

Roundtable: Elimination of trans fats from the food supply – country experiences

28 January 2019, Geneva

The NCD Alliance and its partner Resolve to Save Lives, an initiative of Vital Strategies, held a lunchtime roundtable event coinciding with the Executive Board Meeting of the World Health Organization (WHO) on January 28, 2019 in Geneva. The Roundtable's theme was the elimination of industrially produced trans fats (iTFA) from the food supply, with a focus on country experiences and needs.

The goals of the Roundtable were to

- raise awareness and stimulate engagement of the health policy community on the necessity to remove iTFAs from the global food supply;
- present the WHO's REPLACE action package which provides governments with a roadmap to implement actions across six strategic areas to eliminate iTFAs;
- consider different policy approaches to iTFA elimination using country examples from different regions and resource settings; and
- discuss challenges faced by governments interested in implementing TFA regulation, and solutions.

The Roundtable was moderated by Nina Renshaw (Director of Policy and Advocacy, NCD Alliance) and Lindsay Steele (Senior Program Officer, Resolve to Save Lives) and speakers included Dr Francesco Branca (WHO), Lorena Allemandi (Interamerican Heart Foundation of Argentina), Kyra Berasi (Global Health Advocacy Incubator, Campaign for Tobacco Free Kids), Prof Bo Norrving (World Stroke Organisation), Prof Steen Stender (University of Copenhagen), Prof Omar Obeid (American University of Beirut), and Elisabeth King (Government of Canada).



Experts presented on the TFA elimination policies of Argentina, Canada and Denmark, discussed the role of academia and civil society, and highlighted challenges faced by governments interested in implementing TFA regulations and potential solutions.

Main learnings

- Industrially produced trans fats (iTFA), common in baked goods, pre-packaged foods and some cooking oils, are a major contributor to cardiovascular diseases (CVD) worldwide, estimated to contribute to over half a million deaths every year. iTFAs have no known health benefits and can be replaced in foods without impacting their consistency and taste.
- Voluntary TFA targets in food do not work – mandatory limits or bans must be set. That’s why WHO’s REPLACE action package on the elimination of iTFAs focuses strongly on legislative and regulatory measures.
- Small and medium sized producers of oil, fat and food often lack the capacity and know-how to replace TFAs. Therefore, regulations targeting iTFAs should take this into account, for example through long enough transition periods and technical support. Knowledge transfer between large and small producers could be an additional solution.
- Civil society organisations play an important role in informing the public, providing support for draft legislation/regulation and monitoring implementation. Academics are crucial to provide the necessary evidence for action on iTFAs.
- iTFA reduction is valuable in all countries, even in those with low average daily intake of TFAs. Even in those countries, there are population subgroups who are at risk of high iTFA intake if foods high in iTFAs (such as fast foods) are popular.
- Implementation and enforcement, as well as trade and investment considerations, need to be taken into account when drafting iTFA regulation, and the policy process needs to be well documented. This ensures that implementation of an iTFA ban or limit will minimise challenges in courts of law.
- Countries lacking the capacity to monitor implementation of policies could collaborate to create regional laboratories to support these efforts.



Detailed notes from speakers*

Scene setting remarks: Dr Francesco Branca, Director, Department of Nutrition, WHO

iTFAs are unsaturated fats that are chemically manufactured to be used as solid fats. Naturally occurring TFAs are produced by bacteria in guts of animals but the vast majority of TFAs is produced industrially

* The views expressed by speakers are their own do not necessarily represent the views of the hosting organisations, NCD Alliance and Resolve to Save Lives.

by hydrogenation. iTFAs have been a commercially very successful product, becoming very popular in the diet during the 20th century. WHO did an analysis of iTFAs' health impact and found that iTFAs increase overall mortality, particularly cardiovascular mortality. Over half a million deaths per year are attributable to iTFA consumption. Therefore, WHO recommends that TFAs, both natural and industrial, do not exceed 1% of energy intake per day.

Global consumption of iTFAs ranges from 0.3%-6.3% of energy intake per day. The global average is 1.3%, but in some mostly low- and middle-income countries, average iTFA consumption is higher. This is the reason why the REPLACE package was launched, at the heart of which is legislation.

