

Food and Drink for Spectators at the Olympic and Paralympic Games

An evaluation of health and nutrition claims at Rio 2016



Report of the PHANSMER Research Group

Physical Activity and Nutrition at Sport Mega Events Research

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About the PHANSMER Project and Authors

The PHANSMER Project (Physical Activity and Nutrition at Sport Mega Events Research) is an international and interdisciplinary study which examines how physical activity and nutritional health are promoted at sports mega events. The PHANSMER Project involves researchers from Loughborough University in the United Kingdom, France's Paris Descartes University, Brazil's Federal University of Minas Gerais, the Federal University of Paraná and the Federal University of Rio Grande.

The Research Team received no funding from any sponsor or sport governing body to conduct this research. Ethical approval was granted by the Ethics Committee at Loughborough University's School of Sport, Exercise and Health Sciences. The findings presented here come from the reasoned analysis of the researchers involved. This analysis does not represent the view of any specific organisation. In no way should this report be taken to be a criticism of individuals involved in provision of food and drinks at Rio 2016.

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Executive Summary

Poor nutrition can lead to reduced immunity, increased susceptibility to disease, impaired physical and mental development, and reduced productivity from a range of non-communicable diseases.¹ The World Health Organisation and United Nations have recently warned against the health implications of poor diets^{2,3}. As well as the deleterious physical health consequences, the Brazilian Department of Health suggests that ultra-processed foods damage culture, social life, and the environment.⁴

Sport events such as the Olympic and Paralympic Games are implicated in this global health issue. These events are proclaimed to inspire and promote healthy lifestyles and yet they are often sponsored by food and drink companies which are often criticised for selling unhealthy food and drink.⁵

The 2016 Olympic Games (5 to 21 August) and Paralympic Games (7 to 18 September) were hosted in the city of Rio de Janeiro, Brazil. As the largest sport event in the world, the Rio Organising Committee predicted that up to 8 million spectators would attend and consume many of the 14 million meals produced for the Games.⁶ The Rio 2016 Food and Drink Policy included principles that *“Food offerings should be healthy, nutritious and balanced”* and *“Brazilian products and recipes should have a prominent position in all menus to enrich the overall experience for all client groups”*. This PHANSMER research group sought to evaluate the extent to which these stated principles were enacted at Rio 2016. This report asks: ***Was Rio 2016 food and drink for spectators healthy, nutritious and balanced?***

To answer this question, eight researchers from the PHANSMER group examined relevant policy documents, the food and drink offerings at Olympic and Paralympic venues, and conducted interviews with spectators who purchased food and beverages.

The analysis demonstrated serious problems with the food and beverage provision for spectators at Rio 2016. These problems included:

- most of the prominent food and drink for spectators at the Olympic and Paralympic Games was “ultra-processed”. The 2014 Dietary Guidelines for Brazil, published by the Ministry of Health, suggests ultra-processed foods and drinks should be avoided because they tend to be consumed in excess, displace natural or minimally processed foods, and their means of production, distribution, marketing, and consumption damage culture, social life, and the environment.
- a Rio 2016 policy claimed to promote “healthy” food but also favoured sponsors’ products to the exclusion of other healthy options.
- a venue entry policy which involved the confiscation of spectators’ own food and drink at the entry points to various venues, particularly at the Olympic Games.
- a perceived lack of access to free drinking water at various venues.
- a narrow choice of food and drink.
- a poor selection of local, Brazilian food and drink.
- promotion of “family meals” that did not meet spectators’ perceptions of healthy and nutritious food.

This study concludes that the majority of food and drink for spectators at Rio 2016 was *unhealthy and not nutritious*. Spectator food and drink provision at Rio 2016 failed to meet World Health Organisation standards, the Brazilian government’s dietary advice, and the Rio 2016 organising committee’s own aims. This document proposes that significant changes should be made in future Olympic and Paralympic Games to ensure that spectators are not deprived of access to healthy food and drink, and that healthy eating is elevated above the pecuniary interests of corporate sponsors. Indeed, these sponsors have an ethical obligation to ensure spectators have access to healthy food.

