those with the lowest intake.²⁶ High levels of insulin in the blood, common with insulin resistance, also lead to further loss of magnesium.²⁷ You only need about 150 milligrams (mg) to 180 mg a day to prevent deficiency, but optimal levels are closer to the 600 mg/day level.

Dark green leafy vegetables are a good source of magnesium, and juicing your greens is an excellent way to boost your intake, although supplementation is likely necessary for most people. For oral supplementation, my personal preference is magnesium threonate, as it appears to be the most efficient at penetrating cell membranes, including your mitochondria and blood-brain barrier.

What You Eat, and When You Eat It, Counts

Diets that focus on ultraprocessed foods and fast foods are at the root of the problem, driving up obesity and Type 2 diabetes, as they are loaded with dangerous seed oils, misleadingly named "vegetable oils."

Yet, the American Diabetes Association continues to recommend seed oils like canola "as part of a healthy balanced diet."²⁸ These oils, which are also widespread in fake meat products, are rich in **omega-6 linoleic acid**. An important take-home message is that linoleic acid is not digested. Instead, it is stored while saturated fat is mostly burned or oxidized and used up.²⁹

Eating a balanced, healthy diet of fresh, organically raised fruits and vegetables and steering clear of artificial sweeteners — which are also linked to Type 2 diabetes³⁰ — and all processed foods is the best way to take control of your glucose levels. The timing of your meals also matters.

Time-restricted eating (TRE) is a simple yet powerful intervention for weight loss and Type 2 diabetes prevention. TRE mimics the eating habits of our ancestors and restores

your body to a more natural state that allows a host of metabolic benefits to occur.³¹ Research shows, for instance, that TRE promotes insulin sensitivity and improves blood sugar management by increasing insulin-mediated glucose uptake rates,³² which is important for resolving Type 2 diabetes.

If you're overweight or obese, I recommend limiting your eating window to six to eight hours per day instead of the more than 12-hour window most people use. This, along with reducing your LA intake, will help many people avoid, and even reverse, Type 2 diabetes. Adding in other healthy strategies, like regular exercise and avoiding light at night,³³ will make it even easier for you to protect your metabolic health and avoid diabetes.

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