

LEADING THE WORLD TO OPTIMAL ORAL HEALTH



SUGARS AND DENTAL CARIES

**A practical guide to reduce sugars consumption
and curb the epidemic of dental caries**

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Overview

- What is the issue?
- Why this practical guide?
- Who is this for?
- How to use it?

What is the issue?

Sugar is a leading risk factor for dental caries (tooth decay).

Its consumption is influenced by many biological, behavioural, social, cultural and environmental factors. Over the past 50 years, worldwide sugar consumption has tripled, an increase which is expected to grow – particularly in emerging economies¹.

A high intake of free sugars – all sugars added to foods by the manufacturer, cook or consumer, and sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates – is associated with an increase in weight and higher rates of dental caries.

A number of measures are being explored to reduce global sugar consumption. Population-wide strategies and policies, for example, as part of a healthy diet show the highest potential to promote better oral health and possibly reduce diabetes, obesity and other noncommunicable diseases (NCDs).

Sugar is a leading risk factor for dental caries

Reducing sugar consumption will have a significant impact on helping to curb the global epidemic of dental caries, which has been widely neglected compared to other health issues. The fact is that dental caries is the most common chronic disease in the world – due to exposure to sugar and other risks – and is a major global public health problem affecting individuals, health systems and economies.

Advocacy is therefore essential to raise awareness and set the record straight about the role of sugar in the development of dental caries, and call for action at all levels to stop the global epidemic. The odds are stronger when individual voices are combined to deliver a powerful message about prevention and equal access to proper oral healthcare. A unifying strategy is necessary to build commitment for action and make oral health a priority in global public health and development agendas.

Oral health professionals have a key role to play in driving change; this guide has therefore been prepared for FDI member National Dental Associations (NDAs) to help them in their advocacy and awareness-raising efforts at the country level.



Why this practical guide?

In 2015, the World Health Organization (WHO) released a guideline for sugars intake for adults and children². FDI responded to the public consultation to the new guideline favouring the recommendations and adopted a policy statement on dietary free sugars and dental caries later that year³. The WHO guideline recommends that the daily intake of free sugars be limited to less than 10% (or 50 g = around 12 teaspoons) of total energy intake in both adults and children. A further reduction to below 5% (or 25 g = around 6 teaspoons) of total energy intake would provide additional health benefits and help minimize the risk of dental caries throughout the life course.

These recommendations are crucial for the promotion of oral health and general health and should be used to assess current intake levels of free sugars in all countries. They can also be used to develop measures to decrease intake of free sugars, where necessary, through a range of public health interventions. In 2016, for example, WHO released a report on fiscal policies for diet and prevention of noncommunicable disease urging all countries to take action by enforcing a tax of at least 20% on sugary drinks to help reduce consumption and prevent obesity, diabetes and tooth decay⁴. Other policies can target better food and nutrition labelling, consumer education, and marketing regulation for food and non-alcoholic beverages high in free sugars.

Further reading

Find out more on the development of the WHO guideline for sugars intake in the Proceedings from our World Oral Health Forum 2015.

 <http://bit.ly/WHOSugarGuide>

FDI is committed to coordinate action to implement the WHO guideline through international, national and local food policies; to advocate dental caries prevention strategies focusing on individual- and population-based approaches to reduce free sugars consumption in general, particularly through sugar-sweetened beverages; and to encourage NDAs to introduce dietary guidelines to reduce free sugars in schools, workplaces, hospitals and other institutions. This practical guide shows the way forward.

Who is this for?

This practical guide provides clear recommendations on actions to take to reduce the intake of sugars and hence the risk of developing dental caries throughout the life course. It has been prepared specifically for FDI member NDAs, but can also be used by:

- ▶ **Oral health professionals** to help educate their patients or enhance their capacity to advocate on an individual basis;
- ▶ **Healthcare organizations** to implement an integrated approach in the fight against NCDs;
- ▶ **Government and educational authorities** to influence key opinion leaders when relevant policies are being formulated;
- ▶ **Media outlets** to promote oral health among the general public.

Effective advocacy is needed to convince decision makers that reducing sugars consumption will curb the epidemic of dental caries. Oral health promotion deserves increased investment at the national and local level. This practical guide provides tools for all advocates – regardless of experience – to help align efforts and ensure the oral health community speaks with one voice globally, when pushing for policy implementation in this area.

How to use it?

This practical guide is meant to help you transform objectives – that can further oral health policies – into concrete and effective action. A series of steps will guide you to develop your own advocacy strategy, tailored to your own needs and environment. **These steps involve:**

- 1.** Setting the context
- 2.** Establishing goals and objectives
- 3.** Identifying target audiences
- 4.** Developing key messages
- 5.** Implementing your advocacy plan
- 6.** Monitoring and evaluation

Setting the Context

- The global challenge
- Facts and figures

The global challenge

Nutrition and oral health are closely related. A healthy diet, low in sugar, salt and fat, and high in fruit and vegetables contributes to reducing the risk of NCDs – such as cardiovascular diseases, cancer and diabetes.

Sugars consumption, in particular, has a direct impact on oral health. There is increasing concern that the intake of sugars – particularly in the form of sugar-sweetened beverages – increases overall energy intake and may reduce the intake of foods containing more nutritionally adequate calories. Therefore, leading to an unhealthy diet, weight gain and increased risk of NCDs, including oral disease.

A major concern is the association between the intake of sugars and dental caries. Globally, oral disease is the most prevalent NCD, and despite great improvements in prevention and treatment over the past decades, problems persist causing pain, anxiety, functional limitation, and social handicap through tooth loss.

The rise of sugars consumption represents a major oral health challenge. Global action to prevent dental caries is urgently needed from national leaders and the international public health community. Countries, especially those with lower income, should identify and evaluate their current oral health policies and programmes related to sugars consumption. Then, ask themselves where the gaps that need to be addressed exist.

A ‘Health in All Policies’ approach was developed and tested in a number of countries to show that government objectives are best achieved when all sectors include health and well-being as a key component of policy development. The implementation of ‘Oral Health in All Policies’ should therefore be the cornerstone of any country’s advocacy strategy to attain sustainable sugars-reduction policies that will advance oral health and reduce the risk of dental caries.

Advocacy activities calling for a reduction in sugars consumption should, however, be mindful of potential criticism from lobbying groups and organizations acting on behalf of the sugar industry. Advocates must get their facts straight before engaging in a campaign impacting sugars consumption, and hence profits, and should be prepared to answer hard-hitting questions from lobbying stakeholders.

