

Healthier food and healthier food environments at sports events

An action guide for
sports event organizers



World Health
Organization

وزارة الصحة العامة
Ministry of Public Health
دولة قطر • State of Qatar



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Foreword

Foreword by Dr Li Ailan, Assistant Director-General, World Health Organization

Championing healthy food environments at sports events

Sports and health go hand in hand. A healthy diet plays a vital part in helping people enjoy sports and healthy lives. At the same time, sports events can be powerful opportunities for promoting healthy eating. Sports mega-events in particular have high visibility, reaching billions of fans worldwide.

In 2022, as part of a unique global partnership to promote health, the World Health Organization (WHO) collaborated with the Ministry of Public Health, Qatar and the Fédération internationale de football association (FIFA) to champion a healthier food offer in stadia during FIFA World Cup Qatar 2022™. The collaboration ensured that more than 30% of the menu items served at this momentous event had a healthy nutritional profile in line with WHO standards.

This action guide builds on this successful experience of collaboration and legates to future sport events a powerful model to fight against overweight and obesity and diet-related noncommunicable disease.

The document aims to inspire action towards improving population health and well-being, and to redefine the role that sports events can have in this endeavour. It builds on WHO technical expertise in supporting public food procurement and service policies for a healthy diet and nudges to promote healthy eating in other public settings.

With their immense reach, sports mega-events can positively influence the nutrition and health behaviour of a global audience. There is a growing demand for healthier food options in stadia, and this publication provides a tool to support sports event organizers who want to replicate this experience and who see the value of meeting fans' increasing expectation of healthier food.

Join us in the vision of a world where everywhere, every sports event embraces the new norm of healthier food promoted, served, and consumed by fans, leveraging the power of sports to promote health.

I thank the partners for their collaboration.



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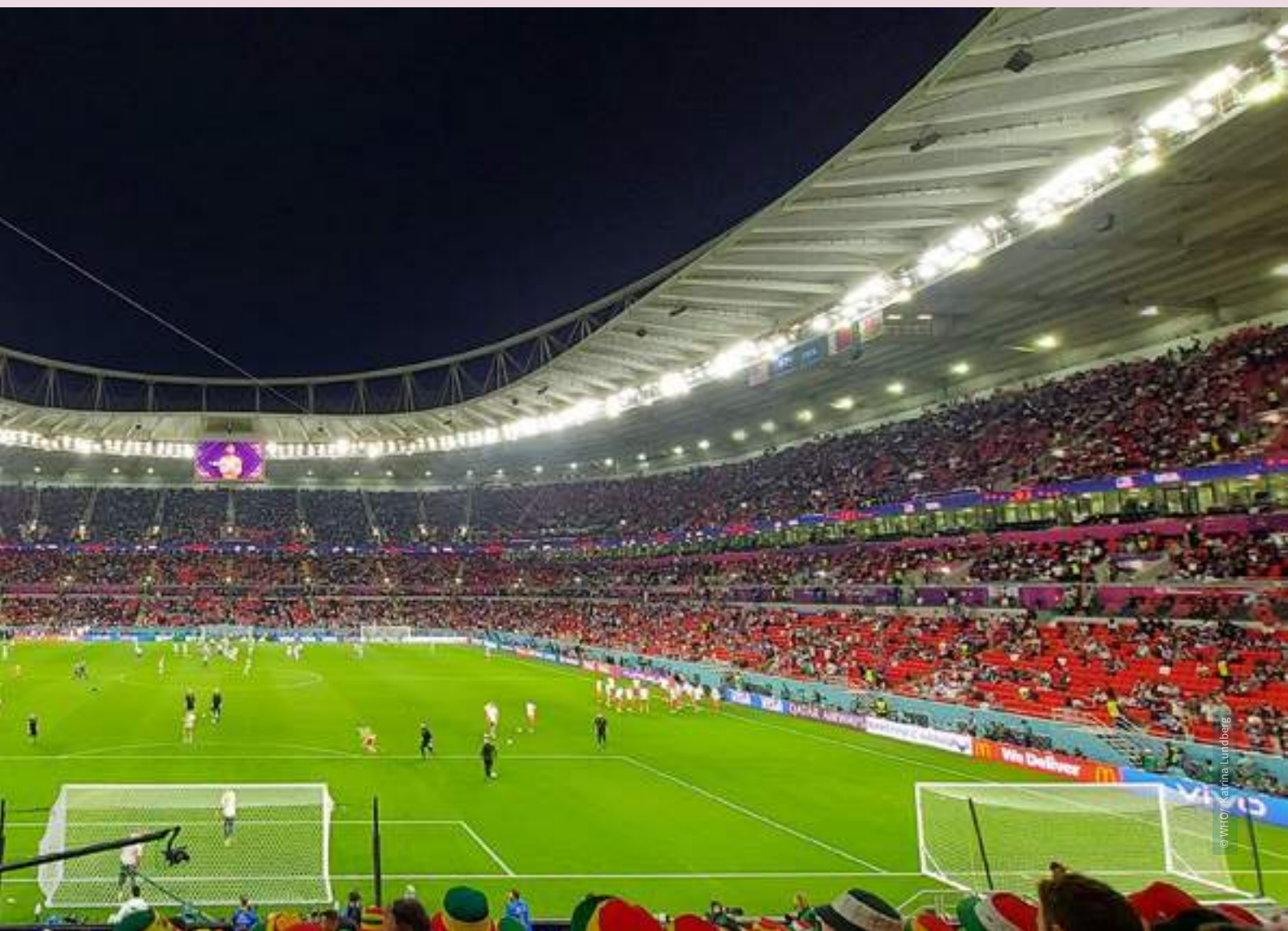
The preparation of this action guide was led by Ms Kaia Engesveen, with technical contributions from Ms Katrina Lundberg and coordination by Dr Luz Maria De-Regil, Multisectoral Action in Food Systems Unit, Department of Nutrition and Food Safety, World Health Organization (WHO). Ms Elena Altieri (Behavioural Insights Unit of WHO) and Dr Hannah Ensaff (University of Leeds, United Kingdom and consultant to WHO) led the sections on nudging healthier menu options and provided comments on the manuscript.

Mrs Hatoun Saeb (Ministry of Public Health, Qatar) provided comments on the manuscript throughout the conceptualization. WHO is grateful to the different teams on the ground who supported the design, implementation and monitoring of healthier food and healthier food environments during the FIFA World Cup 2022™ in Qatar. Some examples of that work are featured as examples in this guide.

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Abbreviations

FIFA Fédération internationale de football association

PAHO Pan American Health Organization

SDGs Sustainable Development Goals

WHO World Health Organization



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Executive summary

Healthy, safe and sustainable diets are important for both human and planetary health, and sports events ought to be an ideal setting to model and promote healthy eating as part of a healthy lifestyle. Yet, even with the best of intentions, foods and beverages high in fats, sugars or salt are typically abundant in and around stadia during large and small sports events. They are often consumed in excess by fans on match days, and are also frequently associated with sports-related marketing and sponsorships.

The foods and beverages consumed at sports events may contribute little to an individual's overall diet, but the total number of meals, snacks and beverages sold can be substantial. Within such environments, providing a variety of healthy, delicious and easy-to-consume foods while supplying fewer options or smaller portions of unhealthy options can contribute to health, wellness and the prevention of diet-related noncommunicable disease. Sports mega-events that reach billions of fans worldwide offer valuable opportunities for creating positive perceptions of healthier foods and beverages at stadia and beyond.

This document – intended for use by sports event organizers – proposes five actions to achieve healthier food and healthier food environments at the different types of food and beverage sales points in and around sports stadia and beyond:

- Action 1: improving the food offer
- Action 2: setting prices to incentivize healthier food choices
- Action 3: nudging to promote healthier food choices
- Action 4: communicating and promoting healthier food and healthy diets
- Action 5: restricting marketing of foods and beverages high in fats, sugars or salt.

Implementation of these actions requires nutrition criteria for what constitutes healthier food and beverage options at sports events.

This action guide suggests activities that can be carried out during the planning, operational and post-event phases of sports events. It may also be used by governments, local authorities and sports stadia managers to create healthy public food procurement and service policies for sport settings more generally. It has a strong focus on the planning phase because planning is critical to ensure that the health concept is fully incorporated into food and beverage concessions. It does not aim to describe how to run food and beverage concessions, but rather focuses on how to incorporate a focus on healthier food and healthier food environments into event plans.

The guide draws on the Action framework for developing and implementing public food procurement and service policies for a healthy diet in different settings, and features a few examples of how this was applied during the FIFA World Cup Qatar 2022™. The steering committee of the Healthy 2022 World Cup project – a collaboration between WHO, the State of Qatar and FIFA to deliver a healthier World Cup – was instrumental in setting, implementing and documenting a target of 30% healthier food offer at the World Cup.

Foods and beverages are an essential part of the fan experience. Despite perceptions that fans prefer foods and beverages high in fats, sugars or salt at sports events as part of celebrating their team, there are increasingly reports that fans want greater access to a variety of healthier food at competitive prices.

It may not be easy to quickly or simultaneously implement all the five actions to reach a situation in which all food and the food environment are healthier. Fortunately, few sports events or stadia start off with only unhealthy food and unhealthy food environments, so there is always something to build from. The journey towards the ideal situation will take a different path in each context; there is no one 'right' trajectory.

Ultimately, sports event organizers have an immense opportunity to be a driving force for healthier food at sports events. Doing so could be a win-win by providing greater fan satisfaction and meeting a social responsibility to promote healthy lifestyles.



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Introduction

Why should there be healthier food and healthier food environments at sports events?

Healthy, safe and sustainable diets are important for both human and planetary health, and sports events ought to be ideal settings to model and promote healthy eating as part of a healthy lifestyle. Yet, even with the best of intentions, foods and beverages high in fats, sugars or salt are typically abundant in and around stadia during large and small sports events, often consumed in excess by fans on match days, and are frequently associated with sports-related marketing and sponsorships (1-17). There is growing attention on the commercial determinants of health as they relate to sports sponsorships, questioning the justifiability and impact of unhealthy sponsorships (18).

The foods and beverages consumed at sports events may contribute little to an individual's overall diet, but the total number of meals, snacks and beverages sold can be substantial. Providing a variety of healthy, delicious and easy-to-consume food while providing fewer options and smaller portions of unhealthy options within these environments can contribute to health, wellness and the prevention of diet-related noncommunicable disease. Likewise, the high visibility of sports mega-events, in particular, offers valuable opportunities for potentially larger impact reaching billions of fans worldwide, creating positive perceptions of healthier foods and beverages at the stadia and beyond.

Food and beverages are essential parts of the fan experience and are associated with the quality of the experience (19). Although there might be a notion of fans wanting certain foods and beverages typically high in fats, sugars or salt at sports events as part of celebrating their team (16), there are reports that fans increasingly want greater access to a variety of healthier food at competitive prices (4, 7, 10, 20). Understanding and managing fan satisfaction will help sport organizers better align with fans' expectations and needs, which in turn may impact food sales, event attendance and intentions to return. Moreover, there are also reports of demands for healthier sports-related marketing and sponsorships, because sports events reach out to global audiences, many of whom are children under 18 years of age (21).

Sports event organizers have an opportunity to be the driving force for healthier food at sports events. Doing so could be a win in terms of greater fan satisfaction and of meeting a social responsibility to promote healthy lifestyles (22). It may also have a direct impact on those working in stadia throughout the year with concomitant benefits to their productivity, and the wider community within the stadium vicinity (23).

Studies have shown that action can be taken to achieve healthier food and healthier food environments at sports events in stadia and community sport centres (3, 9, 16, 18, 24-26). This can increase sales of healthier menu options and be profitable business (24, 27).

What is meant by healthier food and healthier food environments?

Healthier food refers to foods and beverages that contain less fats, sugars, or salt per portion than other similar foods which contain higher amounts of these critical nutrients. They therefore contribute towards a healthy diet. The exact make-up of a diversified, balanced, and healthy diet depends on the individual (e.g. age, sex, lifestyle, degree of physical activity), cultural context, locally available food and dietary customs in countries and among population groups. However, the **core principles of healthy diets** listed in Box 1 are applicable across all settings and contexts (28-30).

Healthier food at sports events means that more menu options – that is, the meals, snacks and beverages served or sold in and around stadia – meet the agreed criteria of healthier food and thus promote healthy diets. Ideally, the proportion of healthier food exceeds that of menu options that contribute to unhealthy diets.

Food environments generally refer to the physical and economic conditions that shape people's dietary preferences and choices. Healthier food environments enable people to adopt and maintain healthy dietary practices. In such environments, healthier foods and beverages are abundant and are the easier, more strongly encouraged and less-expensive choice. By implementing a series of game-changing food system actions addressing food supply chains and food environments, countries can choose to promote healthy diets (31). These actions complement each other and focus on improving the nutritional quality of food along the food supply chain and creating healthier food environments. These actions include food reformulation, nutrition labelling, marketing restrictions, healthy public food procurement and service, targeted food taxes and subsidies, food fortification, food safety, and nudges for healthier food choices.

Healthier food environments at sports events means that the physical, virtual and economic environment enables fans to make healthier food choices in and around stadia¹. In such environments, the healthier menu options are the easier and more affordable choices. Furthermore, communication is aligned with the objective of promoting healthier food and healthy diets, and there is simultaneously no marketing, including sponsorships, of foods and beverages that contribute to unhealthy diets.

Some terms used in this document

- **Foods and beverages** denote food and non-alcoholic beverages, in other words all the meals, snacks and beverages – or **menu options** – served or sold in and around stadia.
- **Healthier food** means foods and beverages that contribute to healthy diets. They contain limited amounts of fats (especially unhealthy fats), sugars, and salt, they are not excessively high in energy (calories), and they include recommended food groups such as fruits and vegetables, whole grains, nuts and legumes.
- **Food high in fats, sugars or salt** is the term used for foods and beverages that do not contribute to healthy diets, and their intake should be limited. High in fats includes high in total fat and/or in unhealthy fats such as saturated or trans fats.
- **Food and beverage sales points** refer to all places in and around the stadia where foods and beverages are sold – for example, concession stands, cafes and restaurants, mobile food vendors and hawkers, in-seat ordering and vending machines. These can be run by concessionaires contracted by the sports event organizer; independent food vendors may also operate on the perimeter of the event.
- **Healthier food and food environments initiative** refers to the ensemble of actions taken to ensure the provision of healthier food and healthier food environments at sports events.

Box 1. Core principles of healthy diets

- Balance energy intake with energy expenditure.
- Limit the intake of free sugars.
- Shift fat consumption away from saturated fats to unsaturated fats and eliminate industrially produced trans fats.
- Limit sodium consumption and ensure that salt is iodized.
- Increase consumption of whole grains, vegetables, fruits, nuts and pulses.
- Ensure the availability of free, safe drinking-water.

¹ Sport stadia refers to any arena or venue, indoor or outdoor, where a sports event is held and fans can gather – for example, a football stadium, a tennis court arena, a baseball park, cross country ski trail, or a golf course.

How was this action guide conceived and developed?

This action guide was developed as part of the legacy component of the Healthy 2022 World Cup project – a collaboration between the World Health Organization (WHO), the State of Qatar and the Fédération internationale de football association (FIFA) to deliver a healthier World Cup. The collaboration ensured that more than 30% of the menu items served at this momentous event had a healthy nutritional profile in line with WHO standards, that these healthier menu items were made the easiest and attractive choices using behavioral insights techniques, and that healthy eating was communicated to fans through media channels. The action guide was conceived after identifying a need for specific and actionable guidance for sports event organizers about *what* to do and *how* to go about it to ensure the provision of healthier food and healthier food environments during sports events. Previous sports mega-events have also taken steps to include health considerations to their food and beverage policies. For example, an assessment of European stadia in 2011 found that 16 out of 88 stadia surveyed had developed a healthy eating policy (2). However, a lack of clear commitments and specific objectives for healthier foods and beverages as well as challenges with respect to conflicting interests, limited the success of such initiatives (5, 17).

This guide primarily draws on WHO guidelines and guidance for healthier food and healthier food environments; specifically, the *Action framework for developing and implementing public food procurement and service policies for a healthy diet* in different settings (32). It proposes five actions to achieve healthier food and healthier food environments and suggests related activities during the planning, operational and post-event phases of sports events. The process is broken down into tangible and adaptable steps that can be applied in the sports context.

Throughout, it aims to provide recent examples of what sports event organizers have done to provide healthier food and healthier food environments. Most of the showcased examples were part of the FIFA–Qatar–WHO partnership at the recent Healthy FIFA World Cup Qatar 2022™ project, which aimed to set the World Cup as a benchmark to be copied when planning and implementing impactful, sustainable, and health-promoting sports mega-events (33). Other examples of similar experiences were sought in the published literature. However, documentation and research on the development, implementation and effect of initiatives for healthier food and healthier food environments in international sports events is scarce, with most evidence being from community sports centres. When studies have examined the food and food environments in sports mega-event settings, they have tended to use observational methodologies, focusing on documenting the abundance of unhealthy food and unhealthy food environments and advocating for better guidance for and implementation of healthy food initiatives. Therefore, as noted on pages 28–29 and 31–32, future similar projects should invest in monitoring, evaluating and sharing the experience, thereby contributing to the knowledge base in this area.

Who may use this action guide document and for what purposes?

This action guide is intended for use by sports event organizers who wish to take the initiative to ensure healthier food and healthier food environments in and around stadia. These sports events may range from sports mega-events such as the FIFA World Cup and the Olympic Games (which attract audiences of billions globally) to national or local tournaments or leagues. Similar considerations may apply to events at community sports centres; this is briefly explored on page 34. Few sports events or stadia start off with only unhealthy food and unhealthy food environments – but they will not necessarily be able to quickly reach a situation in which all food and food environments are healthier. Sports event organizers can, however, take concrete steps towards continuous improvement.

The action guide may also be used by governments, local authorities and sports stadia managers to create a healthy public food procurement and service policy for sport settings more generally (32). It focuses primarily on achieving healthier food and healthier food environments at sports events but may be adapted to include criteria beyond healthier food, such as sustainability, or for the use at other non-sports events.

What is this action guide and what is it not?

- **This action guide aims to describe what to do and how to go about ensuring a healthier food offer and healthier food environments during sports events.**
- **It does not aim to describe how to run food and beverage concessions, nor does it prescribe specific suggestions for individual contexts.**

What:

Actions for healthier food and healthier food environments at sports events

This section describes what actions to take to create healthier food and healthier food environments at sports events. Five actions are proposed and include:

- Action 1: improving the food offer
- Action 2: setting prices to incentivize healthier food choices
- Action 3: nudging to promote healthier food choices
- Action 4: communicating and promoting healthier food and healthy diets
- Action 5: restricting marketing of foods and beverages high in fats, sugars or salt.

Implementation of these actions requires a definition of what constitutes healthier food – that is, setting nutrition criteria for what constitutes healthier food and beverage options at sports events.

Combining these types of actions has proven effective in sports settings and is also being employed by food outlets and restaurants to promote healthier eating (24, 34-37). Targeting several components – including the food product, price, promotions and place – more strongly encourages changes in customer purchasing behaviour (38, 39). Thus, complementary policies that promote shifts in food environments and consumer behaviour towards healthy eating patterns are critical (40, 41).

Food services at sports events operate in relatively closed environments where the only foods and beverages available to attending fans are those sold at various types of food and beverage sales points in and around sports stadia. These points may include concession stands within a stadium, mobile food hawkers in and around the stadium, in-seat ordering via an app, food trucks near the perimeter of the stadium, and fan zones outside the stadium. Fig. 1 shows several examples of food and beverage sales points available to fans at sports events. In addition, food and beverage sales and service may take place in VIP and media lounges, and the sports event organizer may be responsible for full boarding canteens in the athletes' villages.

Setting nutrition criteria for healthier food and beverage options at sports events

None of the five proposed actions can be taken forward without a common understanding of, and agreement on, what is meant by “healthier food”. The operationalization of actions and activities under the healthier food and healthier food environments initiative relies on having specific, evidence-based nutrition criteria. Only then can food and beverage options that are more likely to be part of a healthy diet (Box 1) be objectively separated from those that are not. A simple statement that the food offer must contribute to a healthy event is vague and leaves the judgement at the discretion of each concessionaire (5). Menu options should be assessed using specific criteria rather than relying on such perceptions. For example, vegetarian food is commonly perceived as healthier – in fact, it is often but not always a healthier option. Criteria can be nutrient- or food-based or include other specifications for food preparation or service (32).

- **Nutrient-based criteria** are based on nutrient content in a food category – for example, a maximum permissible amount of sodium in a serving of food. The thresholds for specific nutrients may vary for different food categories. The assessment of nutrient-based criteria requires quantified information on the nutrient content of menu options. This can be derived from detailed information about the recipes, ingredients and their nutrient content (usually using food nutrient databases), from which the nutrient content in the menu option can be estimated. The WHO regional nutrient profile models described in Box 2 provide nutrient thresholds for food categories based on the WHO guidelines for healthy diets (28).

For example, healthier menu options shall have energy content ≤ 225 kcal/100 g, total fat ≤ 8 g/100 g, saturated fat ≤ 3.5 g/100 g, trans fat ≤ 1 g/100 g, total fat and ≤ 0.5 g per serving, total sugars ≤ 9 g/100 g and sodium ≤ 350 mg/100 g.

- **Food-based criteria** are based on defined food categories – for example, minimum serves of fruits, vegetables or whole-grain cereals, and encouraging safe water for drinking. Such criteria could also include prohibition on serving sugar-sweetened beverages² or other food items that typically are high in fats, sugars or salt, such as confectionary or chips. The assessment of food-based criteria most often, but not always, requires quantified information on the recipes and ingredients to confirm

² Examples include carbonated or non-carbonated soft drinks, fruit/vegetable juices and drinks, liquid and powder concentrates, flavoured water, energy and sports drinks, ready-to-drink tea, ready-to-drink coffee and flavoured milk drinks.

that the minimum required amount of the food category is met. Examples of food to be promoted may be found in national or regional food-based dietary guidelines or the WHO five keys to a healthy diet, which provide food-based guidance for achieving healthy diets (42).

For example, healthier menu options shall have at least 80 g fruit or vegetable per serving or at least 30% of total weight from the recommended food groups whole grains, vegetables, fruits, nuts and pulses.

- **Other nutrition-related criteria** for the preparation or service of food give further instruction on how food should be prepared or offered for sale to promote healthy diets. Examples include criteria related to cooking methods (e.g. prohibiting deep-frying) or portion and package sizes (to limit the overconsumption of energy and of nutrients of concern such as sugars and salt).

For example, healthier menu options shall have a maximum energy content of 700 kcal for meals and of 200 kcal for snacks, and salt and other condiments should not be placed on the counters but only be provided on demand.

The nutrition criteria for healthier food can be formulated using a single threshold, creating two categories – ‘healthier’ and ‘other’ – or they can be tiered, such that several thresholds create more than two categories. Examples of tiered criteria are traffic light systems for menu labelling and rules for foods and beverages at the sales points based on categories of ‘do not sell’, ‘minimum’, ‘moderate’ and ‘maximum’ (43, 44).

Box 3 describes the nutrition criteria for healthier menu options and the rationales that were used at the FIFA World Cup 2022 in Qatar. Other examples of nutrition criteria exist from community sport and recreation centres and restaurant chains, which could be used for foods and beverages offered or marketed during sports events (26, 53, 54).

Box 2. WHO regional nutrient profile models

In 2015 the WHO European Region published its nutrient profile model. The model enables countries to take a common approach to identifying food that should be prohibited from being marketed such that children are exposed to it (45). A second edition was published in 2023 (46). Such models have also been developed in other regions, and are tailored to the context of each geographical region (47-51).

In five of the six WHO regions, these models were developed as tools to help implement the *Set of recommendations on marketing of food and non-alcoholic beverages to children* (52). They follow the same structure and provide specific nutrient thresholds per 100 g (or 100 mL) product for different food categories, as well as cross-category thresholds for trans fats, non-sugar sweeteners and alcohol.

In the WHO Region of the Americas, the Pan American Health Organization (PAHO) nutrient profile model was designed to identify foods and beverages with high energy content and poor nutritional value for multiple applications, such as marketing restrictions, front-of-package labelling, fiscal policies and school food service (51). The PAHO model sets specific caps for nutrient per energy content in all categories across processed and “ultra-processed” food products.

Annex 1 provides a summary of nutrient thresholds in the WHO regional nutrient profile models for selected food categories typically available in stadia.

