

COUNTDOWN TO 2023

WHO REPORT ON GLOBAL
TRANS FAT ELIMINATION
2021



World Health
Organization

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Countdown to 2023: WHO report on global trans fat elimination 2021

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Acronyms

CHD	coronary heart disease
COVID-19	coronavirus disease 2019
EAC	Eastern African Community
EAEU	Eurasian Economic Union
EU	European Union
FSSAI	Food Safety and Standards Authority of India
GHAI	Global Health Advocacy Incubator
GPW13	WHO 13th General Programme of Work
IFBA	International Food and Beverage Alliance
MERCOSUR	Southern Common Market (Mercado Común del Sur)
NCD	noncommunicable disease
PAHO	Pan American Health Organization
PHO	partially hydrogenated oils
SME	small and medium-sized enterprise
TFA	<i>trans</i> -fatty acids
WHO	World Health Organization

Foreword



The COVID-19 pandemic has taken millions of lives and caused massive disruption to families, societies and economies all over the world. It has also highlighted the deadly interplay between infectious and noncommunicable diseases (NCDs). NCDs kill more than 40 million people every year; cardiovascular disease is the main killer, accounting for nearly half of all NCD deaths. People living with NCDs, and particularly cardiovascular disease, are especially at risk of severe disease and death from COVID-19; many of those who have lost their lives to COVID-19 had an underlying NCD, such as cardiovascular disease, diabetes, chronic lung disease or cancer. Protecting against NCDs, including cardiovascular disease, is therefore essential for preventing premature mortality, and for making populations more resilient in the face of future epidemics and pandemics.

The urgent need for government action and policy measures to protect cardiovascular health is

more apparent than ever, particularly in regulating and mitigating diet-related risk factors, which are a major driver of preventable deaths from cardiovascular disease. Elimination of industrially produced trans-fatty acids (TFA) is a straightforward nutrition policy that will prevent heart attacks, save hundreds of thousands of lives, protect all people, reduce health inequalities and reduce pressure on already strained health systems.

The World Health Organization (WHO) remains steadfast in its commitment to eliminating industrially produced TFA by 2023. It is a WHO priority and a target in the 13th General Programme of Work, which guides the work of WHO through to 2025. WHO continues to support Member States to remove and replace these harmful substances with healthier oils and fats. The WHO REPLACE action

package and implementation tools provide the technical roadmap to achieve sustainable elimination. WHO will now verify and acknowledge country success with its new certification programme, which will establish accountability and accelerate progress towards the TFA elimination target by 2023.

Three years into the implementation of the 13th General Programme of Work, the global drive towards TFA elimination has been accelerating. Actions and benefits are expanding from higher-income countries, mostly in the Americas and Europe, to countries with fewer resources, in the regions of Africa, South-East Asia and the Western Pacific. The pace of progress and the trend are encouraging, but most countries are yet to act. There is still much to be done to meet the goal of global elimination of industrially produced TFA from the entire global food supply by 2023.

I urge leaders in governments to take aggressive steps to prevent NCDs, including through effective TFA elimination policies. I also urge the food industry to play its part by following through with the commitments made to eliminate industrially produced TFA and align products with WHO recommendations. This is our moment in history to support economic recovery from the pandemic and increase health security by making future generations healthier and more resilient to infectious diseases, such as COVID-19, by combating NCDs.

Dr Tedros Adhanom Ghebreyesus

Director-General

World Health Organization



Executive summary

This third annual report monitors global progress towards the 2023 target for global elimination of industrially produced *trans*-fatty acids (TFA), highlighting achievements from the past year. Countries are responding to the World Health Organization (WHO) call to action by putting into place best-practice TFA policies. Mandatory TFA policies are currently in effect for 3.2 billion people in 57 countries; of these, 40 countries have best-practice policies in effect, covering 1.4 billion people (18% of the global population).

Since May 2020, there has been significant progress in TFA elimination around the world: best-practice policies came into effect in Turkey in January 2021, the European Union in April 2021, Brazil in July 2021 and Peru in July 2021; a best-practice policy was passed in Singapore in June 2020 and came into effect in June 2021; best-practice policies were passed in India in February 2021 (to come into effect in January 2022), in the Philippines in July 2021 (to come into effect in July 2023) and in Paraguay in September 2020 (to come into effect in September 2024); and Bangladesh notified draft best-practice TFA policies for public comment in March 2021.

These recent major advances will affect other countries, as food manufacturers will reformulate products to comply with the new regulations. The new regulations can also serve as models and catalysts for other countries in regions and around the world to take similar action to protect their citizens from TFA. By aligning with these best-

practice policies, countries will achieve improved health outcomes and cost savings, while also benefiting from the more practical aspects of facilitated trade across countries and streamlined reformulation by industry.

This past year also marks important milestones to narrow the policy gap between regions and country income levels. India and the Philippines became the first and second lower-middle-income countries to pass a best-practice policy; Singapore became the first country in the Western Pacific Region to pass a best-practice policy, followed by the Philippines; Bangladesh's draft best-practice policy is expected to pass later in 2021, which would make it the third lower-middle-income country to do so; and policies are advanced and expected to pass soon in Nigeria, which would become the second country in Africa to pass a best-practice policy.

The most important challenges to TFA policy-making faced by countries over the past year were resource and capacity constraints due to the COVID-19 pandemic. Countries needed to divert most, if not all, attention to dealing with the crisis. Now that countries' responses and recovery plans are under way, governments must address the risk factors for noncommunicable diseases (NCDs) to build back more resilient and healthier populations.

Despite the recent progress in policy-making for TFA elimination, there is still a long way to go to cross the finish line. To meet the 2023 target, WHO recommends that countries take the following actions in the coming year.

- Develop and implement best-practice policies to set TFA limits or to ban partially hydrogenated oils.
- Leverage the policy wins in the countries that have developed best-practice TFA policies to accelerate policy progress; align policies with those of countries in the region with best-practice TFA policies to facilitate trade and reformulation.

- Invest in monitoring and surveillance mechanisms, such as laboratory capacity to measure TFA content in foods.
- Advocate for regional or subregional regulations to expand the benefits of TFA policies.

WHO will strengthen its support to countries working to eliminate TFA by:

- continuing to provide technical support for building regulatory capacities to accelerate best-practice policy development, implementation and enforcement in countries; this includes strengthening laboratory capacities to assess TFA content in foods;
- supporting countries in identifying and implementing feasible and health-maximizing TFA replacement solutions;
- disseminating country experiences, success stories and good practices, and recognizing achievements by countries; and
- undertaking global advocacy through existing and forthcoming platforms, such as the World Health Assembly, the United Nations Decade of Action on Nutrition (2016–2025), the United Nations Food System Summit (September 2021) and the Nutrition for Growth Summit in Japan (December 2021).

WHO expects food and beverage industry groups to fully implement the commitments they have made to eliminate industrially produced TFA from their product portfolios. WHO also expects major suppliers of oils and fats to step up to remove industrially produced TFA from the products that are sold to food manufacturers globally.

The new WHO Certification Programme for Trans Fat Elimination will open for country applications later in 2021. Countries are encouraged to apply and receive recognition for having eliminated industrially produced TFA from their national food supplies. The programme aims to accelerate progress towards the global elimination goal by 2023.



I. Introduction

Cardiovascular diseases have been the leading cause of death globally for the past three decades. The biggest killer is coronary heart disease, responsible for 16% of the world's total deaths. From 2000 to 2019, deaths from ischaemic heart disease rose faster than deaths from any other disease, increasing from more than 2 million in 2000 to nearly 9 million in 2019 (WHO, 2020a).

Addressing the COVID-19 pandemic remains a global priority today. Heart disease and other noncommunicable diseases (NCDs) lead to increased risk of serious illness and death from COVID-19 (Alqahtani et al., 2020; Roncon et al., 2020; Tian et al., 2020; Williamson et al., 2020a,b; Wang et al., 2020; Yifan et al., 2020; Zhang et al., 2020). This means that

actions taken to prevent NCDs can also prevent poor outcomes from COVID-19. Taking action to prevent cardiovascular diseases – such as through policies that improve the food environment and promote healthier diets – will not only save lives, but will also support economic and health system recovery in the wake of the COVID-19 pandemic by making future generations healthier and more resilient to infectious disease. One such nutrition policy is the elimination of industrially produced trans-fatty acids (TFA) from the global food supply. Intake of TFA is associated with increased risk of heart attacks and death from coronary heart disease (CHD) (WHO, 2019a).

Elimination of industrially produced TFA is a relatively simple policy measure that is within reach for countries, and the evidence for taking policy action is compelling and uncontested. TFA elimination is predicted to save 17.5 million lives over the next 25 years and prevent avoidable suffering (Kontis et al., 2019). Eliminating industrially produced TFA will reduce healthcare costs by preventing heart attacks, which require costly care (Bösch et al., 2021). Healthier options to replace TFA exist and are already being used by food companies; replacement does not change the taste of food or the cost to the consumer (Ghebreyesus & Frieden, 2018; WHO, 2019b). A recent modelling study found that eliminating industrially produced TFA can reduce inequalities in health, even in contexts with relatively low TFA intake (Marklund et al., 2020).

TFA elimination is also a practical action for countries to take. As more and more countries regulate TFA, food manufacturers can reformulate products in the same way for sale in multiple countries. This can reduce research and development costs, and allow easier trade between countries and within regions. Countries that are slow to regulate may see their TFA burden rise as manufacturers selling products that contain TFA search for markets that still allow food products to contain TFA. Therefore, implementing regulations even when TFA levels are low allows countries to prevent the problem from becoming more serious, and reduces future enforcement difficulty and cost. Actions to implement TFA

elimination may also provide an opportunity to build national regulatory systems that can be used to implement other policy measures to promote healthy diets and ensure food safety.

The World Health Organization (WHO) identified TFA elimination as one of the priority targets in its 13th General Programme of Work (GPW13). In 2018, WHO called for the global elimination of industrially produced TFA by 2023 with the launch of the REPLACE action framework, which provides a roadmap for countries to eliminate industrially produced TFA from their food supplies. WHO released additional resources in 2019 to support country actions, including six REPLACE implementation modules and a live policy tracking map – the TFA Country Score Card¹ – to monitor global progress towards the 2023 target. To assess and monitor progress, in 2020, WHO established a TFA indicator that records whether countries have adopted WHO best-practice policies for eliminating industrially produced TFA. This is one of the indicators in the WHO Triple Billion, an ambitious initiative to improve the health of billions of people by 2023. The Triple Billion indicators are the foundation of GPW13, acting as both a measurement and a policy strategy. TFA policy is one of the 16 indicators contributing to the target of 1 billion more people enjoying better health and well-being (WHO, 2020b).

Most recently, in 2020, WHO announced a new certification programme by which countries will be recognized for achieving complete and sustained TFA elimination (WHO, 2020c).

Countries are responding to this call to action, building global momentum around TFA elimination. Mandatory TFA limits or bans on partially hydrogenated oils (PHO) are currently in effect for 3.2 billion people in 57 countries. Of these countries, 40 have best-practice policies in effect, covering 1.4 billion people around the world, or approximately 18% of the world's population.

¹ <https://extranet.who.int/nutrition/gina/en/scorecard/TFA>

In the past 2 years alone, 27 countries have implemented best-practice TFA policies (Brazil, 21 European Union countries that did not previously have best-practice policies in effect, Peru, Saudi Arabia, Singapore, Turkey and the United Kingdom). These recently implemented policies more than double the coverage of the population that is protected by best-practice TFA policies.

Most policy actions to date have been in higher-income countries, and mostly in the regions of the Americas and Europe; none of the 3.9 billion people living in low- and lower-middle-income countries are currently protected by best-practice policies.

However, major milestones in the past year have begun to reverse this trend. These include India's passing of a policy that will offer best-practice protection to approximately 1.4 billion people as of January 2022, and passage of a best-practice policy in the Philippines to cover its population of 110 million, which is expected to take effect in July 2023. Regional regulations remain an important approach to the elimination of industrially produced TFA, especially for regions such as Africa and Asia, where there has been relatively little policy action to date, and resource-constrained countries where TFA elimination may not be a priority.

Nongovernmental stakeholders also continue to play an important role. Civil society has



TABLE 1. DEFINITIONS OF POLICY CATEGORIES

	<p>“Best-practice TFA policy”: Legislative or regulatory measures that limit industrially produced TFA in foods in all settings and are in line with the recommended approach. The two best-practice policies for TFA elimination are: 1) mandatory national limit of 2 g of industrially produced TFA per 100 g of total fat in all foods; and 2) mandatory national ban on the production or use of PHO as an ingredient in all foods.</p>
	<p>“Best-practice TFA policy passed but not yet in effect”: Best-practice policies have been passed but have not yet come into effect (as of September 2021).</p>
	<p>“Policies with less restrictive TFA limits”: Legislative or regulatory measures that limit industrially produced TFA in foods in all settings, but are less restrictive than the recommended approach (e.g. 2% limit for industrially produced TFA in oils and fats only; 2% limit for industrially produced TFA in oils and fats, and 5% limit in other foods; 5% limit for industrially produced TFA in oils and fats).</p>
	<p>“Policies with mandatory TFA limits”: A broader term that refers to both “best-practice TFA policy” and “policies with less restrictive TFA limits”.</p>
	<p>“Other complementary measures”: Legislative or other measures that encourage consumers to make healthier choices about industrially produced TFA (e.g. mandatory declaration of TFA on nutrition labels, front-of-pack labelling system that includes TFA, reformulation) or mandatory limits on industrially produced TFA in foods in specific settings (e.g. public institutions).</p>
	<p>“National policy commitment to eliminate TFA”: National policies, strategies or action plans that express a commitment to reduce industrially produced TFA in the food supply.</p>
	<p>“Monitoring mechanism for mandatory TFA limits”: A mechanism that monitors the legislative or regulatory measures for mandatory TFA limits.</p>

been catalytic in advancing policy changes in some countries.