The backbone of arguments relating high sugars consumption with dental caries should therefore be based on solid facts and figures at the country level that will influence government action and policies. Collection of evidence-based data and scientific research showing the impact of sugars consumption on dental caries are crucial steps in addressing the global challenge and achieving successful measures for optimal oral health.



Facts and figures

Free sugars are the primary factor responsible for the development of dental caries. Despite having adequate access to fluoride, excessive sugars consumption remains a major cause for the disease.

Sugars versus Free Sugars

There are different forms of dietary sugars which include *sugars* and *free sugars*.

Sugars include:

- ▶ intrinsic sugars incorporated within the structure of intact fruit and vegetables
- ▶ sugars from milk (*lactose*)

Free sugars are **added to foods and beverages** by the manufacturer, cook or consumer, and sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates. They refer to all:



monosaccharides

ONE SUGAR MOLECULE
FRUCTOSE, GLUCOSE, GALACTOSE

disaccharides

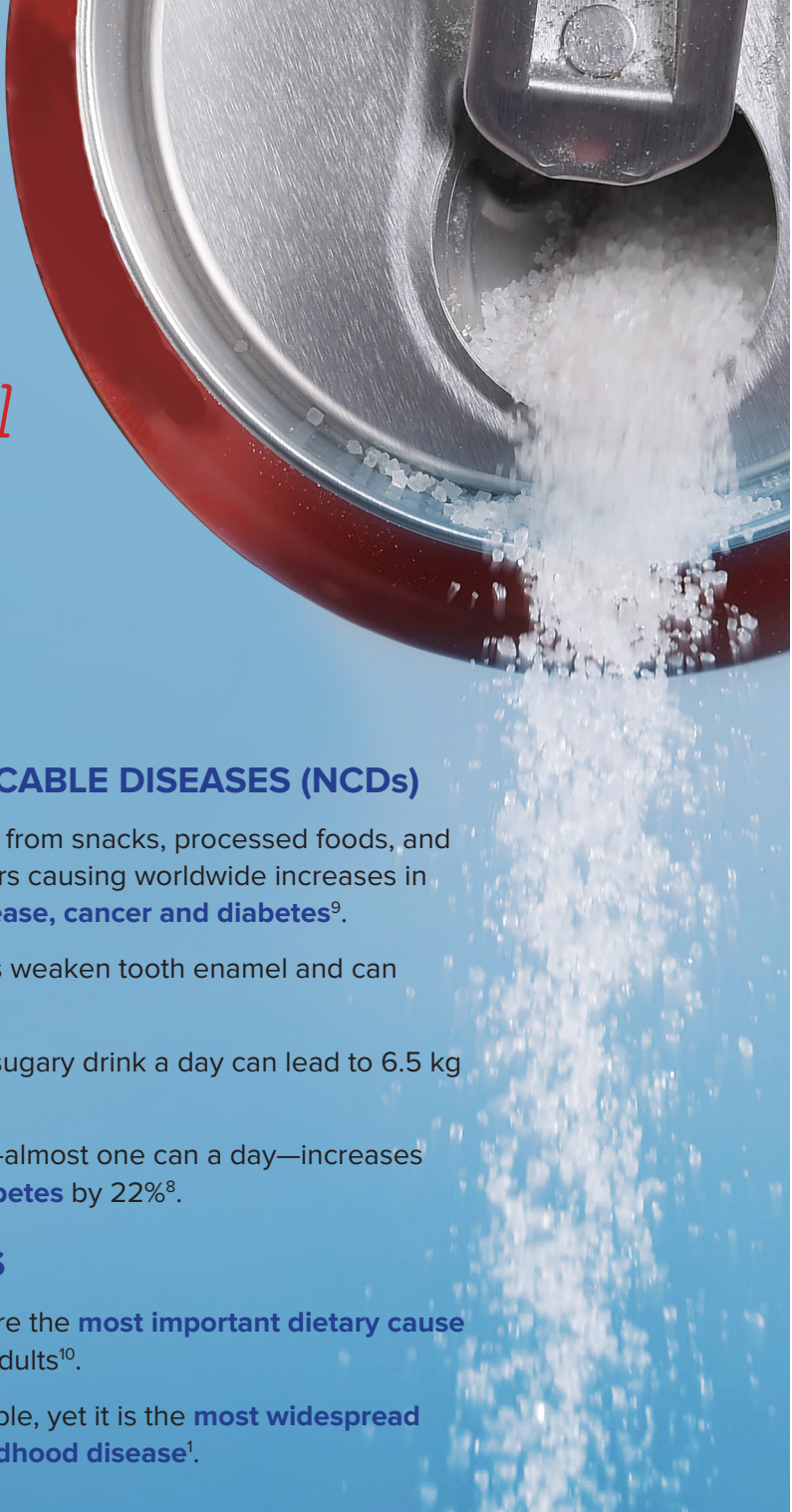
TWO SUGAR MOLECULES
SUCROSE, TABLE SUGAR



SUGARS

- ▶ Free sugars intake of above **60 g per person per day** increases the rate of dental caries in teenagers and adults⁶.
- ▶ For pre-school and young children, free sugars intake should be proportional to that of teenagers, about **30 g per person per day**⁶.
- ▶ Consuming free sugars more than **four times a day** leads to an increased risk of dental caries⁶.
- ▶ **65 countries** in the world consume more than 100 g of sugars per person per day (twice the recommended amount)¹.
- ▶ Both the **frequency and the quantity** of sugars consumption are important factors in the aetiology of dental caries⁶.
- ▶ Excessive sugars intake causes **serious dependence** and its removal creates withdrawal symptoms similar to withdrawal from morphine or nicotine⁷.
- ▶ **Sugary drinks** (such as soda, energy and sports drinks) are a main source of 'empty calories', which contain high levels of energy and no nutritional value⁸.

*Without
sugars, dental
caries does
not occur.*⁵



SUGARS AND NONCOMMUNICABLE DISEASES (NCDs)

- ▶ Excessive consumption of sugars from snacks, processed foods, and drinks is one of a few major factors causing worldwide increases in **oral disease, cardiovascular disease, cancer and diabetes**⁹.
- ▶ Sugars and acids in sugary drinks weaken tooth enamel and can cause **dental caries**⁸.
- ▶ Consuming one can (355 mL) of sugary drink a day can lead to 6.5 kg **weight gain** in one year⁸.
- ▶ Drinking sugary drinks regularly—almost one can a day—increases the risk of developing **type 2 diabetes** by 22%⁸.