REPLACE stands for the six strategic action areas which ensure the prompt, complete, and sustained elimination of industrially-produced trans fats from the food supply:

- **Review** dietary sources of industrially-produced trans fat and the landscape for required policy change.
- **Promote** the replacement of industrially-produced trans fat with healthier fats and oils.
- **Legislate** or enact regulatory actions to eliminate industrially-produced trans fat.
- **Assess** and monitor trans fat content in the food supply and changes in trans fat consumption in the population.
- **Create** awareness of the negative health impact of trans fat among policy-makers, producers, suppliers, and the public.
- **Enforce** compliance with policies and regulations.

The goal is to replace TFAs by 2023.

"It is important to bring food and oil manufacturers on board to eliminate iTFAs from the food supply."
Dr Francesco Branca, WHO

Denmark was a pioneer in iTFA legislation, imposing a maximum level of 2g of trans fat per 100g of fat (2% limit) as the first country worldwide. Twenty-three (23) countries have some form of legislation, some limiting iTFAs while others chose to ban iTFAs altogether. The latest country to enact regulation is Thailand whose ban came into force on January 9, 2019.

Challenges to iTFA legislation are:

- lack of awareness that TFAs are an important public health challenge;
- lack of capacity of small and medium food producers to replace TFAs;
- lack of replacement fats and technology.

To support small and medium sized enterprises, a knowledge and technology exchange between them and large food companies could help. Large manufacturers are ready to do this, and together with Resolve to Save Lives, WHO is working on such a project. Support of smaller producers should be part of such a government package.

Replacement of iTFAs should be mostly with unsaturated fats. Replacement with butter is not ideal as it contains a lot of saturated fats, linked to raised cholesterol levels and heart disease. Replacement of iTFAs with palm oil is also an issue of concern because of its high saturated fat content. Unfortunately, it is often used as replacement oil because it is very cheap, and because many countries have policies in place to increase palm oil production and sales. Apart from that, palm oil presents an environmental

challenge. The two aspects regarding palm oil, health harm and environmental harm, should not be mixed.

Introductory remarks: Lindsay Steele, Senior Program Officer, Nutrition Policy, Resolve to Save Lives

Resolve to Save Lives (RTSL) is a non-governmental organisation founded just over a year ago by Dr Tom Frieden, the former Director of the US Centers for Disease Control and Prevention. The mandate of RTSL is to reduce cardiovascular disease through salt reduction, iTFA elimination and treatment. RTSL closely collaborate with WHO, first developing the REPLACE package and now supporting countries to implement the package.

Denmark's policy: Prof Steen Stender, Professor of Preventive and Clinical Nutrition, Department of Nutrition, Exercise and Sports (NEXS), University of Copenhagen

In 1993, a paper was published on the risk of cardiovascular disease due to iTFAs. Big newspapers picked it up on their front page, stating "Butter better than trans fats". Subsequently, the Danish Nutrition Association conduct a study on iTFAs, advising a reduction of TFA in foods in 1994. In 2001 and 2003 the Danish Government recommended to reduce iTFAs in foods due to their association with cardiovascular disease: an intake of 5g/day of iTFAs leads to a 20-25% increase of cardiovascular disease risk as compared to no intake of iTFAs.

"There are no beneficial aspects of trans fats: they are a metabolic poison disrupting the metabolic system. So, reducing them does not cause any harm." – Prof Steen Stender

As part of the Danish Nutrition Association's work, biscuits, popcorn and food items sold by KFC and McDonald's were analysed for their iTFA content. The results showed that 37g of iTFAs in a normal high-fat meal was not uncommon in Denmark. Based on these findings, the Danish government decided to regulate iTFAs in March 2003, and the 2% limit for all foods was implemented on January 1, 2004. The Danish Nutrition Council would have preferred a 1% limit, but it is too difficult to test and monitor; 2% is more realistic.

Prof Stender believes it might be easier in certain country contexts to restrict iTFA content in oils and fats only since they are crucial ingredients for a lot of processed foods. Iran and Russia took this approach with 2% limits for oils, with great success. Denmark could not restrict iTFA limits in oils and fats only because Denmark does not have oil and fat producers.

The average population intake of iTFAs in Denmark was low, but wide variations existed amongst population groups. Popular foods contained iTFAs, and the Danish Nutrition Association estimated that between 5,000 and 50,000 people would consume iTFA amounts which were much too high.

An American research group evaluated the 2% iTFA limit implemented in Denmark: 800 deaths were postponed as a direct result of the iTFA limit. This evaluation was possible because smoking legislation in Denmark was only introduced in 2007; therefore, a window existed between the iTFA limit of 2004 and the smoking regulation of 2007. The time lag between the policies enabled a perfect natural experiment. Prof Stender recommends that countries introduce legislation on tobacco and iTFAs at different time points, if possible, to facilitate evaluation of the policies' impact on cardiovascular disease. Simultaneous enactment complicates evaluation of the iTFA limit or ban.

