

# COUNTDOWN TO 2023

WHO REPORT ON GLOBAL  
TRANS FAT ELIMINATION  
2022



World Health  
Organization



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## **Countdown to 2023: WHO report on global trans-fat elimination 2022**

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Special thanks are due to Member States for their commitments and concrete actions to achieve the global target of TFA elimination by 2023.

# Acronyms

CAPPA	Corporate Accountability for Public Participation Africa
CHD	coronary heart disease
CONAL	Comisión Nacional de Alimentos (National Food Commission), Argentina
COFEPRIS	Comisión Federal para la Protección contra Riesgos Sanitarios (Ministry of Economy and Federal Committee for Protection from Sanitary Risks), Mexico
COVID-19	coronavirus disease 2019
CSO	civil society organization
EAC	Eastern African Community
EAEU	Eurasian Economic Union
EU	European Union
FOPL	front-of-pack labelling
FSSAI	Food Safety and Standards Authority of India
GCC	Gulf Cooperation Council
GHAJ	Global Health Advocacy Incubator
GINA	Global database on the Implementation of Nutrition Action
IFBA	International Food and Beverage Alliance
NAFDAC	National Agency for Food and Drug Administration and Control, Nigeria
NCD	noncommunicable disease
NHED	Network for Health Equity and Development, Nigeria
PAHO	Pan American Health Organization
PHO	partially hydrogenated oils
RTSL	Resolve to Save Lives
TFA	<i>trans</i> -fatty acids
WHO	World Health Organization



# Foreword



## COUNTDOWN TO 2023: WHO REPORT ON GLOBAL TRANS FAT ELIMINATION 2022

The COVID-19 pandemic has highlighted the deadly interplay between infectious and noncommunicable diseases (NCDs), which include some of the leading causes of death and disability worldwide. The already heavy burden of NCDs was exacerbated by the pandemic, which put people with NCDs at particular risk and disrupted many health services on which people with NCDs rely. The global recovery must include robust policy action on NCDs.

A key element of such policy action is the elimination of industrially produced *trans*-fatty acids, which are a risk factor for cardiovascular disease and are linked with up to 500,000 deaths every year. That is why governments, civil society and leading private sector companies have committed to eliminating these toxic chemicals from the global food supply by the end of 2023. Achieving this goal will not just save lives, it will ease the pressure on overburdened health systems and help reduce inequalities.

The clock is ticking. Despite setbacks from the pandemic, 60 countries have so far implemented mandatory policies to eliminate *trans*-fatty acids. This is a significant step forward, but there is still a long way to go. Many more countries still need to act.

I urge leaders in governments across all WHO Regions to take urgent action to implement best practice policy. Under the newly-established WHO Validation Programme for Trans Fat Elimination, WHO will recognize country successes in implementing best practice policy along with effective monitoring and enforcement.

I also call on the food industry to help us make up for lost time. By replacing industrially produced *trans*-fatty acids with healthier oils and fats across their product portfolios, food manufacturers, the food service sector and suppliers of oils and fats have the potential to plug the gaps where national legislation is not yet in place. If they so choose, these companies could have an almost unparalleled impact on global health.

There are encouraging signs. Some of the world's largest manufacturers of food and cooking oil have also committed to comply with WHO best practice policy.

*Trans*-fatty acids have no known health benefits, and huge health risks. It's time to get rid of them, once and for all.

**Dr Tedros Adhanom Ghebreyesus**

Director-General  
World Health Organization



# Executive summary

This fourth annual report monitors global progress towards the 2023 target for global elimination of industrially produced *trans*-fatty acids (TFA), highlighting achievements during the past year (October 2021 – September 2022). 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 3.4 billion people in 60 countries (43% of the world population); of these, 43 countries have best-practice policies in effect, covering 2.8 billion people (36% of the world population).

Over the past year, several additional countries took action to eliminate industrially produced TFA: best-practice policies came into effect in India in January 2022, Uruguay in May 2022 and Oman in July 2022. Best-practice policies were passed in Bangladesh in November 2021 (to come into effect in December 2022) and in Ukraine in September 2020 (to come into effect in October 2023), best-practice TFA policies are projected to pass soon in Mexico, Nigeria and Sri Lanka.

Policies to eliminate industrially produced TFA are relatively simple to implement, and can save lives and economies. As more countries regulate TFA, there are additional advantages of a more consistent operating environment for companies and easier international trade. Countries that are lagging behind in implementing best practice policies may see TFA intakes rising, as manufacturers seek markets that still permit TFA-containing products. Robust policy action to eliminate TFA is, therefore, essential, even in countries where current TFA intakes are low.

Most policy actions to date have been in higher-income countries, and mostly in the regions of the Americas and Europe. However, in 2021, India and the Philippines became the first and second lower-middle-income countries to pass a best-practice policy. This favourable trend was continued this year; two more lower-middle-income countries – Bangladesh and Ukraine – adopted a best-practice policy.

One of the most important challenges to TFA policy-making faced by countries has been to build adequate laboratory capacity to measure TFA in foods, which is vital for understanding key sources of TFA in the diet and the baseline situation in countries as well as to monitor compliance and the impact of policies. WHO is supporting Member States to strengthen laboratory capacity through capacity development workshops and online discussions with laboratories to troubleshoot issues. Following a global laboratory protocol for measuring TFA in foods published in December 2020, WHO is planning to publish a simplified protocol in 2023.

The momentum for TFA elimination has been growing over the past few years, but considerable additional efforts are needed if the 2023 target is to be met. 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 PHO.
- Invest in monitoring and surveillance mechanisms, such as laboratory capacity to measure TFA content in foods.
- Start the discussion on healthy replacement oils and fats, and country-specific alternative techniques, and develop a replacement roadmap.
- Advocate for regional or subregional regulations (e.g. EAC, GCC) to expand the benefits of TFA policies.

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

- continuing to provide regulatory capacity-building support to accelerate best-practice policy development, implementation and enforcement in countries – this includes strengthening laboratory capacities to assess TFA content in foods;
- supporting countries to identify and implement 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
- scaling up communication activities and undertaking global advocacy through existing and forthcoming platforms.

WHO expects food and beverage industry groups to follow through on the commitments they have made to eliminate industrially produced TFA from product lines. WHO also expects major suppliers of oils and fats to follow the pioneering effort of Cargill to remove industrially produced TFA from the products that are sold to food manufacturers globally.

The WHO Validation Programme for Trans fat Elimination recognizes and acknowledges country success in implementation of best-practice policy, along with effective monitoring and enforcement. The programme has potential to amplify interest among countries and accelerate progress towards the global elimination goal by 2023.



# I. Introduction

Cardiovascular diseases continue to be the leading cause of death globally, responsible for more than one third of premature deaths each year. Most of these deaths take place in low- and middle-income countries. Coronary heart disease (CHD) is the biggest killer, responsible for around 16% of deaths worldwide.

The heavy burden of cardiovascular diseases may have contributed to the devastating impact of the COVID-19 pandemic. Heart disease and other noncommunicable diseases (NCDs) are associated with higher risk of serious illness and death from COVID-19 (Alqahtani et al., 2020; Meng et al., 2020; Roncon et al., 2020; Tian et al., 2020; Wang et al., 2020; Williamson et al., 2020a,b; Zhang et al., 2020). Action to prevent and control cardiovascular diseases can, therefore, also prevent poor outcomes from COVID-19 and build resilience to future epidemics or pandemics.

Tackling unhealthy diets – which are responsible for 8 million deaths worldwide every year (GBD 2019 Risk Factors Collaborators, 2020) – needs to be a key element of NCD prevention. Policies to improve food environments and deliver affordable healthy diets are needed,

including action to eliminate 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 CHD (WHO, 2019a).

Policies to eliminate industrially produced TFA are relatively simple to implement, and can save lives and economies – and 62 countries are now leading the way with a mandatory TFA policy in effect or passed, covering 3.6 billion people, or approximately 46% of the world’s population. Healthier oils and fats are available to replace TFA, and companies around the world are already using them to replace TFA (Ghebreyesus & Frieden, 2018; WHO, 2019b). As more countries regulate TFA, there are additional advantages of a more consistent operating environment for companies and easier international trade. Countries that are lagging behind in implementing best practice recommended by the World Health Organization (WHO) – perhaps because their average TFA intakes are considered low – may see TFA intakes rising, as manufacturers seek markets that still permit TFA-containing products. Robust policy action to eliminate TFA is, therefore, essential, even in countries where current TFA intakes are low.

WHO designated TFA elimination as one of its priority targets in 2018, calling for the global elimination of industrially produced TFA by 2023 (WHO, 2018). Since then, WHO has published the REPLACE action framework<sup>1</sup> and additional resources to support country actions. A live policy tracking map – the TFA Country Score Card<sup>2</sup> – has been established to monitor global progress towards the 2023 target. Data on how many countries have adopted WHO best-practice policies for TFA elimination are included as one of the indicators of progress in WHO’s Triple Billion initiative, an ambitious drive to improve the health of billions of people by 2023 (WHO, 2020a). A validation programme was announced in 2020 to recognize countries for having a normative framework in place to eliminate industrially produced TFA from their national food supplies (WHO, 2020b).

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 3.4 billion people in 60 countries. Of these countries, 43 have best-practice policies in effect, covering 2.8 billion people around the world, or approximately 36% of the world’s population. In 2022, three countries – India, Oman and Uruguay – implemented best-practice TFA policies. This is a smaller number than in the previous year (October 2020 – September 2021), when 27 countries implemented best-practice TFA policies. However, the recently implemented policies in these three countries have doubled the size of the population that is protected by best-practice TFA policies to 2.8 billion people (compared with 1.4 billion in the previous year). More than 99% of the increase is contributed by the population in India alone.

Most policy actions to date have been in higher-income countries, and mostly in the regions of the Americas and Europe. Until this year, when India became the first lower-middle-income country to implement a best-practice policy, no low- or lower-middle-income countries had best-practice policies in effect. India’s best-practice policy offers protection to approximately 1.4 billion people. The Philippines adopted a best-practice policy in 2021, which will come into effect in 2023. This favourable trend was continued this year; two more lower-middle-income countries – Bangladesh and Ukraine – adopted a best-practice policy (which is not yet in effect) this past year. Argentina, an upper-middle-income country, also passed a best-practice policy (not yet in effect) in August 2022. Additionally, best-practice policies are expected to pass soon in Nigeria (lower-middle-income country), Sri Lanka (lower-middle-income country) and Mexico (upper-middle-income country).

Nongovernmental stakeholders contribute to the policy wins at country level. Civil society organizations (CSOs) have been instrumental in advancing key policy changes in some countries. See the section on the role of civil society in Part II for further detail on the contributions of CSOs to advancing TFA policy goals.



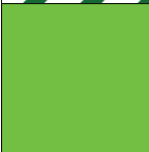

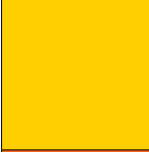


Terms used in this report for policy categories are defined in Table 1.

<sup>1</sup> <https://www.who.int/publications/i/item/9789240021105>

<sup>2</sup> <https://extranet.who.int/nutrition/gina/en/scorecard/TFA>



**TABLE 1. DEFINITIONS OF POLICY CATEGORIES**

	<b>“Best-practice TFA policy”:</b> 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.
	<b>“Best-practice TFA policy passed but not yet in effect”:</b> Best-practice policies have been passed but have not yet come into effect (as of September 2022).
	<b>“Policies with less restrictive TFA limits”:</b> 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).
	<b>“Policies with mandatory TFA limits”:</b> A broader term that refers to both “best-practice TFA policy” and “policies with less restrictive TFA limits”.
	<b>“Other complementary measures”:</b> 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).
	<b>“National policy commitment to eliminate TFA”:</b> National policies, strategies or action plans that express a commitment to reduce industrially produced TFA in the food supply.
	<b>“Monitoring mechanism for mandatory TFA limits”:</b> A mechanism that monitors the legislative or regulatory measures for mandatory TFA limits.