SUGARS AND DENTAL CARIES

- ▶ Sugars, particularly table sugar, are the **most important dietary cause of dental caries** in children and adults¹⁰.
- ▶ Dental caries is entirely preventable, yet it is the **most widespread NCD and the most common childhood disease**¹.

Did you know?

Before the Second World War, sugars availability dropped dramatically in Japan from 15 kg per person per year to a low of 0.2 kg per person per year in 1946.

This “natural experiment” demonstrated a reduction in dental caries and provides the basis for WHO’s conditional recommendation:

Reducing the intake of free sugars below 5% of total energy intake (25 g = 6 tsp) provides additional health benefits in the form of reduced dental caries².

Sugars Nutrition Facts¹⁴	
per 100g	
per serving	
Foods	
high sugars	> 22.5 g per 100 g
low sugars	< 5 g per 100 g
Drinks	
high sugars	> 11.25 g per 100 mL
low sugars	< 2.5 g per 100 mL
Daily intake of free sugars should be limited to less than 10% (or 50 g) in adults and children, and below 5% (or 25 g) for additional health benefits and to help minimize the risk of dental caries.	

- ▶ Untreated dental caries in permanent teeth, which is caused by dietary sugars, affects **2.3 billion people** worldwide¹. For example, of the total **burden of dental caries** in 12-year-olds from:
 - ▶ Low-income countries: *almost entirely untreated*
 - ▶ Middle-income countries: *two-thirds remaining untreated*
 - ▶ High-income countries: *more than half remain untreated*
- ▶ Almost **100% of adults and 60-90% of schoolchildren** in the world have dental caries¹¹.
- ▶ Oral disease, such as dental caries, is **the fourth most expensive** to treat and consumes 5–10% of healthcare budgets in industrialized countries¹¹.

COUNTRY-SPECIFIC DATA

- ▶ In the UK, dental caries is the **number one reason** for hospital admissions among young children¹².
- ▶ In the US, an estimated **16 million children** have untreated dental caries¹³.
- ▶ In Canada, **57% of children** aged 6–11 years have decayed, missing or filled teeth¹³.

Further reading

Find out more on the causes of dental caries and the disease process in our *White Paper on Dental Caries Prevention and Management* from the Caries Prevention Partnership.

 <http://bit.ly/CPWhitepaper>

Establishing Goals for Policy Change

- What are your short- and long-term objectives?

What are your short- and long-term objectives?

A successful advocacy plan should have a clear set of objectives for short- and long-term implementation. SMART goal setting is an easy way to structure and track your objectives. SMART stands for Specific, Measurable, Achievable, Realistic and Time-bound criteria used to manage your objectives.

Specific: objectives are clearly defined, as are the actions needed to meet them.

- ▶ *What do you want to achieve? With Whom? Where? When? Why?*

Measurable: results can be quantified and evaluated.

- ▶ *How much? How many?*

Achievable: objectives must be possible to meet, and likely to succeed.

- ▶ *Is this feasible?*

Realistic: resources and capabilities available are sufficient to achieve the desired outcomes. Is this applicable to the current environment? Is this the right time?

Time-bound: there is a clear time-frame for achieving the desired outcomes. What is the timeline? What are the deadlines?

Once you have identified the opportunities and obstacles to reaching your objectives, you can build the layout for your advocacy work accordingly. Your long-term objective(s) will be the ultimate policy change that you want to achieve (i.e. promote education campaigns, increase taxes, restrict advertising, etc.). Your short-term objectives will be the specific steps that will progressively allow you to get the long-term goal(s) (i.e. gather data, raise awareness, develop network, etc.).

Long-term objectives

- ▶ **Promote a healthy diet**, with a particular focus on reducing sugars intake in children and adults, to reduce the risk of dental caries and other NCDs.
- ▶ **Enforce higher taxation** on sugar-rich food and sugar-sweetened beverages.
- ▶ **Ensure transparent food labelling** for informed consumer choices.
- ▶ **Limit marketing and availability** of sugar-rich foods and sugar-sweetened beverages to children and teenagers.

Short-term objectives

- ▶ Establish a **national/regional/local Task Force** on sugars reduction representing key stakeholders (oral health professionals, health ministers, policy makers, educators, corporate partners, patients, etc.).
- ▶ **Data collection** activities in your country:
 - ▶ Collect any available data related to the **status of dental caries** (i.e. decayed/missing/filled/teeth (DMFT) index, fluoridation programmes, access to oral healthcare, etc.).
 - ▶ Retrieve any available data indicating the **contribution of sugars** to the population's total daily energy intake. If this is relatively high, determine by how much sugars consumption should be reduced and by when.
 - ▶ If no data is available, **conduct a national/regional/local study** to assess the status of dental caries and sugars intake in different sectors of society.

- ▶ **Conduct an education campaign** aimed at the general public, but also policy makers to influence them. Use evidence-based data to demonstrate the disease burden and highlight their role in changing the food system.
- ▶ **Increase awareness** and sensitize health and media service providers to foster their involvement in promoting healthy diets.
- ▶ **Make a list of successful sugars-reduction policies** implemented at the international level to show the health benefits from adopting such changes as examples of good health practices.
- ▶ **Set-up a meeting** with local representatives from:
 - ▶ **Government**, such as the ministry of health or education, to limit marketing and advertising of foods and drinks high in sugars to children and teenagers across all media; and introduce a price increase of 10–20% through tax on high sugar-rich products. As well as implement effective policies across educational institutions.
 - ▶ **Food industry**, such as manufacturers and regulatory agencies, to review food standards for highly consumed sugary foods and drinks; and revise criteria for food labelling to reflect the sugar, trans fat and saturated fat contents.
 - ▶ **Retail outlets**, such as supermarkets, convenience stores and restaurants, to restrict the number of price promotions for sugar-rich products (such as two for the price of one or increasing the portion size for the same price).
 - ▶ **Educational institutions**, such as day cares, schools and universities, to introduce dietary guidelines to reduce free sugars in their meal plans and remove vending machines from their establishments. As well as to include the importance of healthy nutrition in educational curricula.



Further reading

Find out more on how to translate advocacy objectives into action in our *Advocacy Toolkit* from the Caries Prevention Partnership.