Figure 1. Food and beverage sales points at sports events



Box 3. Example from the FIFA World Cup 2022: Criteria for healthier food

The criteria applied to identify healthier menu options to be made available and nudged at the at the FIFA World Cup 2022 in Qatar included a combination of nutrient-, and food-based criteria as well as criteria for energy content of meals and snacks. These were based on the WHO guidance on healthy diets (Box 1) and regional nutrient profile models (Box 2). They also considered existing Qatar guidance for healthy food in various settings.^{1,2} The criteria for healthier food at the FIFA World Cup 2022 were developed to:

- promote a balanced energy intake to prevent overweight or obesity;
- promote increased consumption of recommended food groups, such as fruits and vegetables, whole grains and nuts and legumes, and of water for drinking; and
- limit the intake of fats, sugars and salt through a healthier nutrient profile.

Balanced energy intake

The thresholds of the assessment criteria were set to prevent excessive energy intake.

There is no WHO guidance on energy content per meal, but WHO recommends limiting portion and package size to reduce energy intake and thus the risk of becoming overweight or obese (55). While daily energy requirements depend on individual factors such as age and activity levels, a reference daily energy intake for the general population is typically set at 2000 kcal covering all meals and snacks (56, 57). From this, the maximum energy content was set at 700 kcal for meals and at 200 kcal for snacks. The FIFA World Cup 2022 menu included both small meals (e.g. burgers, sandwiches) and snacks (e.g. vegetable crudites). This was in line with Qatari guidance for healthy food in school settings, which also uses 200 kcal as the recommended energy amount per serving for ready-made snacks.

Increased consumption of encouraged food groups

WHO recommends the consumption of fruits and vegetables, whole grains, nuts and legumes, as well as water for drinking (28). For fruits and vegetables, a daily intake of at least 400 g (i.e. five portions) is recommended. WHO also recommends the use of iodized salt (58). This was considered in agreement with the Qatari food-based dietary guidelines and guidance for healthy food in health facilities and in school settings which also recommend these food groups.

Therefore, the thresholds of the assessment criteria were set to ensure that a menu option constituted one of the five recommended daily portions of fruits and vegetables (at least 80 g) or contained significant amount of ingredients from the recommended food groups (at least 30% of total weight from the recommended food groups). In addition, all salt used in recipes and for discretionary use should be iodized.

Healthier nutrient profile

WHO recommends limiting the intake of unhealthy fats, sugars and salt (28). Each of the six WHO regions have developed nutrient profile models to identify foods and beverages using thresholds for the content of these nutrients (Box 2). This was also considered to be in line with Qatari food-based dietary guidelines for healthy food in health facilities and guidance for food in schools using similar nutrient-based thresholds.

From this, the thresholds for the assessment criteria were set to ensure that menu options had a healthier nutrient profile, with an energy content ≤ 225 kcal/100 g, total fat ≤ 8 g/100 g, saturated fat ≤ 3.5 g/100 g, trans fat ≤ 1 g/100 g, total fat and ≤ 0.5 g per serving, total sugars ≤ 9 g/100 g and sodium ≤ 350 mg/100 g. These criteria met the strictest thresholds for energy, fats, sugars and salt in ready-made and convenience foods and composite dishes as set by weight (per 100 g) of the five WHO regional nutrient profile models (46-50).

1. Qatar guidance for supervisors of school canteens for the academic year 2018–2019 (59)
2. Qatar food and beverage guidelines for cafeterias and vending machines (60)

Action 1: Improving the food offer

Improving the food offer entails ensuring healthier food and beverage options (Box 4) at more food and beverage sales points in and around stadia (Fig. 1 pages 6-7). The specific strategies to improve the food offer include increasing the healthfulness of existing menu options through reformulation and replacing unhealthy options that do not meet the criteria with healthier options. Such strategies have contributed not only to increased availability of healthier menu options in food outlets in various settings, but also to healthier customer purchases (38, 61).

Reformulation is the process of modifying the composition, cooking methods or portion size of a food or beverage, to improve its nutritional profile (62).

Small changes that are easy and that do not affect the cost, palatability or portion size may be most feasible (63). Examples include reducing the amounts of ingredients or preparations that are high in fats, sugars or salt (e.g. reducing sauces, dressings or cheese), replacing such ingredients with healthier options (e.g. low-fat options), increasing the amount of healthier ingredients (e.g. vegetable filling), and changing methods of preparation (e.g. baking instead of deep-frying; removing visible fat). Small modifications to reduce energy, total fat, saturated fat and sodium content have been shown to be acceptable to consumers (64, 65).

In some cases, a menu option cannot be reformulated to meet the nutrition criteria set, in which case a **replacement** is a better option. If like-for-like replacement of an unhealthy menu option is not feasible, the addition of a new healthier option would help improve the overall food offer.

WHO has developed examples of, and detailed recipes for, improved menu options that are popular at sporting events (Annex 2), and which meet the comprehensive criteria set for the FIFA World Cup 2022 in Qatar (Box 3). Exploring local food courts and malls in the host country or city for options that are healthy, easy to eat, low cost, quick to order and quick to serve may be helpful (10).

Box 5 provides examples of reformulation and replacement approaches for improving the food offer, and Box 6 shows some examples from the FIFA World Cup 2022 menu.

Box 4. Examples of types of foods and beverages that are typically served or sold in and around stadia and which are, or could be reformulated into, healthier versions

- **Hot meals** – for example, pizza, burger, shawarma, jollof, fatayer
- **Cold meals** – for example, fresh salads (e.g. Greek salad, tabbouleh), sandwiches, wraps, rolls, simit, ciabatta, burritos, poke bowls, sushi rolls
- **Snacks** – for example, spring rolls, vegetable sticks with dips
- **Sweets/desserts** – for example, fruits, yogurts
- **Pre-packaged snacks** – for example, low-salt popcorn, unsalted nuts
- **Beverages** – for example, free drinking-water, unsweetened flavoured waters, skimmed or low-fat milk

Box 5. Examples of reformulation and replacement approaches for improving the food offer

Reformulation of menu options

- Increase the proportion of fruits and vegetables or pulses and legumes in a meal to reduce the relative content of unhealthy fats, sugars and salt and increase the relative content of healthier food groups. For example, replace a side dish of fries with a vegetable-based option.
- Reduce the amounts of salt and sugars added to recipes. Be aware of hidden sodium in baking soda and hidden free sugars in blended fruit purees and juices. Enhanced flavours may be obtained from herbs and spices, lemon juice and natural umami sources (e.g. mushrooms).
- Reduce the amount of fatty, sugary or salty sauces and condiments added to or provided with menu options.
- Reduce dough portions and increase healthier fillings in baked snacks.
- Minimize use of ingredients high in unhealthy fats, sugars or salt
 - use vegetable oils instead of butter or hard margarines
 - use whole-grain flours instead of white flour in breads and baked goods
 - use low-fat and lightly sweetened dairy products in desserts
 - use lean meat, fish and poultry instead of processed meat products or fatty meat cuts.
- Reduce portion sizes if nutrition criteria are set per serving.
- Improve cooking practices (e.g. avoid deep-frying).

Replacement of menu options

- Replace hot dogs, French fries and similar food with options that include vegetables, pulses or whole grains.
- Replace sweet or fatty desserts with fresh fruit or healthier options lower in sugars and fats.
- Replace salty snacks with vegetable sticks or unsalted nuts.

Box 6. Example from FIFA World Cup 2022: Healthier food on the menu

At the FIFA World Cup in Qatar, four of a total of 11 meals and snacks on the menu were healthier options, based on the set nutrition criteria (Box 3). One of the options (meat fatayer), was already included on the menu, showing that there is often a foundation to build on. Of the additional three healthier menu options two (spinach fatayer and veggie sticks with hummus) had been reformulated and one (vegan burger) had been replaced with a healthier new option (veggie rolls).

Spinach fatayer

A fatayer is an Arabic pie with filling such as meat, spinach or cheese. The initial nutrition assessment revealed that the spinach fatayer met the food-based criteria but did not comply with the nutrient-based criteria for healthier food – it exceeded the thresholds for energy, total and saturated fat, and sodium, principally because of the pastry dough. The recipe was **reformulated** to reduce the amount of pastry dough and increase the amount of spinach.

Meat fatayer

The meat fatayer was made with a filling based on mutton, tomato, onions, red capsicum and fresh coriander. The initial nutrition assessment revealed that it complied with the food- and nutrient-based criteria for healthier food. However, vegetable could be added to reduce the amount of meat.

Veggie sticks with hummus

The initial nutrition assessment revealed that it met the food-based criteria but did not comply with the nutrient-based criteria for healthier food – it exceeded the threshold for total fat, which was principally found in the hummus that contained high amounts of olive oil. The recipe was **reformulated** to halve the amount of hummus in the serving. Consideration was also given to reducing the amount of fat in the hummus if the portion size could not be reduced.

Veggie roll

This item **replaced** an initially suggested vegan burger after a reformulation attempt was rejected by the tasting panel. The veggie roll recipe was designed to comply with the food- and nutrient-based criteria for healthier food.

Action 2: Setting prices to incentivize healthier food choices

The price of foods strongly influences dietary decisions – demand for many foods and beverages changes with price (66, 67). Although consumers across different settings may be willing to pay a price premium for healthier foods (e.g. reduced fat, wholegrains, fruits and vegetables), sport fans may be more concerned about the price than the healthiness of menu options (10, 68).

Pricing interventions to steer food choices may be effective at improving purchasing and therefore dietary intake in specific settings or for specific target groups. Interventions include rebates, discounts and price caps on healthier menu options; minimum floor prices for less-healthy options; and restrictions on volume promotions, price promotions, multi-buy price promotions and the purchase of an unlimited number of items for a fixed price (69, 70). Studies on pricing interventions in public settings such as cafes and workplace canteens, vending machines and retail outlets have documented increased sales of healthy products such as fruits and vegetables or decreased sales of unhealthy products such as sugar-sweetened beverages (24, 36, 37, 71, 72). At the national level, governments may apply taxes and/or subsidies as part of their fiscal policies.

Box 7 provides examples of pricing interventions for healthier food choices that may be employed in and around stadia.

Box 7. Examples of pricing interventions for healthier food choices

- Healthier menu items are priced lower relative to less-healthy menu items.
- Prices of less-healthy menu options are increased.
- Price or volume promotions on less-healthy menu or snack options are removed.
- Meal deals or combos composed of healthier food and beverage items (for example, a healthier meal + snack + water as default beverage) are introduced.
- Water fountains inside and outside stadia provide water refills free of charge.

Action 3: Nudging to promote healthier food choices

Aspects of the environment can act as barriers to or enablers of healthy behaviours (73). Nudging can be used to steer a consumer towards choosing a specific healthier food or beverage and away from choosing foods and beverages high in fats, sugars or salt. Fundamental to nudging is the choice architecture, which incorporates aspects of how a choice, in this case a food or beverage, is presented and how this influences decisions made (74). This can include, for example, the availability, and the presentation of different menu options at various food and beverage sales points (75).

Nudges are small adjustments that alter the choice architecture to influence the subsequent selections (74). Nudges may influence food choice by reducing the effort needed to make a selection, highlighting certain options, emphasizing an option's tastiness, and leveraging social norms (76, 77). Examples include placing the promoted healthier food item near the check-out till or at eye level, changing the presentation of the food to be grab-and-go, and adding icons next to foods on a menu. Nudges can be implemented without restricting available options or economically disincentivizing specific options, preserving consumers' freedom of choice (74).

Nudging techniques have been extensively studied and tested in relation to food selection in various settings including health care, workplaces, schools, and in self-service settings (78-81). Importantly, nudges have been reported to improve the selection of healthier food items without causing losses in revenue in sports settings (27, 82, 83).

Nudges do not require eliminating pre-existing menu options, and may be well suited to sports events, where various stakeholders and perspectives exist. Furthermore, nudges may be particularly effective in food settings with many menu options and little time – like at half-time in a sports event, where purchasing time is limited and fans are eager to return to their seats – because consumers are more likely to rely on automatic decision-making processes (77). Nudges tend to be low or no cost, and although there are indirect costs – such as the time and effort for their implementation and maintenance – these vary between nudges and can be considered during the design and development stage. Nudges thus represent a useful tool to promote healthier food choices in sports settings and may be implemented as a first step towards a more comprehensive healthier food and healthier food environments initiative.

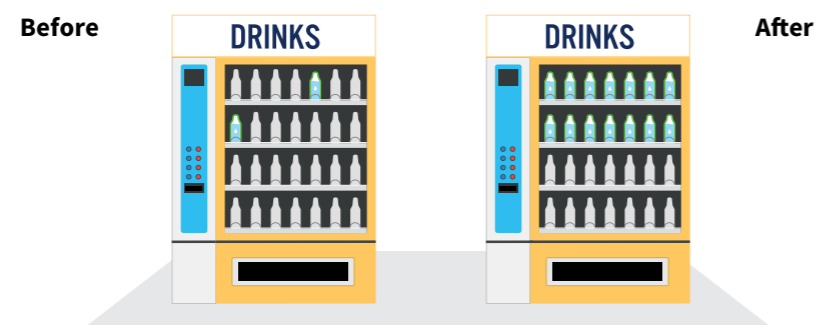
Box 8 provides examples of the types of nudges that can be implemented in and around sports stadia. Box 9 depicts some of the nudges deployed at the FIFA World Cup in Qatar in 2022.

Changes to the physical characteristics

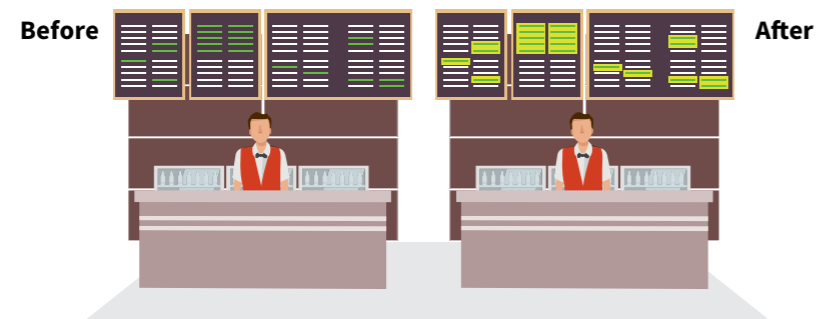
- **Placement:** Preferential placement for promoted healthier food.



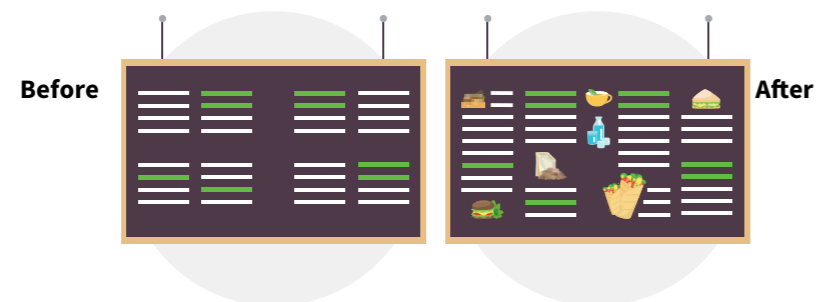
- **Availability:** Offering more of the promoted healthier food.



- **Contrast:** Emphasizing the promoted healthier food, compared to others.



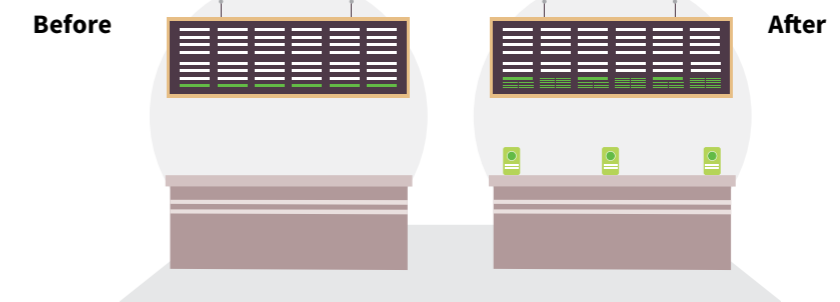
- **Presentation:** Presenting the promoted foods in an attractive way (packaging, slicing) or for ease of consumption.



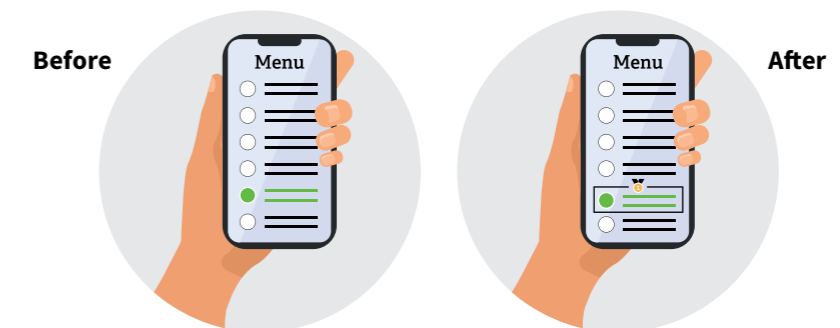
healthier foods and beverages, healthier menu options to be promoted

Changes to the provision of information

- **Descriptives:** Providing an appealing name or description for the promoted food.



- **Semiotics:** Adding symbols or icons to the promoted foods.

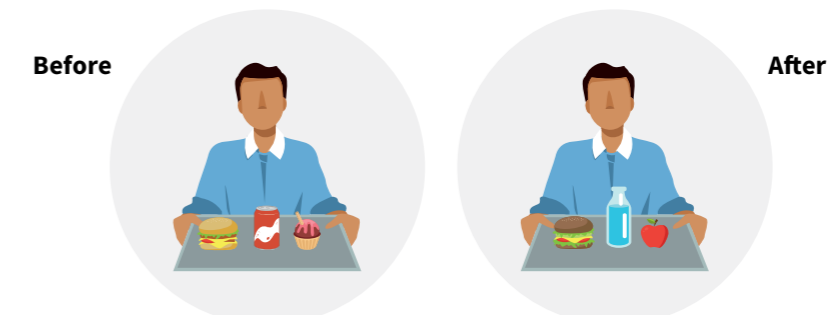


- **Prompts:** Using written or verbal prompts for promoted foods.



Changes to the default

- **Defaults:** Providing the promoted food as the default option (i.e. the standard offer that a consumer will receive unless they intervene).



Note: Nudges presented are adapted from previous work and categorized according to an adapted taxonomy of behaviour change interventions (77, 84, 85). All the nudges aim to increase the popularity of a healthier menu option by making the healthier choice the easy choice.

Box 9. Example from FIFA World Cup 2022: Nudges to promote healthier food choice

During the FIFA World Cup in Qatar in 2022, nudges were used to promote healthier foods. The nudges were:

- listing the healthier food items first in their respective sections on the menu;
- adding contrast to highlight the healthier food items on the menu; and
- adding “wobblers” featuring photographs of the healthier food items to the overhead menu boards.

Hot	Price, QAR	المنتجات الساخنة
Falafel with Chicken	15.00	فول فول مع دجاج
Chicken Shawarma	20.00	دجاج شاورما
Honeydew	25.00	هونيدو
Beef Burger	20.00	برجر لحم

Cold	Price, QAR	المنتجات الباردة
Veggie Stack	15.00	صندwich خضراوات
Veggie Roll	15.00	رول خضراوات
Cold Cut & Cheese Roll	20.00	رول لحم و جبنة

Promoted items listed first

Contrast added to promoted items

“Wobblers” featuring the promoted food items



Action 4: Communicating and promoting healthier food and healthy diets

Sports mega-events attract large audiences and represent an excellent opportunity to reach billions of people globally with **messages on healthier food and healthy diets** – among other aspects of healthy lifestyles – through in-home, out-of-home and digital communication channels. Communication campaigns and messaging may target sport fans in and around the stadia and fans, families and friends watching the events from their homes. Messages, specifically developed for the sports event or linked to existing national campaigns and health messages, may focus on general aspects of healthy diets. For the fans attending the event, messages may also focus on and reinforce the promotion of the healthier food offer at the event. Creating a demand for the healthier menu options will in turn positively enhance the implementation of the intervention to improve the food offer (86). Box 10 gives examples of communication activities for healthy diets and healthier food. Box 11 describes a video developed for promoting healthy eating to a global audience of FIFA World Cup 2022 fans.

Messaging should take into consideration segments of the target audience and be tailored accordingly; for example, directed at youth, women, families with children or seniors.

Communication tools and channels can include websites, printed leaflets or flyers, digital newsletters or cards, engagement with networks or groups of fans through social media platforms or in-person meetings, and relationships with media outlets. The interactive and immediate features of social media platforms can be used to engage with audiences and encourage the dissemination of simple key messages.

Box 10. Examples of communication activities

For fans attending the sports event, communications include:

- displays and messaging on the healthier food offer;
- push notifications on the healthier food offer to mobile phones; and
- commercials during half-time or pre-match promoting healthier menu items.

For fans, their families and friends following events from home, and the general public, they include:

- promotions of a healthy diet through traditional and social media outlets;
- the linking of healthy eating to communication campaigns around the sports event;
- engagement of elite athletes in role modelling healthy eating;
- display of images of fans enjoying healthier food offer to leverage social norms approach; and
- encouragement of TV viewers to engage in healthier eating – for example, through healthy cooking or snacking challenges.

Box 11. Example from FIFA World Cup 2022: Promoting healthy eating for healthy lives for a global audience

A video and five social media cards on the topic of healthy food and sport were developed for the FIFA World Cup 2022. The video “Eat healthy, score for health” underlined that good nutrition is essential for health and for children’s growth and development, as well as for sports performance. The video, targeting a global audience, included examples of healthy meals from around the world (including vegetable dahl and salmon sandwiches). It also featured one of the dishes available at the World Cup, namely the vegetable sticks with hummus. The video was displayed across partner social media platforms as well as at Hamad Airport and on Qatar Airways flights. In addition, a live public event “Nutrition, health and sports: championing healthy food environments at sports mega-events” was hosted on the WHO Facebook channel. The video had over 45 000 views and the live public event garnered 19 000 views across WHO social media channels.

Scan to check
out the video!



Action 5: Restricting marketing of foods and beverages that are high in fats, sugars or salt

On its own, communication to promote healthy diets is unlikely to be sufficient, because healthy diets are continuously being undermined by the marketing of foods and beverages high in fats, sugars or salt. Box 12 defines what is meant by marketing and describes the variety of types, techniques and channels being used. Marketing, including sponsorships, of foods and beverages high in fats, sugars or salt through sports – during events, in and around stadia and by athletes – is abundant, and contributes to mixed messages around healthy eating (13, 87-94). Sponsoring food companies may have both healthier and less-healthy food in their product lines, but it is typically the less-healthy products (or their brands) that are promoted (92). Marketing of foods and beverages high in unhealthy fats, sugars and/or salt in sport settings is not only happening during mega-events and elite sports, but is also common in junior sports and in community sport and recreation centres frequented by children (95). Many officials of sport clubs and associations are supportive of restricting the marketing of unhealthy foods and beverages, especially in junior sports but also in elite sports (96). Considerations around ensuring healthier food and healthier food environments in these settings is discussed on page 34. In addition to the negative impacts sports sponsorships can have on children, concerns have also been raised about extensive sponsorship by unhealthy foods and beverages of sport mega-events held in low- and middle-income countries undergoing nutrition transitions (97).

There is unequivocal evidence that food and beverage marketing alters children’s food and beverage preferences, purchases and intake (98). Therefore, **restricting messages promoting foods or beverages that are not part of healthy diets** is critical, especially to protect children and adolescents – they are the most vulnerable to food marketing, and at the same time highly exposed to it through their interest in elite sports and sports participation.

WHO recommends restricting the marketing of food and beverages to children (Box 13) (52). Such marketing includes sponsorships and the use of celebrities, and takes place at sports events and through the media channels that report on sport (99). However, few countries have developed comprehensive national policies in this regard (98). To further help countries enact national policies to restrict marketing, WHO and UNICEF have recently published joint guidance for countries on taking action using a child rights-based approach (100).

Beyond complying with national rules and regulations in the host country or city, sports event organizers may take additional steps to ensure marketing and sponsorship agreements reinforce messages to promote healthier food, as part of ensuring healthier food environments in and around stadia. Sports sponsorship has been used as a means to promote public health in some areas of the world. For example, financial support has been provided to sports organizations that historically relied on tobacco sponsorship to fill the gap once such sponsorships were banned (101).

Box 12. Marketing – examples of types, techniques and channels employed

“Marketing” refers to any form of commercial communication, message or action that acts to advertise or otherwise promote a product or service, or its related brand, and is designed to increase, or has the effect of increasing, the recognition, appeal and/or consumption of specific products and services (102).

A variety of marketing types, techniques and channels are being used:

- **Types include** advertising, promotion, cross-promotion and sponsorship.
- **Techniques include** the use of licensed or brand-equity characters, celebrity endorsers such as athletes, incentives (e.g. toys), product design and packaging, and product placement and branding.
- **Channels include** print, outdoor, point of sale, broadcast, the internet, social media, advergames and direct marketing.