Policy Recommendations

- 1) The IOC and sponsoring companies should alter sponsorship arrangements to ensure that a wide variety of healthy food and drink options are available and promoted to spectators.
- 2) Currently, the IOC requires LOC's to take various actions, including "Submit to the IOC for approval a plan detailing the provision of food and beverage services in all venues to each stakeholder" as well as ensure "Compliance with Olympic marketing rights in food and beverage spaces". Both the IOC and LOC's must ensure that health promotion is a central feature of food and drink provision for spectators. At the time of writing preparations are being made for the Japan 2020 Olympics and Paralympics Games. Also, various potential hosts are preparing the candidate files to bid for the right to host the 2024 Olympics and Paralympics Games. There is a clear and urgent need to ensure that healthful nutrition is a central theme of the Olympic and Paralympic Games.
- 3) The IOC and LOC's should commit to certain standards of food and drink for spectators. To ensure this, they should consult with independent nutrition experts regarding the quality of food and drink at venues.
- 4) The IOC should use its significant social capital to more explicitly promote healthy eating. For example, the Olympic motto could be revised to include the term "healthier". The Latin term "salubrious" ("healthier") could be infused into the IOC's marketing of the event. While a seemingly radical change to the existing Olympic motto, it should be noted there is nothing particularly ancient or immutable about the current motto.
- 5) The IOC Charter does not include explicit reference to spectators. Just as the "health of athletes" features as a core concern in the IOC Charter, so too should the health of spectators.

Practice Recommendations

- 6) Allow patrons to bring in their own food and drink into venues. While there are clearly pressures to appease current sponsorship arrangements, it is unethical to prohibit fresh food from being brought into venues whilst not providing spectators with healthy food options.
- 7) At all venues, ensure that free water is provided. Further, ensure that access to free water is well signposted.
- 8) Ticket information should include what food and drink will be available at the events.
- 9) Menus should include visual displays of the content of food.
- 10) A far greater emphasis should be put on vegetarian options. It was particularly concerning that most menus at Rio 2016 included only one vegetarian option (the veggie sandwich) and this option was often unavailable.
- 11) Rethink the idea of all spectators wanting "food on the run". This idea does a disservice to the amount of time that spectators appeared to stay inside venues.

Broad Stakeholder Advice

Beyond Rio 2016, there are implications for various stakeholder groups regarding health promotion at sport mega events:

- 1) **Governments and policy makers** should insist that sport mega events commit to healthy eating provision at sport mega events, with penalties applied (such as forfeiture of a portion of profit) for non-compliance.
- 2) **Food and drink companies** which sponsor sport mega events should acknowledge the potential harm of consuming a limited range of products and that monopolising access to food and drink in confined spaces is unethical practice.
- 3) **Sport mega event organisers** should emphasise healthy eating and drinking and adopt a human rights approach to the provision of healthy food and drink at venues.
- 4) **The public** should be encouraged to resist event organisers who prohibit spectators from bringing their own healthy food and drink into venues.

Research Background and Rationale

Globally, there is an increasing concern about the harmful effects of unhealthy food and drink^{7, 8}. Unhealthy diets have been linked to a range of chronic diseases and dental issues and there are now concerted efforts around the world to promote healthy diets. At the same time, many sport mega events (SMEs) have significant financial relationships with food and drink companies. Events such as the Olympic and Paralympic Games are increasingly framed as being able to promote healthy lifestyles^{9, 10}. Therefore, the policies which inform SMEs, the details of SME sponsorship campaigns and the corporate strategies used to leverage sponsorship contracts deserve critical scrutiny.

Relationships between food and drink companies and sport events are increasingly seen as problematic due to the perception that the products being endorsed are not healthy^{11, 12, 13}. Research suggests that “sponsorship relationships between sporting organisations and food and beverage brands and companies do not always reinforce either sports-related or more general nutrition recommendations.”¹⁴ When energy-dense, nutrient-poor food companies endorse events, teams and athletes, this can imply that consumption of these foods is commensurate with success, sport and “health” ideals often espoused by the athletes involved. Research has focused particularly on young people and their potential susceptibility to corporate sponsorship through sport. Recent research supports the argument that sports sponsorship (by alcohol and fast food companies) can effectively reach child audiences.¹⁵

It appears that consumer attitudes to sport sponsorship are changing. A recent Australian study reported that three-quarters of parents sampled supported policies to restrict unhealthy food, beverage and alcohol sponsorship of children’s and elite sports.¹⁶ A New Zealand study concluded that public health mechanisms, such as healthy food and beverage policies, and widely promoting water as the beverage of choice in sport should form part of a comprehensive public health approach to reduce the substantial, unnecessary and potentially harmful effects of sugar-sweetened beverages.¹⁷ The World Health Organisation Commission to Ending Childhood Obesity recently argued that both young people and adults are negatively affected by unhealthy food messages. The Commission stated:

“Settings where children and adolescents gather (such as schools and sports facilities or events) ... should be free of marketing of unhealthy foods and sugar-sweetened beverages. The Commission notes with concern the failure [of Member States to implement recommendations to reduce the impact on children of the 'junk' food marketing] and requests that they address this issue. Parents and caregivers are increasingly the target of marketing for foods and beverages high in fats and sugar, aimed at their children ...”¹⁸

Sports venues have often been accused of providing only unhealthy food and drink options for consumers. Indeed the Rio 2016 Food and Drink Policy acknowledged that “Around the world, sporting events have a bad reputation for serving uninspiring food that has been heavily processed or fried.”¹⁹ At the same time, the International Olympic Committee claims that the “Olympic Games are one of the most effective international marketing platforms in the world, reaching billions of people in over 200 countries and territories throughout the world.”²⁰ This world-wide cultural event is maintained in part by major sponsors, which involves their brands being heavily promoted at events. According to the IOC, Olympic sponsorship contracts “operate on the principle of product-category exclusivity”.²¹ That is, sponsors have significant influence regarding the products marketed and sold at the events.