 <http://bit.ly/CPPToolkit>

- ▶ **Medical institutions**, such as hospitals, clinics and health centres, to ensure provision and sale of healthy foods and drinks in their establishments.

The policy recommendations in this practical guideline should be culturally adapted at the country level to develop measures to reduce intake of free sugars. Advocates can achieve effective public health nutrition policies to promote a healthy diet through a range of interventions already being implemented by other countries.

Identifying Target Audiences

- Who do you want to reach?

Who do you want to reach?

Effective advocacy work aims to reach two main audiences:

1. Decision makers (Individuals/groups who can take the decisions you want to be taken)
2. Influencers (Individuals/groups who can influence the decision makers)

Potential decision makers

- ▶ **Government**
(Presidents and prime ministers, health ministers and their deputies, ministers of related sectors (such as ministers of education, transport and/or agriculture) and their deputies, chief dental officers and their deputies, health authority officials)
- ▶ **Community leaders**
(Local government bodies, city councils, mayors, prominent members of civil society)
- ▶ **UN agencies**

Potential influencers

- ▶ **Civil society**
(Nongovernmental organizations, formal and informal groups and organizations)
- ▶ **Opinion leaders**
(Community and business leaders, authors, activists, the media)
- ▶ **Academia**
(Teachers, professors, researchers)
- ▶ **Healthcare professionals**

It is crucial to understand your audiences and consider their interests and motivations to persuade them to take action. Once people have been informed about the problems, many of them want to know what the solutions are. As an advocate of oral health, it is your role to foster commitment among them and **mobilize people to engage and act.**



Developing Key Messages

- What do you want to say and to what end?

What do you want to say and to what end?

Key messages should be clear, concise, compelling and consistent. They should be frequently repeated and reinforced by several sources to convince your target audiences that action is needed. Remember, your objective is not to simply communicate that sugars consumption levels are high. You also want decision makers and influencers to pass policies that will lower sugars intake because this will decrease the risk of dental caries.

Sugar is a leading risk factor for dental caries, which is the most widespread noncommunicable disease in the world.

Develop simple and direct messages, tailored to your own situation and contextual needs, which carry a strong call to action. Ideally, you should have one primary key message and two or three secondary key messages. Your primary message should be broad and appeal to all audiences. Your secondary messages should support your main messages and can be more specific and technical.



Primary message

Sugar is a leading risk factor for dental caries, which is the most widespread noncommunicable disease (NCD) in the world. Promotion and implementation of sugar-reduction policies as part of a healthy diet are key in curbing the global epidemic of dental caries and disease burden. Lowering sugar intake in populations may also reduce risk of other NCDs, such as cardiovascular diseases, cancer and diabetes.

Secondary messages

The intake of free sugars, in both adults and children, should be limited to less than 10% of total energy to minimize lifelong risk of dental caries. A further reduction to below 5% of total energy intake is suggested, based on the negative health effects of dental caries being cumulative through the life course (from childhood to adulthood). Nutrition policies promoting low intake of free sugars – particularly in the form of sugar-sweetened beverages – are needed in the fight against dental caries. This is a disease affecting over 3 million people and, if left untreated, dental caries reduces quality of life in the individual by causing pain, anxiety, functional limitation, and eventual social handicap through tooth loss.

High prevalence of dental caries shows that populations would benefit from preventive nutrition interventions focusing on lowering daily levels of sugar intake. These can include, public health nutrition education campaigns, transparent food labelling, higher taxation on sugar-rich foods and beverages, as well as limited marketing and availability to children and teenagers. Preventive interventions are highly cost-effective as treatment of dental caries is expensive, consuming 5–10% of healthcare budgets in industrialized countries and most likely exceeding all financial resources available for children’s healthcare in most lower-income countries.

Comprehensive and integrated action, led by governments, favouring an ‘oral health in all policies’ approach is necessary to reduce the risk of dental caries and other noncommunicable disease (NCDs). Sugar is a common risk factor for many NCDs (such as cardiovascular diseases, cancer and diabetes) which are the main contributor to mortality, globally. Interventions across all sectors calling for sugar reduction as a key component of policy development will not only help stop the global epidemic of dental caries, but will also contribute to the reduction of other NCDs.

Implementing your Advocacy Plan

- Promotional top tips
- How did they do it?
- Other success stories to reduce sugars consumption

Promotional top tips

Key messages are more likely to reach your target audiences if they are delivered through a wide range of communication channels. These should be adapted to your specific goals and needs, and can include emails, letters, face-to-face meetings, events, or the media.

Partner up

Partnerships can help spread the message as they provide credibility and access to communities that may be difficult to reach otherwise. These can be formed with:

- ▶ A coalition of oral health professionals
- ▶ Other health associations
- ▶ Food and beverage companies

Whoever the partners may be, remember to find a unifying goal for all to work around and then motivate each according to their interests.

Choose the right spokesperson

Finding an individual who is well-respected by your target audience can help influence and convince them of your message. This can be:

- ▶ A political leader considering supporting legislation for sugar-reduction
- ▶ A physician advocating an integrated approach to preventing NCDs
- ▶ An athlete or celebrity educating and motivating the general public

Whoever the messenger may be, remember that having a good communicator deliver the message is often as important as the message itself.

Organize a successful event

Establishing direct contact with your target audiences is essential to mainstream your message.

This can be in the shape and form of:

- ▶ A meeting with local representatives from key sectors (such as government, food industry, retail outlets, etc.) to discuss sugar-reduction policies
- ▶ A workshop to inform and inspire potential supporters
- ▶ A public event to engage wider communities (for example leveraging World Oral Health Day on 20 March)

Whatever the event may be, remember to be strategic and choose the most relevant speakers, audiences, time and venue. Draft a clear agenda for the event and share it in advance with all stakeholders. Develop a realistic timetable to help you prepare and organize for the event. Last but not least, having visual aids is always a plus. Print materials such as leaflets, factsheets, banners, etc. are valuable tools to support your advocacy activities.

Maximize opportunities

Consider occasions such as the launch of governmental nutrition programmes, public health conferences (for example the International Congress on Obesity or the World Diabetes Congress), and national and international days (for example World Oral Health Day, World... Food, Heart, Cancer or Diabetes... Day) to promote your sugar-reduction policy messages.

Tell a real-life story

Real-life stories can be used to inspire and empower others to take action. Showcasing case studies where sugar-reduction policies were successfully adapted and implemented often speaks to people at a more personal level, and gives them concrete ideas to apply in their own communities.