Terms used in this report for policy categories are defined in Table 1.

This third annual report aims to track and accelerate progress towards the goal of global elimination of industrially produced TFA by 2023. The report:

- describes the current global, regional and national situations and changes during the past year (since May 2020);
- tracks progress of key policy outcomes and milestones;
- discusses challenges and opportunities for future action;
- highlights enablers and blockers of TFA elimination at the country level; and
- recommends strategic priorities for the next 12 months to achieve the 2023 target.

The report also highlights countries in each WHO region that have made significant policy advances in the past year.



II. Global progress

1. NEW GLOBAL INITIATIVES

In 2020, WHO announced the WHO Certification Programme for Trans Fat Elimination. The programme aims to accelerate progress towards the 2023 goal for global elimination by recognizing countries that have eliminated industrially produced TFA from their national food supplies. It also establishes country accountability. This is the first certification programme to recognize countries for their efforts to eliminate one of the main risk factors for NCDs, thereby protecting their populations from premature death.

To qualify for certification, countries must demonstrate that a best-practice TFA policy has been implemented – that is, that best-practice policies, and effective monitoring and enforcement systems are in place. Monitoring systems must cover domestically produced food and oils/fats products, and imported manufactured food products. Effective enforcement mechanisms must identify and address products that contain PHO or excess amounts of industrially produced TFA.

Table 2 lists countries with best-practice TFA policies in effect. These countries are encouraged to review their existing monitoring and enforcement systems. If these systems are in line with the technical requirements set out in the WHO Certification Programme, countries may wish to apply to be recognized for this major public health achievement. If monitoring and enforcement systems do not yet meet the requirements, countries are encouraged to strengthen their systems to ensure that policies are achieving their public health goal of reducing the burden of disease and saving lives.

TABLE 2. COUNTRIES WITH BEST-PRACTICE TFA POLICIES IN EFFECT

African Region	Eastern Mediterranean Region	European Region	Region of the Americas	South-East Asian Region	Western Pacific Region
South Africa	Saudi Arabia	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Turkey, United Kingdom	Brazil, Canada, Chile, Peru, United States	Thailand	Singapore

TABLE 3. COUNTRIES WITH A BEST-PRACTICE POLICY PASSED BUT NOT YET IN EFFECT OR WITH A BEST-PRACTICE POLICY PROJECTED TO PASS SOON

	African Region	Eastern Mediterranean Region	European Region	Region of the Americas	South-East Asian Region	Western Pacific Region
Passed				Paraguay, Uruguay	India	Philippines
Projected to pass soon	Nigeria			Argentina	Bangladesh, Sri Lanka	

Table 3 lists countries with a best-practice policy passed but not yet in effect or with a best-practice policy projected to pass soon. While waiting for their policies to come into effect, these countries may wish to review their monitoring and enforcement systems – existing or planned – taking into account the criteria in the WHO Certification Programme.

A number of countries have already expressed interest in receiving a certification for TFA elimination. In 2021, WHO will host a webinar for selected countries interested in certification. Countries will be able to apply for certification through the WHO website; WHO plans to start accepting applications later in 2021.

To measure progress towards achieving the TFA elimination target, in 2020, WHO established a TFA indicator as part of the GPW13 results framework for impact measurement. The indicator monitors whether countries have adopted best-practice

policies for eliminating industrially produced TFA (WHO, 2020d) and is used to estimate the proportion of the population that is expected to reduce TFA intake to the level recommended by the WHO guideline (i.e. less than 1% of total energy intake) by 2023 (WHO, 2020b).

Table 4 shows the estimated number of people with TFA intake exceeding the WHO recommended level of less than 1% of total energy intake, according to the year when countries’ best-practice policies took (or will take) effect. This estimate was calculated based on data provided by the Institute for Health Metrics and Evaluation for 194 countries. In the 44 countries with a best-practice TFA policy in effect or expected to be passed by September 2021, nearly 620 million people are estimated to have an excessive TFA intake before or at the beginning of policy implementation and could benefit from the protection provided by the policy. Currently, it is estimated that about 370 million people

TABLE 4. NUMBER OF PEOPLE WITH TFA INTAKE EXCEEDING THE WHO RECOMMENDED LEVEL

Year of effect of best-practice TFA policy	Countries (year of effect of best-practice TFA policy)	Number of people with TFA intake exceeding WHO guideline at time of implementation
Before 2017	Denmark (2004); Austria (2009); Chile, Iceland, South Africa (2011); Hungary, Norway (2014)	2.0 million
2018	Canada, Latvia, Slovenia, United States of America	214 million
2019	Lithuania, Thailand	0.8 million
2020	Saudi Arabia	26 000
2021	Belgium, Brazil, Bulgaria, Croatia, Cyprus, Czechia, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Peru, Poland, Portugal, Romania, Singapore, Slovakia, Spain, Sweden, Turkey, United Kingdom	61 million
2022–2024 (planned)	India, Paraguay, Philippines, Uruguay	340 million
No best-practice policy passed or in effect (not imminent)	Remaining 150 WHO Member States	368 million

living in 150 countries without a best-practice TFA policy have TFA intake levels that exceed the WHO recommended level. These 370 million people could also be protected if all 150 countries introduced a best-practice policy.

2. COUNTRY POLICIES

CURRENT SITUATION

Mandatory TFA policies are currently in effect in 57 countries, covering 3.2 billion people (41% of the global population). Of these, 40 countries will have best-practice policies in effect as of September 2021, covering 1.4 billion people (18% of the global population). Uruguay, with less restrictive limits already in place, has passed a best-practice policy that will come into effect in 2022. India has passed a best-practice TFA policy that will come into effect in January 2022 and cover an additional 1.4 billion people. In July 2021, the Philippines passed a best-practice TFA policy, which is expected to come into effect in July 2023. This brings the number of countries with best-practice policies passed or in effect to 43 by 2023, covering 2.9 billion people (37%

of the global population). Additionally, Paraguay has passed a best-practice policy, which will take effect in 2024.

Population coverage by best-practice TFA policies has grown exponentially: 3 years ago, best-practice policies were passed or in effect for 550 million people – just 7% of the global population. This has increased to 2.8 billion people in 2021 – 36% coverage (Fig. 1). However, accelerated actions are needed to meet the target of 100% global population coverage by 2023.

Currently, 19 countries have other complementary measures in place (e.g. TFA labelling requirements or TFA limits that apply in specific settings), and 57 countries have a national policy, strategy or action plan in place that expresses a commitment to reduce TFA in the food supply. For the remaining 61 countries, either there has been no action to eliminate TFA or the status is unknown.

Fig. 2 shows the status of TFA policy implementation around the world. The map is based on a country performance scorecard developed by WHO and data from the WHO Global database on the

FIG. 1. POPULATION COVERAGE BY BEST-PRACTICE POLICIES PASSED OR IN EFFECT, BY THE END OF 2018 AND 2021

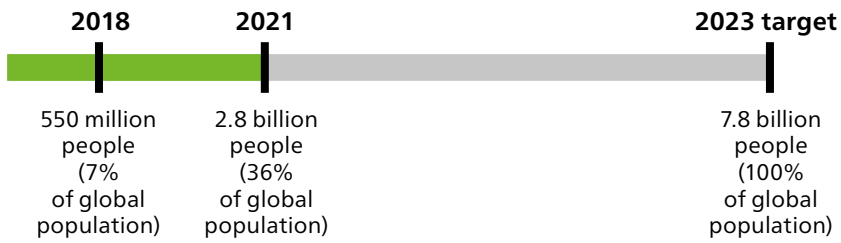
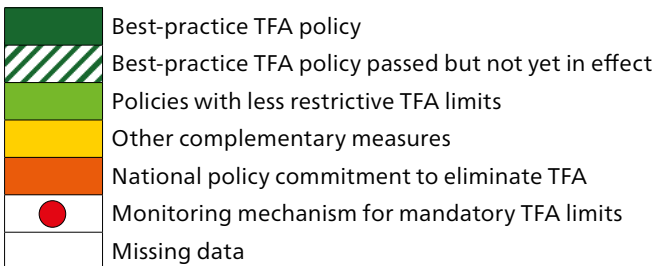
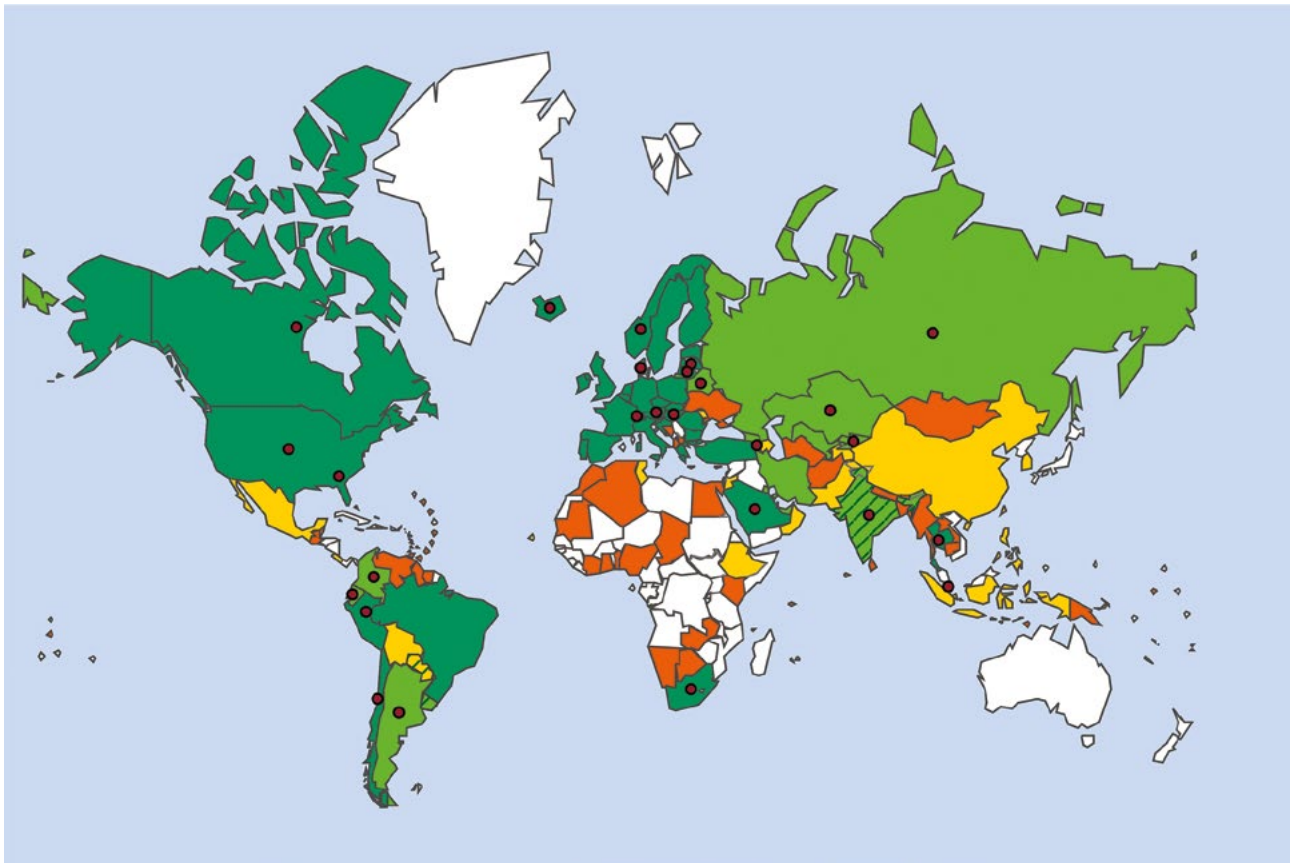
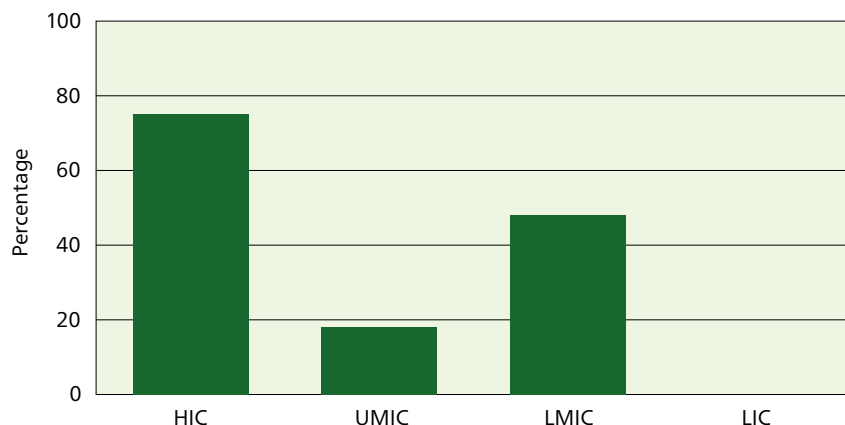


FIG. 2. TFA POLICY IMPLEMENTATION: MAP OF COUNTRY PERFORMANCE



Note: The map is based on the data available in GINA (as of September 2021).

FIG. 3. PERCENTAGE OF POPULATION WITH BEST-PRACTICE POLICIES IN EFFECT OR PASSED, BY COUNTRY INCOME LEVEL



HIC: high-income countries; LIC: low-income countries; LMIC: lower-middle-income countries; UMIC: upper-middle-income countries

Implementation of Nutrition Action (GINA).¹ The live map is updated regularly and accessible on the GINA and REPLACE² webpages.