Concerns about the ill effects of poor nutrition is not just a matter of perception. Many studies have shown that regular consumption of fast food can lead to higher body mass index scores, which contributes to obesity and related illnesses.²² Further, meals consumed away from the home have been shown to typically contain high calorie content and large portion sizes^{23, 24}. These concerns have contributed to the PHANSMER research group

focusing on the 2016 Olympic and Paralympic Games as two major sports events sponsored by various food and drink companies. Both the organiser and the companies project certain ideas about consumption through marketing and also provides food and drink to spectators.

What is “healthy and nutritious” food and drink?

An important question in the design of this research was - what counts as “healthy and nutritious” food and drink? Previous research has noted that consumers often categorize foods according to a good–bad dichotomy (such as healthy or unhealthy) based on specific food qualities^{25, 26, 27}. Thus, if “a food gains a reputation as possessing a good (e.g. low calorie) or bad (e.g. fried) quality, the entire food item is likely to become designated as good or bad.”²⁸

With regard to food and drink, the researchers involved in this study acknowledge “healthy and unhealthy” are contentious terms. Companies which sell a range of food and drink make claims about the various “health” benefits to be derived from consuming their products. In deciding to use these terms for the analysis, it was recognised that the terms “healthy” and “unhealthy” are prevalent in sport event evaluation literature.^{29, 30} Also, the goal of promoting of “healthy” food and drink in the Rio 2016 Food and Drink policy consequently means that the terms “healthy” and “unhealthy” are appropriate descriptors for this analysis.

There are strong guidelines from numerous sources about what counts as healthy dietary habits. From a public health perspective, many studies show that that a diet filled with processed foods, with high amounts of fat, sugar and sodium, often leads to poorer health outcomes than those which do not^{31, 32, 33, 34}. This analysis is also informed by the Dietary Guidelines for the Brazilian Population, written by the Brazilian Ministry of Health. This policy assumes “the [human] rights to health and healthy food” and claims an “[a]dequate and healthy diet is a basic human right”.³⁵ The Brazilian Ministry of Health policy has clear guidance about which foods should be consumed. It states that:

“natural or minimally processed foods, of different types and in large varieties, and predominantly of plant origin, are the basis of healthy diets.” Natural foods are deemed to be “obtained directly from plants or animals and do not undergo any alteration following their removal from nature. Minimally processed foods are natural foods that have been submitted to ... processes that may subtract part of the food but which do not add oils, fats, sugar, salt or other substances to the original food.”

Regarding ultra-processed foods, it recommends that Brazilians:

“Avoid ultra-processed foods: Because of their ingredients, ultra-processed foods—such as packaged snacks, soft drinks, and instant noodles—are nutritionally unbalanced. As a result of their formulation and presentation, they tend to be consumed in excess, and displace natural or minimally processed foods. Their means of production, distribution, marketing, and consumption damage culture, social life, and the environment.”

The policy states examples of ultra-processed foods are:

Fatty, sweet or salty packaged snacks, biscuits (cookies), ice-creams, candies and confectionery in general; cola, soda, and other soft drinks; sweetened juices and ‘energy’ drinks; sweetened breakfast cereals; cakes and cake mix, and cereal bars; sweetened and flavoured yogurts and dairy drinks; canned, packaged, dehydrated and other ‘instant’ soups, noodles, and seasonings; preprepared meat, fish, vegetables, pizza and pasta dishes, burgers, hot dogs, sausages, poultry and fish ‘nuggets’ and ‘sticks’ and other animal products made from remnants; sliced bread, hamburger or hot dog breads, sweet breads, and baked products in general made with ingredients such as hydrogenated vegetable fat, sugar, yeast, whey, emulsifiers, and other additives.

It was apparent there was some consideration of nutrient combinations in the Rio 2016 Food and Drink policy. At one point the Food Policy states that “regularly alternating red meat products with other proteins helps reduce heart disease, plus has the added benefit of minimising overall carbon emissions.” This example demonstrates that not only is health connected to an individual's own bodily health but wider environmental health outcomes as well.

Finally, we acknowledge that at times, spectators may wish to consume food which might be thought of as “unhealthy”. Indeed, a popular tradition of attending sports events is to indulge in what might be colloquially described as “junk food” or “fast food”. By acknowledging this however, this analysis is guided by the Brazilian Department of Health's Dietary Guidelines for the Brazilian Population.