Mapping successful implementation of government taxes on sugary foods and drinks¹⁵

Results demonstrating the impact of government taxes on sugary foods and drinks are not currently available for all countries, given that some of the legislation is so new. However, it is encouraging to see that in those countries where results are available there has been a positive outcome with a reduction in the consumption of the taxed sugary foods or drinks.



1 Barbados 2015

Passed a 10% tax on locally produced and imported sugary drinks, including carbonated soft drinks, juice drinks, sports drinks and others. Drinks exempt from the tax include 100% natural fruit juice, coconut water, plain milk and evaporated milk.

4 Dominica 2015

Enforced a 10% tax, which applied to food and drinks with a high sugar content. This includes sweets, candy, chocolate bars, soft drinks and other sweetened drinks (including energy drinks).

2 Belgium 2016

An increased tax was enforced applying to all soft drinks, including non-alcoholic drinks and water containing added sugar or other sweeteners or flavours. The tax also applies to any substance intended for the use of manufacturing soft drinks.

5 Finland 1940

Introduced taxes on soft drinks. In 2011, a tax on the production of candy was introduced and then extended to include ice cream. Beginning 2017, the tax on non-alcoholic beverages will remain but the tax on candy and ice cream will be removed. The tax removal comes after the European Commission said the tax unfairly favours Finnish producers, because imported sweets have to pay it on top of import duties.

3 Chile 2015

Imposed an 18% tax on sugary drinks with a sugar content greater than 6.25 g of sugar per 100 ml. Sugary drinks include all non-alcoholic drinks with added sweeteners including energy drinks and waters. Sugary drinks with less than 6.25 g of sugar per 100 ml are taxed at 10%.

6 France 2012

All beverages containing added sugar or artificial sweeteners are taxed. Sales of non-alcoholic beverages in supermarkets declined for the first time in many years, by 3% during the first four months after the introduction of an added tax on sugar-sweetened and artificially sweetened beverages, which raised the price of these products by nearly 5%. In 2014, soft drinks sales were less than 1% down compared to pre-tax levels in 2011.

- 7 French Polynesia 2002**

A tax was imposed on sugar-sweetened beverages, confectionery and ice cream.
- 8 Hungary 2011**

Established taxes on sugar-sweetened beverages and energy-dense foods. After implementation of the tax, sales of soft drinks declined. The National Institute for Food and Nutrition Science conducted an assessment of the tax and showed that most people (59–73% of those surveyed) who reduced their consumption after introduction of the tax consumed less in 2014 than in previous years, suggesting that the reduction in unhealthy food consumption has been sustained.
- 9 Mauritius 2013**

A tax is applied on the sugar content of all soft drinks, whether imported or produced domestically. Soft drinks are defined as any aerated beverage, syrups, and fruit squashes, cordials and drinks. Fruit and vegetable juices and drinks containing only artificial sweeteners are excluded from the tax, as are soft drinks produced for export only.
- 10 Mexico 2014**

Tax on sugary drinks – which defined under the new law includes all drinks with added sugar, excluding milks or yoghurts. Preliminary price monitoring indicated that the price of sugary drinks increased by around 10% and impacted consumption to fall by 6%. Sales of bottled water were up by 4%. Another tax of 8% applies to foods with high caloric density, defined as equal to or more than 275 calories per 100 g – which includes confectionery, chocolate and cacao-base products. By December 2014, soda sales were down 12% from December 2013, and the drop was greatest among the poorest Mexicans who were buying 17% less sweetened soda than the year before.
- 11 Norway 1981**

A tax proposed on sugar, chocolate, and all non-alcoholic beverages with added sugar or sweeteners. Intake of lemonade and regular soft drinks declined significantly between 2001 and 2008 after establishment of this tax, in contrast with increasing consumption in many other European countries.
- 12 Samoa 1984**

Sugar-sweetened beverages, both imported and locally produced, have been taxed. Survey data from 1991 to 2003 show that the number of servings of soda consumed decreased slightly, from around two and a half to just over two servings per week.
- 13 UK 2016**

Announced a tax on beverage manufacturers according to the volume of sugar sweetened beverages they produce or import. Pure fruit juices, milk-based drinks and the smallest producers will not be taxed. The tax will come into effect in 2018.
- 14 USA 2014–2017**

Currently, 33 states have imposed taxes on sugar-sweetened beverages, at rates ranging from 1.23% (Missouri) up to 7% (Indiana, Mississippi, New Jersey, and Rhode Island) – the average tax rate being 5.2%. In 2014, in Berkeley, California, they passed a tax for sugar-sweetened beverages to come into effect in 2015. In 2016, Philadelphia, Pennsylvania, passed a tax on sugar-sweetened beverages and artificially sweetened beverages. The law will be effective in 2017, making Philadelphia the first major city with a sugary drinks tax in the country.

How did they do it?

The Government of Barbados implements taxation on sugar-sweetened beverages¹⁶

In recent years, various countries have introduced taxes on sugar-sweetened beverages (SSBs) and foods as a public health measure to combat obesity and prevent and control NCDs. WHO released a report on the effectiveness of fiscal policy interventions for improving diets and preventing NCDs, concluding that taxing sugary drinks can in fact lower consumption and reduce obesity, type 2 diabetes and tooth decay.

In August 2015, the Barbados Ministry of Finance led the implementation of a 10% excise tax on SSBs. At that time, Barbados was among only 10 countries in the world to implement such a tax. Today, SSB taxation is one of a series of recommended strategies to reduce the intake of these beverages – and hence sugar – resulting in improvement of health and lowering healthcare costs. Yet, SSB taxation is just one critical component of a comprehensive package of strategies (including interventions to increase physical activity, banning marketing of unhealthy foods and beverages to children, improved standardized nutrient labelling, product reformulation, etc.) to address obesity and NCDs, resulting in direct beneficial health impacts.