The Annex provides country-by-country information on the CHD burden attributable to TFA intake, and the status of TFA policies – both those in effect and those that will shortly come into effect. The estimates on CHD burden in the Annex are provided by the Institute for Health Metrics and Evaluation and are based on data from the Global Burden of Disease study in 2019. The methodologies used for the analysis in that study are described in detail in Annex 2 of the progress report for 2020 (WHO, 2020e). Countries that were estimated to have high proportions of CHD deaths due to high TFA intake (defined as higher than 0.5% of total energy intake) include both countries with a TFA best-practice policy implemented and those without such a policy.

It is encouraging to observe the increasing number of countries that have implemented or passed TFA best-practice policies in the past few years. For

¹ <https://extranet.who.int/nutrition/gina/en>; GINA is an online database of validated information on countries' policies and programme interventions relating to fortification, food labelling, marketing of breast-milk substitutes and nutrition (including for TFA).

² <https://www.who.int/teams/nutrition-and-food-safety/replace-trans-fat>

example, among the 15 countries with the highest CHD burden, four have recently implemented a best-practice policy, one passed a policy in 2021, and one started drafting a best-practice policy. It is expected that the proportion of CHD deaths due to TFA intake will begin to decrease in these countries. It is important that countries that have implemented TFA best-practice policies monitor and enforce their policies to maximize their beneficial effects. It is crucial that countries without a best-practice policy passed or drafted, and with a very high CHD burden

due to TFA intake, strengthen and accelerate policy actions by adopting TFA best-practice policies to reduce this burden.

Most policy actions to date have been in higher-income countries, and in the regions of the Americas and Europe: best-practice TFA policies have been passed or implemented by two lower-middle-income countries,³ seven upper-middle-income countries⁴ and 35 high-income countries.⁵ No low-income countries have adopted best-practice TFA policies to date.

Fig. 3 shows the percentages of people living in countries of different income levels with best-practice TFA policies in effect or passed. Although three quarters of people living in high-income countries are protected by best-practice policies,

³ India's best-practice policy was passed in February 2021 and will come into effect in January 2022; the Philippines's best-practice policy was passed in July 2021 and is expected to come into effect in July 2023.

⁴ Brazil, Bulgaria, Paraguay, Peru, South Africa, Thailand, Turkey

⁵ Austria, Belgium, Canada, Chile, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Saudi Arabia, Singapore, Slovakia, Slovenia, Spain, Sweden, United Kingdom, United States of America, Uruguay

FIG. 4. NUMBER OF COUNTRIES WITH BEST-PRACTICE TFA POLICIES IMPLEMENTED, BY YEAR

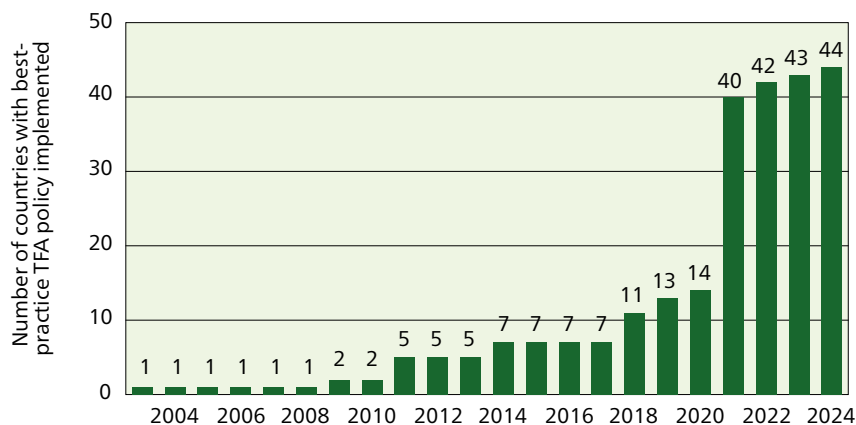


TABLE 5. PROGRESS IN MANDATORY TFA LIMITS SINCE MAY 2020

Best-practice TFA policy		
Came into effect	Passed	Draft policy proposed and notified for public comment
Brazil	India	Bangladesh
European Union	Paraguay	
Peru	Philippines	
Singapore	Singapore	
Turkey		

0% of people living in low-income countries enjoy these protections. This indicates a striking need to accelerate policy actions in lower-income countries. Two countries, India and the Philippines, account for the entire 48% population coverage in lower-middle-income countries, of which 45% is contributed by India, the world’s second largest country, with a population of approximately 1.4 billion people.

NEW IN THE PAST YEAR

Since May 2020, there has been significant progress in TFA elimination around the world (Fig. 4; Table 5). Best-practice policies came into effect in Turkey in January 2021, the European Union (EU) and the United Kingdom in April 2021, Brazil in July 2021, Peru in July 2021, and Singapore in June 2021. Best-practice policies were passed in Paraguay in September 2020 (to come into effect in September

2024), in India in February 2021 (to come into effect in January 2022) and in the Philippines in July 2021 (to come into effect in July 2023). Bangladesh notified draft best-practice TFA policies for a 45-day public comment period in March 2021.

In the past year, important milestones have been met to narrow the gap between regions and country income levels in implementation of TFA policies. In February 2021, India became the first lower-middle-income country to pass a best-practice policy, followed by the Philippines. In June 2020, Singapore became the first country in the Western Pacific Region to pass a best-practice policy, followed by the Philippines, which provides additional momentum for the Western Pacific Region and Asia more broadly. In March

2021, Bangladesh published a draft policy for public consultation; Bangladesh is expected to pass the policy later in 2021, which would make it the third lower-middle-income country and the third country in the South-East Asia Region (following Thailand and India) to do so. Policies are also advanced and expected to pass soon in Nigeria (a policy was notified for public comment in 2020); Nigeria would then become the second country in Africa, after South Africa, to pass a best-practice policy.

3. SUPPORT FOR REFORMULATION

Implementation of mandatory best-practice policies is the most important action for the elimination of industrially produced TFA. However, these policies cannot be enforced without full compliance by manufacturers of fats, oils and foods with governments’ regulatory actions and efforts.

Additionally, by removing industrially produced TFA from global product lines, companies must ensure that people in countries without policies in place (mostly low-income countries) are not unnecessarily exposed to industrially produced TFA in their food. By not removing industrially produced TFA from their product lines, companies contribute to exacerbating existing health disparities.

In response to the April 2019 call for action by Dr Tedros Adhanom Ghebreyesus, Director-General of WHO, member companies of the International Food and Beverage Alliance (IFBA) committed to not exceeding 2 g of industrially produced TFA per 100 g of oils and fats in their products worldwide by 2023 (IFBA, 2019). IFBA member companies further indicated that they would seek, wherever possible, to ensure that reformulation efforts to meet this commitment would not result in increases in saturated fatty acid (SFA) content. Whether IFBA has fulfilled these commitments has not been validated. In 2021, WHO, in collaboration with the Access to Nutrition Initiative, began an independent assessment and evaluation of IFBA member company commitments to eliminate industrially produced TFA.

Suppliers of edible oils and fats have been much slower to respond to Dr Tedros's call for action. Only a small number of large oils and fats companies supply food manufacturing and service companies around the world. Action from this small group of companies could have a substantial global impact, in terms of health benefits.

The SUN Business Network/Global Alliance for Improved Nutrition, with the support of Resolve to Save Lives, completed a pilot project in late 2020 that aimed to promote the replacement of industrially produced TFA by local businesses, and small and medium-sized enterprises (SMEs) in Nigeria and Pakistan through a business-to-business model. However, the project did not achieve reformulation of products by participating SMEs, because it relied on in-kind support and commitments from IFBA companies to provide technical assistance to the participating SMEs; unfortunately, these were not fully delivered. Project stakeholders recommend

that countries – especially emerging markets, such as Nigeria and Pakistan, where SMEs are the dominant manufacturers of food – implement mandatory TFA regulations, which would create a level playing field for all manufacturers and generate a strong push for the industry as a whole to change. To ensure that SMEs have the knowledge and capacity to comply with mandatory regulations to phase out industrially produced TFA from their products, they will need to receive technical support and information. This could be provided, for example, by governments or via information exchange with other companies.

According to market research, the PHO market largely comprises local and regional players: local players comprise 45–55% of the market and regional players 30–40% (Persistence Market Research, 2018). Different regions and countries have access to different oilseeds, crude and refined oils, and processing technologies. As a result, WHO has embarked on a region-based strategy for identifying healthier alternatives and solutions for eliminating PHO, starting with the European region. Depending on the outcomes of this work, WHO will consider similar work in other regions.

4. GLOBAL RESOURCES AND SUPPORT FOR POLICY ACTION

WHO remains committed to supporting countries to implement actions to eliminate industrially produced TFA. The REPLACE action package, which includes a technical action framework and six comprehensive implementation modules, as well as other resource material, is available on the REPLACE webpage in Arabic, Chinese, English, French, Russian and Spanish.¹ Other tools that may be useful to policy-makers are also available from the LINKS Toolkit webpage.²

To support countries in designing and implementing best-practice TFA policies, WHO delivered training

¹ <https://www.who.int/teams/nutrition-and-food-safety/replace-trans-fat>

² <https://linkscommunity.org/toolkit/trans-fat-elimination>; LINKS is a collaboration on cardiovascular health between WHO, the United States Centers for Disease Control and Prevention, and Resolve to Save Lives.



TFA in food samples, using these video modules, were held for countries in the Eastern Mediterranean in September 2021, and are planned for countries in the South-East Asia region later in 2021 and in other regions during the first half of 2022.

5. ROLE OF CIVIL SOCIETY

Civil society organizations and other nongovernmental organizations continue to be active and play instrumental roles in supporting policy-making for TFA elimination around the world. During the first 3 years of the implementation of GPW13, Resolve to Save Lives, the Global Health Advocacy Incubator (GHAi) and NCD Alliance have been working at the global and country levels to support country efforts towards achieving the GPW13 target of TFA elimination by 2023. At the global level, they have developed key resources, such as policy development tools (*Trans fat elimination: a regulatory drafting tool*,³ *Key considerations for regulating trans fat: how to design a measure to fit your country's legal and food system*,⁴ *Policy inventory for effective trans fat regulations*,⁵ *7 step guide for country policymakers to develop and implement a trans*

workshops for countries in the Eastern Mediterranean and South-East Asian regions to build regulatory capacity. Ensuring laboratory capacity to measure TFA in foods is critical to understanding the baseline situation in countries and thereby building political will of policy-makers to act, and for monitoring once a policy has been implemented. Unfortunately, countries and regions around the world continue to face challenges with inadequate laboratory capacity to measure TFA in foods.

To better understand the laboratory needs of countries, WHO, in collaboration with the United States Centers for Disease Control and Prevention, and Virginia Polytechnic Institute and State University, conducted an interlaboratory study ("ring trial") on measurement of TFA and other fatty acids in selected foods by gas chromatography. Completed in 2021, the study included 11 laboratories, representing all WHO regions, and assessed the level of agreement of results among laboratories. The final ring trial analysis and report are scheduled to be released in the third quarter of 2021.

Based on a WHO 2018 expert consultation on TFA laboratories, preliminary ring trial results, and experiences in countries, WHO developed and published a global laboratory protocol for measuring TFA in foods in December 2020.¹ In 2021, the protocol was adapted into video modules.² Laboratory capacity-building workshops for measuring

¹ The WHO Global protocol for measuring fatty acid profiles of foods, with emphasis on monitoring trans-fatty acids originating from partially hydrogenated oils is available at https://www.who.int/publications/i/item/9789240018044?search-result=true&query=partially+hydrogenated+oils&scope=&rpp=10&sort_by=score&order=desc.

² <https://www.youtube.com/watch?v=J4j9BzxtFFE>; <https://www.youtube.com/watch?v=bBKBA33kfMY>

³ <https://linkscommunity.org/transfat-policy>

⁴ <https://advocacyincubator.org/pho-market-mapping>

⁵ https://linkscommunity.org/assets/PDFs/policy-inventory-for-effective-tfa-regulations_fact-sheet.pdf

fat elimination policy¹), research resources (*Partially hydrogenated oil (PHO) market mapping: identifying sources of industrially produced trans-fatty acids in the food supply*²) and advocacy briefings (*Trans fat elimination: reasons for policy action now*³). At a country level, the organizations have supported the passage of best-practice TFA elimination policies, by partnering with governments and supporting civil society organizations.

GHAI has used a two-pronged approach (working with both governments and civil society organizations) particularly well, highlighting the value that civil society brings to national policy-making processes. GHAI's support was instrumental to the recent passage of TFA policies in Brazil, India, the Philippines and Turkey, and the recent draft policy notifications in Bangladesh and Nigeria. Effective strategies employed include supporting governments to collect data on TFA levels in the food supply, structuring effective and context-specific regulations, and working through local civil society organizations to raise awareness of the harms of TFA, and build support for policies via communications campaigns and coalition building.

Civil society has also shared progress and lessons on progress with TFA elimination in their countries via a Knowledge Exchange Network and a LINKS online community. The Knowledge Exchange Network was established in 2019 by NCD Alliance, providing a virtual platform for civil society organizations working on TFA elimination to share experiences, successes and challenges. LINKS is a collaboration between WHO, the United States Centers for Disease Control and Prevention (through the CDC Foundation) and Resolve to Save Lives. It has operated since 2018 as a community and resource centre for people working to improve cardiovascular health across the globe, including through TFA elimination. In the past year, LINKS has provided funding support to civil society groups to advance

TFA policies in Jamaica, Kenya and the United Republic of Tanzania. In May 2021, new grantees in Cameroon and Ghana were announced to begin TFA elimination policy projects.

In the context of a healthy recovery from COVID-19, civil society recognized the need to clarify messaging to policy-makers that addressing risk factors for cardiovascular disease is more urgent than ever. NCD Alliance published a policy briefing⁴ that makes the case that integrating TFA elimination and other nutrition policies in the COVID-19 response is a historic opportunity to tackle NCDs, support economic recovery from the pandemic, and increase health security by making future generations healthier and more resilient to infectious disease.