The Brazilian Context

The PHANSMER study group acknowledges that Rio 2016 took place during a period of great political turbulence, in a country and city with numerous, ongoing social problems. Economic inequality, corruption issues, high crime rates, and health alerts for the Zika virus contributed to concerns about the viability of the event. These problems were likely reasons for the lower than expected attendance at various events.

However, in many ways Rio 2016 was a resounding success. Dramatic sporting spectacles, friendly volunteers, relatively efficient transport systems and an international carnival atmosphere at many venues all contributed to a satisfying experience for many spectators.



Research Approach

Research Questions

This study aimed to answer the question: ***Was Rio 2016 food and drink for spectators healthy, nutritious and balanced?*** Specific sub questions that flowed from this primary question included:

- (i) How did Rio 2016 policy frame health, food and drink for spectators?
- (ii) What marketing strategies and venue practices were deployed at Rio 2016 with regard to food and drink for spectators?
- (iii) Could the food and drink at Rio 2016 be classified as healthy and nutritious?

An Interdisciplinary Approach

Hosting sport mega events is a complex task including a wide array of organisations. National government, international sport organisations, local organising committees, media organisations, sponsors, suppliers, participants and spectators all contribute to an event. In order to understand the processes and dynamics involved in health promotion at SMEs, the PHANSMER study adopts an interdisciplinary approach. We draw on critical theories of public health, marketing, sociology, event management and nutrition. For this report we engage in content analysis of policy, site analysis of Olympic and Paralympic venues, and interviews with spectators to understand the extent to which healthy food and drink was promoted at the event.

Data Collection and Analysis – 4 Stages

Stage 1: Examination of relevant policy

This Rio 2016 Food Policy was published in October 2014 by the Rio 2016 Organising Committee for the Olympic and Paralympic Games. This food and drink policy would ostensibly “inform the food industry and other Rio 2016 Games stakeholders about the food and beverage services planned for the Olympic and Paralympic Games”.³⁶ Also in 2014 the Brazilian government published Dietary Guidelines for the Brazilian Population. These documents were analysed in detail. Further, the Diagnostic Analysis for the Supply of Healthy and Sustainable Food for the 2016 Rio Olympic and Paralympic Games, written by a consortium of vested interests in the lead up to the Games was critically read.³⁷ Where appropriate, various Olympic policies were also considered. For example, the ticket guidelines were examined (since these were relevant for ticket buyers judged to be “obese”), as was the “conditions of entry” policy (since this affected what food was allowed or banned at venues).

Stage 2: Venue Analysis

Six researchers from the PHANSMER group attended and analysed a wide variety of venues at the Olympic and Paralympic Games. Three aspects of the food and drink were considered: 1) the food and drink available to purchase, 2) the menus and physical display of food and drink, 3) the facilities to eat. In discussions following the site visits, it was apparent the researchers held similar views about these aspects of food and drink provision. The researchers also took photographs of the various food and drink facilities on personal cameras, which subsequently formed part of the analysis. The venues analysed included:

Zone	Facility	Analysis
Barra da Tijuca Zone	Maria Lenk Aquatics Center	✓
	Rio Olympic Arena	✓
	Olympic Aquatics Stadium	✓
	Carioca Arena 1-3	✓
	Future Arena	✓
	Olympic Tennis Centre	✓
	Golf Reserva Marapendi	
	Rio Olympic Velodrome	✓
	Riocentro Pavilions (2, 3, 4 and 6)	✓
Barra Zone	Barra Olympic Park Common Domain	✓
Copacabana Zone	Beach Volleyball Stadium	✓
	Flamengo Park	
	Fort Copacabana	✓
	Lagoa Stadium	
	Marina da Gloria	✓
Deodoro Zone	Deodoro Stadium	✓
	Deodoro Aquatics Centre	
	Olympic Equestrian Centre	
	Olympic Shooting Centre	✓
	Olympic BMX Centre	
	Mountain Bike Track	
	Whitewater Stadium	
	Olympic Hockey Centre	
	Youth Arena	
Maracanã Zone	J. Havelange Olympic Stadium	✓
	Maracanã	✓
	Maracanzinho	
	Sambódromo	✓
	Júlio De Lamare Aquatics Centre	
Football City Venues	Mané Garrincha Stadium (Brasília)	
	Fonte Nova Stadium (Salvador)	
	Mineirão Stadium (Belo Horizonte)	✓
	São Paulo Stadium (São Paulo)	
Deodoro Zone	Deodoro Olympic Park Domain	✓

Table: Venues analysed in this research

Stage 3: Interviews with spectators who purchased food and drink

Interviews were conducted with 30 individuals who attended sports events at a variety of Olympic or Paralympic venues. Interviews were conducted in either English or Portuguese, depending on the preference of the interviewee. The interviews were semi-structured and centred around five questions:

What were your expectations before the event?