The Government of Barbados took the following considerations and steps to implement the SSB tax policy:

- ▶ Type of tax (on SSBs)
- ▶ Tax rate (10% of the value of the item before VAT (value added tax))
- ▶ Taxable products (all products produced and imported under tariff headings 20.09 and 22.02)
- ▶ Level of application of the tax (on both locally produced and imported goods)
- ▶ Recovery of the tax (through VAT and Excise Tax Administration System)
- ▶ Mechanisms for earmarking tax revenue (expected revenue from the tax would assist with financing healthcare in Barbados)
- ▶ Need to protect vulnerable populations, including the poor (availability of cheaper, healthier beverage alternatives)
- ▶ Stakeholder consultation (it was limited, but should include Civil Society Organizations, relevant ministries, policy makers and other stakeholders)
- ▶ Tax environment (it lacked linkages with a wider programme, but taxation should be a component of a larger package of interventions)
- ▶ Monitoring and evaluation of the tax (two-year period through existing structures in the Ministry of Finance)

In addition, the beverage industry and the private sector in general are vital partners in reducing the sugar content of SSBs sold in supermarkets, fast food restaurants, and provided in schools. In Barbados, there was strong resistance to the SSB tax from the local and international beverage sector. One of the major local soft drink manufacturers, although not optimistic about the long term impact of the tax on behaviours, indicated that the company saw the tax as an opportunity to reduce the levels of added sugar in their products over time - citing this a cost-savings exercise given the high cost of sugar in the local beverage business.

Key Advocacy Messages for SBB Taxation

- ▶ SSB taxation should be implemented as one component in a comprehensive package of policy and programming interventions.
- ▶ Wide stakeholder consultations, including local Civil Society Organizations, should form part of the tax implementation strategy.
- ▶ Policies should be adopted and mechanisms developed to earmark tax revenue for NCD prevention and control.
- ▶ Effectiveness of SSB taxes should be monitored and evaluated, and adjustments made to tax levels accordingly.
- ▶ Consideration should be given to the extension of the taxes beyond SSBs to unhealthy foods, such as those high in sugar, fat and salt.
- ▶ National NCD Commissions or equivalents provide platforms for sensitization of stakeholders in the beverage industry of the adverse public health impacts of high sugar diets and the potentially significant health and economic gains to be made by companies which lead the way in reducing sugar content of their locally produced beverages.

The Implementation of Taxation on Sugar-Sweetened Beverages by the Government of Barbados



Other success stories to reduce sugars consumption

Australia Smart Choices¹⁷

Smart Choices is a mandatory school programme in Queensland which supplies healthy food and drink choices to students in all state schools. This includes food and drink supply to all school-related environments i.e. tuck shops (small, food-selling retailer), vending machines, school excursions, school camps, fundraising, classroom rewards, school events such as celebrations and sports days, and food used in curriculum activities.

The school programme has been compulsory since 2007 and categorizes foods and drinks into three nutrition groups: green, amber and red – based on their energy, saturated fat, sugar, sodium and fibre content.

- ▶ **GREEN** foods and drinks are encouraged and promoted in schools and are low in saturated fat, sugar and/or salt and rich in nutrients. They include fruit, vegetables, wholegrain or high fibre bread and cereals, reduced fat milk, cheese and yoghurt, lean meat, fish and poultry, eggs, nuts, water and reduced-fat milks.
- ▶ **AMBER** foods and drinks should be selected carefully as they are mainly processed and have had some sugar, salt or fat added to them. They include full-fat dairy foods, processed meats, margarine, mayonnaise and oil, spreads and cereals.
- ▶ **RED** foods and drinks should be limited in availability and consumed only occasionally due to the lack of adequate nutritional value. They are high in saturated fat, and/or added sugar and/or salt and can contribute to dental caries. They include sugar and artificially sweetened drinks, confectionery, ice-creams, cakes, muffins and sweet pastries.



Queensland Government – Department of Education and Training

Smart Choices was launched to ensure the food and drink supply in schools was consistent with the Australian Guide to Healthy Eating¹⁸ in an effort to tackle childhood obesity and improve children’s health through better nutrition. As a result, schools made significant efforts in a short period of time to implement the programme.

Surveys of school principals, parents and citizens’ associations (who usually operate school tuck shops or canteens), and tuck shop convenors reported that nearly all school tuck shops had implemented Smart Choices. Almost all schools also reported implementation in breakfast programmes, vending machines and in curriculum activities. Implementation was reported by the majority of schools in sporting events and sports clubs, classroom rewards, class parties and as part of sponsorship and advertising within the school.

In tuck shops, all red foods and drinks were removed and the availability of green foods and drinks increased on most menus. Over half of the tuck shops surveyed reported that profits had increased or stayed the same. Respondents from urban schools were significantly more likely than those from rural schools to rate themselves higher on the implementation of the programme.

USA Shop Healthy NYC¹⁹

Shop Healthy NYC is a New York City Health Department initiative which aims to increase access to healthy food and engage residents and organizations to support sustainable food retail change in their community. It focuses on neighbourhoods with high rates of obesity and limited access to nutritious foods.

Launched in 2012, the programme has worked with more than 1,000 retailers in high-need communities of the city and targets multiple types of food retailers. To ensure long-term impact, Shop Healthy NYC aims to influence supply and demand by:

- ▶ reaching out to **FOOD RETAILERS** to increase stock and promotion of healthy foods
- ▶ collaborating with **DISTRIBUTORS AND SUPPLIERS** to facilitate wholesale purchases and widespread promotion of healthy foods
- ▶ engaging the **COMMUNITY** (customers) to support participating retailers and increase neighbourhood access to healthy foods

Shop Healthy NYC developed an implementation guide¹⁹ for individuals or community groups interested in working with local food retailers (i.e. corner stores, supermarkets, farmers' markets, mobile fruit and vegetable vendors) to increase healthy offerings, like fresh fruits and vegetables, 100% whole wheat bread and low-salt canned goods.



NYC Department of Health and Mental Hygiene

An evaluation of Shop Healthy NYC – implemented in Bronx neighbourhoods – found the following results across 170 participating bodegas (convenience stores) and supermarkets:

- ▶ Advertising (ads) for sugary drinks decreased from 85% to 52%
- ▶ Advertising for water increased from 3% to 12%
- ▶ The ratio of unhealthy to healthy ads shifted from 11:1 to 1:1
- ▶ Stores advertising healthy options (i.e. snacks with limited calories, fat, salt and sugar) increased from 42% to 90%
- ▶ 75% displayed low-calorie refrigerated drinks and water at eye level (compared with 45% at baseline)
- ▶ 64% of customers who saw any Shop Healthy NYC materials said the materials made them consider purchasing the healthier option advertised, with 49% ultimately purchasing the healthier advertised product

Write to decision makers

A well-written letter to decision makers or political leaders is a good way of addressing the need for policy change and presenting your arguments. Be respectful, clear and concise when you introduce yourself and your position, as well as your call to action.