In November 2020, NCD Alliance and Resolve to Save Lives hosted a virtual event on strategies to eliminate industrially produced TFA from the global food supply, with a focus on regional approaches, and commercial entities in the food supply chain that have not yet been reached by regulation or voluntary commitments. The virtual event featured high-level speakers from country regulatory agencies and civil society groups. With more than 500 people tuning in to the event, it underscored the growing interest and momentum around TFA elimination across sectors.⁵

¹ https://linkscommunity.org/assets/PDFs/7-step-trans-fat-elimination-guide_fact-sheet.pdf

² <https://advocacyincubator.org/regulating-trans-fat/>

³ https://linkscommunity.org/assets/PDFs/tfa-reasons-for-policy-action-now_factsheet_v8.pdf

⁴ *Trans fat free by 2023: a building block of the COVID-19 response* is available at <https://ncdalliance.org/resources/trans-fat-free-by-2023-a-building-block-of-the-covid-19-response>.

⁵ More information, including key insights from the event, are available on the NCD Alliance webpage: <https://ncdalliance.org/news-events/news/dismantling-remaining-barriers-to-be-trans-fat-free-by-2023>.

III. Progress by region

1. AFRICA

CURRENT SITUATION

The African Region (see Table 6) has few countries with mandatory TFA limits or other complementary measures. South Africa has had best-practice mandatory TFA limits in foods, oils and fats since 2011. Twelve countries have adopted national plans on nutrition or NCDs that include goals or strategies to eliminate industrially produced TFA.

NEW IN THE PAST YEAR

In the past year, TFA policy discussions have been active in several key countries.

In Nigeria, the National Agency for Food and Drug Administration and Control (NAFDAC) has drafted a TFA limit regulation, which is pending publication. Civil society groups in the country have also made progress in compiling evidence to support passage and implementation of the policy, including laboratory testing of levels of TFA in foods and mapping the PHO industry in the country to help inform policy monitoring activities. The results of this research are expected to be released in late 2021. As well, the Federal Ministry of Health's national multisectoral action plan for the prevention and control of NCDs (2018–2023), which is soon to be released, is expected to recommit NAFDAC to eliminating TFA.

In Ethiopia, a Ministry of Health technical working group drafted an Unhealthy Foods Control Proclamation, which includes best-practice

TFA limits of 2% of total fat in all fats, oils and foods, and market restrictions on sugary products, sodium and SFA. The draft law has gone through two rounds of stakeholder consultations (including with government and civil society). Private sector consultations (including with food producers, importers, distributors and retailers) are planned for mid-2021.

In Uganda, the Ministry of Health will soon publish a situation analysis, including for TFA, as part of the development of the Uganda National Food Control Strategic Plan.



GLOBAL HEALTH ADVOCACY INCUBATOR

TABLE 6. SUMMARY OF THE TFA POLICY SITUATION IN THE AFRICAN REGION

National policy commitment to eliminate TFA	Other complementary measures	Less restrictive TFA limits	Best-practice TFA policy	Best-practice TFA policy passed but not yet in effect (as of September 2021)	Monitoring mechanism for mandatory TFA limits ●
Algeria, Benin, Botswana, Chad, Côte d'Ivoire, Eswatini, Ghana, Kenya, Mauritania, Mauritius, Namibia, Nigeria, Seychelles, United Republic of Tanzania, Zambia	Cabo Verde, Ethiopia		South Africa		South Africa

In Kenya, the Ministry of Health is collaborating with the International Institute for Legislative Affairs (LINKS grant awardee) to eliminate TFA via policy measures.

In the United Republic of Tanzania, Muhimbili University of Health and Allied Sciences (LINKS grant awardee) began research to analyse TFA levels in edible oils available in the country. The TFA assessment was included in the 2020–2025 national NCD strategic plan. Results from this analysis have been delayed due to COVID-19 and are expected by mid-2021.

Several countries in the African Region have limited resources and regulatory capacities, and the political priority to support TFA elimination is also limited. As such, Africa as a region may be able to greatly benefit from regional-level policy action. Regional policies can also help prevent flow of TFA-containing foods from countries with TFA regulations to countries without such regulations. A collaboration between WHO, Resolve to Save Lives and GHAI began discussing the potential to take a regional approach in the African Region by supporting TFA elimination at the level of a regional bloc such as the Eastern African Community (EAC). The EAC is a regional intergovernmental organization of six Partner States: Burundi, Kenya, Rwanda, South Sudan, Uganda and the United Republic of Tanzania. This work may result in a best-practice TFA policy for the countries of the regional organization and also serve as a model for other regions with lower-middle-income countries.

In the next year, WHO and partners will continue its support for countries in the region interested in TFA elimination. This will include advancing TFA policies and projects already under way in the African Region, including a possible policy development at the EAC level,



GLOBAL HEALTH ADVOCACY INCUBATOR

if appropriate. A regulatory capacity-building workshop is planned for later in 2021.

2. AMERICAS

CURRENT SITUATION

The Region of the Americas (see Table 7) has seen early and growing progress towards eliminating industrially produced TFA. A trailblazer in the region, Chile has had a best-practice limit for industrially produced TFA of 2% in oils and fats in all foods since 2011. Argentina (2014), Colombia (2013), Ecuador (2014) and Uruguay (2019) all have TFA limits of 2% in oils and fats, and 5% of total fat in all foods. Brazil also has a 2% limit for industrially produced TFA in all oils and foods (effective July 2021). The United States and Canada have PHO bans (2018). Peru has a PHO ban (effective July 2021). In 2022, Uruguay's second phase of its regulations goes into effect, extending the 2% limit to all foods (aligning with best practices).

In 2019, all Member States in the Americas Region approved the Pan American Health Organization (PAHO) Plan of Action for the Elimination of Industrially Produced Trans-Fatty Acids 2020–2025, which promotes TFA policies aligned with the best-practice policies recommended by WHO (PAHO, 2019).

NEW IN THE PAST YEAR

There have been several policy milestones in the past year. In September 2020, Paraguay passed best-practice regulations (2% limit for industrially produced TFA in oils and fats in all foods) that will come into effect in September 2024; less restrictive interim TFA limits (2% in all oils and fats, and 5% of total fat in foods) will come into effect in September 2022. In July 2021, Brazil implemented best-practice regulations limiting TFA to 2% in all oils, fats and foods; in 2023, a complete PHO ban will come into effect. The second phase of Peru's policy, a best-practice PHO ban, came into effect in July 2021.



TABLE 7. SUMMARY OF THE TFA POLICY SITUATION IN THE REGION OF THE AMERICAS

National policy commitment to eliminate TFA	Other complementary measures	Less restrictive TFA limits	Best-practice TFA policy	Best-practice TFA policy passed but not yet in effect (as of September 2021)	Monitoring mechanism for mandatory TFA limits 
Antigua and Barbuda, Bahamas, Barbados, Belize, Costa Rica, Dominican Republic, Grenada, Guatemala, Guyana, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Venezuela	Bolivia (Plurinational State of), El Salvador, Mexico, Paraguay	Argentina, Colombia, Ecuador, Uruguay	Brazil, Canada, Chile, Peru, United States	Paraguay, Uruguay	Argentina, Canada, Chile, Colombia, Ecuador, Peru, United States, Uruguay

The most recent policy passage in the region in Paraguay closes the gap in the South American trade bloc MERCOSUR (Mercado Común del Sur): all four Member States (Argentina, Brazil, Paraguay and Uruguay) have TFA limits in place, although Argentina does not have a best-practice policy. It is expected that Argentina will strengthen its existing regulations to align with global best practices and the MERCOSUR bloc. The policy experience in Paraguay is described in Box 1.

PAHO has taken several actions to support country implementation of the PAHO Plan of Action on TFA elimination. PAHO completed a baseline assessment of country situations to understand where technical assistance was needed by countries; the most common areas in which technical assistance was requested include assessment of TFA intake, laboratory capacity, assessment of the food supply, and enforcement design. PAHO also created video modules to disseminate REPLACE modules and to support country action. With PAHO’s support, policies in Mexico and Colombia are advancing and are expected to pass soon.

As part of the monitoring and evaluation component of the Plan of Action, an interactive tool has been developed to monitor progress towards set targets and achievement of indicators in the Plan of Action.¹

In the next year, country-level implementation of the Plan of Action will be a priority in the region.

¹ <https://www.paho.org/en/noncommunicable-diseases-and-mental-health/noncommunicable-diseases-and-mental-health-data-27>

BOX 1. POLICY EXPERIENCE IN PARAGUAY

BACKGROUND

Paraguay has made progress to improve health and food quality, ultimately reducing and eliminating industrially produced TFA in foods. Laws, such as Law No. 836/80 (the Health Code), and resolutions, such as the South American trade bloc MERCOSUR resolution on nutrient declaration (MERCOSUR/GMC/RES. No. 46/2003), have stipulated the inspection and analysis of foods, and made labelling for TFA on packaged foods mandatory (MERCOSUR, 2003). After a thorough regulatory process led by health authorities, the resolution was passed in September 2020 to restrict the content of industrially produced TFA to less than 2% of total fat by 8 September 2024.

POLICY DEVELOPMENT

For decades, Paraguay has taken steps to ensure protection of the health of the population. In 1980, the Health Code was adopted to empower government agencies to inspect and analyse foods, and penalize owners of establishments selling foods that pose a hazard to health (INAN, 1980).

In 2003, the National Institute of Food and Nutrition (INAN), the regulatory food agency of the Ministry of Health, adopted MERCOSUR resolution No. 46/2003, which requires food manufacturers to report TFA content per portion on the nutrition facts label, unless the amount is 0.2 g per portion or less (INAN, 2003; MERCOSUR, 2003). In 2012, the MERCOSUR resolution on nutrition claims was adopted, which stipulates the conditions for the claim “does not contain trans fats” on product labels. Products cannot contain more than 0.1 g of TFA or SFA per 100 g, 100 mL or portion size, and cannot contain more than 1.5 g of the sum of TFA and SFA per 100 g, 100 mL or portion size (MERCOSUR, 2012).

In 2017, the Department of Food Biochemistry of the Faculty of Chemical Sciences of the National University of Asunción conducted a study on processed and ultra-processed food products as a source of total TFA in urban areas of Paraguay. The study showed that, out of the 28 types of products analysed, approximately 87% exceeded 5% of TFA in total fat. The highest proportions of TFA in total fat were found in a ready-to-eat ice-cream pie, ice-cream, corn extrudate snack and an alfajor (a confectionery product). More than 50% of the total fat contained in these products was in the form of TFA (Mereles et al., 2017) – this is more than 25 times higher than the 2% limit for industrially produced TFA recommended as best-practice policy by WHO (PAHO, 2019; WHO, 2019c).

INAN’s public consultation on the resolution to regulate industrially produced TFA in food products in Paraguay began on 9 December 2019 and received many comments in support of the proposal. Taking into account the scientific evidence, INAN decided that the measure should be implemented as soon as possible, but gradually. There was minimal opposition to the resolution, with the only objection being the time provided for industry to adapt to the measure.

On 8 September 2020, the resolution was passed to establish progressive reduction of industrially produced TFA in foods. By September 2022, a TFA limit of 2% of total fat content in vegetable oils and margarines for direct consumption, and 5% of total fat content in all other foods will be in effect. Finally, by September 2024, the limit of 2% TFA in total fat in all foods will be in effect.

POLICY IMPLEMENTATION

INAN is now developing a strategy for policy monitoring and enforcement.



SCALING UP NUTRITION BUSINESS NETWORK

3. EASTERN MEDITERRANEAN

CURRENT SITUATION

Countries in the Eastern Mediterranean Region took early action on trans fat. A regional policy statement and action plan on TFA elimination were developed in 2012. The Islamic Republic of Iran was the first country in the region to regulate TFA, with a 2% limit in oils and fats that became effective in 2016. The policy experience in Iran is described in Box 2.

In 2015, the Gulf Cooperation Council (GCC) approved TFA limits of 2% of total fat in vegetable oils and soft spreadable margarines, and 5% of total fat in other foods. GCC Member States (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates) must each approve implementation of the regulation before it can come into effect in the country. Of the GCC countries, Bahrain, Kuwait, Saudi Arabia and the United Arab Emirates have implemented the regulation (in 2016, 2017, 2017 and 2017, respectively), and Oman and Qatar have initiated the implementation process. Table 8 summarizes the TFA policy situation in the Eastern Mediterranean Region.

TABLE 8. SUMMARY OF THE TFA POLICY SITUATION IN THE EASTERN MEDITERRANEAN REGION

National policy commitment to eliminate TFA	Other complementary measures	Less restrictive TFA limits	Best-practice TFA policy	Best-practice TFA policy passed but not yet in effect (as of September 2021)	Monitoring mechanism for mandatory TFA limits 
Afghanistan, Djibouti, Egypt, Lebanon, Morocco, Qatar	Jordan, Oman, Pakistan, Tunisia	Bahrain, Islamic Republic of Iran, Kuwait, United Arab Emirates	Saudi Arabia		Saudi Arabia

BOX 2. POLICY EXPERIENCE IN THE ISLAMIC REPUBLIC OF IRAN

The Islamic Republic of Iran took its first steps towards regulating and limiting TFA intake in the early 2000s, when it carried out a national food consumption survey and laboratory assessments to determine dietary intakes of TFA, among other nutrients. The results were alarming: more than 12% of calories consumed by Iranians were from partially hydrogenated vegetable oils, and TFA comprised more than a third of the fatty acids in these oils. Urgent action was taken: an executive committee was established in 2004 to develop an operational plan for reducing TFA and SFA content in foods. Its membership comprised representatives from the Ministry of Health and Medical Education (MOHME) and other governmental organizations.