This fourth 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 (October 2021 – September 2022);
- tracks progress of key policy outcomes and milestones;

- discusses challenges and opportunities for future action;
- highlights enablers and barriers to 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.



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## II. Global progress

### 1. NEW GLOBAL INITIATIVES

Despite the ongoing operational difficulties as the world continues to deal with the COVID-19 pandemic, there have been some important global developments in the past year to accelerate progress towards TFA elimination.

The WHO Validation Programme for Trans Fat Elimination has been established to set up accountability mechanisms and accelerate progress. This programme, first announced in December 2020, aims to recognize countries for taking the necessary action to eliminate industrially produced TFA from their national food supplies (WHO, 2020b).

To qualify for validation, countries must demonstrate that they have implemented a best-practice TFA elimination policy – a mandatory national ban on the production, use or sale of PHO; a mandatory

national restriction that limits industrially produced TFA to a maximum of 2% of total fat in all fats, oils and foods; or a combination of these two measures. In addition, applicant countries must have an adequate monitoring system in place to ensure that no PHO is domestically produced or imported into the country, and an enforcement system that is able to identify offences and impose sanctions on those responsible for violations. Finally, the country must be able to provide documentation to demonstrate that the monitoring and enforcement systems are functioning. Country applications will be assessed by an advisory group of international independent experts – the Trans Fat Elimination Technical Advisory Group (TFATAG) – with relevant professional experience and technical expertise. A call for experts to be part of TFATAG was issued in September 2022; as soon as the members are selected, the first meeting will be held to discuss the technical criteria

that countries need to comply with to be granted a WHO Validation Certificate of Trans Fat Elimination. Once the technical criteria have been established, TFATAG will assess country applications. A series of seminars and webinars is planned in 2023 to raise awareness and encourage countries to apply for validation.

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 criteria that will be set out in the WHO Validation 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 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 technical criteria that will be established in the WHO Validation Programme.

To measure progress towards achieving the TFA elimination target, in 2020, WHO established a TFA indicator as part of the 13th General Programme of Work results framework for impact measurement. The indicator monitors whether countries have adopted best-practice policies for eliminating industrially produced TFA (WHO, 2020c) 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, 2020a).

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

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

African Region	Eastern Mediterranean Region	European Region	Region of the Americas	South-East Asia Region	Western Pacific Region
South Africa	Oman, 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, Türkiye, United Kingdom	Brazil, Canada, Chile, Peru, United States, Uruguay	India, Thailand	Singapore

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

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



**TABLE 4. ESTIMATED 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	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, Türkiye, United Kingdom	61 million
2022	Bangladesh, India, Oman, Uruguay	381 million
2023–2024 (planned)	Argentina, Paraguay, Philippines, Ukraine	1.2 million
No best-practice policy passed or in effect (not imminent)	Remaining 146 WHO Member States	326 million

(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 48 countries with a best-practice TFA policy in effect or expected to be passed by the end of 2024, nearly 660 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 326 million people living in 146 countries without a best-practice TFA policy have TFA intake levels that exceed the WHO recommended level. These 326 million people could also be protected if all 146 countries introduced a best-practice policy.

## 2. COUNTRY POLICIES

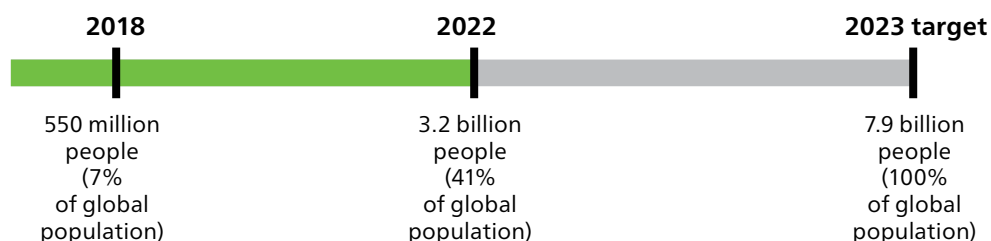
Mandatory TFA policies are currently in effect or passed in 62 countries, covering 3.6 billion people (46% of the global population). Of these, 43 countries have best-practice policies in effect as of September 2022, covering 2.8 billion people (36% of the global population). Uruguay, which previously

had less restrictive limits in place, has passed a best-practice policy that came into effect in May 2022. India has passed a best-practice TFA policy that has come into effect in January 2022 and covers an additional 1.4 billion people. In July 2022, a best-practice TFA policy came into effect in Oman. This brings the number of countries with best-practice policies passed or in effect to 48, covering 3.2 billion people (41% of the global population).

Population coverage by best-practice TFA policies has grown since the launch of REPLACE: 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 3.2 billion people in 2022 – 41% coverage (Fig. 1). However, accelerated actions are needed to meet the target of 100% global population coverage by 2023.

Currently, 22 countries have other complementary measures in place (e.g. TFA labelling requirements or TFA limits that apply in specific settings), and 51 countries have a national policy, strategy or action plan in place that expresses a commitment

**FIG. 1. POPULATION COVERAGE BY BEST-PRACTICE POLICIES PASSED OR IN EFFECT, BY THE END OF 2018 AND 2022**



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 Implementation of Nutrition Action (GINA).<sup>1</sup> The live map is updated regularly and accessible on the GINA and REPLACE<sup>2</sup> 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, 2020d). 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.



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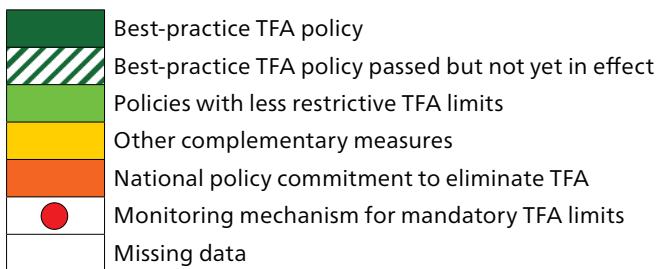
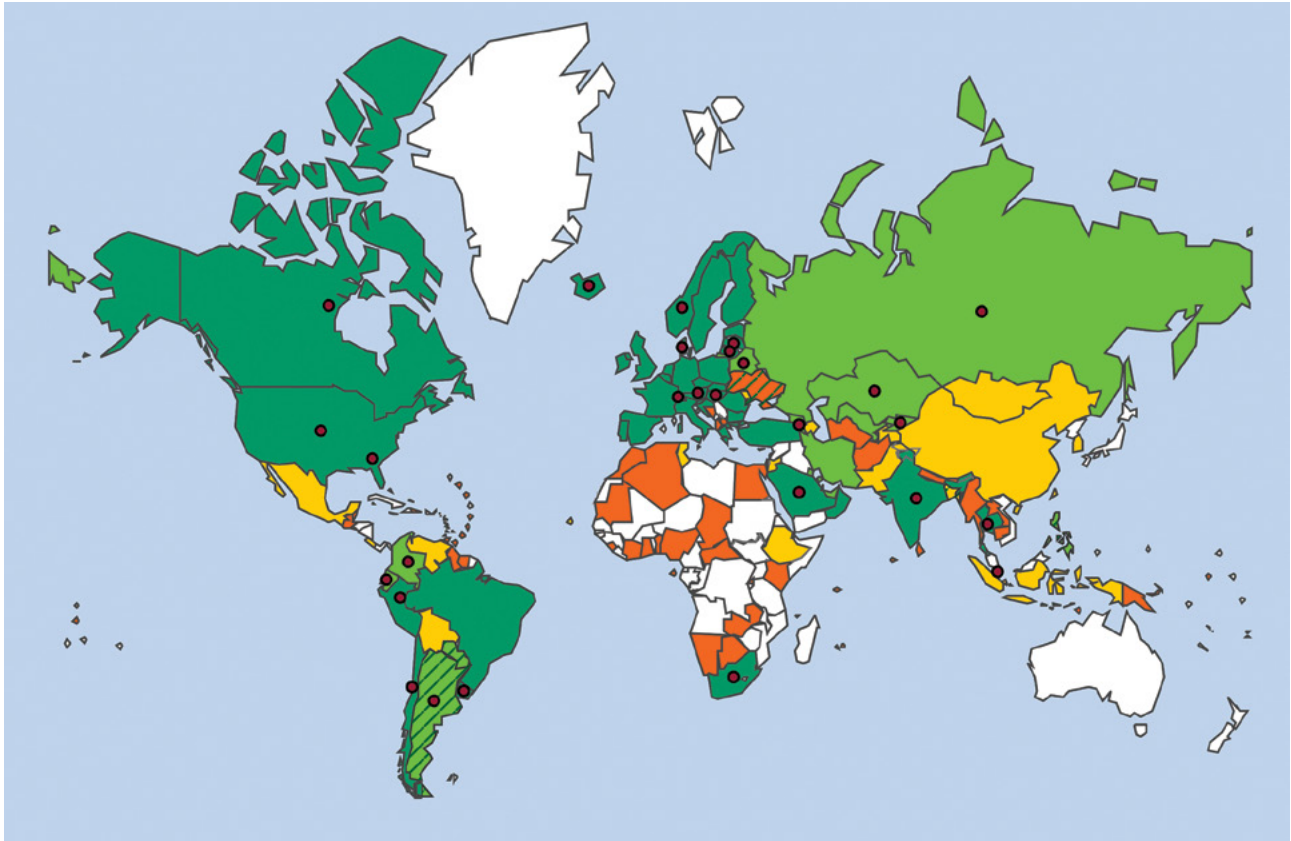
Although progress has been slow over the past year, it is encouraging to observe that some countries with high CHD burden due to TFA intake are taking action. For example, among the 15 countries with the highest CHD burden, one country has recently implemented a best-practice policy, one passed a best-practice policy in 2022 and one is expecting to pass a best-practice policy soon. It is expected that the proportion of CHD deaths due to TFA intake will begin to decrease in these countries.

Countries that have implemented TFA best-practice policies need to 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.

<sup>1</sup> <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).

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

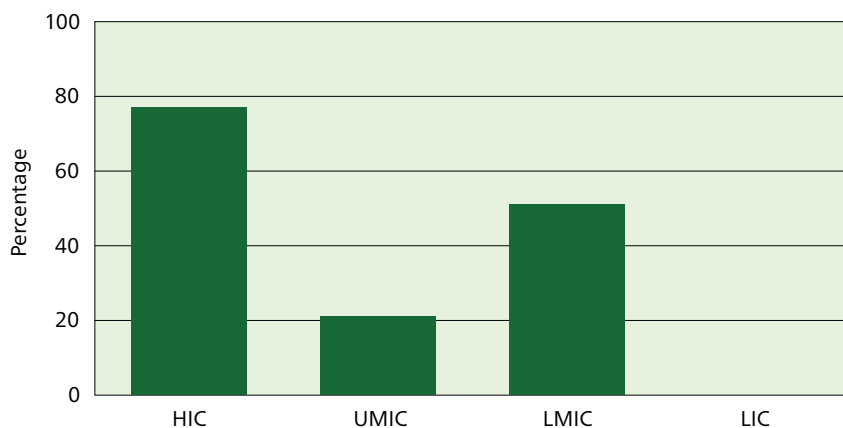
**FIG. 2. TFA POLICY IMPLEMENTATION: MAP OF COUNTRY PERFORMANCE**



Note: The map is based on the data available in GINA<sup>1</sup> (as of September 2022).