Dear [formal title and name],

As a dentist and member of the [name of your National Dental Association], I am writing to urge you to take action to reduce sugar consumption to curb the epidemic of dental caries in children and adults in our community.

Sugar is a leading risk factor for dental caries. Its consumption has a direct impact on oral health and there is increasing concern that high intake of sugars – particularly in the form of sugar-sweetened beverages – may lead to an unhealthy diet, weight gain and increased risk of noncommunicable diseases. Yet, we consume more sugar today than we ever did before and the numbers are expected to continue to grow unless we act immediately.

The fact is that dental caries is the most common chronic disease in the world – due to exposure to sugar and other risks – and is a major public health challenge with significant impacts on our people, health system and economy. It is an impairing disease affecting quality of life, causing pain, anxiety, functional limitation, and social handicap. Dental caries also leads to a significant number of missed school and work days and is extremely costly if left untreated.

In our country, [% according to available country data] of our population suffers from dental caries. Urgent action is needed from our nation's leaders, like yourself, to prevent the spread of this largely preventable disease. I therefore ask you to consider population-wide strategies and policies that will reduce sugar consumption. Our country needs preventive interventions that will promote a healthy diet (low in sugar), enforce higher taxation on sugar-rich foods and beverages, ensure transparent food labelling, and limit marketing and availability of high sugar products to children and teenagers.

It has been proven that a nation's objectives are best achieved when governments include health and well-being as a key component of policy development for all sectors. The same applies to oral health as introducing sustainable sugar-reduction policies that will lower the prevalence of dental caries will also provide health benefits for other noncommunicable diseases affected by this common risk factor, such as cardiovascular disease, cancer and diabetes.

I hope that you will use your voice as an elected official and echo the public's call for leadership on this important issue. By advocating for critical sugar-reduction policies, you will help secure a healthier future for our children to live free of dental caries throughout their life-course. The oral health community remains at your service to provide any necessary support, data or scientific evidence that you may need to help in your endeavours to optimize the health of our communities.

Thank you for your continued service to the people of [your city/your country].

I look forward to your response.

Sincerely,

[Your signature]

[Your name]

[Your address]

[Your phone number]

Send out a press release

A press release will give your issue much needed media exposure. To ensure the best pitch for journalists, remember to include the most newsworthy information in your opening statement – answering the five basic questions in newswriting: who, what, when, where and why? Keep it brief and try to include a quote from a relevant stakeholder for added value.

Press Release

[Name of your National Dental Association] calls on government to support sugar-reduction policies that will decrease prevalence of dental caries

[Place, date] – The Minister of Health, [name], will meet in [place] on [date] with [name of your National Dental Association] to discuss potential policies to reduce sugar intake in children and adults and hence the risk of developing dental caries. The purpose of the meeting is to advise government in formulating population-wide strategies that will help in the fight against dental caries and noncommunicable diseases.

“[Name of your National Dental Association] aims to be of service to our political leaders”, said [name], President of [name of your National Dental Association]. “Together, we hope to find the most effective pathways to engage in risk factor prevention and address the major public health challenge that is dental caries for the benefit of our community, health system and economy.”

Dental caries, which is mainly caused by sugar, affects [% according to available country data] of the nation’s population. Globally, it is the most common chronic disease and affects more than 3 million people. It has an impact on quality of life, causing pain, anxiety, functional limitation, and social handicap. Dental caries also leads to a significant number of missed school and work days and is extremely costly if left untreated, consuming [% according to available country data] of the nation’s healthcare budget.

Sugar consumption has a direct impact on oral health and there is increasing concern that high intake of sugars – particularly in the form of sugar-sweetened beverages – may lead to an unhealthy diet, weight gain and increased risk of noncommunicable diseases. However, worldwide sugar consumption has tripled over the past 50 years, an increase which is expected to grow – particularly in emerging economies.

“Our country needs preventive interventions that will promote a healthy diet, particularly low in sugar, for better oral health for our children and future generations,” said [Last name of your National Dental Association’s President]. “Sustainable sugar-reduction policies will not only lower the prevalence of dental caries, but will also provide health benefits for other noncommunicable diseases affected by sugar, such as diabetes, obesity and cardiovascular disease.”

Other policy recommendations listed in the meeting’s agenda include higher taxation on sugar-rich foods and beverages, transparent food labelling, and limited marketing and availability of high sugar products to children and teenagers. Policy talks on sugar reduction in [your country] follow 2015’s publication of the World Health Organization’s guidelines on sugars intake and FDI World Dental Federation’s policy statement on dietary free sugars and dental caries. The guidelines on sugar recommend limiting intake to less than 10% of total daily energy intake (50 g = 12.5 tsp) and restricting to less than 5% (25 g = 6 tsp) for additional health benefits in the form of reduced dental caries.

For further information, contact:

[Your name]

[Name of your National Dental Association]

[Your phone number] [Your email address]

About [name of your National Dental Association]

[Brief summary about your association’s mission]

Secure an op-ed for a newspaper

Writing an opinion piece for a local newspaper, rather than a press release, is an alternative to address the reader in a more conversational way. The author should be an authoritative voice in the subject, with demonstrated expertise. The text should stay on topic and should include a strong headline and introduction to instantly captivate the audience.

Our children deserve to grow up with healthier smiles

By [Name of your National Dental Association]

Dental caries is a major public health problem in [your country], affecting [% according to available country data] of our country's population. What is more alarming, is the number of children suffering from this preventable disease. A shameful [% according to available country data] of [your country's nationality] boys and girls have dental caries. That is [% rate (i.e. one in five)] children who we must admit failure to.

Where did we go wrong? We knew that the disease prevalence was increasing. We knew that the main cause of the disease was sugar, which incidentally also increases risk for other noncommunicable diseases like cancer, diabetes and heart disease. We knew that our children needed to eat less sugar to prevent dental caries. Yet, we failed to secure the healthy future they deserve.

Could we have acted differently? Absolutely. Promoting a healthy diet (low in sugar) for the health and well-being of our children and future generations is our

duty as parents, educators, policy makers, and concerned members of our community. If we want to reverse the epidemic of dental caries impacting our children's lives, we need action at the highest level. If we are going after a powerful risk factor, we need to be uncompromising in our demands and call for policy change that will sustainably curb the disease.

