

REPLACE: a roadmap to make the world trans fat free by 2023



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Cardiovascular disease is the leading cause of death globally, accounting for one in every three deaths,¹ with nearly half of deaths in lower-income countries among people younger than 70 years.² WHO has identified the elimination of industrially produced trans fat (an artificial product contained in partially hydrogenated oils) from the food supply as an effective and cost-effective intervention to prevent cardiovascular disease.³ Industrially produced trans fat causes an estimated 540 000 deaths each year worldwide.² This chemical is toxic to people even at low levels of intake: trans fat clogs arteries and increases the risk of myocardial infarction and death.^{2,4} There is some evidence that it might also increase the risk of other health problems, including type 2 diabetes.⁴

On May 14, 2018, WHO and Resolve to Save Lives announced the REPLACE initiative to make the world trans fat free by 2023. The REPLACE action package provides countries with tools they can implement now to eliminate industrially produced trans fats from their national food supplies. REPLACE is the first global initiative to eliminate a risk factor for cardiovascular disease.

WHO develops science-based guidelines, sets implementable, evidence-informed policies to improve health, and then works in partnership with countries to make sure these policies are implemented. Resolve to Save Lives, an initiative of the international non-governmental organisation Vital Strategies, supports public health initiatives and programmes by strengthening public health organisations and policies, including providing technical and financial support to implement WHO-recommended guidelines and policies. Together with partners, WHO and Resolve to Save Lives hope to help the world eliminate industrially produced trans fat.

In its draft guidelines on saturated fatty acid and trans fatty acid intake that have been released for public comment, WHO recommends that total trans fat intake be limited to less than 1% of total energy intake,⁵ which translates to less than 2·2 g daily in a 2000-calorie diet, and has called for global elimination of artificial trans fats in the Impact Framework for its draft 13th General Programme of Work.⁶ The elimination of industrially produced trans fat from food to enable individuals to meet this recommendation is economically, politically, and technically feasible.

Accomplishing this goal will require governments to implement and enforce regulatory actions and establish surveillance systems to monitor compliance, as well as work with food manufacturers to reformulate food products by replacing industrially produced trans fats with healthier fats and oils that contain polyunsaturated (preferred) or monounsaturated fats. REPLACE aims to accelerate the elimination of industrially produced trans fats by providing governments with six strategic action areas that ensure the prompt, complete, and sustained elimination of this toxic chemical from the food supply (panel).

The sources of trans fats vary widely among countries,⁷ but until now there has been no systematic effort to measure or eliminate use of trans fats. There is no coordination by governments or standardised surveillance to monitor trans fat content in food or trans fat consumption, and this situation contributes to inconsistency in taking action.⁸ Various measures to eliminate exposure to industrially produced trans fats are effective,⁹ and have been incorporated into the REPLACE action package to provide an appropriate framework for countries to take action.

The elimination of industrially produced trans fat from foods has substantial health benefits. In Denmark, which in 2004 became the first country to restrict industrially produced trans fat in all food products, cardiovascular disease death rates decreased 3·2% more than in similar countries that did not implement restrictions.¹⁰ In New York City in the USA, restrictions on trans fat in food did not require any increase in budget

Panel: The REPLACE roadmap to eliminate industrially produced trans fat from the world's food supply

REview dietary sources of industrially produced trans fat and the landscape for required policy change

Promote the replacement of industrially produced trans fat with healthier fats and oils

Legislate or enact regulatory actions to eliminate industrially produced trans fat

Assess and monitor trans fat content in the food supply and changes in trans fat consumption in the population

Create awareness of the negative health impact of trans fat among policy makers, producers, suppliers, and the public

Enforce compliance with policies and regulations

to implement, prevented heart attacks and strokes, and saved lives. People living in counties in New York State with restrictions on industrially produced trans fat had a 7.8% greater decrease in hospital admissions for heart attacks between 2007 and 2013 than people in counties without restrictions.¹¹ In Argentina, near elimination of industrially produced trans fat from food is estimated to be associated with an annual 1.3–6.3% reduction in coronary heart disease events.¹²

After documenting through inspection that restaurants served food containing industrially produced trans fat, New York City initially asked restaurants to voluntarily switch to other products to reduce trans fat exposure. But because voluntary measures had no impact, regulatory action was needed, which led to rapid and near-complete elimination of this harmful compound.¹³ Restaurants replaced trans fat with healthier alternatives, achieving a reduction in trans fat consumption without an increase in costs or change in the range of menu offerings or in consumer perceptions of taste;¹⁴ there was also a concurrent 4.5% reduction in cardiovascular mortality in the years after restrictions were put in place.¹⁵

Approximately 45 countries, mostly higher income, have adopted approaches to reduce industrially produced trans fat, including legislative restrictions or bans, voluntary or mandatory food labelling, self-regulation by food manufacturers, and guideline recommendations for consumers and manufacturers. By the end of 2018, nearly 20 countries will have set mandatory limits or bans on industrially produced trans fat, including Canada and the USA, which are set to enact total bans later this year.¹⁶

However, at least two-thirds of people worldwide are insufficiently protected from industrially produced trans fat, with most associated deaths in low-income and middle-income countries.² Most of these countries have yet to implement national policies to restrict industrially produced trans fat in food. This is a fundamental issue of health equity—there is no reason that people in lower-income countries should continue to be exposed to a toxic chemical from which people in many wealthier countries have adequate protection. Every individual deserves to have the greatest possible level of protection for their health.

Replacement of partially hydrogenated oils with healthier oils that preferentially contain polyunsaturated fats is a simple process that can be achieved quickly by any country, and that can begin today. The REPLACE

action package is designed to help the world become trans fat free by 2023, a target that, if achieved, would save more than 500 000 lives each year from heart attacks and other cardiovascular diseases. The availability, cost, and taste of food would not change—only the heart will know the difference.

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