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

**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 (using World Bank country classifications by income level, 2022–2023; <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>).

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 four lower-middle-income countries,<sup>1</sup> eight upper-middle-income countries<sup>2</sup> and 36 high-income countries.<sup>3</sup> 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 almost 80% of people living in high-income

countries are protected by best-practice policies, none of the people living in low-income countries enjoy these protections. Even though an increasing number of lower-middle-income countries are taking action, there is a striking need to accelerate policy action in lower-income countries. Four countries – Bangladesh, India, the Philippines and Ukraine – account for the entire 51% population coverage in lower-middle-income countries; 41% of this population coverage is contributed by India, the world’s second largest country, with a population of approximately 1.4 billion people.

Fig. 4 shows the number of countries that have implemented best-practice TFA policies by year. Numbers increased dramatically in 2021, largely due to the countries in the European Union (EU), whose region-wide regulation came into effect in April 2021. During this past year, India, Oman and Uruguay have implemented best-practice policies; and Argentina, Bangladesh and Ukraine have adopted (but have not yet passed) best-practice policies (Table 5). Mexico, Nigeria and Sri Lanka are expected to pass best-practice policies soon. Although the number of countries adopting best-practice policies

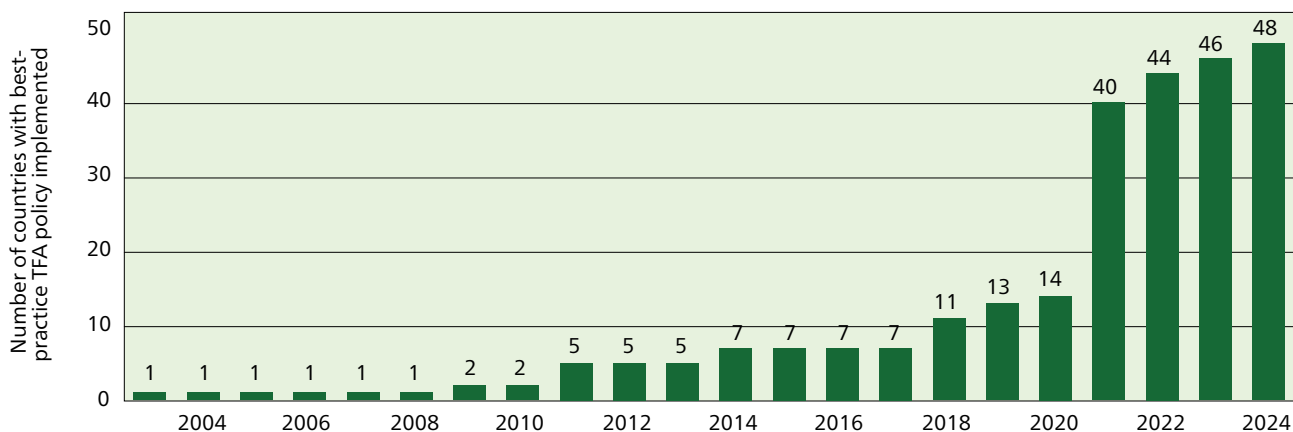
<sup>1</sup> India’s best-practice policy came into effect in January 2022; Bangladesh’s best-practice policy was passed in November 2021 and will come into effect in December 2022; the Philippines’s best-practice policy was passed in July 2021 and is expected to come into effect in July 2023; Ukraine’s best-practice policy was passed in September 2020 and will come into effect in October 2023.

<sup>2</sup> Argentina, Brazil, Bulgaria, Paraguay, Peru, South Africa, Thailand, Türkiye

<sup>3</sup> Austria, Belgium, Canada, Chile, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Oman, 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**



during the past year is lower than in previous years, these countries have large populations, and the total number of people to be protected by a best-practice policy will increase to 3.6 billion people. There are still 146 countries without a best-practice policy implemented or passed, and there is a clear need for a more systematic and effective approach for countries to increase population coverage by TFA best-practice policies.

**TABLE 5. BEST-PRACTICE POLICIES COMING INTO EFFECT OR PASSED SINCE SEPTEMBER 2021**

Came into effect	Passed
India	Argentina
Oman	Bangladesh
Uruguay	Ukraine

### 3. SUPPORT FOR REFORMULATION

Successful implementation of mandatory best-practice policies to eliminate industrially produced TFA requires proactive action from food manufacturers and suppliers of oils and fats. This includes reformulating their products to fully comply with current or forthcoming regulatory measures and removing industrially produced TFA from global product lines – this practice should be applied to ingredients and foods distributed and marketed in countries without policies in place. In this way, companies can ensure that people living in those countries (mostly low-income countries) are not exposed to industrially produced TFA in their food and can benefit from reformulated foods. As many high-income countries already have a best-practice policy to protect their population, companies that have not removed industrially produced TFA from their products in countries without a policy contribute to exacerbating existing health disparities.

In response to the April 2019 call for action by Dr Tedros Adhanom Ghebreyesus, Director-General of WHO, the 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 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 the content of saturated fats.

To ensure that companies are delivering on their commitments and that industrially produced TFA are actually eliminated from their food products, independent assessment of companies' progress began in 2021 in collaboration with the Access to Nutrition Initiative (ATNI). WHO and ATNI will provide an independent assessment and evaluation of progress of IFBA member companies against their commitments to eliminate industrially produced TFA. WHO and ATNI have developed a detailed methodology for the assessment, which takes into account the type and extent of the data that could be made available by IFBA companies. Discussions between WHO, ATNI and IFBA have resulted in the cooperation of all 11 IFBA companies, which have agreed to share as much data as possible with WHO. Product nutrient data that ATNI collected in 2020 for the five top-selling products of the world's largest food and beverage companies (including all 11 IFBA members) will be the starting point for the analysis. Data were collected across eight food product categories and in 14 countries.<sup>1</sup> The process is ongoing; a final report with aggregate and/or anonymized company results will be published in 2023.

To date, suppliers of edible oils and fats have been much slower than food manufacturers to respond to the call to remove industrially produced TFA from their global product lines. More than 200 million tons of edible oils and fats are produced each year (Statista, 2022), by a small number of companies, for use in food manufacture and food service outlets or for sale as cooking oils and fats. An important breakthrough occurred in December 2021 when Cargill, a major edible oils supplier, committed to

100% compliance with WHO best practice by the end of 2023. This commitment is particularly important because it applies in countries that have no national regulations to restrict TFA. As well, it will have an impact throughout the food supply, since edible oils are key ingredients for food manufacturers and the food service sector – Cargill's commitment will improve the products of companies that have not yet made efforts to reduce TFA. WHO urges other suppliers of edible oils and fats to make a substantial contribution to global health by similarly removing industrially produced TFA from their product lines.

#### **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 materials, is available on the REPLACE webpage in Arabic, Chinese, English, French, Russian and Spanish.<sup>2</sup> Other tools and resources that may be useful to policy-makers are also available from the LINKS Toolkit webpage.<sup>3</sup>

To support countries in designing and implementing best-practice TFA policies, WHO is delivering training workshops to build regulatory capacity.

In the South-East Asia Region, a capacity-building workshop was held in July 2022 to build country capacity to develop, implement and enforce regulatory actions to eliminate industrially produced TFA from the food supply in Nepal. The hybrid workshop shared findings from a TFA policy landscape and dietary assessment of TFA in the food supply, as well as country experiences and best practice in implementing TFA regulatory actions from other countries in the region, including India, Bangladesh and Thailand. These elements informed

<sup>1</sup> Australia, China, Germany, Hong Kong Special Administrative Region (China), India, Italy, Mexico, New Zealand, Nigeria, Pakistan, United Kingdom, Ukraine, United States of America, Viet Nam.

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

<sup>3</sup> <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.

a discussion across government sectors and civil society on the options for practical legislative and regulatory actions to eliminate industrially produced TFA from the diet in Nepal. This will contribute to realization of the Multisectoral Action Plan for Prevention and Control of Noncommunicable Diseases, endorsed by the Nepalese Cabinet in early 2022, which refers to the need to act on TFA elimination. Following the workshop, the Department of Food Technology and Quality Control – with support from WHO and Resolve to Save Lives (RTSL) – was tasked with developing draft legislation to be submitted to the Cabinet for endorsement. Laboratories in Nepal continue to work with WHO experts and receive technical guidance on TFA laboratory assessment to improve their performance.

A 3-day REPLACE capacity-building workshop took place in Indonesia in August 2022. Although comprehensive data on TFA intakes in Indonesia are lacking, the population is considered at risk of TFA overconsumption, given the documented high consumption of fatty foods (Andarwulan et al., 2021). The workshop aimed to build government capacity to eliminate TFA, including by introducing the REPLACE action package, and to engage academia and CSOs in the process. Lessons on TFA elimination were also shared from other countries, and support was given for development of a draft action plan with progress milestones and a clear

timeline; follow-up support and discussion will be provided. In addition, a specific session explored TFA laboratory analysis for those involved in food control, enforcement and analytical work. In the coming year, WHO will provide technical support to laboratories in Indonesia that will measure TFA content in the food samples to be collected in the country.

Laboratory capacity to measure levels of TFA in foods is vital for understanding key sources of TFA in the diet and the baseline situation in countries – thereby highlighting the need for action – as well as to monitor compliance and the impact of policies. Unfortunately, countries and regions around the world continue to face challenges with inadequate laboratory capacity to measure TFA in foods. WHO is supporting Member States to strengthen laboratory capacity, with publication of a global laboratory protocol for measuring TFA in foods in December 2020.<sup>1</sup>

Laboratory capacity-building workshops for measuring TFA in food samples, using two video modules explaining the global protocol,<sup>2</sup> were held for countries in the Eastern Mediterranean and South-East Asia regions in September and October 2021, respectively. The capacity-building workshops aimed to update participants on the WHO tools and available resources to support analysis of TFA in the diet, train participants on the global protocol, identify challenges related to laboratory analysis of TFA in the food supply and identify any further support needed. Participants included laboratory personnel from government or government-affiliated laboratories and WHO nutrition focal points. Challenges identified by participants included difficulties in obtaining consumables and equipment needed for TFA analysis – exacerbated by the impact of the COVID-19 pandemic on supply chains – and the cost of these items. As well, a need for further training for laboratory staff was identified,

<sup>1</sup> 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>.

<sup>2</sup> The video modules are available at <https://www.youtube.com/watch?v=J4j9BzxtFFE> and <https://www.youtube.com/watch?v=bBKBA33kfMY>.



suggesting that some adjustments were needed to make the protocol easier for laboratories to use.

Another challenge was discrepancies between the methods that had already been adopted by laboratories conducting TFA analysis and the WHO global protocol, suggesting a need for modifications to the global protocol and incorporation of potential alternatives. Therefore, WHO convened a 2-day expert meeting in June 2022 to discuss and agree on revisions to the protocol to ensure its technical robustness and global applicability. At the meeting, it was agreed to adopt a two-pronged approach by developing both a simple, fit-for-purpose protocol for the immediate needs of countries (especially those with limited resources), and a full version of the protocol that will serve as a reference method and can be used by countries with sufficient resources. Publication of the simple protocol is planned for early 2023. A second expert consultation will then be convened to develop an updated version of the full protocol (see Box 7 for further details).