Let's demand for transparent nutrition labelling in the foods and drinks served to our children – in all environments. From supermarkets and restaurants to day cares and schools. Healthy eating habits start early. So let's ensure that our children's meals and snacks outside their homes are not high in sugar and empty calories. Let's ensure that they don't consume more than the recommended 30 g of sugar a day; or don't consume sugar more than four times a day. All of which would put them at increased risk of dental caries.

It will take committed and community-wide efforts to

protect the oral health and general health of our children. We need nutrition standards to be enforced by the retail and educational sectors. We need school officials and food manufacturers to promote healthy choices for children, but we also need to help them stay healthy by encouraging them to consume less sugar.

As parents, we need to reduce the amount of sugar-sweetened beverages our children drink and introduce more fruits and vegetables in their daily diet. Most importantly, we need to set an example ourselves for our boys and girls by eating healthy every day – limiting sugar to less than 10% of our total daily energy intake (50 g = 12 tsp).

We owe it to them. Our children deserve to grow up with healthier smiles along with the best possible oral and general health, and while there may be barriers to achieving our set goals, we are in full capacity to give this to them. So let's get started.

Social media tips

Social media has become a powerful channel of mass communication that can quickly increase the reach of your message. It is low-cost, interactive, influential, and an absolute 'must' for any advocacy campaign.

Facebook

- ▶ **Promote a post** including an infographic and the link to the practical guide.
- ▶ **Include the designated #NoSugarNoCaries in all posts** to properly track and harmonize our messages.
- ▶ **Encourage those in your online networks to share your posts** to maximize the reach of your messages.
- ▶ **Share posts** of others relevant to the campaign (i.e. FDI, National Dental Associations, oral health professionals, healthcare practitioners).
- ▶ **Tag relevant groups in your posts** to maximize reach of messages (i.e. health organizations, NCD alliances, NGOs).
- ▶ **Use sample promoted post:**

How much sugar is too much and how does it affect your teeth? We call on our politicians and decision makers to implement population-wide strategies that will reduce sugar intake to finally curb the epidemic of dental caries #NoSugarNoCaries.

Share if you are also an oral health advocate <http://bit.ly/SugarsCaries>

Twitter

- ▶ **Include the designated #NoSugarNoCaries in all tweets** to properly track and harmonize our messages. You may also want to include relevant hashtags as you deem fit (i.e. #sugar #sugartax #sugarlevy #dental #dentalcaries).
- ▶ **Use less than the allocated 140 characters** to allow room for others to retweet you or mention you.
- ▶ **Retweet meaningful messages** of others relevant to the campaign (i.e. public health, media, influential followers).
- ▶ **Mention key stakeholders in your tweets** to include them in the conversation (i.e. decision makers, government, food industry).
- ▶ **Create a poll** for a truly 'social' experience (i.e. Q: 'What is the recommended limit of sugar intake in one day?' A: 'Less than 50% of total energy, Less than 20% of total energy, Less than 10% of total energy, Unlimited').
- ▶ **Use images, photos and infographics** (with the appropriate permission) for added value.
- ▶ **Encourage colleagues and friends** who use social media to share messages with their respective networks.

► Use sample tweets:

1. How much #sugar is too much? Find out in @worldentalfed's new practical guide on sugar and #DentalCaries <http://bit.ly/SugarsCaries>

2. We call on governments to support #sugar-reduction policies to prevent #DentalCaries #NoSugarNoCaries <http://bit.ly/SugarsCaries>

3. Can reducing #sugar help you prevent #DentalCaries? The answer is 100% yes! #NoSugarNoCaries <http://bit.ly/SugarsCaries>

4. Can you name the main cause of #DentalCaries? Hint: It's pretty sweet #NoSugarNoCaries @worldentalfed <http://bit.ly/SugarsCaries>

5. Reduce #sugar consumption for a life free of #DentalCaries #NoSugarNoCaries @FDIworldentalfed <http://bit.ly/SugarsCaries>



Infographics

Infographics capture key information you want to communicate in a clear, brief, and visually appealing way. They tend to highlight strong facts and figures to leave a long-lasting impression on your audiences and are particularly easy to share on social media.

The infographic on the following page is an example of how to display key information. Use it in your advocacy and awareness efforts by reproducing it in your publications and sharing in your social networks.



SUGARS

Free sugars are the primary factor responsible for the development of dental caries.

AVOID CONSUMING MORE THAN



teenagers & adults

60 g per day

increases rate of dental caries in **teenagers** and **adults**

pre-school & young children

30 g per day

increases rate of dental caries in **pre-school** and **young children**

all ages

4x per day

DRINKING ONE CAN OF 355 ML PER DAY



= **35 g** of **sugar** in one can

= **6.5 kg** of **weight gain** in one year

= **22%** higher risk of developing **Type 2 Diabetes**

EXCESSIVE CONSUMPTION OF SUGARS

increases probability of



oral disease



cardiovascular disease



cancer



diabetes

Monitoring and Evaluation

→ Lessons learned

Lessons learned

Following all the hard work you put into your advocacy campaign, it is important to monitor and evaluate your reach and impact. Even a simple assessment can generate valuable recommendations for the future. Take some time to write down what you learned from this experience and measure your efforts.

Ask yourself:

- ▶ What was effective and what was not?
- ▶ Did you reach your target audience?
- ▶ Were your key messages widely distributed?
- ▶ Did you achieve any of your objectives?
- ▶ Were your communication channels the most effective for your needs?

It can be difficult to measure reach and impact, due to limited resources, but it is possible. Look back at the meetings, activities and events that you organized. Were they well attended? What sectors did people come from? Did people engage as you expected?

For media coverage, track the number of targeted news outlets that picked up your story and any other sugar-related stories in the same period of time. Libraries are often the best option to access previous editions of daily newspapers. Establish a list of keywords (i.e. sugar, sugar tax, dental caries, tooth decay, etc.) to facilitate your broader search. If access to the paper trail is not possible, carry out an online search with the same keywords and period of time. There are also some cost-effective media monitoring tools available on the market to help you measure the impact and coverage of your press release.

For social media monitoring, use Facebook insights to record your reach and engagement (i.e. number of likes, shares and people you reached with your posts). Then use Twitter analytics to track the number of impressions you got from your tweets and retweets.

If resources allow, sending out opinion surveys to the general public are useful ways of measuring the effectiveness of your education campaign.

Finally, follow up with your local representatives from the different sectors you contacted (government, food industry, retail outlets, educational and medical institutions) to check if and what changes were implemented following your advocacy efforts. Get a timeline of implementation and carry on the good work.

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