With building momentum in the following years, several actions were taken through collaboration between governmental agencies, civil society and industry. Advocacy campaigns with the aim of increasing knowledge and changing attitudes of the public regarding TFAs were conducted through mass media, health units, schools, magazines and newspapers. In 2005, the Ministry of Commerce was obliged to gradually remove subsidies on hydrogenated oils and instead subsidize non-hydrogenated oils (especially olive oil) and liquid frying oils. In 2008, MOHME revised the instructions relating to packaging and mandated that manufacturers and importers affix labels to all food products, especially edible oils. A “traffic-light” nutrition labelling system – including for TFAs – was introduced as a voluntary action in 2014 and was declared mandatory in 2016.

As in other countries, the changes were phased in and required government agencies, civil society and industry to work together. The health and agriculture ministries, the Iranian Food and Drug Administration (FDA), oil manufacturers, nongovernmental organizations and oil importers all collaborated to reduce TFA. First, in 2005, the National Standards Organization of Iran tightened the restrictions on TFA contents in corn oil, palm oil, frying oil and mixed liquid oils, from the original limit of less than 20% to less than 10%. Government organizations were mandated to use oils with less than 10% TFA content. In 2011, the TFA content of edible oils and fats – both imported and locally

produced – were limited to no more than 5%. In 2013, the standards were revised again, this time to limit TFA to less than 2%, with a 2016 compliance deadline. The ultimate goal was to limit TFA to less than 1% by 2019. According to the FDA, that target had already been reached by 2018. The TFA limit for margarine and shortening used in bakery products was tightened from 5% to 4% in March 2020.

Post-marketing surveillance by the FDA from 2018 showed that the average TFA content of almost all frying and liquid oils was below 1% and within the acceptable limit, according to a report by the International Fund for Agricultural Development and the National Nutrition and Food Technology Research Institute. However, there is still work to be done to regulate and reduce the TFA content of products other than oils. Currently, there is a policy commitment to eliminate all industrially produced TFA in Iran by 2025.

According to MOHME, fractionation of vegetable oil – a technology involving controlled separation of oil and fat fractions that does not change the chemical nature of the fatty acids – has been a common practice in Iran to replace partial hydrogenation. Another key to successful actions has been the strong collaboration between several actors, such as ministries, the FDA, oil manufacturers, nongovernmental organizations and oil importers. For example, technical support has been provided to industry to facilitate compliance with the regulations.

PROGRESS AND CHALLENGES

It appears that the food industry has responded positively to elimination of TFA in various food products in Iran. However, more advocacy is still needed to encourage consumers to read food labels and avoid buying foods with a high TFA and SFA content. As industry is shifting from using TFA to SFA, the association between TFA and SFA should be considered in the legislation to avoid replacement of TFA by SFA or unsaturated fatty acids. Traffic-light food labelling has been successful in Iran, helping consumers to choose products free from TFA and low in SFA.

NEW IN THE PAST YEAR

During the past year, no new TFA policies have been enacted or implemented, although several countries have made progress towards policy milestones.

Bahrain established a national multisectoral team on TFA elimination and began developing a new decree that will limit TFA to 2% of total fat in all foods, bringing the current less restrictive limit in line with best practices. Egypt initiated development of a roadmap for action, based on a recent study on TFA consumption and sources in the country. Jordan drafted a regulation to limit TFA in all foods. Morocco assessed TFA sources in the country and developed a technical report on TFA replacement; a regulation is being drafted. Oman drafted a best-practice Ministerial Decree that prohibits the use of PHO; the decree is expected to be issued in 2021. Pakistan's technical working group on TFA elimination drafted a national action plan, which was approved by the Ministry of Health and the Pakistan Standards and Quality Control Authority (the national regulatory agency).

Countries have also taken action to advance compliance with existing regulations. Bahrain supported industry in complying with the current less restrictive limits by publishing guidance and holding workshops on TFA replacement. Kuwait's Public Authority for Food and Nutrition issued an official letter to the food industry that gave industry until 1 January 2021 to comply with the

TFA standards, after which there will be penalties for violations. Kuwait also held capacity-building seminars and workshops for inspectors to strengthen enforcement of the current TFA standards.

The WHO Eastern Mediterranean Regional Office, in collaboration with WHO Headquarters and Resolve to Save Lives, has been providing technical assistance to support country-level implementation and enforcement. A questionnaire was administered to countries to understand country strengths and challenges to implementing best-practice TFA policies. The most commonly requested areas for capacity support were determining TFA levels in foods, monitoring and enforcement for policy compliance, and building political support.

A legal workshop was held in March 2021 for all 22 countries in the Eastern Mediterranean Region. The workshop focused on developing comprehensive and enforceable regulations, and designing enforcement strategies; follow-on activities are under way to support drafting. Additionally, a mapping of regional laboratory capacity for analysing TFA was completed, and laboratory training is planned for later in 2021.

In the next year, WHO will continue to support the development of best-practice policies in countries and laboratory capacity-building for TFA analysis in the region.

4. EUROPE

CURRENT SITUATION

The European Region (see Table 9) continues to be a global champion for TFA elimination, with the largest number of mandatory TFA limits in place – 31 countries in the region currently have best-practice TFA policies in effect. In 2004, Denmark became the first country in the world to implement TFA restrictions, setting the bar for what would later become the global best-practice policy. Switzerland (2009) and Austria (2010) became the second and third countries in the world to enact TFA restrictions, respectively.

Europe also pioneered the concept of regional TFA restrictions. In January 2015, the Eurasian Economic Union (EAEU) limited TFA to 20% of the fat content in foods; this restriction was directly applicable in all Member States, including Armenia, Belarus, Kazakhstan, Kyrgyzstan and the Russian Federation. From January 2018, the TFA limit was reduced to

2% in oils and fats for all Member States. Although the EAEU was the first regional body to take policy action, the limits fall short of best practice because they do not apply to all foods, and a lack of laboratory capacity has impeded implementation. By strengthening the current TFA limits to apply to all foods, and implementing effective enforcement strategies, EAEU countries can achieve complete elimination of industrially produced TFA.

In April 2021, the EU became the first and only trade bloc in the world with mandatory best-practice TFA limits. This single regulation provides significant protection to people living in the EU and also extends indirect benefits to neighbouring countries where foods are imported from the EU. Turkey aligned its policy with that of the EU because of its trade relations. The policy experience in the EU is described in Box 3.



KREMLIN WICKRAMASINGHE

TABLE 9. SUMMARY OF THE TFA POLICY SITUATION IN THE EUROPEAN REGION

National policy commitment to eliminate TFA	Other complementary measures	Less restrictive TFA limits	Best-practice TFA policy	Best-practice TFA policy passed but not yet in effect (as of September 2021)	Monitoring mechanism for mandatory TFA limits 
Albania, Bosnia and Herzegovina, North Macedonia, Turkmenistan, Ukraine	Azerbaijan, Israel, Republic of Moldova, Tajikistan	Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Russian Federation, Switzerland, Uzbekistan	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Turkey, United Kingdom		Armenia, Austria, Belarus, Denmark, Georgia, Hungary, Iceland, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Norway, Russian Federation, Switzerland

NEW IN THE PAST YEAR

In January 2021, Turkey’s best-practice policy took effect, limiting industrially produced TFA to 2 g per 100 g of the total oil in the foods supplied to retail outlets and consumers. In April 2021, the EU regulations took effect, offering new protection to the United Kingdom and the 21 EU and European Economic Area countries that did not already have best-practice policies in effect.

To address challenges with implementing the existing EAEU TFA policy, the WHO Regional Office for Europe hosted a virtual meeting for EAEU countries to create dialogue between the oils and fats industry and government regulatory agencies. The aim was to use industry’s technical expertise to identify hurdles to achieving a food supply free from industrially produced TFA, and to build a roadmap for countries to fully phase out PHO. Progress and challenges were identified; the technical roadmap is still under development. Additionally, in the past year, the WHO Regional Office for Europe has worked with WHO Headquarters to develop training materials for laboratories to measure TFA in foods.

To support the EAEU in strengthening the existing policy and to support countries in the region that do not yet have policies in place, the WHO Regional Office for Europe conducted a modelling study on the impact of a TFA ban, and published an evidence-based policy brief on TFA elimination. These new pieces of evidence could help guide policy-making activities in countries.

The WHO Regional Office for Europe also completed a survey on sodium and TFA levels in foods in Turkey, which will help guide compliance and enforcement efforts for the new best-practice policy.

In the next year, WHO will continue supporting implementation of existing regulations in EAEU countries, including building laboratory capacity, and engaging oils and fats suppliers on technical solutions. WHO will also continue to support the remaining countries in the region to implement best-practice policies, including through food studies and other activities to gather evidence.

BOX 3. POLICY EXPERIENCE IN THE EUROPEAN UNION

As of April 2021, all countries in the EU have TFA limits in effect, providing equitable and best-practice protection to all their citizens.

EU-level action was motivated by the previous inconsistent approach to TFA restrictions in the region, as several Member States had different (mandatory and voluntary) measures in place. This inconsistent approach was problematic for two main reasons. First, from a public health and equity perspective, it was important to have the highest level of protection for all consumers in the region. Consumption of industrially produced TFA depended on whether a national restriction was already in place and on consumers' socioeconomic factors – consumers with lower income were more likely to consume products with high levels of industrially produced TFA. Second, from a market perspective, an inconsistent approach meant that there was not a level playing field between food manufacturers that had reformulated their products to reduce or remove industrially produced TFA (through self-regulation, voluntary agreements with national governments or legal measures) and those that had not. Generally, manufacturers faced higher costs if they produced varieties of a food with different ingredients to meet different national legal limits, rather than benefiting from economies of scale by using a single recipe for a food product.

The issue of TFA, including restrictions as an alternative to declaration (or labelling), was initially discussed in the EU when Regulation (EU) No. 1169/2011 on food information to consumers, which was adopted in 2011, was negotiated. This regulation does not include TFA in the list of mandatory nutrition declarations because the co-legislator was not convinced that the inclusion of TFA amounts on food labels would consistently enable consumers to identify the healthier choice, or that labelling was an efficient way to address excessive intakes because unpackaged foods (which are not labelled) could also be a major source of industrially produced TFA. As well, consumers were not familiar with TFA and would require

significant education to act on the information on the labels. The European Commission was tasked with assessing the impacts of all means to enable consumers to make healthier choices, including restrictions on the use of TFA. In 2015, the Commission published a report assessing the different policy options (European Commission, 2015).

As an input to the 2015 report, the Joint Research Centre of the European Commission compiled data on TFA consumption levels, and modelled the health benefits and costs to authorities of the different policy options (Mouratidou et al., 2014; Martin-Saborido et al., 2016). The report concluded that, although average TFA intake in the EU is below recommended levels and there had been reductions in average TFA intake based on the current initiatives, including regulatory measures in the region, this was not true for all population groups, and high-TFA products were still available in the EU market. Further reducing TFA would result in additional public health gains. A legal limit for industrially produced TFA would be the most effective measure in terms of public health, consumer protection and compatibility with the internal market. From there, a formal regulatory impact assessment was conducted.^a

Several factors supported the successful advancement of the regional policy.

- Stakeholder support and early stakeholder engagement. Inputs from stakeholders were provided early on and throughout the process, which resulted in early and widespread buy-in and support, including from the European Parliament and Council, Member States, industry and nongovernmental organizations.
- Compiling the evidence. The process involved assessing the evidence and impact of the policy in terms of lives, healthcare costs, health inequalities, environmental impacts, impacts ►

^a https://ec.europa.eu/food/safety/labelling-and-nutrition/trans-fat-food_en

BOX 3.

on public authorities and impacts on businesses. The data provide a clear and convincing argument.

- International influence. The global trend to regulate TFA and the WHO REPLACE initiative accelerated the EU regulatory process; not taking any action could entail a reputational risk for the EU of not adequately addressing a serious global health concern.

Although there was support over the years from large multinational food companies, SMEs (including small restaurants and bakeries) had concerns about being able to comply with TFA limits. To address this, a 2-year transition period for implementation was set to enable SMEs to reformulate products and overcome technical challenges. Industry also stepped up to support SMEs: associations with bigger manufacturers with technical know-how committed to supporting SMEs through this process. Suppliers of oils and fats already had technical solutions in place, and offered customers technical solutions and support to change formulations.

Detailed methods on compliance monitoring and enforcement of the EU regulations will be available soon.^a

^a https://ec.europa.eu/food/safety/labelling-and-nutrition/trans-fat-food_en

5. SOUTH-EAST ASIA

CURRENT SITUATION

The South-East Asia Region (see Table 10) has been relatively slow to regulate TFA in foods, but action and interest are growing. In January 2019, Thailand became the first country in the region with a best-practice TFA policy in place. Thailand opted for a PHO ban (rather than a 2% TFA limit), becoming the third country in the world to do so, after Canada and the United States (Ministry of Public Health, Thailand, 2018).

India has had less restrictive limits in effect since 2013 (these were strengthened in 2017 but did not meet the best-practice criteria). From January 2022, India will become the second country in the region and the first lower-middle-income country with a best-practice policy in place.

Other countries in the region, including Bangladesh, Bhutan, Maldives, Nepal and Sri Lanka, have initiated work towards eliminating TFA from food supplies and are at various stages of the policy process. Bangladesh is expected to pass a best-practice policy later in 2021.

NEW IN THE PAST YEAR

India is committed to eliminating industrially produced TFA from the food supply chain. In December 2020, the Food Safety and Standards Authority of India (FSSAI) lowered its existing 5% TFA limit in oils and fats to 2% in a phased manner: TFA will be limited to not more than 3% in edible oils and fats by January 2021 and not more than 2% by January 2022. In February 2021, FSSAI extended that 2% limit to apply to all foods, aligning with global best practice. This best-practice policy comes into effect from 1 January 2022 and will protect an additional 1.4 billion people from the harms of TFA, doubling the current global coverage by best-practice policies. With this, India has strengthened the policy to meet the WHO call for TFA elimination by 2023. The policy experience in India is described in Box 4.