Work on reducing or eliminating TFA is ongoing within the international food standards body Codex Alimentarius. Earlier efforts to address TFA focused on work in the Codex Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU) to define conditions of a “free of” TFA claim. Discussions were delayed while the committee sought advice on the lowest level of TFA that current analytical methods can accurately detect and consistently reproduce, and the need to ensure alignment with the WHO recommendation to limit replacement of TFA with saturated fats. These discussions were suspended in 2018, and the CCNFSDU then decided to explore alternative approaches to addressing TFA within the remit of Codex.

The Codex Committee on Food Labelling was asked to consider amending the *Guidelines on nutrition labelling* to require the declaration of the amount of TFA where nutrient declarations are required or where any claim relating to fats is made. The Codex Committee on Methods of Analysis and Sampling was asked to provide advice on suitable reference methods for analysis and sampling for



monitoring and compliance. At the same time, the Codex Committee on Fats and Oils was asked to consider how it could contribute to the reduction or elimination of TFAs – for example, by amending the standards on spreads<sup>1</sup> and edible fats and oils<sup>2</sup> to prohibit the use of PHO.

In 2021, at the 46th Session of the Codex Committee on Food Labelling, Canada was asked to prepare a discussion paper outlining possible new work for consideration by the committee. It was also agreed that a circular letter would be issued to request information to inform the development of the paper. Similarly, a few weeks later at the 27th Session of the Codex Committee on Fats and Oils, it was decided that Canada – in collaboration with the EU, Egypt, India, Saudi Arabia, Uganda, the United States of America and WHO – would prepare a discussion paper on possible work that the committee could undertake to reduce TFA or eliminate PHO.

<sup>1</sup> Codex Alimentarius. Standard for Fat Spreads and Blended Spreads (CXS 256-2007) ([https://www.fao.org/fao-who-codexalimentarius/sh-proxy/fr/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252Fstandards%252FCXS%2B256-1999%252FCXS\\_256e.pdf](https://www.fao.org/fao-who-codexalimentarius/sh-proxy/fr/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252Fstandards%252FCXS%2B256-1999%252FCXS_256e.pdf), accessed 16 August 2022).

<sup>2</sup> Codex Alimentarius. Standard for Edible Fats and Oils Not Covered by Individual Standards (CXS19-1981) ([https://www.fao.org/fao-who-codexalimentarius/sh-proxy/ar/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252Fstandards%252FCXS%2B19-1981%252FCXS\\_019e.pdf](https://www.fao.org/fao-who-codexalimentarius/sh-proxy/ar/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252Fstandards%252FCXS%2B19-1981%252FCXS_019e.pdf), accessed 16 August 2022).



## 5. ROLE OF CIVIL SOCIETY

Civil society and nongovernmental organizations play a crucial role in achieving TFA policy goals. The majority of countries that have recently passed TFA regulations have had the active involvement of local CSOs. For example, in Bangladesh, which passed a policy in November 2021, the National Heart Foundation and PROGGA (Knowledge for Progress) conducted media trainings, stakeholder meetings and webinars, and used mass media to generate support and momentum for the TFA agenda.

Global CSOs have also made significant contributions towards eliminating TFA from the global food supply. Since the start of the REPLACE initiative, RTSL, the Global Health Advocacy Incubator (GHAI) and the NCD Alliance have worked locally, regionally and globally to progress action on TFA elimination. These global partners have been instrumental in the publication of key resources and tools for TFA elimination – recent publications include *Shadow report on public policies for the elimination of trans fats from industrial production*<sup>1</sup> (Spanish only) and *Partially hydrogenated oil (PHO) market mapping: identifying sources of industrially produced trans-fatty acids in the food supply*.<sup>2</sup> The NCD Alliance and RTSL leveraged the United Nations Food Systems Summit and Nutrition 4 Growth events in 2021 to keep TFA on the agenda of high-level discussions to sustain momentum towards the 2023 goal. Working with local advocacy partners and governments to build the evidence base, establish coalitions, engage key stakeholders and support the drafting of regulations, RTSL, the NCD Alliance and GHAI, and their country level partners have supported the passage of best-practice TFA policies in nine countries (Argentina, Bangladesh, Brazil, India, Oman, Philippines, Thailand, Türkiye and Ukraine) since 2018.

The NCD Alliance has supported partner alliances in Mexico and Pakistan to advance TFA policies. In Mexico, Mexico Salud-Hable has been essential in securing buy-in and support for the best-practice policy that is making its way through the legislative process, demonstrating the essential role of civil society in the advocacy process.

In the past year, GHAI has worked with organizations in Argentina, Bangladesh, Ethiopia, India, Kenya, Nigeria, the Philippines, the United Republic of Tanzania and Uganda to advocate for country and regional TFA policies. GHAI, PROGGA and the Bangladesh National Heart Foundation were instrumental in the passage of a best-practice policy in Bangladesh in November 2021. With support from GHAI, local CSOs have conducted journalist trainings, research, advocacy and media campaigns on TFA. GHAI worked with three CSOs (in Kenya, the United Republic of Tanzania and Uganda) to conduct regional and national policy campaigns in the East African Community (EAC), which involved coalition building, policy-maker advocacy and media advocacy.

RTSL has directly supported CSOs in Burundi, Cameroon, Ghana, Kenya, Nepal, the United Republic of Tanzania and Ukraine to advance TFA policies through local advocacy and coalition building. These organizations have advocated for TFA elimination using the REPLACE package to generate evidence, conduct media campaigns, and directly influence and advocate to policy-makers. Using multiple channels to reach the public and policy-makers – such as videos, news articles, live discussions on social media and radio – these CSOs have proven influential in building country-level momentum. They have also contributed to regional and global capacity-building and knowledge sharing – sharing their successes, challenges and experiences on the road to eliminating TFA through communities of practice and other partner networks.

<sup>1</sup> <http://mexicosaludhable.org/replace/assets/pdf/ReporteSombraPoliticasyPublicasEliminacionGrasasTransProduccionIndustrial.pdf>

<sup>2</sup> [https://dfweawn6ylvgz.cloudfront.net/uploads/2021/08/PHO\\_market\\_mapping.pdf](https://dfweawn6ylvgz.cloudfront.net/uploads/2021/08/PHO_market_mapping.pdf)

# III. Progress by region

## 1. AFRICA

Few countries in the African Region (see Table 6) have mandatory TFA limits or complementary measures in place, but momentum is growing. South Africa has had a best-practice regulation in place since 2011. Fifteen countries have included TFA elimination strategies and goals in their national nutrition or NCD plans. Two countries already have complementary measures (mandatory limit on industrially produced TFA in foods in specific settings in Cabo Verde, and tax on food products with high levels of TFA in Ethiopia). Introduction of best-practice policies across the African Region would potentially save an estimated 20 400 lives per year (GBD study, 2019).

Since September 2021, action on TFA has progressed in Cameroon, Ghana, Kenya and Nigeria. In Nigeria, a best-practice regulation was approved by the Ministry of Health and is awaiting the final step in the approval process by the Ministry of Justice before gazetting. Once it is enacted, 213 million people will be protected from the harms posed by TFA, potentially saving an estimated 3200 lives per year (GBD study, 2019). Nigeria will be the second and largest country in the African Region to enact a best-practice TFA policy.

In Ethiopia, a best-practice policy for TFA has been included in the draft Unhealthy Foods Control Proclamation, which limits TFA to 2% in all fats, oils and foods. The proclamation, which also addresses products high in sugar, sodium and saturated fats, has not yet been adopted.

In Cameroon, support for TFA elimination is growing. The Cameroon Baptist Convention Health Services is advocating for adoption of TFA policies and raising awareness of the risks of TFA. A technical working group with participation from different departments within the Ministry of Public Health, consumer groups and the local NCD alliance has been formed. The technical working group developed a brief on the risks posed by TFA and identified policy options to share with the

Ministry of Public Health. A sample of commonly consumed oils and foods has been collected and sent to a laboratory for TFA content analysis.

In Ghana, the Institute of Leadership and Development is working with the Food and Drugs Authority to develop the evidence base and capacity to test for TFA. Consultations with government stakeholders identified political interest in moving forward with TFA elimination. The Food and Drugs Authority conducted a desk review of TFA elimination measures. The key recommendation was that Ghana should proceed with a limit on TFA in vegetable oils and margarines.

In Burundi, Village Health Action has been working with the Ministry of Health to draft a TFA policy and raise awareness among government policy-makers and the public through media campaigns.

In Kenya, the Ministry of Health is collaborating with the International Institute for Legislative Affairs to eliminate TFA via policy measures. Research conducted by the George Institute on the cost-effectiveness of a best-practice TFA policy has been completed and will be used as part of ongoing advocacy for adoption of TFA policies.

WHO has been working with GHAI and RTSL on a regional approach to TFA elimination in the EAC.



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**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 2022)	Monitoring mechanism for mandatory TFA limits 
Algeria, Benin, Botswana, Central African Republic, Chad, Côte d'Ivoire, Eswatini, Ghana, Kenya, Mauritania, Mauritius, Namibia, Nigeria, Seychelles, Zambia	Cabo Verde, Ethiopia		South Africa		South Africa

GHAI is conducting a regional PHO market mapping of producers, manufacturers and importers in Ethiopia, Kenya, the United Republic of Tanzania and Uganda. The mapping will identify sources of industrially produced TFA in the EAC food supply and provide evidence for the most appropriate approach to TFA elimination across the region. The CSO work in Burundi, Kenya, the United Republic of Tanzania and Uganda will complement regional EAC work to introduce a best-practice policy applicable to all countries.

See Box 1 for a case study on Nigeria's experience.

## BOX 1. THE ROAD TO POLICY ADOPTION IN NIGERIA

In Nigeria, NCD accounts for an estimated 447 800 deaths annually (about 27% of all deaths),<sup>a</sup> and TFA are responsible for an estimated 1300 deaths yearly (Wang et al., 2016). The Government of Nigeria, through the Federal Ministry of Health and the National Agency for Food and Drug Administration and Control (NAFDAC), is moving towards eliminating industrially produced TFA from the food supply chain with a 2% limit on industrially produced TFA in all foods.

Through coordinated efforts and a systematic approach, the Trans-Fat Free Nigeria Coalition – led by the Network for Health Equity and Development (NHED) and Corporate Accountability for Public Participation Africa (CAPPA), with support from GHAI, RTSL and WHO – led a successful advocacy campaign for mandatory standards towards reducing TFA in the Nigerian food supply chain. The leadership of NAFDAC and the Federal Ministry of Health, and the political will to move forward with the TFA policy process mean that Nigeria could soon be the second African country to adopt best-practice regulations for TFA.

### THE POLICY PROCESS

In 2018, NAFDAC and the Federal Ministry of Health began reviewing the 2005 Regulation on Oils and Fats, which did not address TFA or PHO. The revision process was undertaken with support and technical assistance from various organizations, including WHO, GHAI, RTSL and the Trans-Fat Free Nigeria Coalition. The first revision of the regulation was open for public review in early 2020. Following this public review period, strong advocacy from the Trans-Fat Free Nigeria Coalition led to the regulation being amended to extend the 2% limit to all foods, oils and fats – bringing the proposal in line with WHO best practice. TFA-free claims were also banned. The NAFDAC board approved the inclusion of a 2% limit on TFA in all foods in the revised Foods, Fats and Oils Regulation, which was approved by the Federal Ministry of Health in July 2022. The Foods, Fats and Oils Regulation was submitted to the Ministry of Justice in July 2022 for final review, approval and gazetting.