Box 13. WHO recommendations on the marketing of foods and non-alcoholic beverages to children and other tools to support food marketing restrictions

In 2010, the Member States at the World Health Assembly adopted the *Set of recommendations on the marketing of foods and non-alcoholic beverages to children* (52), including 12 recommendations to reduce the impact on children of marketing of foods high in saturated fats, trans fats, free sugars or salt. One of the 12 recommendations concerns ensuring that sporting events held in settings where children gather are free from the marketing of such foods.

The subsequent framework for implementing the recommendations (99) also deals with billboards and posters in sports arenas, advertisements during TV broadcasting of sports events and digital advertisements that are inserted onto stadium walls at sporting events.

In 2023, WHO finalized guidelines on policies to protect children from the harmful impact of food marketing, that further suggest policies to be mandatory and restrict the power of food marketing to persuade and protect children of all ages (102).

How to:

Planning, implementing and drawing lessons from healthier food and healthier food environments initiatives at sports events

This section describes how to plan, implement and draw lessons from healthier food and food environment initiatives at sports events. It proposes step-by-step key activities and indicates who may be involved in each of three distinct phases: (i) the planning phase leading up to the event; (ii) the operational phase immediately before and during the event; and (iii) the post-event phase after the event is completed.

This guidance has a strong focus on the planning phase, because planning is critical to ensure that the health concept is fully incorporated into food and beverage concessions. It does not aim to describe how to run food and beverage concessions, but rather focuses on how to incorporate a focus on healthier food and healthier food environments into event plans. The development of the activities related to the different actions will most likely take place in parallel, and the food offer, the menus, the pricing of the food items and the nudges will be planned at the same time. It is important to consider any interaction between the different components and ensure that the activities mutually reinforce the purpose – healthier food consumption. For example, ensuring that pricing interventions incentivize and nudge-based interventions encourage fans to choose the healthier menu options.

Every healthier food and healthier food environments initiative will be unique, but the general principles of setting solid nutrition criteria for designing the five actions can be applied across sports events at all scales. Details of implementing the five actions will vary between international sports mega-events held in a different host country every four years and national leagues held throughout the year in a country. Some of these differences in characteristics are briefly outlined in Table 1.

Table 1. Characteristics of events at different scales that may affect how the five actions are implemented

International (including mega) sports events Rotates host country, often of a shorter duration with a multi-year interval between events	National or local sports events (e.g. leagues, sports clubs) Annual or sustained events in set locations/stadia
<ul style="list-style-type: none"> • Project team: Different team for each event, based on the host country. Partners and allies are likely global. • Assessment: Based on previous event hosted by the same sports event organizer. • Objectives: May be short-term for the event or long term for future events as well. Initiative is institutionalized at organizing body level. • Nutrition criteria: Can be developed based on national (host country) or international (e.g. WHO) guidelines. • Initiative design: Short-term agreements with food concessionaires; menu options negotiated for each event. Menu options, prices, nudges and communication will likely be specific for each host country and thus must be designed either in part or completely new for each event. Marketing and sponsorship agreements may be both long term and context specific. • Training: Rely heavily on short-term staff and volunteers who all need training before each event. 	<ul style="list-style-type: none"> • Project team: Likely the same core individuals and local governing bodies in the team each year. Partners and allies range from local to global depending on the event. • Assessment: Based on existing situation or previous sports season. • Objectives: Likely long term objectives where the initiative is institutionalized (e.g. at club or league level). • Nutrition criteria: Based on national guidelines or priorities. • Initiative design: Long-term agreements with food concessionaires with opportunities to embed the nutrition criteria for healthier food into the regular service. Menu, nudges, and prices remain constant once designed, although seasonality may play a role. Communication campaign may be long term or change every season. Marketing and sponsorship agreements may be both long term and context specific. • Training: Training targets existing concessions and other staff and covers new activities (nudges, food offer). Refresher courses may be introduced with new changes.

Planning phase

The planning phase ahead of the sports event is led by a small project team working to coordinate and plan for all aspects of ensuring healthier food and healthier food environments at the sports event. The team collects information about the existing food and beverage system to identify areas for improvement. They also engage with partners and allies to build support for the initiative. During this phase, contracts are established and detailed activity plans are prepared. These outline training needs, who will be responsible for what during the operational phase and what information should be collected to enable solid documentation in the post-event phase.

Build the project team

Build the project team with representatives from the sports event organizer, national or local authorities and other experts as needed. The team will design and coordinate the activities to achieve healthier food and healthier food environments for the sports event. The sports event organizer may involve those responsible for all aspects of food and beverages, such as concessionaires and food service managers, contract and procurement officers, concession staff and food vendors, as well as those responsible for communications, marketing, branding and sponsorships. National or local authorities in the host country or city are often closely involved in the organization of the event and have rules and regulations for various aspects of food service and sales. Experts to involve include public health nutrition experts, food scientists, food safety experts, chefs and communication and behavioural insights experts. They may be engaged via partnerships established with public health organizations, including United Nations agencies, nongovernment organizations and academia. For example, food scientists and chefs may support development of new and healthier recipes, while universities or research institutes might be helpful for the post-event evaluation.

The team will meet regularly throughout the planning, operational and post-event phase to define strong and feasible nutrition criteria for healthier food and to design, coordinate and evaluate all activities.

Advocate for the initiative to gather partners and allies while managing potential conflicts of interest

External support from stakeholders, club members and customers has been noted as an enabler of healthier food offer in sports club catering (3, 103, 104). Therefore, it is important to advocate for a variety of partners to be involved to generate more support and demand for healthier food at the sports event. Getting elite athletes on board as champions promoting the initiative may increase reach and generate support among fans (104). Support from the government or local authorities will also be beneficial and may be a first step towards creating a sustainable approach through which the initiative's actions and activities are translated into policies that all future events will follow. Box 14 gives examples of partners and allies to engage in the process.

To **gather partners and allies**, develop a compelling narrative of what the healthier food and healthier food environment initiative at the sports event can accomplish and why it is important. Tailor convincing messages specific to the interests and concerns of each partner – these can be explored in the assessment exercise described below. It is also important to anticipate possible stakeholder concerns and address them early. For example, losing revenue from sponsors or sales may be perceived as a risk. Obtain feedback from the stakeholders to better understand their perspectives. Then, draw on their knowledge and experiences, and create buy-in early in the process. Providing a platform for all to contribute comments on the strategy will help stakeholders develop a shared vision and encourage ownership of activities.

Box 14. Examples of partners and allies

- **Government** partners, including ministries of health, food, sports and youth; local government and city councils
- **Sport event networks** and hospitality partnerships
- **Healthy food service networks**, including chefs and catering companies engaged in developing healthier menus
- **Professional and nonprofessional associations** promoting healthy, safe and sustainable food
- **Sport clubs and athletes**, especially those who have demonstrated positive attitudes towards healthy food
- **Interest groups**, such as healthy city initiatives, public health networks and parents' groups
- **United Nations and nongovernmental** agencies with whom partnerships have been established
- **Academic partners**, such as universities and researchers
- **Champions** and other advocates for change – for example, high-visibility elite athletes acting as role models for healthy eating

Throughout the engagement with partners, the team must prevent and **manage potential conflicts of interest**. For example, food vendors or suppliers may attempt to influence nutrition criteria based on their product lines; sponsors may want exemptions to advertise their products; concessionaires may select dishes with cheaper or lower quality ingredients to maximize profits; or procurement officers may select products from preferred suppliers (22, 32). Such rules of engagement may already exist for policy development in the country, requiring, for example, that:

- all nongovernmental stakeholders declare any interests they may have;
- due diligence be conducted for all stakeholders who may engage in any steps of the policy cycle;
- all engagement, including participatory dialogues and public hearings, be transparent; and
- all comments provided by the public or the food industry during a consultation or hearing on the draft policy be made publicly available (105).

Assess the current food offer and food environment

Map out the current food offer, physical environments and prices, messaging, marketing and sponsorships, as well as the processes and rules related to these, to identify areas for improvement. Information can be collected through desk reviews of existing documentation (contracts, menus, recipes, sales reports, venue maps) and through site visits and interviews with key informants. The information gathered may also serve as a baseline to assess achievements during evaluation.

An understanding of whether and how the current food offer and environment promote healthy diets can be gained by asking a series of focused questions.

- **Where are foods and beverages served and sold in and around the stadia?**
Map out the different types of food and beverage sales points in and around the stadia, their locations and total number. Examples of food and beverage sales points are provided in Fig. 1 (pages 6-7).
- **What foods and beverages are served and sold; what is their nutrient composition and how are they priced?**
List the types of food and beverages available at each type of food and beverage sales point. Examples of foods and beverages available in and around stadia are provided in Box 4. Collect information on the ingredients and nutrient composition of all menu options. If nutrient declarations are not available, then the nutrient composition may be estimated from the recipes using food composition tables. Determine which menu items meet the nutrition criteria, and which do not. Collect information on the prices of all menu options.
- **How are the foods and beverages purchased and/or prepared by the food service?**
Understand the conditions for purchase, preparation, storage and delivery. Review the facilities available and logistics. This information will help show where in the food delivery process intervention will be possible and most effective. For example, if menu options are imported frozen to be reheated, adding a fresh component such as a salad may be impossible. This will also provide insights into the fan experience of food and beverage service and sale (timings, interactions with the space and vendors), which will provide important insights into the nudges that will be most effective in the given setting.
- **What is the physical environment within which fans select food at the food and beverage sales points?**
Assess how the physical environment may act as a barrier or enabler to support healthier choices. Observe, take photos and draw illustrations and maps of the food service areas. Identify potential limitations in food service and sale – for example, what is the available space on menu boards or around the food and beverage sales points? What are the peak times in food service and sale?
- **Which stakeholders are involved in the food service and sale?**
Map out the stakeholders involved in the different aspects of food offer and food environment in and around stadia and analyse their interests and concerns. Explore what these actors consider to be the benefits of and obstacles of the implementation of existing and potential healthier food and healthier food environments – for example, challenges in supply or availability of healthier food, availability of sufficient infrastructure inside stadia, and pressure on their concession staff to serve as many customers as possible at half-time.
- **How are food and beverage sales recorded and evaluated?**
Assess the systems in place for tracking food and beverage sales. Identify what level of detail is recorded (e.g. transaction-level data), how the information is stored and evaluated (e.g. volume of sales, revenues).
- **How are food service and sales point staff trained?**
Identify what training is mandatory and what is voluntary for different types of food service and sales staff, and whether training on the healthier food offer and healthier food environment can be included into training plans.

- **What are the rules governing the food offer and the food environment in and around the stadia?**
Identify what rules exist for the foods and beverages served or sold – for example, rules or instructions related to safety of food products and cooking methods. Review current contracts, policies and protocols and the possibilities to renegotiate current contracts if necessary.
- **What sponsorship agreements exist?**
Identify what agreements exist regarding sponsorships and marketing of foods and beverages. Review the content and duration of agreements and explore options to modify or renegotiate if necessary. It will be important to understand all details around marketing rights and product availability, which will likely require collaboration with the event organization teams working on branding, communication and marketing.
- **What communication tools and channels are employed for promotion around the sports event?**
Review available tools and channels. Identify the gaps and plan how to share the information about the initiative or about healthy diets in general with target audiences and stakeholders.
- **Who has authority to determine the rules for food offer, food environments, and food-related communication and marketing in the stadia?**
Identify who has authority to determine rules for the food offer and for the food environment. These may be separate responsibilities, especially for the food offer versus the marketing and sponsorship agreements. Review the processes for decision-making and for modifying existing rules or developing new ones, including the lead time needed to make changes.
- **What policies exist for healthier food and healthier food environments in the country or jurisdiction?**
Identify existing food and nutrition policies, legislation or guidelines that may support the initiative for healthier food and healthier food environments at sports events. For example, legislation, guidelines and policies – possibly related to public food procurement and service, front-of-pack or menu labelling, marketing restrictions, food reformulation or taxes – may include nutrition criteria that can be used or adapted. Food-based dietary guidelines may specify foods and meals that are considered healthier. Nutrition and health interventions may spell out goals and targets for healthier food, which may be useful. Regulations for food production, labelling and marketing may include upper limits on (for example) salt in foods. Understanding the broader food and nutrition policy landscape may help formulate the rationale for the initiative, build support for it and bring allied partners into the process. Existing mechanisms for monitoring and evaluation may also be used.

Annex 3 provides an example tool to guide assessment of the food offer and food environment in and around sports stadia, which can be adapted to the specific context.

Agree on objectives, priorities and expected results

Based on the review of the current situation, agree on objectives for the healthier food and healthier food environment initiative. This will create a common vision and expectation for what is to be achieved and by when.

At the overarching level, aligning with national or global public health priorities may be a good strategy to build support, get allies and enable implementation (2, 104). For example, many countries have committed to obesity reduction, which is necessary for achieving several Sustainable Development Goals (SDGs), including SDG 2.2 on ending all forms of malnutrition and SDG 3.4 on reducing premature mortality from noncommunicable disease. A healthier food offer in stadia could support this by reducing portion sizes to discourage excessive caloric intake and by increasing the prices of sugar-sweetened beverages. A few meals or snacks during a sport event will not have immediate impact on obesity or other nutrition status outcomes among fans attending the event, and any such impact would be difficult to measure. Therefore, it is important to be realistic and specify the **immediate expected results related to shorter-term objectives**. These could include changes in menus, prices, physical environments or messages; increased availability of healthier foods; or increased sales of such items. More examples of potential expected results or immediate outcomes are listed in Annex 4, which can be used to formulate specific, measurable, achievable, relevant and time-bound (SMART) objectives (Box 15). Setting such realistic objectives is especially important to mitigate eventual claims that the initiative is ineffective. Box 16 provides examples of potential objectives and expected results for healthier food and healthier food environments at sports events.

In addition to realistic shorter-term objectives, consider formulating more aspirational longer term-objectives by **setting priorities for a stepwise approach** to reach a more ideal situation in which all menu options and the food environment are healthier. Such a stepwise approach may, for example, focus on expanding the nutrition criteria, increasing the proportion of menu options that must comply, refining or introducing additional nudges or setting standards for future sponsorship agreements. After considering the context, timelines, opportunities and constraints, the team will determine what results can realistically be achieved in a specified time, and the steps needed to get there. Box 17 describes different approaches to a stepwise approach to the actions for healthier food and healthier food environments at sports events.

Box 15. Examples of objectives and expected results

Food offer

- During the sports event, all food and beverage sales points in the stadia shall have at least two healthier menu options on the menu.
- In the stadia, at least 50% of items in vending machines should be healthier than items on the regular menu.
- By 2025, all food and beverage sales points in the stadia will have only healthier menu options on the menu.

Food environment

- During the sports event, menu options that are healthier will be sold at lower prices than less-healthy options in the same menu category.
- During the sports event, at least one meal combo will be available that provides healthier options as the default (e.g. water as default beverage, salad as default side dish).
- During the sports event, healthier options will be nudged by prioritizing their presentation on displays (e.g. top of menu boards, eye level in fridges, visual cues and images).
- During the sports event, salt and sugar sachets, sauces and condiments will only be provided upon request.

Communication

- During the sports event, fans will receive text messages promoting the healthier food offer.
- In the run-up to and during the sports event, five elite athlete influencers will promote the healthier food offer on social media channels.
- By 2025, there will be no marketing of foods and beverages that do not meet the nutrition criteria for healthier food.

Sales

- By 2025, the sales of healthier menu options will have increased by 50%.

Box 16. Setting SMART objectives for healthier food and healthier food environments at sports events

- **Specific:** state what changes will be made (e.g. reducing salt content) and where (e.g. all concession stands in and around stadia) and which menu options are to be improved (e.g. hot meals).
- **Measurable:** how explain how impact will be measured (e.g. share of healthier options on menus, sales of healthier options).
- **Achievable:** based on existing benchmarks and baseline data, formulate short-term objectives that can be realistically achieved during the event and that can be reliably evaluated (e.g. changes to menus, changes to the physical environment, changes in sales).
- **Relevant:** select objectives that are relevant to the overarching aims of the initiative (e.g. contributing towards healthier diets and obesity reduction by reducing added sugars, fat content and/or portion sizes).
- **Time-bound:** specify the time during which change is expected, typically for the event. If the objective is formulated as a change (e.g. increased sales), an appropriate baseline (and its point in time) must be identified for comparisons.

Few sports events or stadia start off with only unhealthy food and unhealthy food environments – but they will not necessarily be able to quickly reach a situation in which all food and food environments are healthier. The journey towards the ideal situation will take a different path in each context and there is no one ‘right’ trajectory. Documenting the challenges encountered and solutions applied will help learning for future events. Various stepwise approaches towards improving the food offer and food environments can be considered.

- **From limited or weak nutrition criteria to comprehensive and strong criteria.**

Starting off with few criteria or less-strict thresholds may be more feasible and more likely to succeed, and therefore generate support for more comprehensive and stronger criteria. However, this also risks being a patchy approach that will not fully support healthier diets. Therefore, more comprehensive or stricter criteria can be spelled out early, but phased in over time. For example, an initial focus might be to ban large-sized sugar-sweetened beverages or set limits for trans fats and sodium in meals and snacks, with a view to expand on criteria comprehensiveness or on the target nutrients or foods, for the next round of the sport event. A related strategy defined tiered criteria that trigger different actions – for example, the healthiest options being nudged and the least healthy being sold at higher prices.

- **From a low number of menu options in few sales points being required to comply with the nutrition criteria to all menu options in all sales points being healthier.**

An improved food offer may apply to all food and beverage options available or be defined as a certain proportion or number being healthier. For example, half of the menu options should be healthier, all menus should include at least three healthier options to choose from, water fountains should be available at every service point, or half of the pre-packaged snacks should be healthier. A phased approach would gradually increase the share of items that must comply. The initiative could begin with a limited number of food and beverages sales points. Organizers may introduce the initiative to a smaller selection of stadia, or sales points of a certain type – such as those inside stadia – to start. These pilot locations can act as test cases and provide evidence for future expansion of the initiative.

- **From few changes to the physical environment to comprehensive context-specific nudges for healthier food choices.**

At sport events, food choices are often made quickly and taste and convenience may be prioritized over health attributes. Nudges, (small changes that adjust the choice architecture; e.g. changing the presentation or placement of foods), can help make the healthier promoted food the quickest, easiest, and most convenient choice. If all menu options must meet the same nutrition criteria, then there have to be more ways to define the foods and beverages to be nudged – for example, through tiered nutrition criteria, criteria based on sustainability or support for local options. Some changes may be easier to implement than others. For example, the addition of images, contrast, or icons to promote healthier options may be prepared and installed by the smaller project team, whereas verbal cues to be used by vendors to prompt consumers require training and hence more resources. Sports event organizers may begin with a few small changes, then expand and add to these over time. Some nudges– for example, altering branded displays in fridges or on counters – may require renegotiating sponsorship contracts, and require longer term effort.

- **From limited pricing incentives to a pricing of menu options that encourages healthier food choices.**

Lowering the prices of healthier menu options may be easier for items that are less costly to prepare, stock and offer – for example, water, legume-based cold meals like hummus and unsalted nuts. Meals and snacks based on fruits and vegetables may often be more costly because of higher cost and the perishable nature of the ingredients; however, price incentives on healthier options may be partially recovered by price disincentives on unhealthy options.

- **From limited to wide communication for healthier food and healthy diets through multiple channels.**

Promotion of the healthier food offer and general messages on healthy diet can be incorporated into communication activities for the sports event. Over time, more channels can be employed to disseminate messages. This may include involving elite athletes in role modelling healthy eating and amplifying the messages on healthier food and healthy diets.

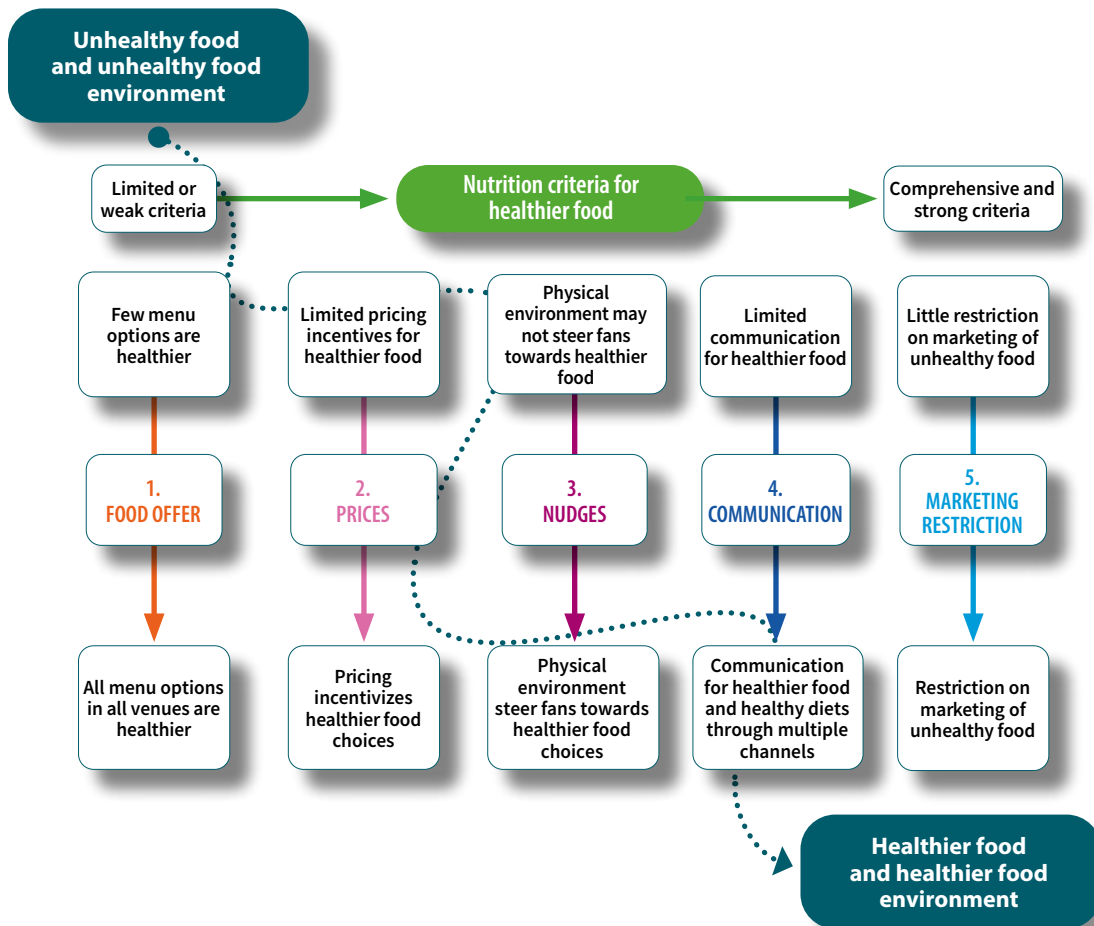
- **From little to comprehensive restriction on marketing of unhealthy food.**

Whereas communication activities for healthier food and healthy diets may be implemented rapidly, renegotiating sponsorships and advertisement contracts may only be possible at the end of contract terms. The healthier food and healthier food environment initiative can inform communications between sports event organizers and sponsors. Sponsors can be informed about the need for aligned messages on food, and reminded that, as part of their corporate social responsibility, they need to be part of the solution.



- **From a voluntary to a mandatory approach.**

Finally, sports event organizers may consider introducing the initiative as a set of voluntary targets to strive for and as an effort to meet fans' expectations – for example, a target that 50% of menu options at food and beverage sales points should be healthier options. A voluntary approach may serve as a starting point to introduce healthier food offer and environments, thereby generating evidence of impact and feasibility to support mandatory implementation, which is likely to enjoy higher compliance and therefore have a larger impact.



Set nutrition criteria for healthier food

The nutrition criteria for healthier food are essential for defining the actions related to the food offer, the food environments and the communication and messaging around food. Involve nutritionists and/or food scientists to set specific criteria based on the principles of healthy diets (Box 1) as set out in national policies and international guidance.

Employ good practices when developing nutrition criteria.

- **Describe the nutrition criteria in unequivocal terms that leave no room for misinterpretation.**

Criteria should be quantifiable and verifiable. Vague criteria are difficult to translate into food purchasing, preparation, service or sale decisions, and equally difficult to monitor and enforce. For example, criteria such as “serve more vegetables” can be further specified to “include at least one serving (80 g) of vegetables in every meal”.

- **Consider the need for differentiated criteria for different type of foods.**

When combining food and nutrient criteria, snacks consisting largely of fruits or nuts may exceed thresholds for total sugars and total fats, being natural sources of these. For this reason, five of the WHO nutrient profile models set nutrient thresholds for

different categories of food (45, 47-50). For example, it is suggested that fresh fruits can always be marketed, whereas fresh fruit juice should never be marketed because of its high free sugars content – similar to soft drinks.

- **Define effective criteria to achieve the desired outcomes.**

To achieve desired outcomes, such as reduced sodium intake, specific nutrient- and food-based criteria must be combined with other criteria such as portion size. For example, criteria to offer low-salt snack options can be combined with criteria for controlling the portion sizes of such snacks.