Because of India’s influence in the region, its new best-practice policy can serve as a model and catalyst for other countries in the region to enact a policy and protect their citizens from the harms of TFA.

Over the past year, several countries in the region have made important progress in TFA policy development. The Bangladesh Standards and Testing Institute notified draft best-practice TFA limits for a 45-day public comment period. With the passage of these regulations, Bangladesh will become the third country in the South-East Asia Region with a best-practice TFA policy.

The WHO Country Office in Sri Lanka supported a landscape analysis and developed a policy brief. On the basis of these activities, it recommended the Food Advisory Committee of the Ministry of Health to regulate TFA. A regulation that is in line with the WHO best-practice policy is currently being drafted. Sri Lanka has also drafted nutrition labelling regulations, which include mandatory declaration of TFA. The policy experience in Sri Lanka is described in Box 5.


The Maldives completed a policy landscape analysis, and WHO is engaging with stakeholders on next steps. Projects are under way in Bhutan and Nepal to

assess the dietary sources and consumption of TFA, and evaluate the policy landscape for edible oils and fats.

Considering the challenges and bottlenecks identified in countries, including the dearth of regulatory capacity in many Member States, the WHO Regional Office for South-East Asia organized a capacity-building workshop in December 2020 on TFA regulations and monitoring for four countries in the region (Bangladesh, Bhutan, Maldives, Sri Lanka). The primary aim of the workshop was to build country capacity to develop, implement and enforce regulatory actions to eliminate TFA from the food supply. Countries raised concerns about political and economic issues relating to the recommendation to limit the use of oils with a high SFA content, especially in countries that produce coconut and palm oil. Additionally, inadequate laboratory capacity was identified as a problem that would need technical support.

In the next year, WHO will continue to support regulatory and laboratory capacity-building in countries on request, support countries in their dietary assessments, and advocate for implementation of best-practice policies.

TABLE 10. SUMMARY OF THE TFA POLICY SITUATION IN THE SOUTH-EAST ASIA REGION

National policy commitment to eliminate TFA	Other complementary measures	Less restrictive TFA limits	Best-practice TFA policy	Best-practice TFA policy passed but not yet in effect (as of September 2021)	Monitoring mechanism for mandatory TFA limits 
Bangladesh, Bhutan, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Timor-Leste		India	Thailand	India	India, Thailand



DR SHEIKH MOHAMMAD MAHBUBUS SOBHAN

BOX 4. INDIA@75: FREEDOM FROM TRANS-FATS BY 2022

BACKGROUND

In 2018, India called for action to make the country TFA free by 2022, a year ahead of the WHO global target of 2023, by adopting best-practice TFA policies and creating awareness among producers, suppliers and the public. To eliminate industrially produced TFA in oils and foods, FSSAI – the national food regulator, within the Ministry of Health and Family Welfare – has adopted a 360-degree approach. Apart from developing policies and regulations, FSSAI is actively working towards capacity-building for laboratories and food businesses, and increasing awareness among consumers to approach this multisectoral challenge.

POLICY DEVELOPMENT AND IMPLEMENTATION

In India, evolution of TFA regulations dates back to the mid-20th century. The Prevention of Food Adulteration (PFA) Rules were enacted in 1955 under PFA Act, 1954, which required that foods

containing hydrogenated vegetable fats or bakery shortening declare on the label that “hydrogenated vegetable fats or bakery shortening used contains trans-fats”.

In 2009, FSSAI adopted a systematic process of developing regulations for limiting artificial TFA in oils and fats. It reviewed the current scientific evidence on health effects of TFA, the likely presence of TFA in a typical Indian diet, international experience in limiting TFA, the feasibility of substituting TFA with healthier alternatives and technological options available to industry. The findings of the risk assessment of TFA in Indian diets highlighted the importance of TFA removal from the food supply for the benefit of both population and individual health.

In 2010, based on the consensus achieved through a national consultation, FSSAI recommended that TFAs be limited in vanaspati to 10% and subsequently to 5% within a period of 3 years. ►

BOX 4.

However, after discussions and deliberations with various stakeholders, the proposed regulation was not passed by the central government.

In 2013, FSSAI released a Gazette Notification on amendment to the Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011, wherein the limit of TFA was set to “not more than 10% by weight” in margarine, bakery shortening, interesterified vegetable fat and hydrogenated vegetable oils (vanaspati).

In 2015, FSSAI enforced amendments to the Food Safety and Standards (Food Products Standards and Food Additives) Regulations to further reduce the limit on TFA to not more than 5% by weight (effective from 27 August 2016).

To align with the global target set by WHO, a movement called India@75: Freedom from Trans-fats by 2022 was launched by FSSAI on 1 June 2018, with the aim of eliminating TFA from India by the 75th year of the country’s independence. Based on stakeholder consultations, a consensus was developed to reduce TFA in all oils and fats (including vanaspati, bakery shortenings and margarine) to less than 2% in a phased manner: to not more than 3% from 1 January 2021 and not more than 2% from 1 January 2022.

In response to advocacy by consumer support organizations, FSSAI further extended the TFA restriction to all food products containing oils and fats. This was gazetted as the Food Safety and Standards (Prohibition and Restriction on Sales) Second Amendment Regulations, 2021, and was notified to the World Trade Organization.

LABELLING OF TFA

The Food Safety and Standards (Packaging and Labelling) Regulations, 2011 require that packages of food in which oils, fats and fat emulsions are used as ingredients, and packages of edible oils and fats shall declare the amount of TFA and SFA on the label.

FSSAI notified the Food Safety and Standards (Advertising and Claims) Regulations, 2018. These regulations specified that a TFA-free claim should be made only if the food contains less than 0.2 g of TFA per 100 g or 100 mL (from 19 November 2018) and if edible oils or fats contain less than 1 g of TFA per 100 g or 100 mL (from 28 June 2019). To encourage food establishments to use healthier oils and fats, FSSAI issued an advisory on 22 July 2019 notifying that food establishments that comply with the above regulation can display the “Trans Fat Free” logo (Fig. 5) in their outlets and on their food products.

The Trans Fat Free logo was formally launched by Dr Harsh Vardhan, Union Minister of Health and Family Welfare on 4 October 2019 at the 8th International Chefs Conference in New Delhi. At that event, Dr Harsh Vardhan also released a slogan, “Chefs 4 Trans-fat Free”: more than 1000 chefs across the country took a pledge to use TFA-free oils and fats in their dishes and work towards its elimination from Indian diets.

FIG. 5. TRANS FAT FREE LOGO



In 2020, FSSAI notified the Food Safety and Standards (Labelling and Display) Regulations, 2020, making it mandatory for food manufacturers to declare the TFA content on nutrition labels. Also in 2020, FSSAI notified the Food Products Standards and Food Additives Tenth Amendment Regulations, 2020, limiting TFA to not more than 3% in edible oils and fats from January 2021 and not more than 2% from January 2022.

In 2021, the Food Safety and Standards (Prohibition and Restrictions on Sales) Second Amendment Regulations, 2021 was gazetted to limit the TFA content in all food items in which edible oils and fats are used as an ingredient to not more than

BOX 4.

2% by mass of the total oils and fats present in the product, from 1 January 2022.

BEHAVIOUR CHANGE COMMUNICATION

FSSAI undertook various initiatives to increase consumer awareness of the harmful effects of TFA and ways to eliminate TFA. As part of India@75: Freedom from Trans-fats by 2022, in 2018, FSSAI launched a mass media public service announcement, “Heart Attack Rewind”, in 17 Indian languages. It aimed to create a demand for healthier alternatives to PHO (Fig. 6). Various other education and communication materials were developed by FSSAI, including videos featuring celebrity endorsements for wider appeal and providing information to consumers on strategies to eliminate TFA from their diets.

FIG. 6. A STILL FROM THE HEART ATTACK REWIND CAMPAIGN



NUDGING FOOD BUSINESSES TO ADOPT TECHNOLOGIES TO ELIMINATE TFA IN THE FOOD SUPPLY CHAIN

Several food businesses, food-related professional associations and other organizations have made voluntary commitments to go TFA-free. In 2018, they pledged to support a “trans-fat free India by 2022”, as part of the India@75: Freedom from Trans-fats by 2022 campaign (<https://eatrightindia.gov.in/trans-fat-free-india.jsp>).

STRENGTHENING LABORATORIES AND SURVEILLANCE

As a way forward, FSSAI has taken on the herculean task of conducting surveillance for TFA in packaged

foods across India, to check for current levels of TFA in end-products. This will provide a baseline and help to strategize the next steps for implementation of the regulation. The government has also taken several steps to strengthen and upgrade laboratories to undertake TFA assessment.

CHALLENGES AND OPPORTUNITIES

From a consumer perspective, major hurdles are lack of information and education about TFA, and failure to recognize TFA-free food products or read labels. FSSAI has taken these challenges as opportunity areas, and has addressed them through mass awareness campaigns, launch of the Trans Fat Free logo, organization of sector-specific webinars, and assisting industry and specific stakeholders towards technological shifts and achievable solutions available in India, thus bridging the gap between challenges and solutions.

As well, SMEs need additional technical assistance to develop their skills in reformulation to produce healthier and cost-effective alternatives to TFAs. To address these issues, large players, industry associations and government bodies need to work together to support SMEs for capacity-building and technology advancement.

CONCLUSION

To summarize, India has taken a giant leap towards eliminating TFA from the food supply chain. Adopting a multipronged approach, FSSAI as a food regulator has developed science-based policies to limit industrially produced TFA in edible oils, fats and foods. These policies also address the labelling, advertising and claim requirements for such products. In addition, FSSAI’s activities to increase consumer awareness and generate market demand will continue to play a positive role in achieving the goal of a TFA-free India.

BOX 5. INTRODUCING A REGULATION ON TFA LIMITS IN SRI LANKA, GUIDED BY THE REPLACE PACKAGE

BACKGROUND

Sri Lanka has a high burden of NCDs – more than 80% of all deaths are due to NCDs. Cardiovascular diseases are the leading cause of mortality, accounting for 34% of all deaths, followed by cancers (14%), diabetes (9%) and chronic respiratory diseases (8%) (Ministry of Health, Nutrition and Indigenous Medicine, Sri Lanka, 2016a). The risk of dying prematurely between 30 and 70 years of age from any of the four major chronic NCDs was estimated to be 17% in 2018, with a trend indicating that the targets of the Sustainable Development Goals would not be achieved by 2030 (WHO, 2018). Risks for NCDs – physical inactivity, smoking, unhealthy diet and consumption of alcohol – are also high in the country (Ministry of Health, Nutrition and Indigenous Medicine, Sri Lanka, 2015). NCD preventive activities in Sri Lanka are guided by the National Multisectoral Action Plan for the Prevention and Control of Noncommunicable Diseases 2016–2020 (Ministry of Health, Nutrition and Indigenous Medicine, Sri Lanka, 2016b). Implementation of cost-effective, affordable and evidence-based technical packages to address risk factors for NCDs forms the basis of the plan.

Against this background, with technical guidance from WHO, the Ministry of Health embarked on a process to introduce an evidence-based intervention to regulate TFA in foods in Sri Lanka based on the WHO REPLACE action package, including the REPLACE modules, which are a six-step guide for policy actions.

POLICY DEVELOPMENT

Because of the importance of local evidence for implementing the REPLACE action package, a team of food technology experts and researchers were commissioned by WHO in late 2020 to conduct a landscape analysis of the policy environment. Studies were carried out to examine TFA levels in foods and consumption patterns in a nationally representative sample of the population, to identify the current situation with regard to TFA in the Sri

Lankan food chain and to assess the feasibility of enacting mandatory TFA regulations.

Findings of the landscape analysis indicated that Sri Lanka has an environment that is conducive to adopting a mandatory TFA policy for industrially produced TFA (WHO Country Office for Sri Lanka, 2020a). First, a regulation on mandatory labelling of foods for TFA and SFA content is already being drafted. Second, some leading food manufacturing companies are already voluntarily reducing TFA levels in their products and are equipped with the relevant technology. Furthermore, laboratory analysis of samples of oils, fats and foods from both the formal and informal sectors showed that total TFA content was lower than 2% of total fat in most products; in the only two exceptions, the TFA content was still below 5%. Other than a few varieties of fats in the informal sector, oils used by the informal sector also did not have high TFA levels, and deep-fried foods were not particularly high in TFA.

However, a large range of specialty fats are sold online or wholesale to food producers; among those included in the analysis, one specialty fat contained TFA at a level of 3.73% of total fat.

The consumption data identified that, at both household level and individual (adolescents only) level, foods higher in TFAs (although most had TFA levels of less than 2% of total fat) were not consumed daily. At worst, consumption frequency was three or four times per week by a fifth of the population studied. Cumulative intakes of TFA were not likely to be high in the studied population.

Based on the evidence, the landscape analysis informed the Ministry of Health Sri Lanka to consider adopting mandatory limits that restrict industrially produced TFAs in oils, fats and foods, together with a complete ban on PHO.

The landscape analysis also noted some potential challenges associated with a TFA regulation. Although the consumption data showed that TFA intake was low, there were indications that SFA intake was likely to be high, indicating a need ►

BOX 5.

for guidance on healthy TFA replacement and regular monitoring to ensure that SFA intake does not increase. Another challenge was a lack of laboratory capacity within the government to estimate TFA levels in food.

The current low TFA levels in the food supply make it feasible for industry to reformulate to less than 2% TFA. It is essential to act soon to prevent “dumping” of TFA in Sri Lanka from elsewhere.

PLANNING FOR POLICY IMPLEMENTATION

The recommendations of the landscape analysis were formulated as a policy brief (WHO Country Office for Sri Lanka, 2020b) that was presented to the Food Advisory Committee of the Ministry of Health in early 2021. The officials unanimously agreed on a TFA regulation in Sri Lanka and asked the technical expert group to draft a suitable regulation.