What were the food and drink facilities like?

Was the food and drink healthy and nutritious?

Was there a variety of Brazilian food and drink available?

Is there anything you would change about the food and drink experience?

Stage 4: Analysis and Report Writing

This stage involved the research group discussing the relevant policy, what was witnessed in the site analyses, discussing the themes from the interviews, and generating an analysis to address the research questions. This output of the analysis is presented here.

Findings

Finding 1: The “Rio 2016 Taste of the Games” policy heavily promoted imagery of fresh fruit and vegetables.

The Policy was replete with imagery of colourful fruit and vegetables (see below)^{38, 39, 40, 41, 42, 43}. These photos were all “stock” images. These images typically can be bought from a company and used by the buyer as they wish. Whilst the imagery evokes ideas of fresh and healthy food, it bore little or no resemblance to much of the food on offer for spectators at the Rio 2016.



Finding 2: The Rio 2016 Taste of the Games policy generally emphasised that healthy food should be provided to all Client Groups (such as athletes, media, volunteers, officials). Example extracts are noted below and are emphasised for effect:

P. 3: "Principle 2: Food offerings should be healthy, nutritious and balanced. "
P. 3: "The Food and Beverage (FAB) Functional Area (FA) plays an instrumental role in the Games because whilst fulfilling essential dietary needs ..."
P. 3: " ... successful delivery will depend on multiple parties ensuring food service which is safe, nutritious , sustainable ..."
P. 4: "Many of the attendees will be visitors from around the globe, experiencing Brazilian cuisine for the first time. Our mission is to efficiently deliver fresh, balanced and healthy food and beverage services ..."
P. 13: " ... we have set goals to support healthy eating in our populations ..."
P. 14: " Healthy Offerings: In any diet, balance is key. Limited offerings mean that people may be lacking one particular food group, whereas too many options can result in people gravitating toward more of certain types of food (starches, sugars and other comfort foods). Food and beverage is not just about making people happy with food that satisfies, we also have a social responsibility to guide them to healthy choices ..."
P. 14: "Around the world, sporting events have a bad reputation for serving uninspiring food that has been heavily processed or fried. We believe that Brazilian food sources could break that tradition by creating new fresh food options that are still easy to eat in an event environment. There is a growing Carioca trend to be creative with tapioca, cassava, and manioc which could help establish new ways to deliver healthy food (for example bolinho de feijoada is an easy to serve way to have mini-feijoada). New methods could also be established to minimise waste (for example an edible manioc bowl)."

Finding 3: The "Spectator Experience" section in the Food Policy was framed differently than other client groups (such as for athletes, officials and international federations). "Health" was not mentioned policy section dedicated to spectators, though "quality" was mentioned. Arguably, "quality" could be understood as a synonym for "health", though it is noticeable the term "health" is not present. Also, there was an emphasis on serving food for swift consumption. Examples are below:

P. 10: "Spectators: This is the largest client group - an estimated eight million spectators will attend Games events. Their primary objective is to enjoy memorable sporting events, but their food and beverage experience can either enhance or detract from their overall impression of Rio 2016. Critical to successful spectator concessions will be quality, variety, and affordability. Spectators purchase their food and beverage through venue concessions points at prices comparable with those charged at other international events. ... Options should be available to fulfil different dietary requirements."
P. 15: "Food on the Run: Spectators purchase their food from concessions, and thus may require different scales of offerings depending on their appetites, available time, and time of day (from light snack to a full meal). For this reason their food should include different size options and should be portable, easily eaten, and have minimal mess."

Finding 4: Sponsors were elevated as a priority in food and drink provision in the “Rio 2016 Taste of the Games” policy. Examples are below:

P. 3: “The Food and Beverage (FAB) Functional Area (FA) plays an instrumental role in the Games because whilst fulfilling essential dietary needs, FAB can also help represent the cultural identity of the host. <i>To fulfil this role, the food and beverage solution must also comply with the rights of Marketing Partners.</i> ”
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P. 18: “The catering services proponent will be required to use best efforts to <i>integrate as many of the Marketing Partner products into its menus as possible.</i> ”

Finding 5: Offering Brazilian food was a specific priority in the “Rio 2016 Taste of the Games” Food policy. Examples are below:

P. 3: “[Food and Beverage] can also help represent the cultural identity of the host.”
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P. 3: “Principle 5: Brazilian products and recipes should have a prominent position in all menus to enrich the overall experience for all client groups.”