- **Build on existing criteria and nutrition guidelines.**

Ideally, the criteria build on existing criteria and nutrition guidelines already in use in the country or perhaps in neighbouring countries. Many countries have food-based dietary guidelines that recommend foods and beverages to be encouraged, limited or avoided. They may also have nutrient-based criteria for food served or sold in public service, for menu labelling in restaurants, for front-of-pack labelling systems and for restricting marketing of food³. These could be adapted to define criteria for healthier food and healthier food environments in and around stadia. For example, healthier snack options can be indicated by requiring appropriate front-of-pack labelling. If national criteria do not exist, or if the sport event is multinational, then international guidance may be useful. The WHO regional nutrient profile models (Box 2) provide nutrient thresholds for food categories, based on the WHO guidelines for healthy diets, and the WHO five keys to a healthy diet provides food-based guidance for achieving healthy diets (28, 42).

- **Formulate criteria that will serve the interventions planned under each of the actions.**

The criteria may be formulated with single cut-offs, or tiered cut-offs that will trigger different interventions. For example, the unhealthiest menu options can be ruled out completely whereas healthiest options can be nudged. Price incentives may be scaled, to be largest for the healthiest options. Tiered criteria may also be formulated to provide a minimum set of criteria to be met by all food and beverages sales points, and a set of stricter criteria to be met by those who wish to have an even healthier profile. Flexibility in criteria selection and tiered criteria have been identified as enablers of healthier food outlet schemes (38).

- **Consider what food composition and nutrient content information is available.**

Implementation of food-based criteria requires detailed information about recipes, including quantified lists of all ingredients used. Implementation of nutrient-based criteria requires information about the nutrient content of the food items, which can be calculated based on the recipe if nutrient declarations (often available on nutrition databases) are available for all ingredients. Therefore, consider what resources are available to support nutritional assessment of menus. If resources are scarce, simple food-based criteria (e.g. restrictions on deep-fried foods or inclusion of fruits and vegetables) may be easier to implement and monitor (38).

- **Tailor to specific audiences and contexts.**

Food and beverage menus at sports events are often tailored to the expected audience, with both international and context-specific menu options available. In all cases, the core principles of healthy diets remain the same –all populations should limit the intake of sodium, sugars, and saturated and trans fats, and increase consumption of whole grains, vegetables, fruits, nuts and seeds. National food-based dietary guidelines are often published for various population groups and can help identify food relevant to specific country contexts. Some countries or jurisdictions have guidance that applies to sport and recreational centres, and is based on existing national guidelines for healthy diets (107).

Develop menus

Once the criteria are set, contract managers and others who are involved in the organization of food service and sales in and around the stadia **may integrate the nutrition criteria for healthier food into new bidding and contractual documents**. Renegotiating vending contracts during contract renewal provides an opportunity to integrate criteria for healthier food and may be feasible and effective within a short time, though it has been suggested that adding healthier options may be easier than removing unhealthy options (63, 104, 108). Examples of the types of menu options that could meet the criteria can be provided during negotiations. These could be drawn, for example, from the WHO recipe cards for healthier food at sports events (Annex 2).

The team including nutritionists, chefs, food scientists, concessionaires, and food service management, may go through the following steps when developing the menus.

- **Assess the menus proposed during the bidding process** to identify menu options that already are healthier and meet the nutrition criteria for healthier food, options that can be reformulated to meet the criteria and options that may not be reformulated and would need to be replaced by healthier options. Involving nutritionists and/or food scientists in the assessment will be helpful, because they may suggest modifications (i.e. reformulation or replacement) to reach the set objectives.

³ Many such policies are available in the WHO Global database on the Implementation of Nutrition Action (GINA) (106).

- **Obtain complete and detailed information about the menu options**, including quantified recipes and sub-recipes (e.g. dressings, sauces) that give the exact amount and state (cooked, raw, minced, etc.) of each ingredient and the yield or final weight of the ready-to-serve item (i.e. after cooking, roasting, baking or other preparation). Pay attention to declaration of the amount of added fats and oils, sugars and salt in the recipe, because these are critical nutrients for which thresholds may have been defined as part of the nutrition criteria for healthier food. Sauces and condiments – such as salt and sugar sachets, ketchup and mayonnaise – that will be distributed by default with the menu option must also be considered. Requesting quantified ingredient lists and nutrient declarations of all menu options upfront can save much time for the team when assessing the menu options.
- **Develop the final menu** that includes menu options that are healthier yet delicious, have an attractive appearance and are easy to consume with little need for utensils. The menu options should also meet fan preferences and be familiar to the target audience, and represent good value for money. As part of the menu selection, tasting panels may be engaged to assess the palatability of menu options, especially those that are reformulated or new and healthier replacements. Feedback can also be obtained on the attractiveness and relative ease of consumption of the menu options. Involving food scientists and chefs in the testing may further help the prompt identification of feasible improvements.

Set price incentives for healthier food

While developing the final menu, **consider if pricing interventions can be applied to create incentives** for healthier food and beverage choices. Price reductions on healthier menu options are likely more acceptable to fans than price increases on options that are not healthier, but may conflict with the need for profitability. To prevent loss of revenues, consider healthier menu options that use less-expensive ingredients (e.g. hummus or other meals and snacks based on pulses; pizza with more tomato sauce and less cheese; water for drinking) or that are less perishable (which reduces waste – e.g. yogurt or whole fruits for desserts). Consider combining small price reductions on healthier menu options with small increases on options that are not healthier. This may create an incentive for fans and retain overall revenues for the concessionaires. Healthier food offered at favourable prices may be useful in promoting the event to a more health-conscious audience, and could even increase attendance.

Develop nudges for healthier food choices

Nudges may support other actions as part of a healthier food environment, or be implemented as a first step towards a more comprehensive healthier food and healthier food environments initiative. Involve key stakeholders such as concessionaires, food service management, the event organizing committee, nutritionists and behavioural insights experts and go through the following key steps (76, 77).

- **Identify the food and beverage sales points where foods are to be promoted using nudges.** These can be any of the points where fans can select from several menu options (Fig. 1 pages 6-7). Establish which food and beverage sales points are relevant, because context-specific nudges rely on the characteristics of the sales point – for example, the physical set-up and food offer.
- Complement the findings from the initial assessment (pages 19-20) with further detailed information about the food and beverage sales points. **Discuss with key stakeholders the menu options and the possible modifications at sales points.** Given the unique nature of sports events, experience from previous similar events is useful – for example, to inform the potential modifications to the choice architecture.
- **Specify the healthier foods and beverages to be promoted with nudges, or those foods and beverages to be demoted.** This will be based on the agreed nutrition criteria for healthier food. In addition, consumer preferences and the feasibility of implementing different nudges can inform which foods are to be targeted with nudges. If the food offer includes many healthier options, then the healthiest menu options can be identified based on tiered nutrition criteria. Alternatively, other criteria can be used, such as environmental sustainability or anticipated consumer preference.
- **Establish a shortlist of nudges** based on the choice architecture at the food and beverage sales points; consider the examples of nudges provided in Box 9 and how these could be adapted to the specific context. The development of nudges should consider the target population and food setting (e.g. fans' food preferences at the sports event) as well as the feasibility of nudges within the specific setting and their acceptability to stakeholders.
- **Select the final nudges to be implemented from the shortlist, through close collaboration with key stakeholders**, including those responsible for the food and beverage offer, marketing and branding, and sponsorships. Selection of nudges may consider many aspects, including the ease of implementation and maintenance, acceptability to stakeholders, existing contractual agreements with sponsors, feasibility, potential impact, and cost.

Nudge-based interventions tend to be low or no cost. Direct costs may include, for example, the printing of posters and wobblers (with images of the healthier foods), decals for display fridges, stickers featuring icons or symbols, and other resources to modify the presentation of food. Maintenance of nudges may incur costs, in terms of additional materials and resources required through

wear and tear. There are also indirect costs that should be considered, relating to the time and effort required for implementation. Some nudges may incur additional costs – for example, to train food service staff on the use of verbal prompts.

In addition to the nudges described above, **consider making nutrition information for foods available** on food packaging, on menus at points of sale, on online menus and on menus for in-seat ordering apps.

Box 18 describes how nudges to promote healthier food choices were developed for the FIFA World Cup in Qatar in 2022.

Box 18. Example from FIFA World Cup 2022: Development of nudges to promote healthier food choice

Key steps were followed to develop context-specific nudges to promote healthier food choice at the FIFA World Cup in Qatar in 2022.

The choice architecture within the stadia and specifically at food and beverage concession stands was examined using photographs, stadium maps showing the configuration and set-up of stands, and descriptions from previous sports mega-events (including the 2021 Arab Cup held in Qatar and the 2022 FIFA Club World Cup). The focus was on the layout, dimensions and set-up at concession stands (e.g. positions of cases holding hot food, display fridges, menus, tills), fans' access to the concession stand and information on menu options available at the concession (i.e. overhead menu boards).

A preliminary list of nudges was developed, based on the choice architecture and consideration of previously implemented nudges and their adaptation to the specific context. For each food to be promoted (the healthier food items described in Box 6 – the fatayer with spinach, fatayer with meat, veggie sticks with hummus and veggie roll), several nudges were designed. These were developed based on detailed analysis of the concession stand, including wall space and menu board prototypes and planograms for the display fridges.

The proposed nudges were designed by a small team of experts, and discussed in detail with the larger project team, before refinement and agreement in close discussion with FIFA representatives and event organizers. The final nudges are illustrated in Box 9. These required minimal maintenance once in place and did not make more work for food service staff.

Discussions involving the WHO, the Ministry of Public Health in Qatar, B4Development, FIFA representatives and food and beverage concessionaires, ensured the final nudges selected were deemed feasible and acceptable within the setting, sponsorship agreements and financial and human resources available.

Develop communication activities

Liaise with the communication team to **develop a proactive communications plan for healthier food and healthy diet** with messages that are actionable, accessible, relevant, timely, understandable and credible (109). The plan must consider all the phases of the initiative, from conception and launch to maintaining the momentum and sharing the results, and must consider several elements.

- **Clearly define the target audiences** of all communication activities and tailor the messaging, tools and channels accordingly (109). Collect information among target audiences to tailor messages and to serve as a baseline against which the impact can be measured.
- **Make fans aware of, and motivated to, taste the healthier food and beverage options on the menu.** Consider organizing effective two-way communication and adjust communication activities based on collected feedback. Tailor messages and preferably test them to ensure fans understand the purpose and benefits of healthier food (104). An example of two-way communication is using social media channels to gather immediate reactions. When such communication strategies are used, emphasis should be placed on the enjoyable qualities of the foods such as their freshness or taste rather than their health profile (77, 110). The healthier food and healthier food environment can be framed as a part of the fan experience, rather than leaving it as a service that is provided on the sidelines of the event.
- **Include messages that target and engage fans watching the event from home** – for example, through healthy eating challenges or cooking activities. Broader communication activities for the event could also link to existing health campaigns and resources on healthy diets, such as national food-based dietary guidelines. Consider engaging athletes as champions to role model healthy eating behaviour, or involve a celebrity chef to review and test the recipes or to endorse the healthy food offer.

- **Use impact evaluation to determine the effectiveness of communication activities or campaigns** to assess if the initial objectives have been met. Further details can be found on pages 31-32 and Annex 4.

Set rules for restricting marketing and renegotiate sponsorships

Work with the marketing teams, including those working on sponsorships to **restrict or reduce the exposure and power of advertisements for foods and beverages high in fats, sugars or salt**. Where national marketing restrictions exist, compare their criteria for unhealthy foods and beverages with those of the initiative and comply with whichever is stricter. In the short term, consider whether it would be possible to renegotiate marketing agreements to apply these stricter criteria.

It is also important to **consider the potential effect of brand recognition**. As such, letting a company with predominantly unhealthy products market its brands at sports events, even if the product is a healthier one, can negatively impact children's food preferences (111).

Unfortunately, the resources available to support marketing of unhealthy food typically far exceed those available to support sales of healthier food (104). Moreover, arguments are sometimes put forward that sponsorships are necessary for sports (112). By refusing sponsorships associated with food high in fats, sugars or salt, sports event organizers may not only raise the profile of the healthier food and healthier food environment initiative but also improve their own public image. Long term, while considering the risks associated with conflicting interests, strategies may be necessary to identify alternative funding mechanisms to compensate for loss of sponsorship income.

Prepare training of personnel to be involved

Food and beverage concessionaire's knowledge, attitudes and beliefs about healthier food and the healthier food interventions are important if interventions are to be successful and sustained (86). To ensure effective implementation of all activities, it will be important to train and build the capacity of those involved in food service and sales in and around stadia, including external workers and contractors. Training provides an opportunity to explain all aspects of the initiative, and how each sales point must change its practices to comply. The project team will decide who must be trained on what, and which new skills they need to implement the planned activities.

- **Supervisors** require good knowledge of the initiative, its benefits and rationale to answer questions that arise. They also require in-depth knowledge about what is expected from all staff in implementing the activities.
- **Food concession contract managers, suppliers, caterers and chefs** must understand the nutrition criteria for healthier food so they can identify menu items and products that meet the criteria and reformulate or replace those that do not. If an external provider is hired to provide the reformulation suggestions, concession managers and chefs must have an understanding of what information (e.g. detailed recipes, nutrient content) will be required so that suggestions can be made.
- **Food service and sales staff, vendors and mobile hawkers in and around stadia** must know which menu options are healthier, and how to maintain nudges implemented. It may also be helpful for them to know what factors make those menu options healthier (e.g. lower in salt) and the objectives of the initiative (e.g. 50% of all menu options are healthier) to answer questions from fans. Staff responsible for specific nudges must be aware of how to implement them (e.g. the placement of promoted healthier foods, verbal prompts to be used).
- **Monitors and inspectors** must know what and how to record monitoring results.

Develop a plan for training all personnel to be involved. The training can take several forms – it can be in person or online, and supplemented by offline aids such as videos and step-by-step guides. Hands-on technical support and one-on-one support may also build skills efficiently. Box 19 provides examples of possible training and technical assistance and supportive materials that may be considered.

Consider what would be the most effective methods for delivery of training. For example, it may be possible to integrate the training into existing training activities instead of having separate training sessions on the initiative for healthier food and healthier food environments. Use internal communication tools and awareness-raising activities to encourage personnel to develop new skills. Internal communication can include production of flyers, newsletters and knowledge-testing quizzes.

Capacity development goes beyond training. It may include revision of staff terms of reference to ensure that staff have sufficient time and other resources to carry out activities and establishing networks so that workers can exchange experiences.

Box 19. Examples of possible training and technical assistance and supportive materials

- **Q&As** in user-friendly formats and simple language about the rationale and activities for the initiative on healthier food and healthier food environments
- **Spreadsheet tools** to calculate nutrient content of meals and snacks and assess them against nutrition criteria
- **Food catalogues** with lists of food products that meet the nutrition criteria
- **Recipe books and sample menus** based on healthier versions of popular recipes for meals, snacks and side dishes that meet the criteria
- **Visual guides for food and beverage service points** that show layouts for product placement at food and beverage concessions and in vending machines
- **Training videos** for concession staff, food vendors and mobile hawkers illustrating how to implement changes to placement or presentation.
- **Checklists** for supervisors to ensure all activities are implemented correctly
- **Monitoring tools** for systematic recording of observations related to the implementation of activities

Plan for monitoring, supervision, course correction, evaluation and research

Monitoring is the ongoing **supervision** of activities during the operational phase. It aims to verify that activities are implemented as planned, and enables immediate **course correction** as needed.

Evaluation is planned in the early stage, with data collection in the operational phase and analyses completed during the post-event phase. It can focus on the process (if and how well the activities were implemented) and/or the outcome (what effect the intervention had, if any). It allows the sports event organizer to report on the achievement of results. It also provides lessons to be applied to future events, including by other sports event organizers if the lessons are shared.

Rigorously designed outcome evaluations using a suitable comparator (e.g. before versus after, measured against a set target; intervention versus control) – as in **research** – allow credible conclusions to be made. While before–after or target-focused assessments can indicate whether an intervention was successful or not, the gold standard is randomized control studies involving an intervention group and an appropriate control group. Such carefully planned randomized controlled evaluations provide an objective and unbiased assessment of the actual effects of a given intervention, which may be valuable when expanding or modifying the intervention. If such rigorous evaluations are not performed, there is a risk that wrong, inaccurate or biased conclusions may be drawn. From a legacy point of view, such rigorous studies are more influential, because they tend to be favoured in systematic reviews that pool results from multiple studies and form the evidence base of public health actions. Randomized controlled evaluations of food and food environments in sports settings exist, though not in great numbers (24, 113-115). When it is not possible to evaluate the entire initiative or the organizers are interested in understanding something specific, such as a media campaign, it is possible to integrate the study within the entire project to minimize costs.

It is important to highlight that any research and evaluation in the context of a sports event should comply with the national and international ethics standards, to ensure that those involved are always informed about the research and protected from unintentional harm. All research and research publications require clearance by an ethics board.

All monitoring and evaluation require detailed preparation to successfully and efficiently achieve their aims, with plans for **what information is to be collected where, when, how and by whom**.

• What?

Based on the agreed objectives and expected results, determine appropriate indicators, data sources and tools for monitoring as well as process and outcome evaluation. The decision on what information to gather should align with the original objectives and commitments made with respect to the food offer and food environments. This may range from collecting observational data on the implementation of activities at concession stands in the stadia or recording sales of various food items, to the collection of samples of meals and snacks to be evaluated for recipe compliance (e.g. the grams of lettuce and tomato added to a sandwich), possibly through formal assessment of nutrient content in a laboratory. Depending on the type of information to be recorded, organizers may need to seek ethics approval from national research committees, especially if people-related data will be collected. Clarity about the data needs may also refine what is asked of concessionaires and determine the type and level of disaggregation of data in their reporting. For example, time series reports of stock level data or detailed transaction-level sales data may not initially be recorded by concession stands, so they would need to change their routines. Consider how the effect of the actions will be shown – usually in comparison to a baseline or control in which the actions are not implemented. If against a baseline, then baseline data are needed – and may need to be collected, possibly through the review of the current

situation (described on pages 19-20). The project team may decide to compare effect against previous sport events, in which case comparable information must be collated.

- **Where and when?**

While supervision and monitoring may aim to cover all food and beverage sales points in all stadia, the systematic recording of information for evaluation purposes will likely not be feasible in all sales points. Determine from which types of food and beverage sales points, in which stadia and where within each stadium and at what times such information will be collected. Random selection is often considered a gold standard, but logistical consideration may favour purposeful selection such as one small and one large stadium, or a set proportion of food and beverage sales points every day of the tournament.

- **How?**

Review existing supervisory checklists, record keeping routines and other data collection tools (e.g. for food safety) and consider if these may be amended to include the collection of information needed for monitoring and evaluation of the healthier food and healthier food environment activities. Using digital technology and tools may help with collection and processing of a large amount of data, and can increase transparency.

- **By whom?**

The concessionaires will play a main role in recording food and beverage sales data. In addition, determine who will be involved in the monitoring of activities and the evaluation of processes and outcomes. Consider whether an external team should be engaged to collect and analyse the data. Partnering with universities or research institutes might be helpful, especially if a more rigorous research design is applied. It may be necessary to provide additional training for those engaged in monitoring and evaluation to ensure that everyone can use the tools and to ensure consistency between team members.

Operational phase

The operational phase is the period immediately before and during the sports event. During this phase, all personnel are onboarded and training activities are conducted. The physical environments are being set up, ready to host the fans. Activities are scaled up and launched. In this phase, monitoring and supervision are critical, and are coupled with course correction as needed. Although it may not be considered as the highest priority, activities must be documented and information collected so that success can be measured and lessons learned.

Train all personnel involved

Once all staff are onboarded, roll out the training activities on healthier food and healthier food environment to all staff identified in the plan. As far as possible, integrate this into training and briefings. Consider how staff that miss training can be briefed by other staff or get instructions through checklists and other aids.

Make the final preparations

Ensure that all final preparations for the healthier food and healthier food environment are made ahead of the kick-off of the event.

Verify that all ingredients and products are ready for the improved **food offer**. This includes, for example, appropriate storage for increased amounts of perishable food as a possible result of the initiative. Review restocking plans to ensure the healthier menu items will be available throughout the event.

Nudges that require installation can be introduced alongside planned pre-event installation of safety and sponsor signage. Event organizers should specify and check where and how this takes place. Other nudges, including food placement at the concession stands or presentation of the food items, will be introduced closer to event start. Changes to how a menu item is presented may not occur on site but in concession kitchens. Make sure instructions and supportive tools such as checklists and illustrations (of how menu items should be presented) are available at food and beverage sales points and reflect the changes introduced.

Communication campaigns may already have started in the run-up to the event. Make sure that any messaging in and around the stadia is installed as planned and that any **restriction on marketing** of unhealthy foods and beverages is being respected. Review the communications plan for the kick-off, which may include a media announcement, planned interviews with fans or athletes, social media posts, videos or live events.

Pilot test the activities of the initiative

A pilot test of the various activities planned under the healthier food and healthier food environments initiative helps to determine their feasibility and will also inform the need for additional last-minute training and potential adjustments. It may give an early indication of consumer preferences and whether there are specific menu items that are especially popular. This can help inform stocks of food items and will be especially important if new menu items are being introduced. For high-impact communication activities, test the messaging with the targeted fan base to collect feedback, then adjust and modify the communication tools accordingly.

The pilot exercise can be an opportunity to assess the suitability of the selected menu and nudges. This can include, for example the robustness of materials such as posters and wobblers, the extent to which nudges can be implemented as planned, barriers and enablers in implementation, food purchases, and customer satisfaction.

The pilot exercise can also be used to trial supervision and monitoring materials.

Supervision, monitoring and course correction

The team responsible for monitoring activities, whether it be a specifically designed team under the event organizer or in partnership with external parties such as academia or public health networks, should begin monitoring at the start of the event. At that time, they should have a clear understanding of the information to be gathered and of their role in detecting, documenting, reporting and correcting deviations from the intended plans.

Information can be collected in many ways, where feasible, to assess perceived compliance versus actual compliance to the initiative. Where possible, data should be collected electronically to aid responsiveness of course correction.

During inspections, monitors should not be policing the supplier, caterer or vendor. Rather, they should use these encounters as an opportunity to assist them to change and improve where there are gaps or challenges. For example, inspections can help ensure that healthier menu items are restocked correctly in fridges and on shelves as they are depleted, signage is correctly reinstated if disturbed, and verbal prompts (nudges) are being used according to plans.

When challenges that cannot be immediately addressed are identified, event organizers should be informed directly so that they can trouble-shoot with the aid of relevant stakeholders (e.g. concessionaires, other internal teams).

Regular debriefings on the monitoring activities will help ensure that information is being gathered systematically and will raise, if necessary, issues or challenges that food and beverage concessions may be facing. Depending on logistics, resources and the scale and duration of the event, these debriefings may occur daily or weekly.

Post-event phase

The post-event phase occurs when the sports event is finished. It is a period for reflection, for documenting what worked and what did not work well, and drawing lessons that may help improve the healthier food and healthier food environment initiative. Sharing the experiences may create further interest among fans and help other sports event organizers who wish to do similar activities.

Evaluate the effect of the healthier food and healthier food environment initiative and draw lessons learned

Evaluation results are important for understanding the effect (or lack of effect) of the initiative. They can show whether the objectives have been met, why this was so, and help identify areas for improvements in future sports events. The results achieved may be compared to the baseline – for example, the existing food offer and food environment – or to those from a previous sports event if the conditions were similar enough to allow comparability. In a more rigorous evaluation design, the results may be compared to a control group, preferably randomly selected; in such cases, some stadia or some matches receive the interventions and others do not.

The evaluation should focus on both process and outcomes:

- **Process evaluation** provides an in-depth understanding of how and why results and outcomes have been achieved. It explores the implementation of the initiative, including challenges, barriers, successes and enablers. It can provide information on feasibility, acceptability and unintended consequences. Process evaluations are important to understand how the implementation of the initiative can be improved in future sports events.
- **Outcome evaluation** measures the impact of the initiative and whether the set objectives and expected short-, medium- and long-term results have been achieved. The impact should be measured against the objectives set during the planning phase. For example, it may check that sales of healthier menu items reached the expected targets, that the food offer in stadia kiosks changed after the introduction of the initiative, or that sales of sugar-sweetened beverages were lower than those at similar sports events without the initiative. Ensuring that the plans include short-term objectives with immediate outcomes (e.g. changes in menus, availability of healthier food, changes to the physical environment) will help detect an impact during the evaluation. Be aware that the ultimate outcomes (e.g. sales of menu items) can be affected by factors that are out of the control of the sports event organizer. For example, warm weather may increase the sale of ice creams; fans at early events may purchase fewer hot meals; or stadia which have many restaurants in their vicinity may have lower sales on their premises. Clarity around cause-and-effect assumptions (perhaps by using a model) may enhance the presentation of the evaluation findings.