<sup>a</sup> <https://www.who.int/publications/i/item/9789240047761>

### ROLE OF CIVIL SOCIETY

CSOs played a critical role in helping the government advance the policy process in Nigeria. NHED and CAPPA supported the regulation by:

- providing technical guidance and input to the drafting of the regulation to ensure alignment with global best practices outlined in the WHO REPLACE action package;
- engaging with key stakeholders in government (e.g. NAFDAC, Federal Ministry of Health, Ministry of Justice, Federal Competition and Consumer Protection Commission) to ensure that TFA was a priority for all stakeholders;
- building a community of journalists dedicated to in-depth reporting of TFA and other NCD-related issues, and deploying proven media advocacy tools and approaches to create awareness among the public, as well as policy-makers and decision-makers;
- establishing a community of practice in Nigeria on TFA and PHO, including academia, technical and public health experts, CSOs and government; and
- proactively monitoring the industry and developing effective messaging to counter opposition to the TFA regulation.

### PREPARING FOR IMPLEMENTATION

Implementation of the new regulation will require the support and engagement of a diverse group of stakeholders. NAFDAC and partners have taken preliminary steps to prepare for the implementation of the 2% limit on TFA.

- NAFDAC has started orientation meetings with stakeholders who will be affected by this regulation (i.e. small- and medium-scale industries) to discuss the need for reformulation of food products and processes to align with the regulation.
- WHO, RTSL and other partners will support the Government of Nigeria to strengthen the testing capacity of laboratories. It will be important to test TFA levels in foods, fats and oils at regular intervals to assess compliance with the regulation by food manufacturers.





## 2. AMERICAS

The Region of the Americas continues to make progress on eliminating TFA. In 2022, Uruguay's 2% ban on TFA in all foods came into effect. Uruguay, whose policy was passed in 2019, now joins Brazil, Chile, Canada, Peru and the United States as the sixth country in the Americas to implement a best-practice policy. Most recently, Argentina passed a best-practice policy, which will take effect in 2024; the policy extends Argentina's existing 2% TFA limit in oils and fats to all other foods. Webinars and online events hosted in Argentina led to the successful passage of the revised standards. Paraguay's less restrictive interim TFA limits (2% in all oils and fats, and 5% in other foods) came into effect in September 2022, and a best-practice policy will come into effect in September 2024. Ecuador and Colombia have less restrictive TFA regulations, with

TFA limits of 2% in oils and fats, and 5% of total fat in all foods. In Mexico, a best-practice policy has been drafted and approved by the Senate, and is waiting for approval by Congress before enactment.

Policy work and discussions have advanced in a number of countries in the Americas. Panama has finalized a roadmap for the elimination of TFA. In Colombia and the Plurinational State of Bolivia, there is interest in strengthening or introducing regulations.

Table 7 provides a summary of the status of TFA policies in the Region of the Americas. Introduction of best-practice policies across the Americas would potentially save an estimated 108 900 lives per year (GBD study, 2019).

Work on TFA elimination in the Americas is guided by the Pan American Health Organization (PAHO)

**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 2022)	Monitoring mechanism for mandatory TFA limits 
Antigua and Barbuda, Bahamas, Barbados, Belize, Dominican Republic, Grenada, Guatemala, Guyana, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago	Bolivia (Plurinational State of), Costa Rica, El Salvador, Mexico, Venezuela	Argentina, Colombia, Ecuador, Paraguay	Brazil, Canada, Chile, Peru, United States, Uruguay	Argentina, Paraguay	Argentina, Canada, Chile, Colombia, Ecuador, Peru, United States, Uruguay

Plan of Action for the Elimination of Industrially Produced Trans-Fatty Acids 2020–2025 (PAHO, 2019). The plan, endorsed in 2019 by all Member States, promotes best-practice TFA policies. PAHO established an interactive tool<sup>1</sup> to measure and track progress towards targets in the plan of action. In September 2022, an evaluation on progress towards eliminating TFA in the Americas was published (Rincón-Gallardo et al., 2022). In December 2021, PAHO released a self-learning virtual course on the REPLACE action package.<sup>2</sup> Hosted on the PAHO virtual campus, the course is intended for use by government staff, policy-makers, public health professionals, advocates and researchers. In the past year, PAHO has supported the translation of key documents

into Spanish and Portuguese, including the PAHO *Elimination of industrially produced trans-fatty acids: a regulatory drafting tool*,<sup>3</sup> the WHO *Global protocol for measuring fatty-acid profiles of foods, with emphasis on monitoring TFA originating from partially hydrogenated oils*<sup>4</sup> and the self-learning virtual course on the REPLACE action package.

To achieve the goals of PAHO’s Plan of Action, PAHO and CSO partners will continue to support countries in revising existing regulations, extending the 2% TFA limits to all foods, and enacting new regulations where they are absent.

See Boxes 2 and 3 for case studies on the experience of Argentina and Mexico.

<sup>1</sup> <https://www.paho.org/en/enlace/monitoring-indicators-plan-action-elimination-industrially-produced-trans-fatty-acids-2020>

<sup>2</sup> <https://www.campusvirtualesp.org/en/course/self-learning-virtual-course-world-health-organization-who-replace-trans-fat-action-package>

<sup>3</sup> [https://iris.paho.org/bitstream/handle/10665.2/55242/PAHONMHRF210031\\_eng.pdf?sequence=1&isAllowed=y](https://iris.paho.org/bitstream/handle/10665.2/55242/PAHONMHRF210031_eng.pdf?sequence=1&isAllowed=y)

<sup>4</sup> <https://www.who.int/publications/i/item/9789240018044>

## BOX 2. POLICY EXPERIENCE IN ARGENTINA

After the “Trans Fat Free Americas” declaration of Rio de Janeiro in 2008,<sup>a</sup> Argentina was one of the first countries in the Americas to take action, establishing mandatory limits for the amount of industrially produced TFA allowed in foods. In August 2022, the government agreed to update existing restrictions, adopting a WHO best-practice policy to eliminate industrially produced TFA.

### POLICY DEVELOPMENT

In 2010, Argentina adapted its Food Act, incorporating the following limits in Chapter 3, Article 155: “The content of industrially produced TFA in food should not be greater than: 2% of the total fat in vegetable oils and margarines destined for direct consumption, and 5% of the total fat in the rest of the foods”. These limits did not apply to fats derived from ruminants, including milk fat. This article incorporated a joint resolution between the Ministry of Policies, Regulation and Institutes and the Ministry of Agriculture, Livestock and Fisheries (Government of Argentina, 2010). It was fully implemented in December 2014.

Some companies incorrectly interpreted the resolution as excluding margarines and oils not for direct sale to the public, so in 2021 the government, through the National Food Commission (CONAL), decided to modify Article 155 as follows: “The content of industrially produced TFA in foods should not be greater than: 2% of total fats in vegetable oils and margarines intended for direct

consumption, and 5% of total fats in other foods, including those which are used as ingredients and raw materials. These limits do not apply to fats derived from ruminants, including milk fat”.

In early 2022, the Ministry of Health prepared a new draft resolution modifying Article 155, to lower the limits on industrially produced TFA to 2% in all types of food and to add the elimination of PHO; this aligns with scientific evidence and PAHO/WHO best-practice policies for elimination of industrially produced TFA. The resolution passed the public consultation phase with strong support, and acknowledgement from PAHO and several academic and civil society entities as a necessary and effective measure to protect healthy diets and public health in Argentina (CONAL, 2022).

The proposed amendment of Article 155 was approved by CONAL at its 146th meeting on 24 and 25 August 2022. Its publication in the official gazette is pending.

### POLICY IMPLEMENTATION

The approved regulation grants a term of 2 years to adopt the limit of 2% industrially produced TFA in foods, 3 years to adopt the limit of 2% industrially produced TFA in ingredients and raw materials, and 4 years for the elimination of the use of PHO in foods. With this step, Argentina joins the group of countries adopting WHO best-practice policy on elimination of industrially produced TFA. According to PAHO estimates, this will avoid more than 2000 preventable deaths annually, five times more than the original regulation (PAHO, 2022).

<sup>a</sup> <https://www.paho.org/hq/dmdocuments/2009/transfat-declaration-rio%5B1%5D.pdf>

### BOX 3. POLICY EXPERIENCE IN MEXICO

Mexico has made progress in improving health and food quality by implementing mandatory labelling and front-of-pack labelling (FOPL) regulations, which include mandatory declaration of TFA and application of an octagonal warning sign for products containing excessive amounts of TFA. In addition, the country is working towards implementing a WHO best-practice policy to eliminate industrially produced TFA. A bill has been already approved in the Senate and is now awaiting resolution in the Chamber of Deputies.

#### POLICY DEVELOPMENT

##### Labelling

Efforts to adopt effective FOPL in Mexico have been in progress since 2010, when the government created the National Agreement for Healthy Nutrition. In 2011, the Mexican Council of Consumer Industry (ConMexico), representing the main producers of ultraprocessed foods in the country, introduced the Guideline Daily Amount (GDA) labelling system, which was officially implemented in 2014. Following the introduction of the GDA system, research efforts on FOPL showed that the GDA was difficult to understand, required mathematical ability, and did not discourage the consumption of ultraprocessed and processed products. Thus, researchers and civil society advocated for effective FOPL that could replace the GDA. The research consistently showed that octagonal warning labels perform best in helping consumers correctly identify products containing excessive sugars, sodium, saturated fats and TFA, and reduce the purchase of such products, increasing the chance of improving population diets and public health.

The current FOPL was implemented in two parallel processes, one by the legislative branch, and the other by the executive. In July 2019, the initiative to modify the General Health Law on labelling was presented to the Chamber of Deputies and subsequently approved by the Senate. In October 2019, the Mexican Congress voted to approve the

inclusion of front-of-pack nutrition warning labels in the General Health Law (Secretaría de Economía, Mexico, 2020).

While the legislative branch was discussing and voting on the amendment to the law, the process for amending the Mexican Official Standard NOM-051-SCFI/SSA1-2010 on food and beverage labelling began. The amendment would define the guidelines for the application of the law. Experience and evidence from countries such as Chile, Peru and Uruguay, which had implemented similar FOPL systems, were considered, and strong domestic evidence was also produced in Mexico to inform policy development. Academia was a key participant in these efforts, as were CSOs, which informed the public through social media and marketing campaigns that built strong support.

The Ministry of Economy and the Federal Committee for Protection from Sanitary Risks (COFEPRIS) coordinated working groups with academia, civil society and industry to draft the legal standards. At the same time, civil society identified, supported and partnered with the political “champions” who led and represented the cause. The working groups’ final draft was reviewed, debated and released for public consultation between August 2019 and January 2020. The modification of NOM-051 was approved and published on 27 March 2020, and came into effect on 1 October 2020.

Mexico adopted FOPL black octagonal warnings that indicate products that contain excessive levels of calories and nutrients of concern (i.e. sugars, sodium, saturated fats and TFA). In terms of TFA, it is mandatory for food and non-alcoholic beverages to display “Excess trans fat” if the product’s TFA content is 1% or more of the total calories, following the PAHO/WHO nutrient profile model for the Region of the Americas. The regulation also included precautionary warning rectangles for products that include added caffeine and non-sugar sweeteners, along with the statement “avoid/not recommended for children”. The regulation prohibits products with warnings from featuring on



### BOX 3. POLICY EXPERIENCE IN MEXICO

the package persuasive elements that encourage the purchase of such products, such as cartoon characters, promotions, health or nutrition claims, or endorsements.