Denmark chose not to introduce TFA labelling because if a component is labelled, consumers might not understand if it is a good or bad food ingredient and might think it is not dangerous. Is TFA labelling recommended?

"Even if there is an average low intake of iTFAs, there will be subgroups with a very high intake as long as there are popular foods containing iTFAs. In Denmark, even though average intake was low, cardiovascular disease mortality could be reduced thanks to the iTFA limit." – Prof Steen Stender

Denmark did not face any industry opposition when introducing the iTFA regulation. The main food industry players in Denmark were Unilever and a local Danish company. They did not oppose the regulation; in fact, they competed against each other to replace iTFAs in the food. As a result, the Danish Government did not face issues when developing and implementing the iTFA limit.

Replacement fats were not generally investigated for Danish foods. However, Prof Stender analysed microwave popcorn and found that the fat/oil used was of better composition with more unsaturated fat than before the iTFA limit; however, it did contain some saturated fat.

To frame iTFA elimination or reduction to the public, a comparison with cigarettes can be done: the intake of 5g of iTFAs per day is the same as smoking 10 cigarettes per day because both lead to a 20-25% increased CVD risk. Additionally, it is powerful to mention the number of saved people thanks to an iTFA regulation.

Canada's policy: Elisabeth King, Senior Policy Analyst, Office of International Affairs for the Health Portfolio, Government of Canada

In the 1990s, Canadians had an average intake of iTFAs of 3.7% of their daily caloric intake. Mandatory labelling of TFA content has been in force since 2007.

In 2004, a multi-stakeholder task force proposed voluntary targets of 2% iTFAs in margarines and oils and 5% for all other foods. These early initiatives were highly effective in decreasing the average intake to 1.4% of daily total energy. At the same time, some subpopulations were at risk for higher iTFA intake, including children, teenagers and remote populations. Additionally, the great majority of foods reached the voluntary targets, but certain food categories continued to have large proportions of foods not meeting the voluntary limits, including pre-packaged foods such as shortening and refrigerated doughs. As part of the Government's Healthy Eating Strategy 2016, Health Canada proposed to bring in tougher regulations related to iTFAs. These federal regulations were also a response to the fact that some Canadian provinces had started to implement iTFA regulations; therefore, the federal approach was intended to create a level playing field.

Canada chose to ban partially hydrogenated oils (PHOs) because a PHO ban specifically targets the source of iTFAs that can be completely removed from the food supply. Another reason for the PHO ban was that the USA had announced in 2015 that they would not recognize PHOs as "generally regarded as safe (GRAS)" anymore, resulting in a PHO ban. Furthermore, given previous exposure modelling scenarios, it was unsure that mandating an iTFA limit would be enough to help accomplish the objective of the majority of Canadians achieving an iTFA intake according to the WHO target of 1% of energy intake.

The Government conducted a survey aiming to consult on the current use of PHOs in the food supply. Seven manufacturers, two fat and oil processors, one restaurant, two industry associations and one

academic responded. Many respondents indicated they were phasing out PHOs and none of the data received supported the need to maintain allowance for PHO use.

The PHO ban has been in effect since September 2018; a two-year transition period exists for foods containing PHOs that were manufactured prior to September 2018 – they can continue to be sold in order to exhaust existing stock and avoid unnecessary food waste. Any food manufactured after September 2018 must not contain PHOs.

Enforcement activities will be done through oversight activities such as inspections, audits and/or sampling. iTFA exposure among Canadians will be monitored through red blood cell measurements (Canadian Health Measures Survey) and intakes (Canadian Community Health Survey).

Argentina’s policy: Lorena Allemandi, Director, Healthy Nutrition Policies, Interamerican Heart Foundation of Argentina

In 2008, the NCD prevention team at Argentina’s Ministry of Health led a task force to reduce iTFAs in food. Their campaign was “Argentina free of TFAs by 2014” (“Argentina 2014 Libre de Grasas Trans”). In the same year, the Trans Fat Free Americas Declaration was signed in Rio de Janeiro, which promoted a limit of 2% for margarines and oils and 5% for all other foods. In 2010, these limits were included in the Argentinian Codex Alimentarius, with a 2-year transition period for margarines and oils and a 4-year period for all other foods. The limits were also informed by the voluntary limits Canada had agreed on with the food industry prior to regulating a mandatory PHO ban (see previous page on Canada’s policy). In 2016, there was a 93% compliance rate.