Annex 4 provides examples of indicators and potential data sources that may be considered.

Share evaluation results

Once the evaluation is completed, communicate the findings widely, internally as well as externally.

Internal sharing to the team organizing the sports event will ensure that corrective action and lessons learned can be taken onboard ahead of future sports events. Research on healthier food in sports settings has found that ability to document an increase in sales may enhance implementation of the intervention (104).

Sharing results and learnings externally through peer-reviewed publications or other publicly available reports contributes to local and international knowledge exchange. It allows other sports event organizers, host cities and countries, public health associations, networks and other partners with high interest for healthy food in stadia, or healthy food in general, to learn from the experience. It was research that helped drive forward and cement the European Healthy Stadia Network (116). However, research or documented experiences in this topic area is still scarce, and as such new publications will be instrumental in helping create the evidence base to inform and improve such initiatives in future (113, 114).

Improve future sports events and consider making it a mandatory policy

The evaluation serves to take lessons onboard and improve future sports events. In this phase, take time to revisit and refine any longer-term objectives that may be being implemented in a stepwise approach.

Consider transforming the healthier food and healthier food environment initiative into a policy for the sports association, club or stadium. Not many sports stadia or sports clubs have healthy eating policies (2, 117). Research suggests that voluntary guidelines are insufficient, suggesting the need for mandatory regulation by government to ensure wide implementation and accountability (44, 118, 119). Similarly, with regards to food and beverage marketing in sport settings, voluntary guidelines have not proven to be effective overall, although the products marketed after restrictions are imposed may be somewhat healthier (95). Government regulation in this space typically addresses alcohol and gambling, although the food and beverage sector often provides the main sponsors. Widespread marketing of less-healthy food and beverage products during the sports event creates noise that any healthier food and healthier food environment initiative must battle against (118). Therefore, work with national and local governments to set rules for healthier food and healthier food environments in all sports settings. This will create a level playing field for all sports event organizers and the food and beverage industry engaging in this space, and maximize the reach of healthier food and healthier food environments to fans.



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Additional considerations for positioning healthier food and healthier food environments into new playing fields

This action guide focuses on healthier food and healthier food environments at sports events, however it may also be adapted to other applications or expanded to include additional considerations.

Healthy, safe and sustainable food for people's and planetary health

The initiative for healthier food and healthier food environments in and around sports stadia can include a range of other criteria beyond health, such as the safety, sustainability and local sourcing of food.

Sports events and sports clubs are increasingly focusing on sustainable food practices in various and sometimes innovative ways, such as eliminating or reducing meat options from menus, using organic ingredients, and installing organic gardens to supply healthy produce for their food service (9, 22, 34). Though initial responses from staff, fans, athletes and the media may be mixed, such initiatives have garnered support and can generate publicity both for the sports event or the club and for the healthier food (9). The WHO Regional Office for Europe has developed guidance for healthy and sustainable public food procurement. The guidance incorporates ecological criteria covering areas such as packaging, transport, food waste, seasonality and diversity, climate-friendly food, organic products and fair trade (120). Sports event organizers and governments may use this action guide to develop rules for healthier food and healthier food environments in and around stadia, while also ensuring that foods are safe and sustainable.

Most food and beverage sales points have strict criteria for food safety based on national regulations, which are present in most countries. Food safety issues should always be considered along with the concern for ensuring healthy diets. Application of the WHO five keys to safer food in the preparation and handling of food should be promoted and enforced (121).

Box 20 provides examples of criteria for safe and sustainable food. It is important to ensure coherence between the different sets of criteria and mitigate unintended consequences. For example, a ban on the sale of bottled water may unintentionally promote the consumption of sugar-sweetened beverages.

Box 20. Examples of criteria for safe and sustainable food

Food safety (121)

- Keep clean – for example, kitchen staff must wash hands before handling food and often during food preparation.
- Separate raw and cooked food – for example, by using separate kitchen equipment and utensils such as knives and cutting boards.
- Cook food thoroughly, especially meat, poultry, eggs and seafood.
- Keep food at safe temperatures – for example, do not leave cooked food at room temperature for more than 2 hours.
- Use safe water and raw materials – for example, do not use food beyond its expiry date.

Sustainable food (116, 120, 122)

- Set a minimum percentage on the number of climate-friendly options on the menu based on eggs, dairy, poultry, fish and red meat.
- Require a minimum number of plant-based options on the menu, with a focus on locally sourced and diverse fruits and vegetables in season, wholegrains and pulses.
- Set minimum target for the use of organic products and products labelled ecological, sustainable or fair trade.
- Set a minimum percentage of purchased foods that are to be free from antibiotics and/or hormones.
- Set criteria for reducing food loss and waste and provide opportunities to recycle or dispose of food waste and packaging.
- Set criteria for minimizing the use of plastics and derivatives in food packaging.
- Provide free, safe water from fountains.
- Set a minimum percentage of purchased food that must be from local sources and set requirements for transport along the food chain.
- Create enabling environments for breastfeeding by providing spaces for women to breastfeed in and around stadia.
- Complementary communication activities can also be created to support this initiative

Healthier food as part of an overall healthy lifestyle

Addressing the health and nutrition implications of foods and beverages provided within sports settings is in line with the WHO settings-based approach, highlighted by WHO in the 1986 Ottawa Charter. This emphasizes the development of environments that make population-wide, positive health-related behavioural changes (123). In addition, the WHO Global Action Plan for Physical Activity 2018–2030 stipulates that sports should promote health within the broader population, which includes participants, their families, and fans (124).

Sports event organizers and governments may use this action guide to develop rules for healthier food and healthier food environments, as part of a broader initiative addressing multiple risk factors in around sports stadia, including unhealthy diets, tobacco, alcohol and physical activity (125).

Healthier food and healthier food environments at children's events

Ensuring healthier food and healthier food environments is even more important when children are involved, whether as participants or spectators. Marketing of unhealthy food and beverages during sports events may influence dietary behaviours not only during but also after the event and later in life as adults, as well as among parents (126-128). The *WHO Set of recommendations on the marketing of foods and non-alcoholic beverages to children* calls for sports events where children gather to be free from the marketing of food high in fats, sugars or salt (52). Yet, in junior sports, food- and beverage-related sponsorships are frequent and most often for unhealthy products (12). These sponsorship agreements have been documented to include naming rights, branded uniforms, banners, and scoreboards, and participant packs which represent repeated exposure to unhealthy brands (11, 129, 130).

Many countries have policies for healthy food in schools (32, 131). These may be applied in sport settings where children gather. Some countries have policies to restrict food marketing in settings where children gather, particularly schools but sometimes also public recreational centres (18, 98). However, these policies often do not cover children all the way up to 18 years of age (98) or sport sponsorships or events (18).

The organization of the food offer in junior sports may be run partly or wholly by the parents, and often provides an important source of funds for the club, which must be maintained if the offer changes (132). Parents, being concerned about the unhealthy food and unhealthy food environment, are usually supportive of a greater protection of children (21, 107, 126, 133). Although food- and beverage-related sponsors do not contribute much direct funding to junior sports clubs (3), a withdrawal of support may require parents to take on higher costs of junior sport participation – something many are likely to be prepared to do provided their children are being protected (126).

Countries and sports event organizers can make the case for the need to protect children and use this action guide to put in place rules for a healthier food offer and healthier food environments. They may also develop guidelines and informational materials to support parents and junior sports clubs to improve the food offer and environments. These materials must take into account the limited resources of many clubs – for example, ill-equipped kitchens and lack of funds and time (132).

Healthier food offer for athletes

Although elite athletes usually have additional or specific individual nutrient requirements that are outside the scope of this action guide, the core principles of healthy diets (Box 1) apply to everybody, including the competing athletes. Sports event organizers should ensure that the healthier food and healthier food environment initiative is extended to the athlete villages and other areas where athletes gather (e.g. training grounds and changing rooms).

Healthier food at any event

Although this action guide addresses sports event organizers or governments aiming to achieve healthier food and healthier food environments at sports events, it may well be used to achieve healthier food and healthier food environments at other events, such as concerts, festivals and other cultural happenings, which sometimes take place in sports stadia or environments with similar infrastructure.

References

1. Irby MB, Drury-Brown M, Skelton JA. The food environment of youth baseball. *Child Obes.* 2014;10:260–5. doi: <https://doi.org/10.1089/chi.2013.0161>.
2. Drygas W, Ruszkowska J, Philpott M, Björkström O, Parker M, Ireland R et al. Good practices and health policy analysis in European sports stadia: results from the 'Healthy Stadia' project. *Health Promot Int.* 2013;28:157–65. doi: <https://doi.org/10.1093/heapro/dar088>.
3. Carter MA, Edwards R, Signal L, Hoek J. Availability and marketing of food and beverages to children through sports settings: a systematic review. *Public Health Nutr.* 2012;15:1373–9. doi: <https://doi.org/10.1017/S136898001100320X>.
4. Sukalakamala P, Sukalakamala S, Young P. An exploratory study of the concession preferences of generation Y consumers. *J Foodserv Bus Res.* 2013;16:378–90. doi: <https://doi.org/10.1080/15378020.2013.824278>.
5. Piggin J, Tlili H, Louzada B. How does health policy affect practice at a sport mega event? A study of policy, food and drink at Euro 2016. *Int J Sport Policy Politics.* 2017;9:739–51. doi: <https://doi.org/10.1080/19406940.2017.1372793>.
6. Garde A, Rigby N. Going for gold – should responsible governments raise the bar on sponsorship of the Olympic Games and other sporting events by food and beverage companies? *Commun Law.* 2012;17:42. (https://www.academia.edu/5180671/Going_for_gold, accessed 1 May 2023).
7. Ireland R, Watkins F. Football fans and food: a case study of a football club in the English premier league. *Public Health Nutr.* 2010;13:682–7. doi: <https://doi.org/10.1017/S1368980009991765>.
8. Ireland R, Chambers S, Bunn C. Exploring the relationship between Big Food corporations and professional sports clubs: a scoping review. *Public Health Nutr.* 2019;22:1888–97. doi: <https://doi.org/10.1017/S1368980019000545>.
9. Parry K, George E, Richards J, Stevens A. Watching football as medicine: promoting health at the football stadium. In: Krstrup P, Parnell H, editors. *Football as medicine: prescribing football for global health promotion.* United Kingdom: Routledge; 2019:183–200.
10. Parry K, Hall T, Baxter A. Who ate all the pies? The importance of food in the Australian sporting experience. *Sport Soc.* 2017;20:202–18. doi: <https://doi.org/10.1080/17430437.2016.1173916>.
11. Dixon H, Lee A, Scully M. Sports sponsorship as a cause of obesity. *Curr Obes Rep.* 2019;8:480–94. doi: <https://doi.org/10.1007/s13679-019-00363-z>.
12. Maher A, Wilson N, Signal L, Thomson G. Patterns of sports sponsorship by gambling, alcohol and food companies: an internet survey. *BMC Public Health.* 2006;6:95. doi: <https://doi.org/10.1186/1471-2458-6-95>.
13. Sherriff J, Griffiths D, Daube M. Cricket: notching up runs for food and alcohol companies? *Aust N Z J Public Health.* 2010;34:19–23. doi: <https://doi.org/10.1111/j.1753-6405.2010.00468.x>.
14. The Lancet. Chariots of fries. *Lancet.* 2012;380:188. doi: [https://doi.org/10.1016/S0140-6736\(12\)61198-2](https://doi.org/10.1016/S0140-6736(12)61198-2).
15. Collin J, MacKenzie R. The World Cup, sport sponsorship, and health. *Lancet.* 2006;367:1964–6. doi: [https://doi.org/10.1016/S0140-6736\(06\)68862-4](https://doi.org/10.1016/S0140-6736(06)68862-4).
16. Parry K, Richards J. Football fans and food: feeding the desire. In: Coombs D, Osborne A, editors. *Handbook of sport fans and fandom.* Routledge; 2022.
17. Piggin J, de Souza DL, Furtado S, Milanez M, Cunha G, Louzada BH et al. Do the Olympic Games promote dietary health for spectators? An interdisciplinary study of health promotion through sport. *Eur Sport Manag Q.* 2019;19:481–501. doi: <https://doi.org/10.1080/16184742.2018.1562484>.
18. Ireland R, Bunn C, Reith G, Philpott M, Capewell S, Boyland E et al. Commercial determinants of health: advertising of alcohol and unhealthy foods during sporting events. *Bull World Health Organ.* 2019;97:290–5. doi: <https://doi.org/10.2471/BLT.18.220087>.
19. Jensen RW, Haskell R, Larson BV. How does the quality of concessions at an NFL game affect fan satisfaction and behavior? Analysis of fan perceptions. *J Market Manag.* 2018;6:1–18. doi: http://jmm-net.com/journals/jmm/Vol_6_No_1_June_2018/1.pdf.
20. Sarstedt M, Ringle CM, Raithel S, Gudergan SP. In pursuit of understanding what drives fan satisfaction. *J Leis Res.* 2014;46:419–47. doi: <https://doi.org/10.1080/00222216.2014.11950335>.
21. Smith M, Signal L, Edwards R, Hoek J. Children's and parents' opinions on the sport-related food environment: a systematic review. *Obes Rev.* 2017;18:1018–39. doi: <https://doi.org/10.1111/obr.12558>.
22. Parry K, Rowe D, George E, Hall T. Healthy sport consumption: moving away from pies and beer. In: Parnell D, Krstrup P, editors. *Sport and health.* Routledge; 2018:219–37.
23. Jensen JD. Can worksite nutritional interventions improve productivity and firm profitability? A literature review. *Perspect Public Health.* 2011;131:184–92. doi: <https://doi.org/10.1177/1757913911408263>.
24. Wolfenden L, Kingsland M, Rowland BC, Dodds P, Gillham K, Yoong SL et al. Improving availability, promotion and purchase of fruit and vegetable and non sugar-sweetened drink products at community sporting clubs: a randomised trial. *Int J Behav Nutr Phys Act.* 2015;12:35. doi: <https://doi.org/10.1186/s12966-015-0193-5>.
25. McFadyen T, Chai LK, Wyse R, Kingsland M, Yoong SL, Clinton-McHarg T et al. Strategies to improve the implementation of policies, practices or programmes in sporting organisations targeting poor diet, physical inactivity, obesity, risky alcohol use or tobacco use: a systematic review. *BMJ Open.* 2018;8:e019151. doi: <https://doi.org/10.1136/bmjopen-2017-019151>.
26. Boelsen-Robinson T, Orellana L, Backholer K, Kurzeme A, Jerebine A, Gilham B et al. Change in drink purchases in 16 Australian recreation centres following a sugar-sweetened beverage reduction initiative: an observational study. *BMJ Open.* 2020;10:e029492. doi: <https://doi.org/10.1136/bmjopen-2019-029492>.
27. Olstad DL, Vermeer J, McCargar LJ, Prowse RJ, Raine KD. Using traffic light labels to improve food selection in recreation and sport facility eating environments. *Appetite.* 2015;91:329–35. doi: <https://doi.org/10.1016/j.appet.2015.04.057>.
28. Healthy diet. Fact sheet. Geneva: World Health Organization; 2018 (<https://www.who.int/news-room/fact-sheets/detail/healthy-diet>, accessed 11 May 2023).

29. Food safety. Fact sheet. Geneva: World Health Organization; 2019 (<https://www.who.int/news-room/fact-sheets/detail/food-safety>, accessed 11 May 2023).
30. Drinking-water. Fact sheet. Geneva: World Health Organization; 2019 (<https://www.who.int/en/news-room/fact-sheets/detail/drinking-water>, accessed 11 May 2023).
31. Food systems for health: information brief. Geneva: World Health Organization; 2021 (<https://apps.who.int/iris/handle/10665/350185>, accessed 1 May 2023).
32. Action framework for developing and implementing public food procurement and service policies for a healthy diet. Geneva: World Health Organization; 2021 (<https://apps.who.int/iris/handle/10665/338525>, accessed 1 May 2023).
33. Healthy FIFA World Cup Qatar 2022™. Creating legacy for sport and health. Geneva: World Health Organization; 2022 (<https://www.who.int/initiatives/sports-and-health/healthy-2022-world-cup>, accessed 15 February 2023).
34. Fuster M, Handley MA, Alam T, Fullington LA, Elbel B, Ray K et al. Facilitating healthier eating at restaurants: a multidisciplinary scoping review comparing strategies, barriers, motivators, and outcomes by restaurant type and initiator. *Int J Environ Res Public Health*. 2021;18. doi: <https://doi.org/10.3390/ijerph18041479>.
35. Breeze P, Womack R, Pryce R, Brennan A, Goyder E. The impact of a local sugar sweetened beverage health promotion and price increase on sales in public leisure centre facilities. *PLoS One*. 2018;13:e0194637. doi: <https://doi.org/10.1371/journal.pone.0194637>.
36. Naicker A, Shrestha A, Joshi C, Willett W, Spiegelman D. Workplace cafeteria and other multicomponent interventions to promote healthy eating among adults: a systematic review. *Prev Med Rep*. 2021;22:101333. doi: <https://doi.org/10.1016/j.pmedr.2021.101333>.
37. Grech A, Allman-Farinelli M. A systematic literature review of nutrition interventions in vending machines that encourage consumers to make healthier choices. *Obes Rev*. 2015;16:1030–41. doi: <https://doi.org/10.1111/obr.12311>.
38. Huse O, Schultz S, Boelsen-Robinson T, Ananthapavan J, Peeters A, Sacks G et al. The implementation and effectiveness of outlet-level healthy food and beverage accreditation schemes: A systematic review. *Obes Rev*. 2023;24:e13556. doi: <https://doi.org/10.1111/obr.13556>.
39. Olstad DL, Goonewardene LA, McCargar LJ, Raine KD. Choosing healthier foods in recreational sports settings: a mixed methods investigation of the impact of nudging and an economic incentive. *Int J Behav Nutr Phys Act*. 2014;11:6. doi: <https://doi.org/10.1186/1479-5868-11-6>.
40. Food and Agriculture Organization of the United Nations, International Fund for Agricultural Development, United Nations Children's Fund, World Food Programme, World Health Organization. The state of food security and nutrition in the world 2022. Repurposing food and agricultural policies to make healthy diets more affordable. Rome: FAO; 2022 (<https://doi.org/10.4060/cc0639en>, accessed 1 May 2023).
41. Olstad DL, Goonewardene LA, McCargar LJ, Raine KD. If we offer it, will children buy it? Sales of healthy foods mirrored their availability in a community sport, commercial setting in Alberta, Canada. *Child Obes*. 2015;11:156–64. doi: <https://doi.org/10.1089/chi.2014.0131>.
42. Healthy diet: Keys to eating well. Geneva: World Health Organization; 2020 (<https://www.who.int/news-room/questions-and-answers/item/healthy-diet-keys-to-eating-well>, accessed 1 May 2023).
43. Forsyth A, Nicholson M, Skiadopoulou A, Trakman G, Devlin B, Belski R et al. Interventions to reduce sugar-sweetened beverage consumption using a nudge approach in Victorian community sports settings. *Aust N Z J Public Health*. 2021;45:592–8. doi: <https://doi.org/10.1111/1753-6405.13182>.
44. McIsaac JD, Jarvis S, Olstad DL, Naylor PJ, Rehman L, Kirk SF. Voluntary nutrition guidelines to support healthy eating in recreation and sports settings are ineffective: findings from a prospective study. *AIMS Public Health*. 2018;5:411–20. doi: <https://doi.org/10.3934/publichealth.2018.4.411>.
45. WHO Regional Office for Europe nutrient profile model. Copenhagen: WHO Regional Office for Europe; 2015 (<https://apps.who.int/iris/handle/10665/152779>, accessed 11 May 2023).
46. WHO Regional Office for Europe nutrient profile model, 2nd edition. Copenhagen: WHO Regional Office for Europe; 2023 (<https://apps.who.int/iris/handle/10665/366328>, accessed 1 May 2023).
47. Nutrient profile model for the WHO African Region. Brazzaville: WHO Regional Office for Africa; 2019 (<https://apps.who.int/iris/handle/10665/329956>, accessed 11 May 2023).
48. Nutrient profile model for the marketing of food and non-alcoholic beverages to children in the WHO Eastern Mediterranean Region. Cairo: WHO Regional Office for the Eastern Mediterranean Region; 2017 (<https://apps.who.int/iris/handle/10665/255260>, accessed 11 May 2023).
49. WHO nutrient profile model for South-East Asia Region. New Delhi: WHO Regional Office for South-East Asia; 2016 (<https://apps.who.int/iris/handle/10665/253459>, accessed 11 May 2023).
50. WHO nutrient profile model for the Western Pacific Region. Manila: WHO Regional Office for the Western Pacific; 2016 (<https://apps.who.int/iris/handle/10665/252082>, accessed 11 May 2023).
51. Pan American Health Organization. Pan American Health Organization nutrient profile model. Washington, DC: Pan American Health Organization, World Health Organization; 2018 (<https://www.knowledge-action-portal.com/en/content/pan-american-health-organization-nutrient-profile-model>, accessed 1 May 2023).
52. Set of recommendations on the marketing of foods and non-alcoholic beverages to children. Geneva: World Health Organization; 2010 (<https://apps.who.int/iris/handle/10665/44416>, accessed 1 May 2023).
53. Kraak V, Rincón-Gallardo Patiño S, Renukuntla D, Kim E. Progress evaluation for transnational restaurant chains to reformulate products and standardize portions to meet healthy dietary guidelines and reduce obesity and non-communicable disease risks, 2000–2018: a scoping and systematic review to inform policy. *Int J Environ Res Public Health*. 2019;16:2732. doi: <https://doi.org/10.3390/ijerph16152732>.
54. Healthy eating in recreation and sport settings. Halifax: Government of Nova Scotia; 2015 (<https://stayactiveeathealthy.ca/wp-content/uploads/formidable/6/HERSS-Guidelines.pdf>, accessed 1 May 2023).
55. Tackling NCDs: 'best buys' and other recommended interventions for the prevention and control of noncommunicable diseases. Geneva: World Health Organization; 2017 (<https://apps.who.int/iris/handle/10665/259232>, accessed 11 May 2023).
56. Human energy requirements. Report of a Joint FAO/WHO/UNU Expert Consultation, Rome, Italy, 17–24 October 2001. Rome: World Health Organization, Food and Agriculture Organization of the United Nations, United Nations University; 2004 (<https://www.fao.org/3/y5686e/y5686e00.htm>, accessed 1 May 2023).
57. Lewis J. Codex nutrient reference values. Rome: Food and Agriculture Organization of the United Nations, World Health Organization; 2019 (<https://www.fao.org/3/ca6969en/CA6969EN.pdf>, accessed 1 May 2023).