At present, the regulation is being drafted to ban PHO and restrict the level of TFA to less than 2% in foods being sold in Sri Lanka. The Ministry of Health is also in the process of increasing its laboratory capacity for estimating TFA levels so that compliance with the regulation can be monitored.

6. WESTERN PACIFIC

CURRENT SITUATION

The Western Pacific Region (see Table 11) continues to see little action on TFA elimination. Only one country has a best-practice TFA policy in place: Singapore. No countries have less restrictive policies.

In the Philippines, TFA elimination has been an important part of public health policy discussions in recent years. The Philippines has become the second country in the region to follow the WHO-recommended best-practice policy approach to eliminate TFA.

NEW IN THE PAST YEAR

A PHO ban was passed in Singapore in June 2020 and came into effect in June 2021. Singapore's action strengthened its existing less restrictive TFA policy to align with global best practice (following Canada, Thailand and the United States as models).

In the Philippines, the Department of Health finalized an Administrative Order to accelerate actions in eliminating TFA. Bills on TFA elimination were approved in principle in Congress in December 2020 and heard by the Senate Joint Commission in February 2021. WHO, in close collaboration with civil society, has been working with the Philippines government to ensure a strong and sustainable TFA


elimination policy in the country that will maximize the health of Filipinos. The policy experience in the Philippines is described in Box 6.

In China, the government initiated a national TFA assessment of foods, an update to a 2012 assessment. Analysis is being coordinated by the China National Center for Food Safety Risk Assessment. Assessing the TFA content in foods available in China is critical to understanding the current risk imposed by TFA to the population.

A modelling study published in *PLOS Medicine* in November 2020 found that a TFA ban in Australia would be cost-effective and could reduce health disparities, despite Australia's relatively low TFA levels (Marklund et al., 2020). Following the release of this new evidence, the Australia and New Zealand Ministerial Forum on Food Regulation identified TFA elimination as an area where there are limitations in current voluntary actions to improve food composition (FSANZ, 2020).

In the next year, WHO is planning to provide technical support to countries interested in implementing actions to eliminate TFA, including developing policies for TFA elimination in accordance with national contexts.

TABLE 11. SUMMARY OF THE TFA POLICY SITUATION IN THE WESTERN PACIFIC REGION

National policy commitment to eliminate TFA	Other complementary measures	Less restrictive TFA limits	Best-practice TFA policy	Best-practice TFA policy passed but not yet in effect (as of September 2021)	Monitoring mechanism for mandatory TFA limits 
Cambodia, Lao People's Democratic Republic, Mongolia, Nauru, Papua New Guinea, Samoa, Vanuatu	Brunei Darussalam, China, Fiji, Philippines, Republic of Korea		Singapore	Philippines	Singapore



BOX 6. POLICY EXPERIENCE IN THE PHILIPPINES

The Republic of the Philippines, a country of more than 100 million people, has taken key steps to eliminate industrially produced TFA from its food supply. The country is pursuing a multifaceted strategy that includes both legislative and administrative measures, as well as public education.

In June 2021, Secretary of Health Francisco T Duque III signed an Administrative Order that entered into force the following month; it sets a policy framework that calls on the Food and Drug Administration (FDA) to issue and enforce guidelines and regulations to eliminate industrially produced TFA from the country's food supply within 2 years, in line with international best practices endorsed by WHO.

Legislative changes, meanwhile, are being considered in the Congress of the Philippines. Pursuing both administrative and legislative changes will ensure that TFA elimination measures are fully institutionalized and as comprehensive as possible.

Cardiovascular diseases are the number one cause of death in the Philippines, responsible for approximately 179 880 deaths in 2019, at least 5301 of which are linked to TFA consumption, according to an analysis of Global Burden of Disease data.

TFA elimination is part of the government's effort to promote healthy diets, a pillar of its 5-year Health Promotion Framework Strategy. The Department of Health (DOH) has led government efforts to reduce TFA consumption. Within DOH, the FDA has the power to develop and issue policies, standards, regulations and guidelines on TFA.

DOH established a Healthy Diet Technical Working Group in July 2019 to lead policy development. To support government efforts, the Manila-based nongovernmental organization ImagineLaw launched an advocacy initiative, with support from GHAI. DOH held a series of meetings and workshops with the FDA, the National Nutrition Council, WHO, civil society and other relevant players to begin building support for TFA elimination and explore policy pathways. ►

BOX 6.

DOH worked with all the stakeholders to craft a policy memo informing the development of TFA measures, including an Administrative Order directing the FDA to limit TFA content in food and/or ban PHO, a major source of TFA in food. DOH later formed the Healthy Diet Coalition to facilitate coordination and support among stakeholders in government, civil society, academia and media. A PHO market study commissioned by ImagineLaw examined the local production and importation of PHOs and the importation of TFA-rich packaged foods, suggesting a hybrid approach to TFA elimination – encompassing both a 2% TFA limit and a PHO ban – as the best way to eliminate industrially produced TFA from the Philippines food supply.

ImagineLaw launched the Trans Fat Free Philippines campaign to raise public awareness and support for TFA elimination. The organization created an informational website^a and, in collaboration with government partners, produced a series of public service announcements that have been shown online and in health facilities across the country. It also engaged influential journalists and media figures, including the award-winning children's book author Dr Luis Gatmaitan, who in 2020 published a children's book on cardiovascular health and TFA titled "Ang Tatay Kong Mahilig sa Instant". The book was featured in a storytelling series hosted by the National Library of the Philippines, and shared with legislative champions for TFA elimination.

Several pieces of legislation have been introduced in the Congress of the Philippines to expand the government's ability to limit TFA content in food. Among the Bills' sponsors are powerful committee chairs who are expected to take a leading role in consolidating legislative language and shepherding

the Bills through the approval process. ImagineLaw and WHO have been providing valuable expertise and strategic advice to policy champions throughout the process.

In December 2020, the House of Representatives Health Committee approved TFA elimination measures in principle, setting the stage for consolidation of various legislative proposals into a single Bill. In the Senate, the Committee on Trade, Commerce and Entrepreneurship held a public hearing and a follow-up technical working group meeting in the first half of 2021 to consider amendments to proposed legislation, particularly on the definition of healthy alternatives to PHO. Discussions about PHO replacements continue, and mirror similar discussions in other countries promoting healthier alternatives to TFA through policy measures that reduce cardiovascular disease.

The Administrative Order on TFA gathered momentum in early 2021, with a draft incorporating feedback from members of the Healthy Diet Coalition released on 4 April as part of a public consultation led by DOH. The Administrative Order was approved by the DOH Executive Committee on 1 June; it was signed by the Secretary of Health on 18 June and published in a nationally circulated newspaper on 5 July. This will be followed by development of implementing regulations by the FDA.

Government leadership and multi-stakeholder collaboration have helped to frame TFA elimination as a public health priority in the Philippines, and promise to help the country implement relevant measures to save and improve lives in the coming years.

^a <https://transfatfreephilippines.org/>



IV. Global challenges, opportunities and priorities

This report marks the third year of encouraging progress towards the 2023 target for global TFA elimination. However, to meet this target in the remaining 2 years, countries must accelerate their actions. The challenges identified in last year's report – lack of regulatory capacities, lack of laboratory capacities, and lack of accurate and reliable TFA data – remain roadblocks. WHO continues to support countries to overcome these challenges, including through developing practical implementation guidance, tools and training courses.

CHALLENGES

The greatest challenge of the past year has been the COVID-19 pandemic – both intermittent shutdowns and the demands on the health sector to respond to the emergency, which have meant that fewer resources have been available for NCD prevention, including TFA elimination. Now that countries' responses to COVID-19 and recovery

plans are under way, the opportunity to put in place measures that will build more resilient and healthier populations cannot be ignored. Enacting TFA elimination policies is a straightforward action that countries can invest in now to reduce strain on health systems by preventing heart disease and death. This will save costs so that countries have more resources available to tend to the ongoing COVID-19 response and future public health emergencies.

In addition to the previously identified challenges, ensuring replacement of TFA with healthier oils has caused delays in some countries' policy dialogues and processes. Specifically, in countries that produce tropical oils that are high in SFA content, there is political and economic incentive to use TFA elimination policies as an opportunity to promote these tropical oils as replacement options. Additionally, in countries where palm oil is the most affordable and most easily accessible oil, there are concerns that TFA elimination will be an opportunity to increase the use of palm oil in foods. WHO has been working with in-country partners to ensure that the evidence on the health effects of, and WHO recommendations on, SFA intake are considered in policy discussions. WHO and partners are also offering technical support to help Member States and industry stakeholders identify available and feasible replacement options and technologies.

Despite growing country actions and interest in acting on TFA elimination, there is still a long way to go to meet the WHO goal of global elimination by 2023. Opportunities and priority areas for overcoming the challenges and accelerating action in TFA elimination are described below.

OPPORTUNITIES AND PRIORITIES

During this past year, influential countries and regions have passed or implemented best-practice TFA policies. These major advances can serve as models and catalysts for other countries in their regions and around the world to take similar action to protect their populations from TFA. There are practical benefits to aligning policies with those of neighbouring countries and countries with trade relations: food manufacturers can reformulate products in the same way for sale in multiple countries, which can reduce research and development costs, and allow easier trade within the region and between countries. Additionally, aligning policies across a region reduces disparities within the region and ensures that lower-income countries in the region do not suffer a disproportionate burden of TFA in their food supplies. Countries that trade food products or oils and fats with countries in the EU, Brazil, India, Turkey, Singapore or any of the other countries that have implemented TFA elimination policies should consider aligning policies.

Civil society has demonstrated its invaluable contributions in supporting country actions to develop and implement strong policies that can be sustained within national policy frameworks. Civil society is encouraged to continue to ramp up its advocacy and support for country actions in policy development and implementation for TFA elimination.

With the growing interest of industry, especially oils and fats manufacturers, there is an opportunity to remove PHO further upstream in the supply chain, resulting in broader health gains. But for this to be effective, oils and fats suppliers must commit to using the existing and available healthier PHO replacement solutions. A healthier population benefits everyone, a lesson that was unfortunately underlined in the last year by the COVID-19 pandemic.

Finally, the new WHO Certification Programme for Trans Fat Elimination offers another incentive and opportunity for countries to act and receive recognition for their evidence-based public health action.



V. Conclusion and recommendations for action

The momentum for TFA elimination has continued to grow, but many countries still do not have best-practice policies in place to protect their citizens from the harmful effects of TFA. With the progress this past year, we are nearing a tipping point, but country policy-makers, policy influencers, industry stakeholders and advocates must not slow down their efforts. This is the moment to use the forward momentum to get us to the finish line, with every person in the world protected by best-practice TFA elimination policies.

In the coming year, WHO recommends that countries focus on the following action areas.

- Develop and implement best-practice policies to set TFA limits or to ban PHO.
- Leverage the policy wins in the countries that have developed best-practice TFA policies to accelerate policy progress; align policies with those of countries in the region that have best-practice TFA policies to facilitate trade and reformulation.

- Invest in monitoring and surveillance mechanisms, such as laboratory capacity to measure TFA content in foods.
- Advocate for regional or subregional regulations to expand the benefits of TFA policies.

WHO will strengthen its support to countries working to eliminate TFA by:

- continuing to provide technical support for building regulatory capacities to accelerate best-practice policy development, implementation and enforcement in countries; this includes strengthening laboratory capacities to assess TFA content in foods;
- supporting countries in identifying and implementing feasible and health-maximizing TFA replacement solutions; this includes disseminating practical guidance on replacement of industrially produced TFA for different food applications and providing guidance to countries on how to support local food manufacturers;
- disseminating country experiences, success stories and good practices, and recognizing achievements by countries; and
- undertaking global advocacy through existing and forthcoming platforms, such as the World Health Assembly, the United Nations Decade of Action on Nutrition (2016–2025), the United Nations Food System Summit (September 2021) and the Nutrition for Growth Summit in Japan (December 2021).

WHO expects food and beverage industry groups to implement the commitments they have made to eliminate industrially produced TFA from product lines. WHO also expects major suppliers of oils and fats to step up to remove industrially produced TFA from the products that are sold to food manufacturers globally.

The progress with TFA elimination policies around the world can offer lessons for other nutrition initiatives, such as reduction of sodium and sugars. Although TFA elimination policies have been gaining momentum around the world over the past two decades, country action increased greatly after 2018, when WHO set TFA elimination as a global priority, released recommended policies and strategies, and called on countries to act. This global synthesis of best practices and call to action, based on experiences and successes in several pioneering countries, has helped provide the scientific underpinning for broader policy action around the world.

At the same time, civil society organizations – including Resolve to Save Lives, GHAI and NCD Alliance – and public health advocates started engaging and supporting WHO’s call for TFA elimination, and aligned their advocacy and actions for country support. Important policy milestones have been achieved in countries where civil society has been actively working on this issue, including in Bangladesh, Brazil, India, Nigeria, the Philippines and Turkey. The current experience in the Philippines demonstrates how coordination and collaboration across government, WHO and civil society can facilitate and advance effective policy development and implementation in the area of nutrition.

Additionally, the existence of champion countries spurring broader regional action has been a successful model that can be applied to other nutrition initiatives. For example, in the EU, once there was a critical mass of countries in the region with TFA policies in place, there were practical incentives to harmonize policies across all EU Member States, to achieve health equity and facilitate industry reformulation.

The 2023 goal for global elimination of industrially produce TFA is attainable, and it is up to countries to protect their people and eliminate this risk factor for NCDs.