P. 4: “... highlighting the diversity and richness of Brazilian resources.”

P. 10: “Typical Brazilian products should also be amongst the options sold [to spectators]”.
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Policy Analysis Conclusion

The “Rio 2016 Taste of the Games” policy principles included:

“Food offerings should be healthy, nutritious and balanced”

“Brazilian products and recipes should have a prominent position in all menus to enrich the overall experience for all client groups”

“Be creative in the development of concessions menus, inventing products or reinterpreting dishes that can be prepared quickly, are easy to eat, and use Brazilian ingredients in new, innovative ways”

While there were many references to “health”, “nutrition” and Brazilian cuisine in the Rio 2016 food policy, there were also occasions when a focus on health was not prioritised. In particular, spectators were framed as desiring “efficient food (innovative dishes which can be eaten quickly on the run with minimal cutlery or packaging)”. Also, the requirement of caterers to “integrate as many of the Marketing Partner products into its menus as possible” would raise the possibility of Olympic spectator’s food and drink being perceived to not meet expectations of health and nutrition.

Ticket purchase and conditions of entry

This section of the report focuses on how food and drink was made manifest for spectators throughout the event. We analyse the various stages that spectators experienced. It was during these times that ideas about food and drink influenced the experience of the spectators.

Ticket Purchase:

Ideas about food and nutrition were present even at the ticket purchase stage. For Brazilian ticket buyers, there was an option to buy “half price” ticket if a person was obese.⁴⁴ It was not made clear in the ticket document why this was the case but it is reasonable to link this policy to ideas about healthy eating and physical activity promotion. When the tickets were purchased, various sponsor logos were present on the back of the ticket, including McDonald’s and Coca Cola.

Conditions of Entry:

Spectators attending mega sport event such as the Olympic or Paralympic Games are often obliged to meet certain conditions of entry. These can often include restrictions on what food and drink spectators can take with them into venues. It was made clear in the ticket information that “all liquids, drinks or beverages (alcoholic or not)” were prohibited. Further, only “non-perishable food ... for example, biscuit, cereal bars, baby food” would be allowed into the sites.

The experiences of the researchers during their site visits indicated this policy was generally adhered to during the Olympic Games. Security processes were employed at venues which were very similar to typical airport screenings. This process included screening for food and beverages which did not adhere to the strict guidelines of the policy. It was apparent at some venues at the Paralympic Games, this policy was not always enforced. Also, due to significant food and drink shortages in the early days of the Olympic Games, the organisers did allow spectators to leave the venue to search for food and drink elsewhere.

Below: The conditions of entry regarding food and drink at Rio 2016.

Below: A typical screening point to enter Olympic Park. Perishable food and drinks were confiscated.

PROHIBITED AND RESTRICTED ITEMS LIST

SPECTATORS

PROHIBITED ITEMS

- Helmets
- Selfie stick
- All liquids, drinks or beverages (alcoholic or not)

RESTRICTED ITEMS

- Non-perishable food for personal consumption in the original and sealed packaging (for example biscuit, cereal bars, baby foods). Glass containers are not allowed
- Food and beverages for people with medical needs, properly proven with medical prescription containing doctor’s professional register (CRM)



Stated Menu for Spectators at Rio 2016:

The Rio 2016 official website displayed a range of food and drink that was intended to be available at various venues.⁴⁵ These are listed below along with a judgement from the PHANSMER researchers regarding how “processed” these foods were, according to the Brazilian Dietary Guidelines (2014). Food and drink is categorised as either “natural” “minimally processed”, “processed” or “ultra-processed”. We also evaluate how prominent (or how visible) these various options were for spectators at Rio 2016.

Type of Food	Level of Processing	Prominence
Snacks	Processed	High
Brazilian cheese bread	Processed	High
Chips	Processed	Medium
Manioc crisps	Processed	Medium
Peanuts	Minimally processed	Medium
Smaller snacks	Unknown	Unknown
Salad with meat	Minimally processed / processed	Low
Whole fruit	Natural	Very low
Fresh fruit salad	Minimally processed	Very low
Coffee	Minimally processed	High
Popcorn	Natural / minimally processed	High
Mixed nuts	Minimally processed	Low
Açaí	Processed	High
Desserts	Ultra processed	High
Chocolate	Ultra processed	Medium
Premium ice lolly	Ultra processed	Very high
Classic ice lolly	Ultra processed	Very high
Fruit lolly	Ultra processed	Very high
Sandwich (Double Cheeseburger)	Ultra processed	Very high
Sandwich–sausage	Ultra processed	Very high
Sandwich-chicken	Ultra processed	Very high
Hot dog	Ultra processed	Very high
Vegetarian sandwich	Processed	Very low
Mini pepperoni pizza	Ultra processed	Medium
Mini vegetarian pizza	Ultra processed	Medium
Penne, tomato sauce or white sauce	Processed	High
Fusili, tomato sauce or white sauce	Processed	High
Water	Natural / processed	Low – high
Sucos Del Valle	Processed	High
Mate Leão	Processed / ultra-processed	Very high
Sparkling drinks	Ultra processed	Very high
Powerade	Ultra processed	Very high
Beer	Ultra processed	Very high
Chocolate/coconut lolly	Ultra processed	High
Fruit lolly	Ultra processed	High
Sweets/chocolate	Ultra processed	Medium

Table: Level of processing and prominence of food and drink at Rio 2016.