58. Guideline: fortification of food-grade salt with iodine for the prevention and control of iodine deficiency disorders. Geneva: World Health Organization; 2014 (<https://apps.who.int/iris/handle/10665/136908>, accessed 1 May 2023).
59. Qatar Ministry of Education. Guidance for supervisors of school canteens for the academic year 2018–2019. Doha: Ministry of Education and Higher Education Health and Safety Department; 2018 (<https://extranet.who.int/nutrition/gina/en/node/57257>, accessed 1 May 2023).
60. Healthy choices: food and beverage guidelines for cafeterias and vending machines. Doha: Qatar Ministry of Public Health; 2021 (<https://extranet.who.int/nutrition/gina/en/node/97899>, accessed 1 May 2023).
61. Hillier-Brown FC, Summerbell CD, Moore HJ, Routen A, Lake AA, Adams J et al. The impact of interventions to promote healthier ready-to-eat meals (to eat in, to take away or to be delivered) sold by specific food outlets open to the general public: a systematic review. *Obes Rev*. 2017;18:227–46. doi: <https://doi.org/10.1111/obr.12479>.
62. Reformulation of food and beverage products for healthier diets: policy brief. Geneva: World Health Organization; 2022 (<https://apps.who.int/iris/handle/10665/355755>, accessed 1 May 2023).
63. Hillier-Brown FC, Summerbell CD, Moore HJ, Wrieden WL, Adams J, Abraham C et al. A description of interventions promoting healthier ready-to-eat meals (to eat in, to take away, or to be delivered) sold by specific food outlets in England: a systematic mapping and evidence synthesis. *BMC Public Health*. 2017;17:93. doi: <https://doi.org/10.1186/s12889-016-3980-2>.
64. Lawless HT, Patel AA, Lopez NV. Mixed messages: ambiguous penalty information in modified restaurant menu items. *Food Qual Prefer*. 2016;52:232–6. doi: <https://doi.org/10.1016/j.foodqual.2016.05.005>.
65. Patel AA, Lopez NV, Lawless HT, Njike V, Beleche M, Katz DL. Reducing calories, fat, saturated fat, and sodium in restaurant menu items: effects on consumer acceptance. *Obesity*. 2016;24:2497–508. doi: <https://doi.org/10.1002/oby.21684>.
66. Andreyeva T, Long MW, Brownell KD. The impact of food prices on consumption: a systematic review of research on the price elasticity of demand for food. *Am J Public Health*. 2010;100:216–22. doi: <https://doi.org/10.2105/AJPH.2008.151415>.
67. Turner C, Aggarwal A, Walls H, Herforth A, Drewnowski A, Coates J et al. Concepts and critical perspectives for food environment research: a global framework with implications for action in low- and middle-income countries. *Glob Food Sec*. 2018;18:93–101. doi: <https://doi.org/10.1016/j.gfs.2018.08.003>.
68. Alsubhi M, Blake M, Nguyen T, Majmudar I, Moodie M, Ananthapavan J. Consumer willingness to pay for healthier food products: A systematic review. *Obes Rev*. 2023;24:e13525. doi: <https://doi.org/10.1111/obr.13525>.
69. Implementing fiscal and pricing policies to promote healthy diets: a review of contextual factors. Geneva: World Health Organization; 2021 (<https://apps.who.int/iris/handle/10665/345114>, accessed 1 May 2023).
70. Using price policies to promote healthier diets. Copenhagen: WHO Regional Office for Europe; 2015 (<https://apps.who.int/iris/handle/10665/156403>, accessed 1 May 2023).
71. von Philipsborn P, Stratil JM, Burns J, Busert LK, Pfadenhauer LM, Polus S et al. Environmental interventions to reduce the consumption of sugar-sweetened beverages and their effects on health. *Cochrane Database Syst Rev*. 2019;6:CD012292. doi: <https://doi.org/10.1002/14651858.CD012292.pub2>.
72. Gittelsohn J, Trude ACB, Kim H. Pricing strategies to encourage availability, purchase, and consumption of healthy foods and beverages: a systematic review. *Prev Chronic Dis*. 2017;14:E107. doi: <https://doi.org/10.5888/pcd14.170213>.
73. WHO Technical Advisory Group on behavioural insights and science for health. Principles and steps for applying a behavioural perspective to public health. Geneva: World Health Organization; 2021 (<https://www.who.int/publications/m/item/technical-note-from-the-who-technical-advisory-group-on-behavioural-insights-and-science-for-health>, accessed 4 May 2023).
74. Thaler R, Sunstein C. *Nudge: improving decisions about health, wealth and happiness*. New Haven and London: Yale University Press; 2008.
75. Ensaff H, Homer M, Sahota P, Braybrook D, Coan S, McLeod H. Food choice architecture: an intervention in a secondary school and its impact on students' plant-based food choices. *Nutrients*. 2015;7:4426–37. doi: <https://doi.org/10.3390/nu7064426>.
76. Nudges to promote healthy eating in schools: policy brief. Geneva: World Health Organization; 2022 (<https://apps.who.int/iris/handle/10665/354562>, accessed 1 May 2023).
77. Ensaff H. A nudge in the right direction: the role of food choice architecture in changing populations' diets. *Proc Nutr Soc*. 2021;80:195–206. doi: <https://doi.org/10.1017/S0029665120007983>.
78. Al-Khudairy L, Uthman OA, Walmsley R, Johnson S, Oyebode O. Choice architecture interventions to improve diet and/or dietary behaviour by healthcare staff in high-income countries: a systematic review. *BMJ Open*. 2019;9:e023687. doi: <https://doi.org/10.1136/bmjopen-2018-023687>.
79. Allan J, Querstret D, Banas K, de Bruin M. Environmental interventions for altering eating behaviours of employees in the workplace: a systematic review. *Obes Rev*. 2017;18:214–26. doi: <https://doi.org/10.1111/obr.12470>.
80. Marcano-Olivier MI, Horne PJ, Viktor S, Erjavec M. Using nudges to promote healthy food choices in the school dining room: a systematic review of previous investigations. *J Sch Health*. 2020;90:143–57. doi: <https://doi.org/10.1111/josh.12861>.
81. Skov LR, Lourenço S, Hansen GL, Mikkelsen BE, Schofield C. Choice architecture as a means to change eating behaviour in self-service settings: a systematic review. *Obes Rev*. 2013;14:187–96. doi: <https://doi.org/10.1111/j.1467-789X.2012.01054.x>.
82. van Rookhuijzen M, de Vet E. Nudging healthy eating in Dutch sports canteens: a multi-method case study. *Public Health Nutr*. 2021;24:327–37. doi: <https://doi.org/10.1017/S1368980020002013>.
83. Blake MR, Romaniuk H, Riesenber D, Boelsen-Robinson T, Cameron AJ, Orellana L et al. Implementation and sales impact of a capacity building intervention in Australian sporting facility food outlets: a longitudinal observational study. *BMJ Nutr Prev Health*. 2022;5:171–81. doi: <https://doi.org/10.1136/bmjnp-2022-000445>.
84. Bauer JM, Reisch LA. Behavioural insights and (un)healthy dietary choices: a review of current evidence. *J Consum Policy*. 2019;42:3–45. doi: <https://doi.org/10.1007/s10603-018-9387-y>.
85. House of Lords Science and Technology Select Committee. Behaviour change: 2nd Report of session 2010–12: HL Paper 179. London: United Kingdom Parliament; 2011 (<https://publications.parliament.uk/pa/ld201012/ldselect/ldscitech/179/179.pdf>, accessed 1 May 2023).
86. Gupta A, Alston L, Needham C, Robinson E, Marshall J, Boelsen-Robinson T et al. Factors influencing implementation, sustainability and scalability of healthy food retail interventions: a systematic review of reviews. *Nutrients*. 2022;14. doi: <https://doi.org/10.3390/nu14020294>.
87. Matos JP, Araújo LCM, Horta PM. [Sponsorship by the food and beverage industries in Brazilian professional soccer: an obstacle to the promotion of healthy eating]. *Cad Saude Publica*. 2021;36:e00219719. doi: <https://doi.org/10.1590/0102-311X00219719>.

88. Araujo LCM, Matos JP, Horta PM. Sponsorship by food and beverage companies in soccer: an analysis of the 2019 Copa América. *Rev Saude Publica*. 2022;56:41. doi: <https://doi.org/10.11606/s1518-8787.2022056003491>.
89. Carter M-A, Signal L, Edwards R, Hoek J, Maher A. Food, fizzy, and football: promoting unhealthy food and beverages through sport – a New Zealand case study. *BMC Public Health*. 2013;13:126. doi: <https://doi.org/10.1186/1471-2458-13-126>.
90. Bragg MA, Roberto CA, Harris JL, Brownell KD, Elbel B. Marketing food and beverages to youth through sports. *J Adolesc Health*. 2018;62:5–13. doi: <https://doi.org/10.1016/j.jadohealth.2017.06.016>.
91. Piaggio LR. Sugar-sweetened beverages and sports sponsorship: the right to health of children and adolescents at stake. *Arch Argent Pediatr*. 2019;117:e8–e13. doi: <https://doi.org/10.5546/aap.2019.eng.e8>.
92. Bragg MA, Miller AN, Roberto CA, Sam R, Sarda V, Harris JL et al. Sports sponsorships of food and nonalcoholic beverages. *Pediatrics*. 2018;141. doi: <https://doi.org/10.1542/peds.2017-2822>.
93. Lindsay S, Thomas S, Lewis S, Westberg K, Moodie R, Jones S. Eat, drink and gamble: marketing messages about 'risky' products in an Australian major sporting series. *BMC Public Health*. 2013;13:719. doi: <https://doi.org/10.1186/1471-2458-13-719>.
94. Prowse R, Storey K, Olstad DL, Carson V, Raine KD. Choice, motives, and mixed messages: a qualitative photo-based inquiry of parents' perceptions of food and beverage marketing to children in sport and recreation facilities. *Int J Environ Res Public Health*. 2022;19. doi: <https://doi.org/10.3390/ijerph19052592>.
95. Prowse RJL, Naylor PJ, Olstad DL, Carson V, Storey K, Måsse LC et al. Food marketing in recreational sport settings in Canada: a cross-sectional audit in different policy environments using the Food and beverage Marketing Assessment Tool for Settings (FoodMATS). *Int J Behav Nutr Phys Act*. 2018;15:39. doi: <https://doi.org/10.1186/s12966-018-0673-5>.
96. Kelly B, Baur LA, Bauman AE, King L, Chapman K, Smith BJ. Restricting unhealthy food sponsorship: Attitudes of the sporting community. *Health Policy*. 2012;104:288–95. doi: <https://doi.org/10.1016/j.healthpol.2011.10.004>.
97. Tomlinson M. Mega sporting events: A poisoned chalice or a new dawn for low- and middle-income countries? *J Glob Health*. 2011;1:36–8. (<https://www.ncbi.nlm.nih.gov/pubmed/23198100>, accessed 1 May 2023).
98. Protecting children from the harmful impact of food marketing: policy brief. Geneva: World Health Organization; 2022 (<https://apps.who.int/iris/handle/10665/354606>, accessed 1 May 2023).
99. A framework for implementing the set of recommendations on the marketing of foods and non-alcoholic beverages to children. Geneva: World Health Organization; 2012 (<https://apps.who.int/iris/handle/10665/80148>, accessed 1 May 2023).
100. Taking action to protect children from the harmful impact of food marketing: a child rights-based approach. World Health Organization & United Nations Children's Fund (UNICEF). Geneva: World Health Organization; 2023 (<https://apps.who.int/iris/handle/10665/370355>, accessed 8 July 2023).
101. Kubacki K, Hurley E, Rundle-Thiele S. A systematic review of sports sponsorship for public health and social marketing. *J Soc Mark*. 2017;8:24–39. doi: <https://doi.org/10.1108/JSOCM-01-2017-0001>.
102. Policies to protect children from the harmful impact of food marketing: WHO guideline. Geneva: World Health Organization; 2023. Licence: CC BY-NC-SA 3.0 IGO. (<https://apps.who.int/iris/handle/10665/370113>, accessed 3 July 2023).
103. Riesenberger D, Blake MR, Boelsen-Robinson T, Peeters A, Cameron AJ. Local government policies on healthy food promotion and obesity prevention: results from a national Australian survey. *Aust N Z J Public Health*. 2022;46:696–703. doi: <https://doi.org/10.1111/1753-6405.13257>.
104. Kirk SFL, Olstad DL, McIsaac JD, Prowse RJL, Caswell S, Hanning R et al. Appetite for change? Facilitators and barriers to nutrition guideline implementation in Canadian recreational facilities. *Health Promot Int*. 2021;36:1672–82. doi: <https://doi.org/10.1093/heapro/daab017>.
105. Safeguarding against possible conflicts of interest in nutrition programmes: approach for the prevention and management of conflicts of interest in the policy development and implementation of nutrition programmes at country level. Geneva: World Health Organization; 2017 (<https://apps.who.int/iris/handle/10665/274165>, accessed 1 May 2023).
106. Global database on the Implementation of Nutrition Action (GINA) [online database]. Geneva: World Health Organization; 2023 (<https://extranet.who.int/nutrition/gina/en/home>, accessed 28 April 2023).
107. Kelly B, King L, Bauman AE, Baur LA, Macniven R, Chapman K et al. Identifying important and feasible policies and actions for health at community sports clubs: a consensus-generating approach. *J Sci Med Sport*. 2014;17:61–6. doi: <https://doi.org/10.1016/j.jsams.2013.02.011>.
108. Lane C, Naylor PJ, Tomlin D, Kirk S, Hanning R, Masse L et al. Healthy vending contracts: do localized policy approaches improve the nutrition environment in publicly funded recreation and sport facilities? *Prev Med Rep*. 2019;16:100967. doi: <https://doi.org/10.1016/j.pmedr.2019.100967>.
109. WHO strategic communications framework for effective communications. Geneva: World Health Organization; 2017 (<https://www.who.int/docs/default-source/documents/communicating-for-health/communication-framework.pdf>, accessed 1 May 2023).
110. Raghunathan R, Naylor RW, Hoyer WD. The unhealthy = tasty intuition and its effects on taste inferences, enjoyment, and choice of food products. *J Mark*. 2006;70:170–84. doi: <https://doi.org/10.1509/jmk.70.4.170>.
111. Boyland EJ, Kavanagh-Safran M, Halford JC. Exposure to 'healthy' fast food meal bundles in television advertisements promotes liking for fast food but not healthier choices in children. *Br J Nutr*. 2015;113:1012–8. doi: <https://doi.org/10.1017/s0007114515000082>.
112. Carters-White LE, Patterson C, Nimegeer A, Hilton S, Chambers S. Newspaper framing of food and beverage corporations' sponsorship of sport: a content analysis. *BMC Public Health*. 2022;22:1753. doi: <https://doi.org/10.1186/s12889-022-14031-w>.
113. Jackson NW, Howes FS, Gupta S, Doyle J, Waters E. Policy interventions implemented through sporting organisations for promoting healthy behaviour change. *Cochrane Database Syst Rev*. 2005;CD004809. doi: <https://doi.org/10.1002/14651858.CD004809.pub2>.
114. Priest N, Armstrong R, Doyle J, Waters E. Policy interventions implemented through sporting organisations for promoting healthy behaviour change. *Cochrane Database Syst Rev*. 2008;2008:CD004809. doi: <https://doi.org/10.1002/14651858.CD004809.pub3>.
115. Olstad DL, Raine KD, Prowse RJL, Tomlin D, Kirk SF, McIsaac J-LD et al. Eat, play, live: a randomized controlled trial within a natural experiment examining the role of nutrition policy and capacity building in improving food environments in recreation and sport facilities. *Int J Behav Nutr Phys Act*. 2019;16:51. doi: <https://doi.org/10.1186/s12966-019-0811-8>.
116. Cade D, Curran K, Fuller A, Hacker J, Knight J, Lansley S et al. Perspectives from those involved in healthy stadia. *Sport Soc*. 2017;20:187–201. doi: <https://doi.org/10.4324/9781315147079-2>.
117. Dobbins SJ, Hayman JA, Livingston PM. Prevalence of health promotion policies in sports clubs in Victoria, Australia. *Health Promot Int*. 2006;21:121–9. doi: <https://doi.org/10.1093/heapro/dak001>.

118. Caswell S, Naylor PJ, Olstad D, Kirk S, Måsse L, Raine K et al. Recreation facility food and beverage environments in Ontario, Canada: an appeal for policy. *Int J Environ Res Public Health*. 2021;18. doi: <https://doi.org/10.3390/ijerph18158174>.
119. Olstad DL, Raine KD. Profit versus public health: the need to improve the food environment in recreational facilities. *Can J Public Health*. 2013;104:e167–9. doi: <https://doi.org/10.1007/BF03405682>.
120. How together we can make the world's most healthy and sustainable public food procurement. Copenhagen: WHO Regional Office for Europe; 2022 (<https://apps.who.int/iris/handle/10665/363337>, accessed 1 May 2023).
121. Five keys to safer food manual. Geneva: World Health Organization; 2006 (<https://apps.who.int/iris/handle/10665/43546>, accessed 11 May 2023).
122. Food Metric Report 2019. New York: City of New York (<https://www1.nyc.gov/assets/foodpolicy/downloads/pdf/Food-Policy-Report-2019.pdf>, accessed 11 May 2023).
123. International Conference on Health Promotion (1986: Ottawa; Canada), World Health Organization. Division of Health Education and Health Promotion. Health promotion: Ottawa Charter = Promotion santé, Charte d'Ottawa. World Health Organization; 1995 (<https://apps.who.int/iris/handle/10665/59557>, accessed 1 May 2023).
124. Global action plan on physical activity 2018–2030: more active people for a healthier world. Geneva: World Health Organization; 2018 (<https://apps.who.int/iris/handle/10665/272722>, accessed 1 May 2023).
125. WHO Sports and Health Programme. Geneva: World Health Organization; (<https://www.who.int/initiatives/sports-and-health>, accessed 11 May 2023).
126. Kelly B, Baur LA, Bauman AE, King L, Chapman K, Smith BJ. Views of children and parents on limiting unhealthy food, drink and alcohol sponsorship of elite and children's sports. *Public Health Nutr*. 2013;16:130–5. doi: <https://doi.org/10.1017/S1368980012001188>.
127. Koenigstorfer J. Childhood experiences and sporting event visitors' preference for unhealthy versus healthy foods: priming the route to obesity? *Nutrients*. 2018;10:1670. doi: <https://doi.org/10.3390/nu10111670>.
128. Scully M, Wakefield M, Pettigrew S, Kelly B, Dixon H. Parents' reactions to unhealthy food v. pro-health sponsorship options for children's sport: an experimental study. *Public Health Nutr*. 2020;23:727–37. doi: <https://doi.org/10.1017/S1368980019003318>.
129. Dixon H, Scully M, Wakefield M, Kelly B, Pettigrew S, Chapman K et al. The impact of unhealthy food sponsorship vs. pro-health sponsorship models on young adults' food preferences: a randomised controlled trial. *BMC Public Health*. 2018;18:1399. doi: <https://doi.org/10.1186/s12889-018-6298-4>.
130. Watson WL, Brunner R, Wellard L, Hughes C. Sponsorship of junior sport development programs in Australia. *Aust N Z J Public Health*. 2016;40:326–8. doi: <https://doi.org/10.1111/1753-6405.12541>.
131. United Nations Educational, Scientific and Cultural Organization, United Nations Children's Fund, World Food Programme. Ready to learn and thrive: school health and nutrition around the world. UNESCO Digital Library: UNESCO; 2023 (<https://unesdoc.unesco.org/ark:/48223/pf0000384421>, accessed 1 May 2023).
132. Garnweidner-Holme L, Haugland Sørfonn H, Joa I, Telle-Hansen VH, Omholt Gjevstad G, Myhrstad MC. Facilitators and barriers to healthy food selection at children's sports arenas in Norway: a qualitative study among club managers and parents 2020;24:1552–8. doi: <https://doi.org/10.1017/S1368980020003985>.
133. Boelsen-Robinson T, Thow AM, Lee N, Gill T, Colagiuri S. Gambling, fast food and alcohol sponsorship in elite sport – perspectives from Australian sporting fans. *BMC Public Health*. 2022;22:2155. doi: <https://doi.org/10.1186/s12889-022-14479-w>.



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Annexes

Annex 1

Thresholds for select food categories of the WHO regional nutrient profile models

Nutrient thresholds for ready-made and convenience food and composite dishes

The category includes ready-to-serve meals from restaurants, ready-made sandwiches, burgers in buns and ready meals, among others.

WHO region	Nutrient thresholds established for identifying food products prohibited from marketing to children						Other nutrient thresholds
	Thresholds per 100 g food product						
	Total fat (g)	Saturated fat (g)	Total sugars (g)	Added sugars (g)	Sodium (mg)	Energy (kcal)	Details
African Region	12	3.5	9	NA	350	NA	Trans fat: 1% of energy content
Region of the Americas	Thresholds not provided per 100 g ^a						
South-East Asia Region	8	3.5	9	NA	350	NA	Trans fat: 1% of energy content or 0.5 g/serving
European Region	10	4	10	NA	400	225	Trans fat: 1 g/100 g total fat
Eastern Mediterranean Region	10	4	10	NA	400	225	Trans fat: 1 g/100 g total fat
Western Pacific Region	10	4	10	NA	400	225	Trans fat: 1% of energy content

Nutrient thresholds for cookies, sweet biscuits, and pastries

The category includes different types of sweet bakeries, including cookies and macaroons.

WHO region	Nutrient thresholds established for identifying food products prohibited from marketing to children						Other nutrient thresholds
	Thresholds per 100 g food product						
	Total fat (g)	Saturated fat (g)	Total sugars (g)	Added sugars (g)	Sodium (mg)	Energy (kcal)	Details
African Region	8	NA	6	NA	NA	230	Trans fat: 1% of energy content
Region of the Americas	Thresholds not provided per 100 g ^a						
South-East Asia Region	8	NA	6	NA	NA	230	Trans fat: 1% of energy content or 0.5 g/serving
European Region	Marketing not permitted						
Eastern Mediterranean Region	Marketing not permitted						
Western Pacific Region	Marketing not permitted						

NA: not available

a. The thresholds are provided by energy content of the food product as follows: less than 30% of energy from total fat, less than 10% from saturated fat, less than 10% from free sugars, and less than 1mg of sodium per kcal.

Annex 2

WHO recipe cards for healthier food at sports events

EGG BURRITO



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Like tacos, burritos are tortilla-wrapped and can contain different fillings. Burritos are very popular in northern Mexico and in the southern United States of America due to their variety and practicality.

Burritos are prepared with flour tortillas, and in this recipe, we use whole grain flour tortillas with multicoloured vegetables in the filling.

Ingredients*

Vegetable omelette / servings	one	four	ten	formula %
● egg	100 g	400 g	1000 g	55.46
● broccoli, small pieces	25 g	100 g	250 g	13.87
● bell pepper, red and green, chopped	25 g	100 g	250 g	13.87
● onion, chopped	25 g	100 g	250 g	13.87
● canola oil	5 ml	20 ml	50 ml	2.77
● salt, iodized	0.3 g	1.2 g	3 g	0.16

Egg burrito / servings	one	four	ten	formula %
● vegetable omelette	130 g	520 g	1300 g	72.22
● flour tortilla, whole grain	50 g	200 g	500 g	27.78

* The weight of all ingredients is given in edible portion.

Instructions

Omelette

- Place oil and vegetables on a griddle. Cook vegetables until soft.
- Beat the eggs and add to the vegetables, cover and cook on medium heat until the eggs are cooked to a minimum temperature of 71 °C. Flip if necessary.

Assembly

- Heat the tortilla.
- Remove from the heat and put on a clean surface; place the vegetable omelette on top.
- Roll the tortilla by folding in the tortilla ends to form a burrito. It can be served on a plate or wrapped in a paper sheet.
- Store heated at a minimum temperature of 60 °C until serving or keep refrigerated at 4 °C or below before reheating.

Note: Whole grain tortilla is a critical ingredient because of its sodium content, aim for varieties of not more than 330 mg/100 g.

Nutrition facts	Per 100 g	Per serving (180 g)
Calories	159 kcal (665 kJ)	285 kcal (1197 kJ)
Protein	7.9 g	14.3 g
Total fat	7.3 g	13.1 g
Saturated fat	2.1 g	3.7 g
Trans fat	6.4 mg	11.5 mg
Available carbohydrate	15.3 g	27.5 g
Total sugars	0.8 g	1.4 g
Added sugars	0.2 g	0.3 g
Dietary fibre	2.2 g	4.0 g
Sodium	151 mg	272 mg

Allergens: Contains egg and gluten (tortilla)



The recipe is intended to be used by food businesses, concessionaries and sports event organizers.

VEGETABLE AND CHEESE CIABATTA



Roasted vegetables are an excellent option to add colour, flavour, fibre and vitamins to menu options.

This recipe adds vegetables to a traditional Italian ciabatta.

Ingredients*

Vegetable filling / servings	one	four	ten	formula %
● zucchini or green squash, thick slices	50 g	200 g	500 g	44.13
● carrot, strips	25 g	100 g	250 g	22.07
● bell pepper, red and green, sliced	23 g	92 g	230 g	20.30
● mushrooms, sliced	15 g	60 g	150 g	13.24
● salt, iodized	0.3 g	1.2 g	3 g	0.26
Ciabatta sandwich / servings	one	four	ten	formula %
● ciabatta bread	125 g	500 g	1250 g	46.40
● vegetable filling	95 g	380 g	950 g	35.26
● spinach, baby leaves	30 g	120 g	300 g	11.13
● mozzarella cheese, sliced	14 g	56 g	140 g	5.20
● pizza tomato sauce	5 ml	20 ml	50 ml	1.86
● mustard	0.4 g	1.6 g	4 g	0.15

* The weight of all ingredients is given in edible portion.

Nutrition facts	Per 100 g	Per serving (270 g)
Calories	184 kcal (796 kJ)	497 kcal (270 kJ)
Protein	5.9 g	16.0 g
Total fat	5.7 g	15.3 g
Saturated fat	2.4 g	6.3 g
Trans fat	0.0 mg	0.0 mg
Available carbohydrate	27.4 g	73.9 g
Total sugars	2.4 g	6.6 g
Added sugars	0.1 g	0.2 g
Dietary fibre	5.6 g	15.1 g
Sodium	271 mg	731 mg

Allergens: Contains gluten (ciabatta) and dairy (cheese)

Instructions

Vegetable filling

- In a hot pan or grill, roast separately the squash slices, bell peppers, carrots and mushrooms, adding salt and cooking until caramelized.

Assembly

- Slice the ciabatta in half and spread mustard on one half and tomato sauce on the other.
- Place the spinach, carrots and mushrooms on one half of the ciabatta.
- Then layer the roasted squash slices and mozzarella cheese.
- Microwave briefly to melt the cheese.
- Decorate with bell pepper slices and top with the second half.
- Ciabatta can be served cut in half on a plate or wrapped in a sheet of paper for to-go service.
- Store heated at a minimum temperature of 60 °C until serving or keep refrigerated at 4 °C or below before reheating.