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Annex: TFA burden and status of TFA policies by country, ranked by proportion of coronary heart disease deaths due to TFA intake

Country	Proportion of CHD deaths (%) due to TFA intake (>0.5% energy) ^a	Score ^b	Details of implemented policy	Notes
Egypt	8.39	1	National policy commitment to eliminate TFA	
United States of America	7.57	4	Mandatory national ban on PHO	Monitoring mechanism for mandatory TFA limits
Iran (Islamic Republic of)	6.96	3	2% TFA limit in oils and fats only	
Latvia	6.14	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Mexico	5.82	2	Mandatory limit of industrially produced TFA on foods in specific settings; Reformulation to reduce/eliminate TFA; Front-of-package labelling system that includes TFA	
Azerbaijan	5.81	2	Reformulation to reduce/eliminate TFA	
Canada	5.65	4	Mandatory national ban on PHO	Monitoring mechanism for mandatory TFA limits
Ecuador	4.97	3	2% TFA limit in oils and fats only	Monitoring mechanism for mandatory TFA limits
Pakistan	4.94	2	Mandatory limit of industrially produced TFA on foods in specific settings	
Republic of Korea	4.76	2	Reformulation to reduce/eliminate TFA	
India	4.63	3	5% TFA limit in oils and fats	Best-practice TFA policy passed but not yet in effect; Monitoring mechanism for mandatory TFA limits
Slovenia	4.56	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Bhutan	4.45	1	National policy commitment to eliminate TFA	
Bangladesh	4.41	1	National policy commitment to eliminate TFA	
Nepal	4.38	1	National policy commitment to eliminate TFA	
Australia	4.27	—	—	
Peru	3.96	4	Mandatory national ban on PHO; Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits

Country	Proportion of CHD deaths (%) due to TFA intake (>0.5% energy) ^a	Score ^b	Details of implemented policy	Notes
Bolivia (Plurinational State of)	3.95	2	Mandatory declaration of TFA on nutrition labels; Reformulation to reduce/eliminate TFA	
Netherlands	3.81	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Estonia	3.53	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Costa Rica	3.52	2	Mandatory limit of industrially produced TFA on foods in specific settings	
Venezuela (Bolivarian Republic of)	3.51	1	National policy commitment to eliminate TFA	
Slovakia	3.32	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
New Zealand	3.25	—	—	
El Salvador	3.2	2	Mandatory limit of industrially produced TFA on foods in specific settings	
Honduras	3.15	—	—	
Lithuania	3.12	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Nicaragua	3.12	—	—	
Germany	3.1	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Panama	3.09	—	—	
United Kingdom	3.06	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Switzerland	2.89	3	2% TFA limit in oils and fats only	Monitoring mechanism for mandatory TFA limits
Belgium	2.77	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Georgia	2.66	3	2% TFA limit in oils and fats only	Monitoring mechanism for mandatory TFA limits
Afghanistan	2.64	1	National policy commitment to eliminate TFA	
Philippines	2.64	2	Mandatory declaration of TFA on nutrition labels	Best-practice TFA policy passed but not yet in effect
United Arab Emirates	2.6	3	2% TFA limit in oils and fats, and 5% limit in other foods	
Brazil	2.58	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Paraguay	2.57	2	Mandatory declaration of TFA on nutrition labels	Best-practice TFA policy passed but not yet in effect
Libya	2.55	—	—	
Kuwait	2.52	3	2% TFA limit in oils and fats, and 5% limit in other foods	
Sudan	2.51	—	—	

Country	Proportion of CHD deaths (%) due to TFA intake (>0.5% energy) ^a	Score ^b	Details of implemented policy	Notes
Yemen	2.51	—	—	
Hungary	2.5	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Qatar	2.47	1	National policy commitment to eliminate TFA	
Oman	2.46	2	Reformulation to reduce/eliminate TFA	
San Marino	2.45	—	—	
Bahrain	2.43	3	2% TFA limit in oils and fats, and 5% limit in other foods	
Monaco	2.43	—	—	
Iraq	2.42	—	—	
Jordan	2.42	2	Mandatory declaration of TFA on nutrition labels; Reformulation to reduce/eliminate TFA	
Denmark	2.41	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Syrian Arab Republic	2.41	—	—	
Haiti	2.4	—	—	
Colombia	2.39	3	2% TFA limit in oils and fats, and 5% limit in other foods	Monitoring mechanism for mandatory TFA limits
Morocco	2.38	1	National policy commitment to eliminate TFA	
Republic of Moldova	2.33	2	Mandatory declaration of TFA on nutrition labels	
Guatemala	2.32	1	National policy commitment to eliminate TFA	
Jamaica	2.31	1	National policy commitment to eliminate TFA	
Belize	2.3	1	National policy commitment to eliminate TFA	
Bahamas	2.29	1	National policy commitment to eliminate TFA	
Brunei Darussalam	2.29	2	Front-of-package labelling system that includes TFA; Reformulation to reduce/eliminate TFA	
Guyana	2.29	1	National policy commitment to eliminate TFA	
Antigua and Barbuda	2.27	1	National policy commitment to eliminate TFA	
Suriname	2.27	1	National policy commitment to eliminate TFA	
Saint Vincent and the Grenadines	2.26	1	National policy commitment to eliminate TFA	
Trinidad and Tobago	2.26	1	National policy commitment to eliminate TFA	
Barbados	2.24	1	National policy commitment to eliminate TFA	
Grenada	2.24	1	National policy commitment to eliminate TFA	
Saint Lucia	2.24	1	National policy commitment to eliminate TFA	
Cuba	2.23	—	—	
Dominica	2.23	—	—	
Saint Kitts and Nevis	2.16	1	National policy commitment to eliminate TFA	
Czechia	2.1	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	

Country	Proportion of CHD deaths (%) due to TFA intake (>0.5% energy) ^a	Score ^b	Details of implemented policy	Notes
Albania	2.08	1	National policy commitment to eliminate TFA	
Portugal	2.08	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
France	2.07	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Romania	2.06	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Belarus	2.05	3	2% TFA limit in oils and fats only	Monitoring mechanism for mandatory TFA limits
Montenegro	2.04	—	—	
Serbia	2.04	—	—	
Russian Federation	2.03	3	2% TFA limit in oils and fats only	Monitoring mechanism for mandatory TFA limits
Bulgaria	2	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Greece	1.96	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Iceland	1.95	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Mongolia	1.95	1	National policy commitment to eliminate TFA	
Andorra	1.92	—	—	
Cyprus	1.92	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Tajikistan	1.9	2	Reformulation to reduce/eliminate TFA	
Turkmenistan	1.9	1	National policy commitment to eliminate TFA	
Luxembourg	1.88	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Ukraine	1.87	1	National policy commitment to eliminate TFA	
Finland	1.86	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Indonesia	1.86	2	Mandatory declaration of TFA on nutrition labels	
Nauru	1.86	1	National policy commitment to eliminate TFA	
Solomon Islands	1.86	—	—	
Kyrgyzstan	1.85	3	2% TFA limit in oils and fats only	Monitoring mechanism for mandatory TFA limits
Malta	1.84	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Algeria	1.83	1	National policy commitment to eliminate TFA	
Kiribati	1.83	—	—	
Thailand	1.83	4	Mandatory national ban on PHO	Monitoring mechanism for mandatory TFA limits
Japan	1.82	—	—	
Marshall Islands	1.82	—	—	

Country	Proportion of CHD deaths (%) due to TFA intake (>0.5% energy) ^a	Score ^b	Details of implemented policy	Notes
The former Yugoslav Republic of Macedonia	1.81	1	National policy commitment to eliminate TFA	
Armenia	1.8	3	2% TFA limit in oils and fats only	Monitoring mechanism for mandatory TFA limits
Dominican Republic	1.8	1	National policy commitment to eliminate TFA	
Zimbabwe	1.8	—	—	
Micronesia (Federated States of)	1.79	—	—	
Papua New Guinea	1.79	1	National policy commitment to eliminate TFA	
Samoa	1.79	1	National policy commitment to eliminate TFA	
Vanuatu	1.79	1	National policy commitment to eliminate TFA	
Tuvalu	1.78	—	—	
Botswana	1.77	1	National policy commitment to eliminate TFA	
Eswatini	1.77	1	National policy commitment to eliminate TFA	
Lao People's Democratic Republic	1.77	1	National policy commitment to eliminate TFA	
Lesotho	1.77	—	—	
Democratic People's Republic of Korea	1.76	—	—	
Cambodia	1.75	1	National policy commitment to eliminate TFA	
Palau	1.75	—	—	
Fiji	1.74	2	Mandatory declaration of TFA on nutrition labels	
Myanmar	1.74	1	National policy commitment to eliminate TFA	
Namibia	1.73	1	National policy commitment to eliminate TFA	
Norway	1.72	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Timor-Leste	1.72	1	National policy commitment to eliminate TFA	
Niue	1.71	—	—	
Tonga	1.71	—	—	
Maldives	1.7	1	National policy commitment to eliminate TFA	
Cook Islands	1.69	—	—	
Croatia	1.69	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Mauritius	1.69	1	National policy commitment to eliminate TFA	
Seychelles	1.69	1	National policy commitment to eliminate TFA	
Sri Lanka	1.68	1	National policy commitment to eliminate TFA	
Viet Nam	1.67	—	—	

Country	Proportion of CHD deaths (%) due to TFA intake (>0.5% energy) ^a	Score ^b	Details of implemented policy	Notes
South Africa	1.62	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
China	1.54	2	Mandatory declaration of TFA on nutrition labels	
Kenya	1.5	1	National policy commitment to eliminate TFA	
Poland	1.48	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Uzbekistan	1.48	3	4% TFA limit in all foods	
Nigeria	1.45	1	National policy commitment to eliminate TFA	
Singapore	1.45	4	Mandatory national ban on PHO	Monitoring mechanism for mandatory TFA limits
Chile	1.44	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Ethiopia	1.44	2	Tax on food products with high levels of trans fat	
Mali	1.4	—	—	
Liberia	1.39	—	—	
Congo	1.38	—	—	
Ghana	1.38	1	National policy commitment to eliminate TFA	
Guinea-Bissau	1.38	—	—	
Sierra Leone	1.38	—	—	
Democratic Republic of the Congo	1.37	—	—	
Equatorial Guinea	1.37	—	—	
Madagascar	1.37	—	—	
Mauritania	1.37	1	National policy commitment to eliminate TFA	
Somalia	1.37	—	—	
Zambia	1.37	1	National policy commitment to eliminate TFA	
Argentina	1.36	3	2% TFA limit in oils and fats, and 5% limit in other foods	Monitoring mechanism for mandatory TFA limits
Benin	1.36	1	National policy commitment to eliminate TFA	
Central African Republic	1.36	—	—	
Comoros	1.36	—	—	
Eritrea	1.36	—	—	
Guinea	1.36	—	—	
Niger	1.36	—	—	
Sao Tome and Principe	1.36	—	—	
Angola	1.35	—	—	
Bosnia and Herzegovina	1.35	1	National policy commitment to eliminate TFA	

Country	Proportion of CHD deaths (%) due to TFA intake (>0.5% energy) ^a	Score ^b	Details of implemented policy	Notes
Burundi	1.35	—	—	
Cameroon	1.35	—	—	
Chad	1.35	1	National policy commitment to eliminate TFA	
Côte d'Ivoire	1.35	1	National policy commitment to eliminate TFA	
Gambia	1.35	—	—	
Rwanda	1.35	—	—	
Senegal	1.35	—	—	
Togo	1.35	—	—	
Burkina Faso	1.34	—	—	
Djibouti	1.34	1	National policy commitment to eliminate TFA	
Malawi	1.34	—	—	
Uganda	1.34	—	—	
South Sudan	1.33	—	—	
Mozambique	1.32	—	—	
Saudi Arabia	1.32	4	Mandatory national ban on PHO	Monitoring mechanism for mandatory TFA limits
United Republic of Tanzania	1.32	—	—	
Cabo Verde	1.31	2	Mandatory limit of industrially produced TFA on foods in specific settings	
Gabon	1.31	—	—	
Malaysia	1.25	—	—	
Kazakhstan	1.23	3	2% TFA limit in oils and fats only	Monitoring mechanism for mandatory TFA limits
Uruguay	1.17	3	2% TFA limit in oils and fats, and 5% limit in other foods	Best-practice TFA policy passed but not yet in effect; Monitoring mechanism for mandatory TFA limits
Sweden	1.14	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Ireland	1.13	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Lebanon	1.02	1	National policy commitment to eliminate TFA	
Austria	1	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Turkey	0.98	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Spain	0.96	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	
Israel	0.94	2	Mandatory declaration of TFA on nutrition labels	
Tunisia	0.93	2	Reformulation to reduce/eliminate TFA	
Italy	0.88	4	Mandatory national limit (iTFA<2g/100g total oils and fats in all foods)	

— missing data

^a Based on data from Global Burden of Disease 2019

^b Score definition:

1. = “National policy commitment to eliminate TFA”: National policies, strategies or action plans that express a commitment to reduce industrially produced TFA in the food supply.
2. = “Other complementary measures”: Legislative or other measures that encourage consumers to make healthier choices about industrially produced TFA (e.g. mandatory declaration of TFA on nutrition labels; front-of-pack labelling system that includes TFA; reformulation) or mandatory limits on industrially produced TFA in foods in specific settings (e.g. public institutions).
3. = “Less restrictive TFA limits”: Legislative or regulatory measures that limit industrially produced TFA in foods in all settings, but are less restrictive than the recommended approach (e.g. 2% limit for industrially produced TFA in oils and fats only; 2% limit for industrially produced TFA in oils and fats, and 5% limit in other foods; 5% limit for industrially produced TFA in oils and fats).
4. = “Best-practice TFA policy”: Legislative or regulatory measures that limit industrially produced TFA in foods in all settings and are in line with the recommended approach. The two best-practice policies for TFA elimination are: 1) mandatory national limit of 2 g of industrially produced TFA per 100 g of total fat in all foods; and 2) mandatory national ban on the production or use of PHO as an ingredient in all foods.



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