In addition, in October 2020, legislation was enacted that requires PHO to be listed in a standardized manner in the ingredients list and the amount of TFA in the product to be presented in the nutrition facts table. The threshold for declaring TFA-free content is less than 2 mg per 100 g or 100 mL.

#### TFA elimination policy

Mexico is in the process of passing a WHO best-practice policy to eliminate industrially produced TFA. The Senate has approved the addition of Article 216 Bis to the General Health Law, which establishes that edible oils and fats, as well as food and non-alcoholic beverages, may not contain PHO or TFA that have been added during their industrial manufacturing process. The Assembly unanimously endorsed the article, and it was sent to the Chamber of Deputies for approval.

In parallel, the regulatory proposal is being drafted by COFEPRIS. Both the legislative and the regulatory proposals aim to ensure that food and non-alcoholic beverages do not exceed two parts of TFA for every hundred parts of the total fatty acids and to ban PHO in the food supply.

#### POLICY IMPLEMENTATION

The FOPL policy applies to all processed and ultraprocessed products and was rolled out in three implementation phases, in 2020, 2023 and 2025.

- 1 October 2020 to 20 September 2022: Manufacturers were required to place FOPL warning signs, starting on 1 October 2020. A grace period of 60 days (until 20 November 2020) was given for products that entered the market before 1 October 2020. Companies with products carrying any warning label were required to remove persuasive elements, such as cartoon characters, and health and nutrient

claims, from these products by April 2021. The nutrient thresholds are based on PAHO's nutrient profile model, but some of them were less rigorously implemented in the first phase.

- 1 October 2023 to 20 September 2025: Nutrient thresholds will match the thresholds in PAHO's nutrient profile model and apply to the nutrients that have been added.
- 1 October 2025: The regulation requires the use of warning labels, with the same thresholds used in the second phase, for all nutrients every time one or more of them has been added.

COFEPRIS and the Mexican Consumer Protection Agency (PROFECO) are the national organizations that monitor compliance with the FOPL requirements, and review labels in supermarkets and other points of sale. Penalties for manufacturers that do not comply with the first phase of the FOPL policy include fines that reach almost US\$ 40 000 (equivalent to 4525 times the minimum wage). Manufacturers, distributors, retailers and importers all need to comply with the legislation. In the case of infringements, they may be subject to sanctions that can range from admonition and fines to confiscation of products, closure of businesses and cancellation of permits. Consumers and civil society can contribute to monitoring and report violations online.<sup>a</sup>

Civil society, together with academia and government entities, such as the National Institute of Public Health of Mexico, are conducting independent monitoring and evaluations.

<sup>a</sup> <http://telefonodelconsumidor.gob.mx/>



### 3. EASTERN MEDITERRANEAN

The Eastern Mediterranean Region has some of the highest TFA intake globally (Wang et al., 2016), with an estimated 78 000 deaths per year attributable to TFA (GBD study, 2019). Before this year, only Saudi Arabia had a best-practice TFA policy in effect. Bahrain, the Islamic Republic of Iran, Kuwait and the United Arab Emirates have a 2% TFA limit on vegetable oils and soft spreadable margarines, and a limit of 5% of total fat in other foods.


Table 8 summarizes the status of TFA policies in the Eastern Mediterranean Region. Introduction of best-practice policies across the Eastern Mediterranean Region would potentially result in an estimated 78 000 lives saved per year.

In 2022, Oman became the second country in the region to enact a best-practice policy, passing a PHO ban in April 2022, which came into effect in July 2022 (see Box 4 for a case study on Oman's experience). Other than Oman's success, there has been some progress in Pakistan. A cost-effectiveness analysis of TFA elimination in Pakistan was conducted by Heartfile, a national CSO, and the results will be made available to government stakeholders. Supporting the policy process in Pakistan and Egypt, which have among the highest consumption of TFA in the world, will be a priority for WHO and partners in the next year.



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**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 2022)	Monitoring mechanism for mandatory TFA limits 
Afghanistan, Djibouti, Egypt, Lebanon, Morocco	Jordan, Pakistan, Qatar, Tunisia	Bahrain, Islamic Republic of Iran, Kuwait, United Arab Emirates	Oman, Saudi Arabia		Saudi Arabia

#### BOX 4. POLICY EXPERIENCE IN OMAN

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. Through the GCC Standardization Organization (GSO), the GCC issues standards for adoption by the six member countries. It is up to each of the GCC Member States (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates) to 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).

In Oman, implementation of the regulation was not immediate, as it required several years of planning, legal steps and collaboration among different government sectors. Finally, in 2022, Oman took a major step towards TFA elimination, introducing a best-practice TFA policy to ban the production, import and/or marketing of PHO and food products in which these oils are used. The ban, introduced by the Minister of Agriculture and Fisheries and Water Resources in April 2022, came into effect on 24 July 2022 (Government of Oman, 2022; Nair, 2022).

Consumption of TFA among the Omani population has been reported to be above recommended levels

(Al Jawaldeh & Al-Jawaldeh, 2018), and the ban builds on previous efforts and advocacy to reduce intakes. Previously, Oman had proposed, but not adopted, other initiatives that could have limited TFA, including setting maximum levels for TFA in fats and other foods, taxing use of hydrogenated oils, limiting the availability of high-TFA items in school settings and requiring all imported foods to be certified as free from industrially produced TFA.

Oman adopted the GSO standard for mandatory TFA labelling (requiring declaration of TFA on nutrition labels for products containing TFA at levels of 0.5 g/100 g or more) and regulation of “trans-fat free” claims in 2016, and set a maximum level for TFA in bread based on the GSO benchmark in 2019.

This recent important regulatory measure follows the launch in December 2021 of a national campaign for salt, sugar and fat reduction (Ministry of Health, Oman, 2021). The regulation will help Oman reach its 2023 target for TFA elimination, which is included in the National Nutrition Strategy 2020–2030, launched in December 2021. A follow-up event was held in May 2022 to discuss further the plan for implementation of the regulation (Times of Oman, 2022). The regulation will, in turn, contribute to the strategy’s end goal of achieving food security and eliminating all forms of malnutrition by 2030.





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#### 4. EUROPE

The European Region has been at the forefront of TFA elimination since Denmark led the way in 2004. Table 9 summarizes the status of TFA policies in the European Region. Thirty-one European countries now have best-practice TFA policies in effect. In addition to national regulations, in April 2021, the EU implemented a best-practice TFA policy across its Member States that protects all EU citizens and neighbouring populations from TFA. The Eurasian Economic Union (EAEU)<sup>1</sup> has also implemented a regional approach to TFA restriction, although the restriction does not apply to all foods. To date, inadequate laboratory capacity has hindered implementation of TFA restrictions in the EAEU. TFA regulations adopted in the European Region could potentially save 125 100 lives per year (GBD study, 2019).

<sup>1</sup> The EAEU comprises the Russian Federation, Belarus, Kazakhstan, Kyrgyzstan and Armenia.



**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 2022)	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, Türkiye, United Kingdom	Ukraine	Armenia, Austria, Belarus, Denmark, Georgia, Hungary, Iceland, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Norway, Russian Federation, Switzerland

In the past year, WHO hosted a workshop for government in the EAEU to discuss replacement of TFA with healthier fats and oils, and the challenges associated with palm oil as a replacement.

FEEDcities studies, which measure TFA and sodium content in commonly consumed foods, were conducted in Georgia in 2022, and are under way in Armenia, Azerbaijan and Uzbekistan. Technical support was provided to Turkmenistan to develop laboratory capacity to become the centre of excellence in the subregion for nutrient assessments, including monitoring of TFA.

In the past year, Ukraine has worked on amending existing legislation to reinforce the best-practice policy that was introduced in 2020 and make it consistent with EU regulations. The Order of the

Ministry of Health, expected to come into effect in October 2023, will ensure stronger enforcement and sustainability of the regulations. Laboratory training to build capacity for TFA assessment is planned in Ukraine.

A workshop on front-of-pack labelling was conducted in Uzbekistan in September 2022 to address issues related to nutrition labelling, including TFA. A front-of-pack labelling workshop with EAEU member states will be conducted in November 2022 in Armenia. This will facilitate nutrition labelling, including for TFA, in the subregion.

See Box 5 for a case study on Uzbekistan’s experience.

## BOX 5. POLICY EXPERIENCE IN UZBEKISTAN

In 2021, the President of Uzbekistan noted that cardiovascular diseases cause 53% of deaths among people aged 30–70 years in Uzbekistan. Over the past 5 years, the incidence of cardiovascular diseases has increased by 20% – even among young people. Overall, about 4 million people (12% of the population) have cardiovascular disease (Gazeta, 2022).

In 2015, the Cabinet of Ministers of Uzbekistan adopted a concept and package of measures to ensure healthy nutrition of the population of Uzbekistan for the period 2015–2020 (CM, Resolution #251) (Government of Uzbekistan, 2015). Implementation of the concept was expected to reduce the free sugars, salt, saturated fats and TFA content of foods.

Measures to reduce TFA include the setting of a mandatory national limit, which was adopted in 2016 (Ministry of Health, Uzbekistan, 2016). In products with a total amount of fat of less than 20%, TFA should not exceed 4 g per 100 g of total fat; in products with a fat content of less than 3%, TFA should not exceed 10 g per 100 g of total fat. In addition, the use of TFA in the production of baby food is prohibited.

In 2019, the Parliament asked the relevant government agencies to evaluate the health impact of imported palm oil and foodstuffs that contain it, noting that “(some of the processed) palm oil contains trans fats” (Xalq So’zi, 2019). Since Uzbekistan began importing palm oil in 2000, imports have risen from 5000 tons per year to more than 50 000 tons per year. A working group was established, comprising representatives of the relevant ministries and departments, to study the issue of imported palm oil in more detail.

In 2020, a new Presidential Decree “On additional measures to ensure healthy nutrition of the population” was issued, and a national programme of measures was adopted to reduce the TFA content of domestic and imported food products, including “signal labelling” to help consumers choose healthier products by 2025 (Government of Uzbekistan, 2020).



PHOTO @ DR ANVAR SHUKUROV

The decree includes the following regulations in relation to TFA.

- Take measures to reduce the amount of saturated fats and TFA in food products and exchange them for unsaturated fats, and reduce the content of free sugar in food and drinks (Annex 1 of Section 4, Par. 41).
- Monitor the absence of industrially produced TFA, including industrial palm oil, in imported and domestic food products (Annex 1 of Section 4, Par. 45).
- Restrict the use of TFA, including palm oil and coconut oil (which include TFA), in food production (Annex 1 of Section 4, Par. 49).

Currently, Uzbekistan is developing an action plan to ensure alignment with the WHO recommendations on TFA elimination. An intersectoral approach is being adopted, coordinated by the Ministry of Health. Information materials about the risks associated with TFA are being developed, along with plans to involve the public, mass media representatives, nongovernmental organizations and communities in informing the population about these risks.

This year, Uzbekistan is planning to conduct a FEEDcities study to assess current food environments, including TFA levels in street foods in the cities.



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## 5. SOUTH-EAST ASIA

The South-East Asia Region (Table 10) has been gaining momentum in adopting best-practice TFA elimination policies, with good progress made since 2018. Thailand was the first country in the region to act, and in 2019 became the third in the world to pass a PHO ban (rather than a 2% limit on industrially produced TFA). India started with less restrictive limits in 2013. In December 2020, the Food Safety and Standards Authority of India (FSSAI) lowered the previous 5% TFA limit in oils and fats to 2% and extended it to cover all foods. As of January 2022, India is implementing a best-practice policy for TFA, protecting an additional 1.4 billion people from the harms of TFA and potentially saving 144 400 lives per year (GBD study, 2019).