Note: Ciabatta bread and tomato sauce are critical ingredients because of their sodium content. Aim for varieties of not more than 330 mg/100 g for ciabatta and 300 mg/100 ml for tomato sauce.



The recipe is intended to be used by food businesses, concessionaries and sports event organizers.

VEGETABLE PIZZA



Of Italian origin, pizza is undoubtedly a dish known worldwide. It is a flattened wheat dough on which various ingredients are placed and baked.

Adding plenty of vegetables will make this a healthier option.

Ingredients*

Pizza dough / servings	one	four	ten	formula %
● wheat flour	63 g	250 g	625 g	61.49
● warm water	30 ml	125 ml	315 ml	30.99
● sugar	2.8 g	11 g	27.5 g	2.70
● butter, unsalted	2.5 g	10 g	25 g	2.46
● yeast, dehydrated	2 g	8 g	20 g	1.97
● salt, iodized	0.4 g	1.6 g	4 g	0.39

Vegetable pizza / 110g each slice	one slice	four slices	ten slices	formula %
● pizza dough, precooked	63 g	250 g	625 g	51.87
● mushrooms, sliced	23 g	90 g	225 g	18.67
● bell pepper, sliced	10 g	40 g	100 g	8.30
● onion, sliced	10 g	40 g	100 g	8.30
● pizza tomato sauce	8 ml	32 ml	80 ml	6.64
● mozzarella cheese, grated	7.5 g	30 g	75 g	6.22

* The weight of all ingredients is given in edible portion.

Nutrition facts	Per 100 g	Per serving (110 g)
Calories	223 kcal (942 kJ)	245 kcal (1036 kJ)
Protein	8.5 g	9.3 g
Total fat	3.6 g	4.0 g
Saturated fat	1.9 g	2.1 g
Trans fat	0.0 mg	0.0 mg
Available carbohydrate	39.1 g	43.0 g
Total sugars	3.2 g	3.5 g
Added sugars	2.1 g	2.3 g
Dietary fibre	0.7 g	0.8 g
Sodium	200 mg	220 mg

Allergens: Contains dairy (cheese) and gluten (pizza dough)

Instructions

Pizza dough

- Mix yeast, flour, sugar and salt.
- Add warm water and knead until the dough does not stick and all ingredients are combined.
- Let rise for 30 minutes.
- Knead again and shape the pizza into either a circular or rectangular shape not thicker than 0.5 cm.
- Let rise for another 10 minutes.
- Bake at 190 °C for 10 minutes.

Assembly

- Spread tomato sauce on the pre-cooked pizza dough.
- Layer the vegetables and the cheese.
- Bake at 190 °C for another 8–10 minutes.
- Slice and serve.
- A circular pizza (about 30 cm in diameter) yields four servings.
- Store heated at a minimum temperature of 60 °C until serving or keep refrigerated at 4 °C or below before reheating.

Note: Tomato sauce is a critical ingredient due its sodium content, which must not exceed 300 mg/100 ml.



The recipe is intended to be used by food businesses, concessionaries and sports event organizers.

NUT AND DRIED FRUIT SALAD



Salads are dishes with endless possible combinations to create a healthy meal.

This recipe mixes dried fruit, nuts, lettuce leaves and baby spinach.

Ingredients*

Salad dressing / servings	one	four	ten	formula %
● honey	6.3 g	25.2 g	63 g	62.38
● mustard seeds	1.9 g	7.6 g	19 g	18.81
● vinegar	1.9 ml	7.6 ml	19 ml	18.81
Salad / servings	one	four	ten	formula %
● lettuce, hearts	45 g	180 g	450 g	36.00
● spinach, baby leaves	45 g	180 g	450 g	36.00
● salad dressing	10 ml	40 ml	100 ml	8.00
● peanuts	7 g	28 g	70 g	5.60
● almonds, sliced	7 g	28 g	70 g	5.60
● cranberries, dried	6 g	24 g	60 g	4.80
● walnuts	5 g	20 g	50 g	4.00

* The weight of all ingredients is given in edible portion.

Instructions

Salad dressing

- Mix honey and vinegar, add mustard seeds.

Salad

- Wash and dry spinach and lettuce. Chop the lettuce hearts.
- In a bowl, mix chopped lettuce and spinach leaves.
- Add walnuts, almonds, peanuts, cranberries and mix.
- Top with the salad dressing.
- Store refrigerated at 4 °C or below until serving.

Nutrition facts	Per 100 g	Per serving (125 g)
Calories	136 kcal (569 kJ)	170 kcal (711 kJ)
Protein	4.8 g	6 g
Total fat	7.5 g	9.4 g
Saturated fat	1.0 g	1.2 g
Trans fat	1 mg	1.3 mg
Available carbohydrate	12.3 g	15.3 g
Total sugars	8.4 g	10.5 g
Added sugars	4.1 g	5.1 g
Dietary fibre	1.9 g	2.4 g
Sodium	46 mg	58 mg

Allergens: Contains nuts



The recipe is intended to be used by food businesses, concessionaries and sports event organizers.

CHICKEN SHAWARMA WRAP



Shawarma is a popular street food in Middle Eastern countries. The original recipe uses lamb meat and spices cooked on a vertical spit.

Today several variations exist, including beef, chicken or vegetable shawarma.

Ingredients*

Chicken shawarma / servings	one	four	ten	formula %
● fresh chicken breast, fillets	125 g	500 g	1250 g	93.08
● lemon juice	5 ml	20 ml	50 ml	3.73
● garlic, crushed	2 g	8 g	20 g	1.49
● cumin, powder	0.5 g	2 g	5 g	0.37
● paprika, powder	0.5 g	2 g	5 g	0.37
● coriander, ground seeds	0.5 g	2 g	5 g	0.37
● cardamom, seeds	0.5 g	2 g	5 g	0.37
● pink pepper, powder	0.25 g	1 g	3 g	0.22
Garlic yoghurt sauce / servings	one	four	ten	formula %
● Greek yoghurt, without added sugars	19 g	77 g	192 g	93.04
● lemon juice	0.9 ml	3.7 ml	9.3 ml	4.53
● garlic, crushed	0.4 g	1.7 g	4.2 g	2.02
● cumin, powder	0.1 g	0.3 g	0.8 g	0.41
Chicken shawarma wrap / servings	one	four	ten	formula %
● chicken shawarma, cooked	75 g	300 g	750 g	36.41
● pita bread, whole wheat	65 g	260 g	650 g	31.55
● tomato, thick slices	30 g	120 g	300 g	14.56
● garlic yoghurt sauce	20 g	80 g	200 g	9.71
● lettuce, leaves	16 g	64 g	160 g	7.77

* The weight of all ingredients is given in edible portion.

Instructions

Chicken shawarma

- In a large bowl, combine the ingredients for the marinade and mix until well blended.
- Add the chicken fillets and mix to coat thoroughly. Cover the bowl with plastic wrap and marinate in the fridge for at least four hours.
- Cook the marinated chicken on the griddle to a minimum temperature of 74 °C.

Garlic yoghurt sauce

- Mix the yoghurt with lemon juice, cumin powder and crushed garlic.

Assembly

- Heat the pita bread on the griddle. Place two lettuce leaves and two tomato slices on the pita bread.
- Add cooked chicken shawarma.
- Drizzle some garlic yoghurt sauce on top.
- Fold to wrap the pita bread.
- Store heated at a minimum temperature of 60 °C until serving or keep refrigerated at 4 °C or below before reheating.

Note: Pita bread is a critical ingredient because of its sodium content, aim for varieties of not more than 330 mg/100 g.

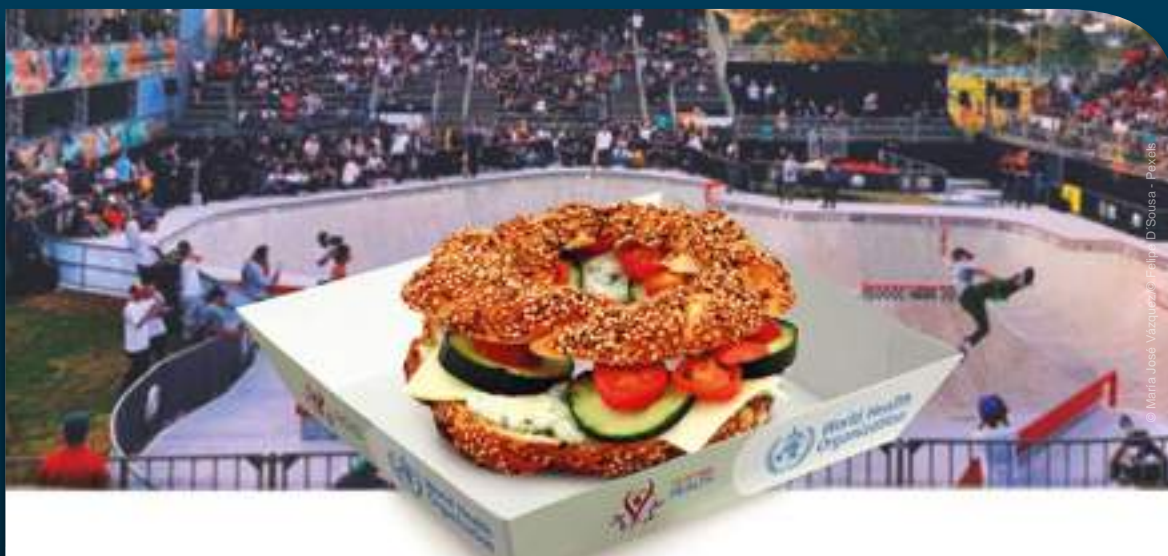
Nutrition facts	Per 100 g	Per serving (206 g)
Calories	183 kcal (768 kJ)	376 kcal (1583 kJ)
Protein	9.7 g	20.0 g
Total fat	5.9 g	12.1 g
Saturated fat	2.4 g	4.8 g
Trans fat	0.0 mg	0.0 mg
Available carbohydrate	22.6 g	46.7 g
Total sugars	3.0 g	6.2 g
Added sugars	0.0 g	0.0 g
Dietary fibre	1.3 g	2.8 g
Sodium	191 mg	394 mg

Allergens: Contains dairy (yoghurt) and gluten (pita bread)



The recipe is intended to be used by food businesses, concessionaries and sports event organizers.

VEGETABLE & CHEESE SIMIT



With more than six centuries of history, simit is a traditional Turkish bread, usually consumed for breakfast with cheese, fruit preserves or fresh vegetables.

This recipe combines the traditional bread with vegetables and tzatziki sauce popular in Middle Eastern countries, Greece and the southern Balkans.

Ingredients*

Tzatziki sauce / servings	one	four	ten	formula %
● Greek yoghurt, without added sugars	29 g	115 g	287.5 g	71.25
● cucumber, grated	9 g	36 g	90 g	22.30
● lemon juice	1.4 ml	5.6 ml	14 ml	3.47
● garlic, crushed	1 g	4 g	10 g	2.48
● mint leaves, chopped	0.2 g	0.8 g	2 g	0.50

Vegetable simit / 110g each slice	one	four	ten	formula %
● simit bread	100 g	400 g	1000 g	44.64
● tzatziki sauce	40 g	160 g	400 g	17.85
● cherry tomato, sliced	35 g	140 g	350 g	15.63
● cucumber, sliced	35 g	140 g	350 g	15.63
● mozzarella cheese, sliced	14 g	56 g	140 g	6.25

* The weight of all ingredients is given in edible portion.

Instructions

Tzatziki sauce

- Mix grated cucumber, chopped mint and Greek yoghurt in a bowl.
- Add crushed garlic and lemon juice. Mix to combine all the ingredients.

Assembly

- Slice simit bread horizontally in half and cut the cheese into four triangles per slice.
- Spread the sauce on one of the bread halves, place the cheese triangles on top, followed by cucumber and tomato slices. Top with the other half of simit bread.
- Store refrigerated at 4 °C or below until serving.

Note: Mozzarella cheese is a critical ingredient due to its sodium content, aim for varieties of not more than 190 mg/100 g.

Nutrition facts	Per 100 g	Per serving (224 g)
Calories	178 kcal (748 kJ)	399 kcal (1675 kJ)
Protein	6.1 g	13.6 g
Total fat	7.6 g	17.1 g
Saturated fat	1.9 g	4.3 g
Trans fat	0 mg	0 mg
Available carbohydrate	21.3 g	47.6 g
Total sugars	1.7 g	3.9 g
Added sugars	0.4 g	0.8 g
Dietary fibre	0.4 g	0.9 g
Sodium	290 mg	649 mg

Allergens: Contains dairy (cheese and yoghurt) and gluten (simit bread)



The recipe is intended to be used by food businesses, concessionaries and sports event organizers.

BAKED SPRING ROLLS



Originally from ancient China, spring rolls are made using wheat or rice flour dough filled with vegetables and meat and are traditionally fried.

The recipe has been adapted and modified in many countries. This variant avoids having excess fat by baking rather than frying the spring rolls. It also offers an excellent vegan or vegetarian option.

Ingredients*


Vegetable filling / servings	one (3 rolls, 30 g each)	four (12 rolls)	ten (30 rolls)	formula %
● cabbage, sliced	63 g	250 g	625 g	47.24
● mushrooms, sliced	29 g	115 g	288 g	21.77
● onion, chopped	15 g	60 g	150 g	11.34
● carrot, grated	15 g	60 g	150 g	11.34
● celery, chopped	8.25 g	33 g	82.5 g	6.24
● canola oil	1.25 ml	5 ml	12.5 ml	0.94
● soy sauce	1.25 ml	5 ml	12.5 ml	0.94
● garlic, crushed	0.25 g	1 g	2.5 g	0.19

Spring roll	one serving (3 rolls)	four servings (12 rolls)	ten servings (30 rolls)	formula %
● vegetable filling	90 g	360 g	900 g	74.38
● phyllo dough	12 g	48 g	120 g	9.92
● plum sauce	10 ml	40 ml	100 ml	8.26
● black sesame seeds	6 g	24 g	60 g	4.96
● canola oil	3 ml	12 ml	30 ml	2.48

* The weight of all ingredients is given in edible portion.

Nutrition facts**

	Per 100 g	Per serving (111 g)***
Calories	131 kcal (548 kJ)	146 kcal (608 kJ)
Protein	4.3 g	4.8 g
Total fat	5.3 g	5.9 g
Saturated fat	0.6 g	0.7 g
Trans fat	0.0 mg	0.0 mg
Available carbohydrate	16.8 g	18.7 g
Total sugars	6.7 g	7.5 g
Added sugars	3.6 g	4.0 g
Dietary fibre	2.1 g	2.3 g
Sodium	243 mg	269 mg

Allergens: Contains gluten (phyllo dough and soy sauce) 

** Nutrient information includes the plum sauce.
*** 3 pieces of 37 g each

Instructions

Vegetable filling

- Add oil to a non-stick pan. Add onions and cook until they turn translucent.
- Add the remaining ingredients and cook on medium heat until soft.

Assembly

- Roll out a double or triple layer of phyllo dough and cut it into rectangles (12 × 20–25 cm).
- Brush with flour solution (see note) to moisten the dough.
- Add about 30 g of filling to the corner closest to you and fold in starting from the two sides. Roll the wrappers and seal tightly.
- Place the formed rolls in a tray with a silicon liner, brush with oil and sprinkle with black sesame seeds.
- Bake in a preheated oven at 150–160 °C for 10–12 minutes or until golden brown.
- Serve the rolls with plum sauce.
- Store heated at a minimum temperature of 60 °C until serving or keep refrigerated at 4 °C or below before reheating.

Note: Use 50 g of flour dissolved in 100 ml of water to brush on the dough.
For the soy sauce, aim for varieties with no more than 6000 mg of sodium per 100 ml of sauce.



The recipe is intended to be used by food businesses, concessionaries and sports event organizers.

VEGAN BURGER



Legumes are an important source of protein. Therefore, vegan and vegetarian dishes widely use legumes, along with grains, to boost their nutritional quality.

This recipe replaces meat with a mix of beans, chickpeas and potatoes.

Ingredients*

Vegan patty / servings

	one	four	ten	formula %
● chickpeas, cooked	38 g	150 g	380 g	33.27
● beans, cooked	38 g	150 g	380 g	33.27
● potato, cooked and mashed	23 g	90 g	230 g	20.13
● wheat flour	6.25 g	25 g	62.5 g	5.47
● canola oil	5 ml	20 ml	50 ml	4.38
● coriander, chopped	2 g	8 g	20 g	1.75
● garlic, powder	0.75 g	3 g	7.5 g	0.66
● salt, iodized	0.6 g	2.4 g	6 g	0.52
● onion, powder	0.6 g	2.3 g	5.8 g	0.51
● oregano, dried	0.05 g	0.2 g	0.5 g	0.04

Vegan burger / servings

	one	four	ten	formula %
● vegan patty, cooked	100 g	400 g	1000 g	46.29
● burger bun, vegan	70 g	280 g	700 g	32.41
● tomato, sliced	20 g	80 g	200 g	9.26
● lettuce, leaves	13 g	52 g	130 g	6.02
● tomato sauce	10 g	40 g	100 g	4.63
● onion, sliced	3 g	12 g	30 g	1.39

* The weight of all ingredients is given in edible portion.

Nutrition facts

	Per 100 g	Per serving (216 g)
Calories	168 kcal (709 kJ)	363 kcal (1533 kJ)
Protein	5.8 g	12.5 g
Total fat	3.4 g	7.1 g
Saturated fat	0.6 g	1.2 g
Trans fat	0.0 mg	0.0 mg
Available carbohydrate	28.6 g	61.8 g
Total sugars	2.8 g	6.1 g
Added sugars	0.1 g	0.2 g
Dietary fibre	3.3 g	7.1 g
Sodium	311 mg	672 mg

Allergens: Contains gluten (burger bun and wheat flour)

Instructions

Vegan patty

- In a food processor, shred the beans and chickpeas.
- Add the potato, coriander, garlic, salt and spices and mix well.
- Incorporate the flour to obtain a sticky consistency.
- Divide the mixture into patties of about 115 g each.
- Use plastic or wax paper to form a burger.
- Add oil to a non-stick pan or griddle and cook the patty on both sides to at least 70 °C.

Assembly

- Spread tomato sauce on both halves of the vegan bun.
- Layer the lettuce leaf, vegan patty, onion and tomato slices.
- Serve the burger on a plate or wrapped for to-go service.
- Store heated at a minimum temperature of 60 °C until serving or keep refrigerated at 4 °C or below before reheating.

Note: Vegan burger bun, chickpeas, beans and tomato sauce are critical ingredients due to their sodium content, aim for varieties of not more than 330 mg/100 g (buns, tomato sauce) and 350 g/100 g (chickpeas and beans).



The recipe is intended to be used by food businesses, concessionaries and sports event organizers.

CHICKEN, RICE AND VEGETABLE WRAP



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Rice has been the basis for ancient cultures and the main ingredient for iconic recipes such as paella, chaufa, risotto and sushi.

This recipe is a practical wrap that combines brown rice with chicken and vegetables.

Ingredients*

Steamed brown rice / servings	one	four	ten	formula %
● brown rice	19 g	76 g	190 g	38.00
● water	30 ml	125 ml	310 ml	62.00
Marinated chicken / servings	one	four	ten	formula %
● fresh chicken breast, strips	125 g	500 g	1250 g	93.60
● lemon juice	5 ml	20 ml	50 ml	3.74
● honey	1.8 g	7 g	17.5 g	1.31
● Dijon mustard, whole grain	1 g	4 g	10 g	0.75
● canola oil	0.6 ml	2.5 ml	6.3 ml	0.47
● onion, powder	0.1 g	0.4 g	1 g	0.07
● black pepper, powder	0.08 g	0.3 g	0.75 g	0.06
Rice and vegetable mixture / servings	one	four	ten	formula %
● steamed brown rice	25 g	100 g	250 g	26.08
● squash/zucchini, strips	25 g	100 g	250 g	26.08
● carrot, chopped and blanched 1 min	15 g	60 g	150 g	15.64
● broccoli, chopped and blanched 1 min	15 g	60 g	150 g	15.64
● onion, chopped	15 g	60 g	150 g	15.64
● canola oil	0.6 ml	2.5 ml	6.3 ml	0.65
● salt, iodized	0.25 g	1 g	2.5 g	0.26
Chicken, rice and vegetable wrap / servings	one	four	ten	formula %
● pita bread, whole wheat	65 g	260 g	650 g	27.66
● chicken strips, marinated and cooked	75 g	300 g	750 g	31.91
● rice and vegetable mixture	95 g	380 g	950 g	40.43

* The weight of all ingredients is given in edible portion.

Nutrition facts	Per 100 g	Per serving (235 g)
Calories	207 kcal (853 kJ)	487 kcal (2051 kJ)
Protein	9.9 g	23.2 g
Total fat	7.1 g	16.6 g
Saturated fat	1.3 g	3.2 g
Trans fat	0.0 mg	0.0 mg
Available carbohydrate	26.1 g	61.3 g
Total sugars	4.6 g	10.8 g
Added sugars	1.7 g	4.1 g
Dietary fibre	1.5 g	3.5 g
Sodium	330 mg	777 mg

Allergens: Contains gluten (pita bread)

Instructions

Steamed brown rice

- Rinse rice in clean water.
- Combine water and rice in a saucepan with a tight-fitting lid.
- Cook over medium heat for 20–25 minutes or until all liquid is absorbed and the rice is soft and fluffy.

Marinated chicken

- Mix all the marinade ingredients.
- Add the chicken strips and marinate for at least four hours in the fridge.
- Drain and cook the chicken on a griddle to a minimum temperature of 74 °C.

Rice and vegetable mixture

- Add oil to a non-stick pan. Once hot, add onions and cook over medium heat until they become translucent. Add the squash and cook for 2–3 minutes. Add carrots, broccoli and salt, and combine well.
- Add the steamed brown rice and stir until well combined.

Assembly

- Heat the pita bread.
- Place cooked chicken strips.
- Add the rice and vegetable mixture.
- Roll to make the wrap. If necessary, use a paper sheet to help keep its shape.
- Store heated at a minimum temperature of 60 °C until serving or keep refrigerated at 4 °C or below before reheating.

Note: Pita bread is a critical ingredient because of its sodium content, aim for varieties of not more than 320 mg/100 g.



The recipe is intended to be used by food businesses, concessionaries and sports event organizers.

WHOLE GRAIN TUNA SALAD SANDWICH



Of English origin, sandwiches are a popular snack in many countries due to their variety and practicality.

With respect to the filling, try any that include vegetables!

Ingredients*

Tuna salad / servings	one	four	ten	formula %
● canned tuna in water, drained	80 g	320 g	800 g	66.12
● bell pepper, red, yellow and green, chopped	15 g	60 g	150 g	12.40
● canola oil mayonnaise	13 g	52 g	130 g	10.74
● onion, chopped	8 g	32 g	80 g	6.61
● lemon juice	5 ml	20 ml	50 ml	4.13

Tuna salad sandwich / servings	one	four	ten	formula %
● tuna salad	117 g	468 g	1170 g	61.42
● bread, whole grain	55.5 g	222 g	555 g	29.13
● lettuce	18 g	72 g	180 g	9.45

* The weight of all ingredients is given in edible portion.

Instructions

Tuna salad



- Mix the mayonnaise and tuna. Add finely chopped onion, bell peppers and lemon juice.

Assembly

- Place the lettuce on the whole grain bread and top with the tuna salad mixture. Cover with the second slice of bread.
- Grill the sandwich.
- The sandwich can be served on a plate or wrapped in paper for to-go service.
- Store refrigerated at 4 °C or below until serving.

Note: Mayonnaise and bread are critical ingredients for this recipe. In mayonnaise, the content of total fat must not exceed 60 g/100 g, of saturated fat 6 g/100 g and of sodium 400 mg/100 g. In whole grain bread, aim for varieties with a sodium content of not more than 330 mg/100 g.

Nutrition facts	Per 100 g	Per serving (190 g)
Calories	128 kcal (542 kJ)	243 kcal (1026 kJ)
Protein	13.5 g	25.5 g
Total fat	2.0 g	3.7 g
Saturated fat	0.3 g	0.5 g
Trans fat	11.5 mg	22 mg
Available carbohydrate	14.1 g	26.8 g
Total sugars	0.6 g	1.1 g
Added sugars	0.2 g	0.5 g
Dietary fibre	1.5 g	2.8 g
Sodium	259 g	491 mg

Allergens: Contains egg (mayonnaise)  and gluten (bread) 



The recipe is intended to be used by food businesses, concessionaries and sports event organizers.

VEGETABLE STICKS



A healthy twist on the classic 'chips and dip,' this recipe combines crunchy vegetables with a creamy garlic and yoghurt sauce for healthy snacking.