Argentina provided technical advice to small and medium sized enterprises (SMEs) and made a manual for small businesses. But the Government did not provide any subsidies. On a provincial level, they set up laboratories to understand the iTFA levels particularly in small businesses.

The InterAmerican Heart Foundation of Argentina (Fundación Interamericana del Corazón, FIC) started working on food policy in 2011, particularly on iTFAs and salt. FIC Argentina analysed and documented the iTFA policy process from an independent perspective, conducting monitoring via qualitative design, interviews with all sectors and a stakeholder mapping.

“In Argentina, civil society sought to understand the policy process in eliminating and reducing trans fats. An enabler was dialogue between academics, public and private sectors, as was the dialogue between different ministries - health, agriculture and finance.” – Lorena Allemandi

In 2014, FIC Argentina analysed 528 products. Only 4.2% (n=22) were not compliant, mostly baked goods, puff pastry and chocolate coating. They used the food labels to monitor. In 2018, FIC Argentina analysed 1,408 products. 1.8% of products (n=26) were not compliant, and chocolate coating was by then compliant. They used food labels to analyse iTFA content. They mostly found palm oil as replacement oil.

Challenges are:

- no real consumption study to draw conclusions of the impact of the policy on the population, and general lack of independent research on the topic.
- iTFA replacement was challenging for SMEs as compared to large manufacturers.
- need to implement more comprehensive policies on nutrition to target other challenges such as childhood obesity.

- the public sector does not have the necessary technical knowledge on iTFAs, which is why FIC Argentina recommends investing in capacity building on iTFAs (e.g. within Argentinian universities).

“The media is an ally in helping ensure consumers aren’t confused by technical details and debates on trans fats.” – Lorena Allemandi

Situation in Slovenia, Balkan and former Soviet countries: Prof Steen Stender, Professor of Preventive and Clinical Nutrition, Department of Nutrition, Exercise and Sports (NEXS), University of Copenhagen

In 2006, Prof Stender and his team published research data on iTFA content of chicken nuggets and French fries of McDonald’s and KFC and microwave popcorn as well as biscuits/cakes/wafers in various countries. They showed that iTFA made up 30-40% of cooking oil in the fast food chains but that big differences existed between countries. As a result, McDonald’s announced half a year after publication that they would eliminate iTFA in their restaurants worldwide, and KFC confirmed the same two days later.

In Slovenia, he conducted a market basket investigation in 2012 and 2014 and identified foods with high amounts of iTFAs. To identify foods containing iTFAs, he used the ingredients list (labelling is mandatory in Slovenia, as it is in the European Union). The high iTFA content worried Slovenian researchers, and several awareness campaigns were launched beginning in 2015 to lower iTFAs. Slovenian researchers analysed labels of 22,629 pre-packaged foods in 2017. They showed that voluntary targets and awareness campaigns had led to a decrease of PHOs in biscuits from 17% to 8%, but in cakes, muffins and pastries, it had increased from 7% to 10%. They concluded that voluntary guidelines and regular public communication on the risks related to iTFAs intake had a considerable effect on the food supply but did not result in the sufficient removal of PHO from foods. As a result, Slovenia adopted iTFA legislation in April 2018, to be fully implemented by April 2019. An investigation by Prof Stender in August 2018 showed a 40-80% reduction of iTFAs.

“When neighbouring countries have different trans fat policies, it’s difficult to ensure people are protected from foods containing trans fats consistent with domestic legislation. Aligning policies in Europe is crucial to saving lives. ” – Prof Steen Stender

Prof Stender’s research in former Yugoslavian countries found that biscuits, cakes and wafers contained up to 50% of iTFA in the fat used in 2012. Voluntary reductions were announced, but his most recent analysis in 2018 showed that the iTFA content had actually increased.

Prof Stender’s research in 15 Central Asian countries a few years ago showed that 30-40% of fats and oils used in biscuits, cakes and wafers consisted of iTFAs. In 2018, he repeated his study and found the iTFA level much decreased. He assumes the reductions are due to iTFA regulation having come into effect in Ukraine and Russia from where 50% of food is imported.

Legal considerations: Kyra Berasi, Legal Advisor, Global Health Advocacy Incubator, Campaign for Tobacco Free Kids

The Global Health Advocacy Incubator (GHAi) works in low and middle income countries around the world. For RTSL, they provide legal and advocacy support to numerous countries with respect to iTFA elimination.