In the past year, Bangladesh has joined India and Thailand as the third country in the South-East Asia Region to introduce a best-practice policy. Bangladesh passed a regulation that limits TFA content to 2% of oils and fats in all foods. When the regulation comes into effect on 31 December 2022, it is expected to potentially save approximately 12 300 lives per year (GBD study, 2019). Introduction of best-practice policies across the South-East Asia Region would potentially result in an estimated 178 600 lives saved per year (GBD study, 2019).

With the enforcement of India's 2% TFA limit in all oils, fats and foods, India's FSSAI is collecting fat and oil samples for testing to establish India's TFA-free status. FSSAI is also strengthening and upgrading food laboratories for estimating TFA content in food. Further, FSSAI is providing small and medium

**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 2022)	Monitoring mechanism for mandatory TFA limits 
Bhutan, Maldives, Myanmar, Nepal, Sri Lanka, Timor-Leste	Bangladesh, Indonesia		India, Thailand	Bangladesh	India, Thailand

enterprises with additional technical assistance to develop skills in reformulation to produce healthier and cost-effective alternatives to TFA-containing PHO. Industry associations and government bodies are working together to strengthen the capacity of small and medium enterprises to adopt technologies to reduce TFA in the PHO manufacturing process through stakeholder-specific webinars for PHO manufacturers.

Sri Lanka, Nepal, Bhutan and Indonesia are also making progress towards TFA elimination. In Sri Lanka, a best-practice policy has been drafted and is waiting for submission for Cabinet approval. In Nepal, the Cabinet approved the Multisectoral Action Plan for Prevention and Control of Noncommunicable Diseases (2021–2025), which includes a TFA target of 2% to be implemented by 2023. To achieve this, WHO organized a capacity-building workshop on eliminating TFA in Nepal in July 2022. Analysis of TFA in commonly consumed foods has been completed, providing further evidence for the need to introduce TFA regulations in Nepal.

In Bhutan, a study to assess the dietary sources and consumption of TFA, and evaluate the policy

landscape for edible oils and fats was completed and published in 2022. In Indonesia, interest in eliminating TFA is growing; WHO organized a capacity-building workshop to highlight the policy options and need for TFA regulation in August 2022.

A common topic discussed across this region is healthy alternatives to TFA. Many countries in the region are major producers of tropical oils such as palm oil and coconut oil, which are high in saturated fats. It is important to minimize replacement of industrially produced TFA with tropical oils. Countries are encouraged to start early discussions on healthy replacements and alternative techniques that are available in the country, and develop a replacement roadmap.

In the next year, WHO will continue to support capacity-building for regulatory and laboratory issues, and advocate for implementation of best-practice policies. With the introduction of the WHO Validation Programme for Trans Fat Elimination, countries in the South-East Asia Region are further motivated to implement and enforce best-practice policies to receive a validation certificate.

See Box 6 for a case study on Sri Lanka's experience.



## BOX 6. POLICY EXPERIENCE IN SRI LANKA

NCD prevention activities in Sri Lanka are guided by the National Multisectoral Action Plan for Prevention and Control of NCDs. Implementation of cost-effective, affordable and evidence-based technical packages to address NCD risk factors forms the backbone of the plan. In this regard, adopting restrictions on TFA in the diet plays a pivotal role.

Sri Lanka is in the process of adopting regulations to restrict TFA levels and ban PHO. The proposed regulations introduce a limit on industrially produced TFA of less than 2% of total fat in oils, fats and foods. They also ban local production of PHO, control imports of PHO, and impose customs duties and concessions based on TFA levels. The measures are being introduced as part of the updating of the food safety provisions in the Food Act No. 26 of 1980 (with amendments No. 20 of 1991 and No. 29 of 2011). While the regulations are in the last stages of regulatory approval (as of September 2022), actions are under way to support their enactment as part of the Food Act.

The measures have been introduced, with technical guidance from the WHO, following a process based on the REPLACE action package. A team of food technology experts and researchers was commissioned by WHO in 2019 to conduct a landscape analysis of the policy environment, assess TFA in the Sri Lankan food supply and evaluate the feasibility of enacting mandatory TFA regulations (WHO Sri Lanka, 2020a,b). This initial assessment provided evidence to support advocacy and discussion of policies for regulatory actions on TFA. Findings of the analysis indicated that the levels of TFA in the food supply are currently low (although saturated fat intakes are high), which makes it feasible for industry to reformulate to less than 2% and to achieve zero PHO in the near future. As well, some leading food manufacturing companies had already voluntarily reduced TFA levels and were equipped with the relevant technology to manufacture solid fats without hydrogenation. Therefore, the environment is conducive for a mandatory restriction of industrially produced TFA.

It is essential to act soon to prevent “dumping” of foods high in TFA in Sri Lanka.

Based on this evidence, a national workshop of experts and stakeholders recommended that the Food Control Unit of the Ministry of Health adopt the WHO recommended best-practice policies of mandatory limits that restrict industrially produced TFA in oils, fats and foods to 2% or less, together with a complete ban on PHO.

Sri Lanka already has an established public health infrastructure to implement food-based regulations. Starting from the Director General of Health Services as chief food authority, the Food Control Administration Unit oversees the coordination and implementation of the Food Act under the guidance of the Food Advisory Committee. Therefore, the expertise and experience are available to introduce new regulations and to implement them through a network of authorized officers, mainly Public Health Inspectors.

To reinforce this expertise and experience, training programmes on the new regulatory measures are being organized in each district for authorized officers. A proposal has been put forward to establish a web-based information system for surveillance and monitoring of compliance with the regulations. The Ministry of Health is in the process of improving the laboratory capacities needed for monitoring TFA levels and strengthening the labelling regulations to include TFA levels in the nutrient information panel.

Key factors that influenced the formulation and approval of the policy included international momentum for the elimination of industrially produced TFA. Global data have shown that reducing and subsequently eliminating TFA from the food supply is a feasible option. Another important element was the clear roadmap for the stepwise process set out in the REPLACE package. The interventions were further strengthened by local evidence gathered through the comprehensive landscape analysis, enabling the regulations to

## BOX 6. POLICY EXPERIENCE IN SRI LANKA

be tailored to the Sri Lankan context. Support provided by WHO for evidence generation and capacity-building, including support for improved information management by the Food Control Administration Unit, was another key enabling factor. There was continuous lobbying by public health specialists, nutritionists and other interested parties on the need for TFA regulation, which was a strong driver for change.

Many lessons were learned from this experience for approaches to policy formulation and implementation. These include the importance of stewardship, technical support, expert guidance

and evidence (including a comprehensive analysis of the local situation). The continuous engagement of all stakeholders – including industry and consumer groups – minimized the potential for lobbying against the proposed measures. The process has also revealed the need for continuous monitoring, particularly to ensure that saturated fat intakes do not increase, and the requirement for improved laboratory capacity to estimate TFA levels in foods. Finally, the process has underlined the importance of identifying interventions that are robust and evidence based for the sustainability of policy and regulations.



## 6. WESTERN PACIFIC


In the Western Pacific Region (see Table 11), two countries have best-practice policies in place or passed, one area has adopted a best-practice policy, and five countries have other complementary measures in place. Singapore adopted a complete PHO ban in 2020 (Ministry of Health, Singapore, 2019), updating the less restrictive regulations that had been in effect since 2012 (Government of Singapore, 2020). The Philippines became the second country in the region to pass a best-practice policy in 2021. The policy will come into effect in July 2023, protecting 108 million people from TFA and potentially saving an estimated 5300 lives per year (GBD study, 2019).

In the Philippines, the Department of Health has developed TFA Action and Communications and Advocacy plans. Advocates in the Philippines are now working to support legislation to enshrine the TFA policy in law, making it harder for future leaders to rescind the current regulations, and providing the opportunity to broaden and strengthen the specific policy measures.

In Hong Kong Special Administrative Region (China), a best-practice PHO ban was passed by the Legislative Council in July 2021.



**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 2022)	Monitoring mechanism for mandatory TFA limits 
Cambodia, Lao People's Democratic Republic, Nauru, Papua New Guinea, Samoa, Vanuatu	Brunei Darussalam, China, Fiji, Mongolia, Republic of Korea	Philippines	Singapore	Philippines	Singapore

The Harmful Substances in Food (Amendment) Regulation 2021, which will come into force on 1 December 2023, prohibits the import and sale of any foods, fats and oils that contain PHO. The objective is to meet the goals in *Towards 2025: strategy and action plan to prevent and control non-communicable diseases in Hong Kong*, as the roadmap to protect overall heart health, aligned with the WHO goal to eliminate industrially produced TFA by 2023. At the same time as passage of the PHO ban, a labelling regulation was passed that stipulates that any prepackaged food containing hydrogenated oils must show this in the list of ingredients. The labelling regulation will also take effect on 1 December 2023.



PHOTO © WHO MATTHEW DAKIN

Three laboratories from the Western Pacific Region (one each in China, Fiji and the Philippines) participated in the WHO ring trial on measurement of TFA and other fatty acids in selected foods by gas chromatography. Box 7 summarizes the experiences of the laboratories, and WHO's effort to harmonize the method and support laboratories with TFA analysis. In China, the Centre for Food Safety Risk Assessment is conducting further food analysis as part of the National TFA Assessment Project; sample collection and measurement are supported by WHO.

If the remaining countries in the Western Pacific Region adopted best-practice policies, it is estimated that more than 132 000 lives per year would be saved in the region (GBD study, 2019). In the coming year, WHO and partners will continue to encourage countries in the region to introduce best-practice policies and identify opportunities for countries to begin the process of adopting policies.



## BOX 7. TFA LABORATORY ASSESSMENT: THE WHO RING TRIAL AND DEVELOPMENT OF LABORATORY PROTOCOLS

Data on TFA content in the food supply are crucial in providing baseline information on TFA levels. Governments also need to monitor changes in TFA content over time and track compliance with national policies implemented to eliminate industrially produced TFA.

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 using gas chromatography. The aims were to assess the level of agreement of results among international laboratories performing quantitative analysis of TFA and other fatty acids in foods for surveillance studies; and to better understand the laboratory needs of countries for conducting accurate and reliable TFA assessment. Completed in 2021, the study involved 11 laboratories, representing all WHO regions (African Region: Nigeria; Eastern Mediterranean Region: Pakistan; European Region: Portugal, Türkiye; Region of the Americas: Brazil, Canada; South-East Asia Region: India, Sri Lanka; Western Pacific Region: China, Fiji, Philippines). The final ring trial analysis and report are scheduled to be released in 2023.

Analysis of submitted data showed that there was a wide variation in the results obtained across the laboratories, even though the same food samples had been centrally prepared and distributed to the laboratories. Many laboratories had poor quality of peak separation by gas chromatography, particularly in the C18:1 region, which includes the major trans isomers found in PHO. The poor resolution in this critical region, caused in many cases by deviations from recommended procedures, led some laboratories to underestimate TFA content in the samples.

To guide laboratories in TFA laboratory assessment, WHO developed a global laboratory protocol for measuring TFA in foods in December 2020,<sup>a</sup>

followed by release of two video modules.<sup>b</sup> Using these materials, WHO provided countries with technical support for laboratory capacity development through workshops (virtual and in person) and online discussions with laboratories to troubleshoot issues. For example, the Chemistry Laboratory of the China National Centre for Food Safety Risk Assessment, and the Food and Nutrition Research Institute of the Philippines, which participated in the ring trial, have significantly improved their performance after receiving and implementing advice from the WHO experts. WHO will continue providing support to laboratories to bring them up to speed with TFA laboratory assessment.