Ingredients*

Garlic yoghurt sauce / servings	one	four	ten	formula %
● Greek yoghurt, without added sugars	46.5 g	186.1 g	465.3 g	93.06
● lemon juice	2.3 g	9.0 g	22.5 g	4.50
● garlic, crushed	1.0 g	4.1 g	10.2 g	2.04
● cumin, powder	0.2 g	0.8 g	2 g	0.40

Vegetable sticks / servings	one	four	ten	formula %
● cucumber, long sticks	62.5 g	250 g	625 g	25
● carrot, long sticks	62.5 g	250 g	625 g	25
● garlic yoghurt sauce	50 g	200 g	500 g	20
● bell pepper, long sticks	37.5 g	150 g	375 g	15
● zucchini, long sticks	37.5 g	150 g	375 g	15

* The weight of all ingredients is given in edible portion.

Instructions


Garlic yoghurt sauce

- Mix the yoghurt with lemon juice, cumin powder and crushed garlic.

Vegetable sticks

- Wash and sanitize the vegetables.
- Peel and cut vegetables into long sticks (8–12 cm x 0.5–1 cm).
- Place the vegetable sticks in a container alongside the yoghurt sauce.
- Store refrigerated at 4 °C or below until serving.

Nutrition facts	Per 100 g	Per serving (50 g)
Calories	28 kcal (120 kJ)	72 kcal (303 kJ)
Protein	2.0 g	5.0 g
Total fat	0.5 g	1.4 g
Saturated fat	0.2 g	0.6 g
Trans fat	0.0 mg	0.0 mg
Available carbohydrate	4.0 g	9.9 g
Total sugars	3.8 g	9.4 g
Added sugars	0.4 g	1.0 g
Dietary fibre	1.0 g	2.6 g
Sodium	24 mg	59 mg

Allergens: Contains dairy (yoghurt) 



The recipe is intended to be used by food businesses, concessionaries and sports event organizers.

VEGETABLE ROLL



Originating in the Middle East, hummus is now a popular dip around the world often eaten with pita bread, crackers or vegetables.

This recipe pairs crisp vegetables with creamy hummus and tangy garlic yoghurt sauce in a practical wrap to make a delicious snack.

Ingredients*

Garlic yoghurt sauce / servings	one	four	ten	formula %
● Greek yoghurt, without added sugar	18.6 g	74.4 g	186.1 g	93.05
● lemon juice	0.9 g	3.6 g	9 g	4.50
● garlic, crushed	0.4 g	1.6 g	4.1 g	2.05
● cumin, powder	0.1 g	0.3 g	0.8 g	0.40

Vegetable roll / servings	one	four	ten	formula %
● pita bread, whole wheat	45 g	180 g	450 g	20.00
● carrot, strips	30 g	120 g	300 g	13.33
● zucchini, strips	30 g	120 g	300 g	13.33
● cucumber, strips	30 g	120 g	300 g	13.33
● hummus	30 g	120 g	300 g	13.33
● lettuce, leaves	20 g	80 g	200 g	8.89
● bell pepper, green and red, strips	20 g	80 g	200 g	8.89
● garlic yoghurt sauce	20 g	80 g	200 g	8.89

* The weight of all ingredients is given in edible portion.

Instructions

Garlic yoghurt sauce

- Mix the yoghurt with lemon juice, cumin powder and crushed garlic.

Veggie roll

- Wash and sanitize all vegetables before peeling them.
- Cut the vegetables into long strips (8–10 cm × 0.5–1 cm).

Assembly

- Heat the pita bread and spread hummus across.
- Place lettuce leaves on top of the hummus.
- Place vegetable strips on the lettuce.
- Roll to make a wrap.
- Store refrigerated at 4 °C or below until serving.
- When serving, drizzle the garlic yoghurt sauce on the top.

Note: Pita bread is a critical ingredient because of its sodium content, aim for varieties of not more than 330 mg/100 g. Hummus is a critical ingredient because of its sodium and fat content, aim for varieties of not more than 1200 mg/100 g for sodium and 35 g/100 g for total fat.

Nutrition facts	Per 100 g	Per serving (225 g)
Calories	113 kcal (475 kJ)	255 kcal (1069 kJ)
Protein	4.7 g	10.5 g
Total fat	4.4 g	9.9 g
Saturated fat	0.6 g	1.4 g
Trans fat	0.0 mg	0.0 mg
Available carbohydrate	13.7 g	30.9 g
Total sugars	3.2 g	7.2 g
Added sugars	0.2 g	0.4 g
Dietary fibre	3.1 g	7.1 g
Sodium	190 mg	429 mg

Allergens: Contains dairy (yoghurt) and gluten (pita bread)



The recipe is intended to be used by food businesses, concessionaries and sports event organizers.



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Annex 3

Example tool to guide assessment of the food offer and food environment in and around sports stadia

Tables A3.1-A3.8 reflect example templates for assessing - and identifying opportunities to improve - the food offer and food environments at a sports event. They provide a suggested template for completing information relating to the questions proposed on pages 19-20, which can be adapted to the specific context. Some examples have been completed in each table, reflecting what a project team of a fictive sports tournament has assessed based on the existing plans and/or experience from a previous similar tournament.

- **Table A3.1:** Overview of the food and beverage sales points
- **Table A3.2:** Details about the foods and beverages served or sold at the event
- **Table A3.3:** Details about the physical environment in the food and beverage sales points
- **Table A3.4:** Stakeholders involved in the food offer and food environment, including contracts for food service, sales, marketing and sponsorships
- **Table A3.5:** Training of food and beverage sales point staff
- **Table A3.6:** Sponsorship agreements
- **Table A3.7:** Communication tools and channels employed during the sports event and in and around the stadia
- **Table A3.8:** Policies or mechanisms for healthier food and healthier food environments in the country or jurisdiction

Table A3.1: Overview of the food stored and beverage sales points

Map out the different types of food stored and beverage sales points in and around the stadia, their locations and total number, and the responsible food and beverage provider. Review the types of foods and beverages sold, and the logistic processes related to their purchase, preparation, storage and delivery. Identify what nutrition information is available (ingredients lists, nutrient declarations, recipes). Explore if rules exist for the food offer, and those responsible for these. Assess the systems in place for tracking food and beverage sales. Identify what level of detail is recorded (e.g., transaction-level data), how the information is stored and evaluated (e.g., volume of sales, revenues). Examples of findings from an assessment are included in blue font.

Food and beverage sales point	Description	Number and location	Responsible provider	Types of foods and beverages sold	Logistics	Nutrition information available	Rules for food offer	Records of food sales	Potential opportunities for action by the sports event organizer
Concession stands	Built-in concessions with over-the-counter service	70 inside and 20 outside stadia	Company A	Hot and cold meals Snacks Desserts Beverages	Preprepared food purchased from local caterers and delivered to stadia daily Food stored in fridges at concession stand Hot meals reheated onsite	Recipe with ingredient quantities (meals); nutrient declaration (pre-packaged food)	Food safety rules by local government Company A has a vision to provide "wholesome healthy food"	Transaction level sales data collected at concession stand level by company A	Company A's vision can be leveraged for the initiative by providing healthier menu options based on set nutrition criteria and assessment of the menu. Transaction level sales data allow tracking if healthier options sell as well as others.
Mobile food vendors	Mobile vendors circulating around the stadium seating area with a chilled box carried in front	50 inside stadia	Company B	Snacks, sweets Beverages	Pre-packaged menu options purchased internationally	Nutrient declaration (pre-packaged food)	Food safety rules Stadia have a limit on portion size of beverages	Total sales per match collected by company B	Company B sells pre-packaged snacks, all with nutrient declarations that facilitates the identification of healthier options within each category. The limit on beverage size could be leveraged to introduce a limit on energy content of snacks.
Mobile concession stand	Mobile kiosks with over-the-counter service	20 inside and 10 outside stadia	Company B	Snacks, sweets Ice-cream Beverages	Pre-packaged menu options purchased internationally	Nutrient declaration (pre-packaged food)	Food safety rules Stadia have a limit on portion size of beverages	Total sales per match collected by company B	

Table A3.2: Details about the foods and beverages served or sold at the event

For every menu option available across all food and beverage sales points, collect information on the ingredients and nutrient composition. If nutrient declarations are not available, then the nutrient composition may be estimated from the recipes using food composition tables. Determine which menu options meet the nutrition criteria, and which do not. Collect information on the prices of all menu options. Examples of findings from an assessment are included in blue font.

Menu option	Food and beverage sales point	Price	Portion size (g or ml)	Ingredients	Food groups that promote healthy diet (per serving)					Nutrient declaration (per 100g or ml)										Potential opportunities for action by the sports event organizer		
					Fruits and vegetables (g)	Whole grains (g)	Legumes and pulses (g)	Nuts (g)	Iodized salt (Y/N)	Energy (kcal)	Protein (g)	Total fat (g)	Saturated fat (g)	Trans fat (mg)	Available Carbo-hydrates (g)	Total sugars (g)	Added sugars (g)	Dietary fibre (g)	Sodium (mg)			
Vegetable pizza	Concession stands	USD 12	110	Wheat flour, water, mushrooms, bell pepper, onion, pizza tomato sauce, mozzarella cheese, sugar, unsalted butter, dehydrated yeast, iodized salt	28				Y	223	8.5	3.6	1.9	0.0	39.1	3.2	2.1	0.7	200	Meets nutrition criteria as per WHO recipes. Warm dish, which served in a larger portion, could be presented as a meal.		
Whole grain tuna sandwich	Concession stands, in-seat ordering	USD 10	111	Drained canned tuna in water, whole grain bread, lettuce, bell pepper, low fat canola oil mayonnaise, onion, lemon juice	41	55.5			Y	223	13.5	2.0	0.3	11.5	14.1	0.6	0.2	4.5	259	Meets nutrition criteria as per WHO recipes. Consider trying a similar dish using chicken instead of tuna for varied menu options.		

Table A3.3: Details about the physical environment in the food and beverage sales points

For each food and beverage sales point, consider the physical characteristics of the food offer and food service environment, the information provided on menus or elsewhere at the food and beverage sales point, and the fan journey when selecting a food or beverage (from menu assessment, to selection, and ordering). Take photos and draw illustrations of the food service areas. These provide insights into the existing physical environment and into fan experiences in the food service settings. Identify opportunities for improvements that can encourage healthier choices. Examples of findings from an assessment are included in blue font.

Food and beverage sales point	Physical characteristics		Information provided		Fan journey	Potential opportunities for action by the sports event organizer
	Food offer	Food-service environment	On menu	Off menu		
Concession stands	<p>Food is served in plain packaging</p> <p>Hot food (e.g. hamburger, vegetable pizza) is served in aluminium foil and cold food (e.g. tuna sandwich, vegetable sticks with hummus) is served in cardboard boxes.</p> <p>Hot foods are contained in hotcase, while cold menu options and beverages are kept in fridges.</p>	<p>Food concessions are located outside stadium seating area. The concessions space has an open layout in which large numbers can gather. Pillars are located near food concessions points. There is limited space on walls around concessions as these are reserved for safety signage.</p> <p>Each concession stand has one long counter which is 7 m long and 1 m deep. There are approximately three food service points per counter.</p> <p>Salt and sugar sachets, sauces and snacks are made available for taking on the counter.</p>	<p>Menu options are listed by the name of the menu option and its price under respective sections on the menu. There are no images of menu options on the menu.</p> <p>Menu options are presented along with the government's traffic light label on an overhead menu board same length as the counter.</p>	<p>Vendors are instructed to tell fans about the meal deal (prompts).</p> <p>Meal deals are announced during advertisements at half time.</p>	<p>Fans may order at any point during the event. The most popular times are before the event begins and during half-time. Fans can gather in the open spaces where concessions are located.</p> <p>Fans queue in lines to order. During this time they can examine the menu board above the counter. Average waiting time for fans to reach the counter is 5 minutes.</p>	<p>Remove the sauces, sugar and creamer from the counter and provide only upon request.</p> <p>Make sure that the meal deal includes healthier menu options (e.g., only those with a green label), including water as the main beverage.</p> <p>Consider making packaging of healthier options more attractive.</p>
Mobile food vendor	<p>Snacks and beverages are sold pre-packaged. Food items are kept in a chilled box that is carried in front of the food vendors. Individual items are not visible to the fans.</p>	<p>Fans are in their seats inside the stadium. Mobile hawkers circulate around the stadium carrying the menu options and menu.</p>	<p>An A4 page menu with images of the pre-packaged foods and beverages on offer is available</p> <p>Menus carry the government traffic light labelling system</p>	<p>Vendors promote their products with verbal catchphrases.</p> <p>Posters display the menus available from the mobile food vendors.</p>	<p>Fans flag the mobile food vendor to purchase food and beverages.</p> <p>Fans have on average 2 minutes to decide on and purchase an item.</p>	<p>Mobile food vendors should only sell green-label items.</p> <p>Mobile food vendors promote green label items with verbal prompts.</p>

Table A3.4: Stakeholders involved in the food offer and food environment, including contracts for food service, sales, marketing and sponsorships

List the different stakeholders involved and their roles and responsibilities. Analyze their interests and concerns and identify any potential conflicts of interest with regards to healthier food and healthier food environments. Discuss perceived benefits of and obstacles to the implementation of existing and potential healthier food and healthier food environments activities and identify the opportunities for how these stakeholders can be motivated to engage in and support the initiative. Examples of findings from an assessment are included in blue font.

Stakeholder	Roles and responsibilities	Interests and concerns	Perceived obstacles to implementing the initiative	Perceived benefits from implementing the initiative	Potential opportunities for action by the sports event organizer
Local government (e.g., ministry of health, ministry of education)	Ultimately responsible for setting the rules and requirements for the health and safety at the sports event, including for food safety and nutrition	Make a successful tournament, that is perceived as a safe and healthy yet fun and exciting event	Diverging interests of the various stakeholders that must to be managed	Focus on healthier food and healthier food environments at the tournament may give visibility to fans locally and worldwide.	Collaborate and leverage national and local policies on healthier food and healthier food environments to shape the initiative.
Concessions company A	Contracted for the tournament to manage concessions	Meet fan expectations on the food offer and marketing, while maintaining profitability	Lack of demand for the improved food offer High cost and difficult logistics of healthier menu options Existing sponsorship agreement prevent modifications to food offer or food environment	Better image Potentially increased sales of healthier menu options and increased chance of future engagement	Collaborate to reformulate menu options that are healthier and meet fan expectations. Collaborate to develop nudges to promote healthier menu options. Renegotiate terms (or end) the food offer contracts while seeking new concessionaires with healthier product portfolios.
Sponsor A	Multi-year sponsorship agreement for sugar-sweetened beverages	Promote their brand and products Achieve brand recognition, win customers, improve brand image	Loss of marketing opportunity of products that do not meet the nutrition criteria Concerns about lower profits if healthier product is promoted	Opportunity to market healthier products from their product line Potentially increased sales of healthier items in their product line Better public image of the company	Advocate to market existing healthier products. Advocate to avoid the display of products (and their brands) that do not meet the nutrition criteria for healthier food. Advocate for smaller portion sizes of products that do not meet nutrition criteria if these are to be part of the food offer. Renegotiate terms (or end) the sponsorship agreement while seeking new sponsors with healthier product portfolios.
Public health network	Collaboration with sports event organizer and local government for the healthier food and healthier food environments initiative	Ensuring that the sports event supports public health and healthy diets	Challenge of striking the balance between impactful nutrition criteria and criteria that are feasible in the context	Healthier food and healthier food environments will benefit the public and demonstrate success of such initiatives	Collaborate and leverage network to create demand, build support and advocate for the initiative. Support the implementation of the initiative by providing expert insights on menu assessment, reformulation, etc.

Table A3.5: Training of food and beverage sales point staff

Identify existing and planned training (mandatory or voluntary) for staff involved in the food service and sale. Review the contents of training, and find opportunities for how these can be adapted or amended to support the initiative. Examples of findings from an assessment are included in blue font.

Existing or planned trainings	Audience	Content	Potential opportunities for action by the sports event organizer
Training on safe food preparation	Mandatory for all chefs developing menus	Guidance on food preparation and handling to maintain food safety	Add strategies on replacement of excessive sugars, fats and salt (e.g., using spices and lemon juice instead of salt).
Training on customer service at food concessions	Mandatory for all vending staff	Training on the correct preparation and sale of menu options (including reheating, assembly of food items and sale)	Review prompts and instructions to make sure vendors promote the healthier menu options.
Training on food safety assessments	Mandatory for all food safety controllers	Appropriate use of monitoring tools for food and beverage compliance with food safety requirements	Integrate assessment of the healthier food menu options and/or physical environments into regular monitoring activities.

Table A3.6: Sponsorship agreements

Identify the existing sponsorships agreements where foods and beverages (or their brands) are marketed. Identify those which may support or contradict the objectives of the initiative. Review the content and duration of agreements and explore options to modify or renegotiate if necessary. It will be important to understand all details around marketing rights and product availability, which will likely require collaboration with the event organization teams working on branding, communication and marketing as well as the legal team responsible for the sponsorship contracts. Examples of findings from an assessment are included in blue font.

Existing sponsorships	Foods and beverages (or their brands)		Agreement terms	Potential opportunities for action by the sports event organizer
	Healthier (meet the nutrition criteria)	Not healthier (do not meet the nutrition criteria)		
Sponsor A	Unsweetened carbonated and non-carbonated waters	Carbonated soft drinks, energy drinks, fruit drinks, fruit smoothies and juices	10-year sponsorship agreement on advertisements in stadia, including concession stands infrastructure and food and beverage offer	Advocate with the sponsor to market their existing healthier products and/ or to reformulate products that are not healthier. Renegotiate terms of or end the sponsorship agreement while seeking new sponsors with a healthier product portfolio.
Sponsor B		Energy drinks	5-year sponsorship agreement on advertisements in stadia and the use of restaurant chain for the events	Advocate with the sponsor to ensure such products high in sugars and caffeine are not marketed to children. Renegotiate terms of or end the sponsorship agreement while seeking new sponsors with a healthier product portfolio.
Sponsor C	Frozen fruits and vegetables		2-year sponsorship agreement on advertisements in stadia and on communications to promote the sports events	Consider expanding this agreement as their products promote healthier diets and would ensure a unified message to the healthier food and healthier food environments initiative.

Table A3.7: Communication tools and channels employed during the sports event and in and around the stadia

Identify the existing communication campaigns and assess their messages and target audiences. Identify gaps with respect to the goals of the initiative and plan how to share the information about the initiative or about healthy diets in general with target audiences and stakeholders. Review available tools and channels and select which would best reach the target audience. Examples of findings from an assessment are included in blue font.

Target audience	Aim of communications	Available channels	Potential opportunities for action by the sports event organizer
General public	To promote the event and the good that they do for sports of all ages (youth to professional)	Event organizer social media accounts Initiative partner social media accounts Television and radio	Use social media platforms to spread the message that nutritious and diverse diets are good for your health and your sports performance.
Fans	To promote the food and beverage concessions at the event as a part of the fan experience	Event organizer social media accounts Event organizer communications with fans (e-mail, ticketing) Event organizer and sports team corporate websites Announcements inside stadia Push notifications on mobile phones Point of sale information	Include in messaging at the event and via e-mails to fans a promotion of the healthier food offer. Conveying the message that nutritious and healthy food options can be delicious and fun.
Concessionaires	To raise awareness and improve knowledge about healthier food options	Internal communication (flyers, newsletters)	Raise awareness of concessionaires and encourage their staff to develop new skills in support of the initiative.

Table A3.8: Policies or mechanisms for healthier food and healthier food environments in the country or jurisdiction

Identify existing food and nutrition policies, legislation or guidelines as well as mechanisms related to healthier food and healthier food environments and explore if they include nutrition criteria (e.g. recommended foods and beverages, thresholds for nutrients in food) that can be used or adapted. Examples of findings from an assessment are included in blue font.

Policies and mechanisms	Relevance to the initiative	Potential opportunities for action by the sports event organizer
Traffic light labelling of menus in restaurants	<p>System for menu labelling in restaurant chains and prepackaged foods</p> <p>Nutrient profile model (based on energy, saturated fat, sugars and sodium per 100g food) for identifying food that is the healthiest choice (green), less healthy choice (yellow) and unhealthy choice (red)</p>	<p>Menu labelling could be applied to the menus. The nutrient profile model could be used for the initiative - e.g. to set a target for food offer to meet the green and yellow category, and for pricing and/or nudging interventions.</p>
Food regulations	<p>Mandatory for all food providers operating in the jurisdiction</p> <p>Includes food safety standards, as well as standards for food labelling, for salt iodization and for maximum limit on sodium content in some foods (bread, cheese, meat products)</p>	<p>Food providers must comply with regulations.</p>
National nutrition policy	<p>Includes policy objectives on ensuring healthier diets for all population groups, promoting fruit and vegetable intake, and reducing salt intake</p>	<p>Link the initiative to the national priorities of the host country.</p>
Food control system	<p>Food inspectors that are trained to monitor food safety as well as the appropriate use of the menu labelling in restaurants and adequate sodium content in bread, cheese and meat products</p>	<p>Explore if existing monitoring system for food products and restaurants can be leveraged for the initiative.</p>

Annex 4

Example indicators and potential data sources for evaluation

Theme	Example of indicator	Potential data source
Process indicators		
Communication	<ul style="list-style-type: none"> Number of partners and allies informed about the healthier food and healthier food environments at sports events Percentage of staff aware of the initiative 	<ul style="list-style-type: none"> Project information Interviews of staff
Training	<ul style="list-style-type: none"> Percentage of suppliers, caterers and chefs trained in healthier food preparation Percentage and type of stadium food and beverage sales point staff trained in the healthier food and healthier food environment activities Perceived ability to comply with the nutrition criteria for healthier food, including barriers to, and facilitators of, implementation Changes in knowledge, attitudes and practices among stadium food service and beverage sales point staff, suppliers, caterers and chefs Number of resources or training sessions provided to stadium food and beverage sales point staff, suppliers, caterers and cooks to implement the healthier food and healthier food environment activities 	<ul style="list-style-type: none"> Audit reports Annual compliance assessment reports Qualitative interviews and surveys
Monitoring	<ul style="list-style-type: none"> Proportion of stadium food and beverage sales points monitored Frequency of monitoring activities Number of public complaints received Number and type of course corrections applied 	<ul style="list-style-type: none"> Audit reports Monitoring reports Qualitative interviews or surveys
Use of funds and generation of revenues	<ul style="list-style-type: none"> Investment in healthier food and healthier food environments initiative-related activities (e.g. meetings, training, materials, inspections) Changes in the relative share of funds generated from sponsorships 	<ul style="list-style-type: none"> Expenditure and revenue reports
Outcome indicators		
Reach	<ul style="list-style-type: none"> Proportion of food and beverage sales points in and around the stadia implementing the healthier food and healthier food environment activities Number of attending fans benefiting from the healthier food and healthier food environment initiative Number of fans worldwide reached with communication messages 	<ul style="list-style-type: none"> Audit reports Attendance reports Media reports
Actions under the initiative	<ul style="list-style-type: none"> Number of contracts with suppliers, vendors, caterers and sponsors amended to improve the healthfulness of the food and beverage offer Proportion of menu options that are healthier as result of reformulation, replacement or new additions Nutrient content of healthier menu options relative to others or to baseline (e.g. percentage decrease in sodium content of meals) Changes to portion sizes Prices of healthier menu options relative to others Number and magnitude of price incentives applied Changes to the physical characteristics or information provision in the food service and sales area Number of messages disseminated about healthier food in and around stadia and in various media channels Changes in marketing practices including sponsorships Proportion of food and beverage products marketed, including through sponsorships, that are healthier 	<ul style="list-style-type: none"> Menu, recipe and food label reviews Laboratory nutrient assessment of healthier menu options Compliance reports Cost of food products Observational visits to food and beverage sales points Contract reviews Media reports and marketing surveys
Food purchase and sale	<ul style="list-style-type: none"> Proportion of menu options sold that are healthier relative to others or to baseline Percentage of fans purchasing healthier menu items options (e.g. percentage decrease in purchases of sugar-sweetened beverages, percentage increase in purchases of fresh fruit) Projected sales of healthier food met 	<ul style="list-style-type: none"> Sales and transaction-level data reports Point-of-purchase surveys
Behavioural	<ul style="list-style-type: none"> Percentage of fans and staff aware of the initiative on healthier food and healthier food environments in and around stadia Changes in knowledge, attitudes and practices among fans Percentage of comments regarding the healthier food and healthier food environments being supportive Increased acceptance of healthier food at sports events Increased preference for healthier food at sports events 	<ul style="list-style-type: none"> Polls and surveys among fans (e.g. web-based post-event surveys distributed to attendees by email) Interviews of staff knowledge, attitudes and practices surveys Monitoring of social media

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