Dining Facilities for Spectators:

Aside from inside stadiums and arenas themselves, the vast majority of available seating at large venues consisted of red Coca Cola branded chairs and tables. Coca Cola sun umbrellas were also prominent at many outdoor venues. As a major sponsor of Rio 2016, Coca Cola has significant rights to promote their brands at venues.

Olympic Park main dining area. There were over 100 Coca Cola picnic tables in the main square.



Olympic Park main dining area. Coca Cola sun umbrellas provided shade for the spectators.



At Olympic Stadium, these Coca Cola tables and umbrellas were situated inside the securitised area.



Purchasing Food and Drink:

The operating times for various venues differed depending on the event and the time of day. Some food and drink stalls were open nearly all day, while some were only open for certain periods. In the first few days of the Olympic Games, there were many instances of stalls running out of products. There were also many complaints about the long queues to purchase food. There were problems with the food purchase system which was criticised by many spectators and being unclear and inefficient, because customers would be required to order food at one counter and then proceed to another counter to pick up their food. After a couple of days of significant frustrations and complaints, the organisers apologised and vowed to take remedial action^{46, 47, 48}.

Long queues and food stalls running out of food led to many complaints in the early days of the Olympic Games.



At various venues long lines and a lack of food contributed to many complaints. At some venues the site managers allowed people to leave to find food elsewhere.



Menus:

The main stalls at which to purchase food and drink were all similar, though the menus at each one differed slightly. The menus usually had a prominent Coca Cola logo on the physical stand of the menu. The food and drink options were displayed in English and Portuguese. There were no images on the menus to indicate what the food would look like, since it was heated in ovens out of view of the spectators. Over time, as food stalls ran out of a specific item, that item would sometimes be crossed off the list.

The menus offered a range of food, though many interviewees criticised the apparent lack of healthy food.



As the stocks of food ran out, items would be crossed off the menus.



Coca Cola imagery and branding was prominent on the vast majority of menus.



Coca Cola imagery and branding was prominent on the vast majority of menus.



There were instances of “family meals” being offered. However, the food and drink involved was ultra-processed. One interviewee said: “There was only fast food, and by the end of the event I needed to eat real food.”



Despite food supplies often running low, there usually seemed to be a bountiful supply of Coca Cola products.



Food Stalls:

The food and drink stalls usually bore no specific branding, apart from prominent Coca Cola signs. Each had a distinct large sign above, such as “Pasta”, “Pizza”, “Drinks” or “Snacks” etc. On the main counter of each stall, were often displays of the drinks that were on offer (Coca Cola, Powerade Zero, tea and orange juice for example). There was often a small food warmer displaying a variety of small snacks that could be purchased, such as coxinha (fried chicken balls), kibe (fried meat balls), or pão de queijo (cheese bread). These products were often fried, with no vegetable or fruit content.

A typical food display of Brazilian snacks. These were virtually always devoid of fruit or vegetable content.



The layout of the stalls was simple. Here the visible products at the Double Cheeseburger stall are beer, Coca Cola products and ultra-processed crisps.



A close up of some of pastry and Brazilian snacks on display.



A typical food warmer presenting the Brazilian snacks on offer. An interviewee said: "In Brazil I know we have a lot of fresh things that could be used in the Olympic Games."



People of all ages were offered a selection of ultra-processed food and drink at Rio 2016.



Drinks

At all venues there was a variety of high sugar, low sugar and sugar-free drinks to purchase. However, the vast majority of the visible branding at the venues was simply the traditional “Coca Cola” stylised logo. The “SKOL” beer logo also appeared on menus and the beer stalls were painted in a bright yellow colour, similar to the colour of the “SKOL” brand. The specific Coca Cola stalls did not have prominent displays of the different types of drinks available for spectators to choose from. It was very noticeable that the majority of the drinks for purchase were ultra-processed. The Rio food policy gave an example of what might have occurred: “Beach Volleyball at Copacabana beach would not be a complete experience without aqua de coco served in fresh coconut.” However, coconut water was not seen at the beach volleyball or at any other venues.

Beer stalls were very prominent at all the Rio 2016 venues.



Coca Cola stalls were also very prominent, and did not explicitly display low sugar options.



Coca Cola fridges held original Coca Cola, sugar free soda, orange juice, water and ultra-processed tea drinks.



Displays such as this were prominent on most food stalls. The tea, Powerade Zero and Coca Cola could all be described as ultra-processed according to the Brazilian Department of Health guidelines.