Over the past few years of working with laboratories and external experts, it has become evident that the protocol needs to be simplified so that it can more easily be implemented by laboratories operating on a limited budget. Common challenges include procurement of certain consumables and equipment specified in the global protocol. WHO held an expert consultation in June 2022 to agree on revisions to the global protocol. Experts were invited from government laboratories and international bodies such as AOAC INTERNATIONAL, the American Oil Chemists’ Society, the International Dairy Federation and the International Organization for Standardization (ISO). A simplified laboratory protocol will be issued in 2023. The simplified protocol is a set of minimal procedures that will still allow laboratories to obtain the percentage of TFA in total fat, which is crucial

<sup>a</sup> 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/item/9789240018044?search-result=true&query=partially+hydrogenated+oils&scope=&rpp=10&sort\\_by=score&order=desc](https://www.who.int/publications/item/9789240018044?search-result=true&query=partially+hydrogenated+oils&scope=&rpp=10&sort_by=score&order=desc).

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

## BOX 7. TFA LABORATORY ASSESSMENT: THE WHO RING TRIAL AND DEVELOPMENT OF LABORATORY PROTOCOLS

information for establishing the baseline TFA level in the food supply and checking compliance with the law.

In addition to the simplified protocol, WHO will also develop a “full protocol”, which will serve as a reference method to be used by laboratories with sufficient resources. Currently, variations exist in procedures used by laboratories that are routinely measuring TFA and other fatty acids. Until now, there has been no universally agreed method that allows measurement of TFA and other fatty acids in different types of foods. For example,

the ISO 16958:2015 standard (also referred to as IDF 231:2015 and AOAC Official Method 2012.13) is a validated method for determination of fatty acid composition using gas chromatography, but the validated application is limited to milk, milk products, infant formula and adult nutritional formula. WHO will convene another expert consultation to develop a globally harmonized protocol that will resolve existing discrepancies in methods used. If laboratories use the same method, direct comparison of data obtained from different laboratories across the globe will be possible.



## IV. Global challenges, opportunities and priorities

This report marks the fourth year of encouraging progress towards the 2023 target for global TFA elimination. Progress has not been linear. In the past year, we have fewer success stories to report. This section describes challenges identified in eliminating TFA, as well as opportunities and priority areas to address the challenges and speed up action towards the year 2023. Many of these challenges have been repeatedly identified in the progress reports from previous years.

Although countries have learned to cope with COVID-19 during the 3 years since its emergence, the virus still circulates, and resources in countries available for NCD prevention, including TFA elimination, have not fully recovered. At the same time, people living with underlying NCDs are at

particular risk of serious illness or death from COVID-19. As countries build back strongly to mitigate damages and constraints to their health systems, it is more crucial than ever to invest in NCD prevention, without delay. TFA elimination is a relatively a straightforward action to build resilience to protect populations against future epidemics and pandemics.

Even in countries where TFA best-practice policies have been passed or are soon to be passed, in some cases there has been a need for “last mile” support and guidance to bring the policy to the next stage. There have been delays in passage and implementation of regulations in some countries due to the effects of the COVID-19 pandemic, political instability and administrative change in governments. Policy-makers have required additional support to ensure that the policy processes do not lose momentum and remain a top priority on health and nutrition agendas. WHO, together with partners and technical experts, is committed to supporting countries, providing clear guidance and strengthening countries’ capacities to develop, implement and enforce effective policy measures for TFA elimination.

Over the coming years, the focus of WHO and its partners’ efforts will be on those countries that are poised to pass best-practice policies. WHO will also concentrate attention on countries that have some interest in introducing a TFA regulation but have not yet taken action, or lack the capacity, to do so. To support these ambitions, in addition to the capacity-building training and direct support that WHO provides to countries on request, WHO, together with RTSL, is starting a communication campaign in 2023 that will regenerate momentum and encourage countries to get to the finish line. The enhanced communication activities will include organization of webinars and production of communication materials, such as targeted briefs, short videos, commentaries and editorials. The communication strategy will take advantage of high-level political events, as well as the new WHO Validation Programme, which will encourage countries to step up their TFA policy. The Validation Programme, which recognizes and acknowledges countries with a policy framework to eliminate industrially produced TFA, has potential to amplify interest among countries, especially once countries start receiving a validation certificate, which will inspire neighbouring countries and countries with trade partnerships to achieve the same status.





## V. Conclusion and recommendations for action

The momentum for TFA elimination has been growing over the past few years, but in the past year we have not seen the remarkable advances that we could report in 2021. Many countries still need to establish best-practice policies to protect their citizens from the harmful effects of TFA. As we are nearing the deadline of 2023, there is an urgent need for country policy-makers, policy influencers, industry stakeholders and advocates to act.

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.
- Invest in monitoring and surveillance mechanisms, such as laboratory capacity to measure TFA content in foods.
- Start the discussion on healthy replacement oils and fats, and country-specific alternative techniques, and develop a replacement roadmap.

- Advocate for regional or subregional regulations (e.g. EAC, GCC) to expand the benefits of TFA policies.

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

- continuing to provide regulatory capacity-building support to accelerate best-practice policy development, implementation and enforcement in countries – this includes strengthening laboratory capacities to assess TFA content in foods;
- supporting countries to identify and implement 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
- scaling up communication activities and undertaking global advocacy through existing and forthcoming platforms.

WHO expects food and beverage industry groups to follow through on the commitments they have made to eliminate industrially produced TFA from product lines. WHO also expects major suppliers of oils and fats to follow the pioneering effort of Cargill to remove industrially produced TFA from the products that are sold to food manufacturers globally.

We are nearing a tipping point to achieve the 2023 goal for global elimination of industrially produced TFA, the first opportunity to eliminate a 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) <sup>a</sup>	Score <sup>b</sup>	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 <2 g/100 g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Mexico	5.82	2	Mandatory limit of iTFA on foods in specific settings; reformulation to reduce/eliminate TFA; front-of-pack 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 iTFA on foods in specific settings	
Republic of Korea	4.76	2	Reformulation to reduce/eliminate TFA	
India	4.63	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Slovenia	4.56	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
Bhutan	4.45	1	National policy commitment to eliminate TFA	
Bangladesh	4.41	2	Mandatory declaration of TFA on nutrition labels	Best-practice TFA policy passed but not yet in effect
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 <2 g/100 g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Bolivia (Plurinational State of)	3.95	2	Mandatory declaration of TFA on nutrition labels; reformulation to reduce/eliminate TFA	

Country	Proportion of CHD deaths (%) due to TFA intake (>0.5% energy) <sup>a</sup>	Score <sup>b</sup>	Details of implemented policy	Notes
Netherlands	3.81	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
Estonia	3.53	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
Costa Rica	3.52	2	Mandatory limit of iTFA on foods in specific settings	
Venezuela (Bolivarian Republic of)	3.51	2	Front-of-pack labelling system that includes TFA	
Slovakia	3.32	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
New Zealand	3.25	—	—	
El Salvador	3.20	2	Mandatory limit of iTFA on foods in specific settings	
Honduras	3.15	—	—	
Lithuania	3.12	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Nicaragua	3.12	—	—	
Germany	3.10	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
Panama	3.09	—	—	
United Kingdom	3.06	4	Mandatory national limit (iTFA <2 g/100 g 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 <2 g/100 g 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	3	2% TFA limit in oils and fats only	Best-practice TFA policy passed but not yet in effect
United Arab Emirates	2.60	3	2% TFA limit in oils and fats, and 5% limit in other foods	
Brazil	2.58	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
Paraguay	2.57	3	2% TFA limit in oils and fats, and 5% limit in other foods	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	—	—	
Yemen	2.51	—	—	
Hungary	2.50	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Qatar	2.47	2	Mandatory limit of iTFA on foods in specific settings	

Country	Proportion of CHD deaths (%) due to TFA intake (>0.5% energy) <sup>a</sup>	Score <sup>b</sup>	Details of implemented policy	Notes
Oman	2.46	4	Mandatory national ban on PHO	
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 <2 g/100 g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Syrian Arab Republic	2.41	—	—	
Haiti	2.40	—	—	
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	2.30	1	National policy commitment to eliminate TFA	
Bahamas	2.29	1	National policy commitment to eliminate TFA	
Brunei Darussalam	2.29	2	Front-of-pack 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	2.10	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
Albania	2.08	1	National policy commitment to eliminate TFA	
Portugal	2.08	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
France	2.07	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
Romania	2.06	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	



Country	Proportion of CHD deaths (%) due to TFA intake (>0.5% energy) <sup>a</sup>	Score <sup>b</sup>	Details of implemented policy	Notes
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	2.00	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
Greece	1.96	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
Iceland	1.95	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Mongolia	1.95	2	Mandatory limit of iTFA on foods in specific settings	
Andorra	1.92	—	—	
Cyprus	1.92	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
Tajikistan	1.90	2	Reformulation to reduce/eliminate TFA	
Turkmenistan	1.90	1	National policy commitment to eliminate TFA	
Luxembourg	1.88	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
Ukraine	1.87	1	National policy commitment to eliminate TFA	Best-practice TFA policy passed but not yet in effect
Finland	1.86	4	Mandatory national limit (iTFA <2 g/100 g 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 <2 g/100 g 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	—	—	
North Macedonia	1.81	1	National policy commitment to eliminate TFA	
Armenia	1.80	3	2% TFA limit in oils and fats only	Monitoring mechanism for mandatory TFA limits
Dominican Republic	1.80	1	National policy commitment to eliminate TFA	
Zimbabwe	1.80	—	—	

Country	Proportion of CHD deaths (%) due to TFA intake (>0.5% energy) <sup>a</sup>	Score <sup>b</sup>	Details of implemented policy	Notes
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 <2 g/100 g 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	1.70	1	National policy commitment to eliminate TFA	
Cook Islands	1.69	—	—	
Croatia	1.69	4	Mandatory national limit (iTFA <2 g/100 g 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	—	—	
South Africa	1.62	4	Mandatory national limit (iTFA <2 g/100 g 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	1.50	1	National policy commitment to eliminate TFA	
Poland	1.48	4	Mandatory national limit (iTFA <2 g/100 g 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

Country	Proportion of CHD deaths (%) due to TFA intake (>0.5% energy) <sup>a</sup>	Score <sup>b</sup>	Details of implemented policy	Notes
Chile	1.44	4	Mandatory national limit (iTFA <2 g/100 g 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 TFA	
Mali	1.40	—	—	
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	Best-practice TFA policy passed but not yet in effect; monitoring mechanism for mandatory TFA limits
Benin	1.36	1	National policy commitment to eliminate TFA	
Central African Republic	1.36	1	National policy commitment to eliminate TFA	
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	
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	—	—	

Country	Proportion of CHD deaths (%) due to TFA intake (>0.5% energy) <sup>a</sup>	Score <sup>b</sup>	Details of implemented policy	Notes
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 iTFA 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	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Sweden	1.14	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
Ireland	1.13	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
Lebanon	1.02	1	National policy commitment to eliminate TFA	
Austria	1.00	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	Monitoring mechanism for mandatory TFA limits
Türkiye	0.98	4	Mandatory national limit (iTFA <2 g/100 g total oils and fats in all foods)	
Spain	0.96	4	Mandatory national limit (iTFA <2 g/100 g 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 <2 g/100 g total oils and fats in all foods)	

— missing data: iTFA: industrially produced TFA.

<sup>a</sup> Based on data from Global Burden of Disease 2019.

<sup>b</sup> 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 = “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).

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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