GHAI finds it essential to include legal considerations from the early stages of thinking about iTFA reduction/elimination. Major questions are whether there is the required enforcement and technical capacity. For example, is there a government body that can enforce, not just implement? Can they test imported and local foods for iTFAs? Is there sustainable funding for enforcement activities? Is there technical knowhow and personnel?

It also needs to be considered in the policy design whether other policies that have been implemented, such as labelling requirements, or if there are reinforcing activities under way, such as any prior iTFA testing that could serve as baseline. Of importance are also due process requirements such as regulatory impact assessments and trade and investment considerations. Documentation is essential, too. For example, WTO Committees can challenge an iTFA regulation, but if it is documented, showing all other options that were considered and why they weren't chosen, a government is much more likely to withstand a challenge. However, oftentimes it is the implementation of the iTFA regulation that will be challenged, not the development of the policy, because ambiguous language in a regulation can result in inadequate or unequal enforcement.

“When it comes to policy design, it’s important to ensure governments have the necessary infrastructure and resources to implement, monitor and enforce the laws. They also need the capacity to withstand possible legal challenges around trans fat regulation.” – Kyra Berasi

How to choose between possible policies to reduce or ban iTFAs or PHOs? The national context is key, e.g. where TFAs exist in the national food supply and what the consumer food consumption looks like: do people consume iTFAs through packaged foods, or do they use a lot of cooking oil high in TFAs?

In their assessments, GHAI learned that industry is ready to replace iTFAs. To avoid replacement with saturated fats, front-of-pack labelling could be used to disincentivize industry to use saturated fats when reformulating their products. This would need to be considered early in the policy process.

Technical considerations: Prof Omar Obeid, Professor of Human Nutrition, Department of Nutrition and Food Science, American University of Beirut, Lebanon

In the Eastern Mediterranean region, political instability and war is common; countries are very different economically and geographically as well as regarding their food supply and customs. Some import barely any food while others import 80% of their food. Food imports are from countries which regulate iTFAs as well as countries that do not. Lastly, some countries have huge immigrant populations with vastly different food cultures to the local traditions.

A study in Lebanon showed large variations in iTFA content between foods depending on where they were manufactured. The findings show that Pakistan and Egypt have the highest intake of TFAs. Iran has iTFA limits in place combined with the policy decision to not subsidise oil, particularly palm oil and margarines; as a result, iTFA intake has markedly been lowered. In Tunisia, a few food factories work on iTFA reduction.

“Understanding the risk and burden of iTFAs in the Middle East is important to determine prioritisation given the diverse circumstances of each country in the region.” – Prof Omar Obeid

Because countries in the Eastern Mediterranean have limited technical capacity, an accredited regional laboratory would be recommendable to ensure the laboratory's stability and sustainable operation. To ensure accurate results, a Ministry of Health representative and a laboratory employee should collect

food samples. Such an approach was taken for iodine testing which proved to be effective and could be replicated for iTFA testing.

Role of civil society and academics: Prof Bo Norrving, Chair, Global Policy Committee, World Stroke Organisation

In anti-tobacco advocacy, all civil society organisations agree on the necessary steps to be taken to minimise tobacco harm; therefore, they can act in unison. The same is necessary for iTFA elimination: civil society must be aligned with respect to what actions need to be taken by governments. It is also important that more data is collected on the epidemiology of stroke and iTFAs, differentiating between iTFAs' association with ischemic stroke risk and haemorrhagic stroke risk.

“Civil society can support countries seeking to eliminate trans fats and reduce noncommunicable diseases. We can advocate, gather information and translate research to ensure informed policies. From my experience, this support means a lot to governments.” – Prof Bo Norrving



[NCD Alliance](#) unites 2,000 civil society organisations in more than 170 countries, dedicated to improving NCD prevention and control worldwide. The mission of NCD Alliance is to unite and strengthen civil society to stimulate collaborative advocacy, action and accountability.



The five-year, \$225 million [Resolve to Save Lives](#) initiative has been funded by Bloomberg Philanthropies, the Chan Zuckerberg Initiative, and the Bill & Melinda Gates Foundation. It is led by Dr. Tom Frieden, former director of the US Centers for Disease Control and Prevention, and housed at Vital Strategies, which works in 60 countries with the vision of a world where every person is protected by a strong public health system.