Un/Availability of free water:

At some venues, such as the Olympic Stadium, free water fountains were in abundance. However, at other venues such as the Deodoro Park and the Olympic Park, there were no apparent free water fountains. There was also no signage directing spectators to where they could attain free water, despite the IOC requiring free water provision in the Host City Contract Operational Requirements.⁴⁹ Skol beer and Coca Cola stalls were in abundance, and bottled water was displayed in various fridges for purchase.

Pricing:

The Rio 2016 food policy stated that spectators should “purchase their food and beverage through venue concessions points at prices comparable with those charged at other international events.” No further information is given in the policy for comparable “international events”. Many of the interviewees commented that the food and drink was relatively expensive.

Range of food on offer:

The majority of food for sale as parts of a meal was highly processed, and contained little or no fresh fruit or vegetables. This observation was agreed with by the vast majority of interviewees, who often expressed shock and disappointment at the perceived poor quality of food on sale. Further, many interviewees commented that there was no “real” Brazilian cuisine that could be purchased to eat as a meal. The interviewees often recalled seeing only burgers, pizzas, hotdogs and hamburgers for sale. It was often described as typical “junk food”. It was certainly the case that that vast majority of food served to spectators in the various Olympic sites could not be classed as “fresh”. In the Barra Olympic Park, there was only one outlet which sold small fruit salads. However, these fruit salads were located in a fridge with an opaque curtain, which itself was in a small nondescript shop in the corner of the main dining area. There was no effective signage to direct spectators to this place, and it appeared that most spectators interviewed were not aware it existed. Some independent food trucks were allowed into various premises. These food trucks often sold burgers and hot dogs.

This is a chicken sandwich with cream cheese. According to the Brazilian Department of Health guidelines would be classified as ultra-processed food.



This is a double cheeseburger. It contained no vegetables. According to the Brazilian Department of Health guidelines would be classified as ultra-processed food.



This is a hot dog typical of many sold by “independent” food trucks. It could be described as ultra-processed.



Ultra-processed crisps were sold in many food stalls. One interviewee said: “I did not see any healthy and nutritious food. The ‘least worst’ was the popcorn.”



Here a variety of food is displayed for sale, including sausage sandwiches, cheese bread and empanadas and croissant.



A McDonald's shop in Olympic Park sold ice cream desserts.



A food truck selling a variety of burgers. Many food trucks were brought into venues by event organisers to address the insufficient supply of food at the main food stalls.



A range of food including hot dogs, empanadas (meat-filled snack), and cheese bread were on display in food warmers.



Ingredient lists with nutritional information for the snacks were on display beside the food warmers. However, this was not the case for all products.

• Coxinha
• FRIED CHICKEN BALLS

INFORMAÇÃO NUTRICIONAL / NUTRITIONAL INFORMATION /
INFORMATION NUTRITIONNELLE
Porção / Portion 40g

QUANTIDADE PER PORTION / QUANTITÉ PAR PORTION	AMOUNT POR PORTION / QUANTITÉ PAR PORTION	% VD (*)
Valor Energético Energy Value Valeur d'énergie	190Kcal=798KJ	10%
Carboidratos Carbohydrates Hydrates de Carbone	24g	8%
Proteínas Proteins Protéines	3.3g	4%
Gorduras Totais Total Fats Total de Grasses	9.1g	17%
Gordura Saturada Saturated Fats Grasses Saturées	3.8g	17%
Gorduras Trans Trans Fats Grasses Trans	0.5g	**
Fibras alimentares Food Fibers Fibres Alimentaires	0g	0%
Sódio Sodium	501mg	21%

(*) % valores de referência com base em uma dieta de 2000 kcal ou 8400 kJ. Valores diários podem ser maiores ou menores dependendo das necessidades individuais. (†) Balance values based on a diet of 2000 kcal or 8400 kJ. Daily values may be bigger or smaller depending on the individual energy needs. (‡) Valores de referência baseados em regime de 2000 kcal ou 8400 kJ. Valores quotidianos podem ser maiores ou inferiores selon les besoins. (**) Valor diário não estabelecido. (†) Daily value not established. (‡) Valeurs quotidiennes non établies.

Ingredientes / Ingredients / Ingrédients: Leite, Caldo de Frango, Gordura de Palma, Farinha de Trigo Enriquecido com Ferro e Ácido Fólico, Sal, Condimento e Recheio (frango desfiado)

Contém Glúten
Contains Gluten
Contien Gluten

Contém Lactose
Contains Lactose
Contien Lactose

In the corner of the large Olympic Park dining area, in a small shop called “the market”, were these small fruit salads on offer. No interviewees mentioned seeing this.



Coca Cola Zone (Barra Olympic Park):

At the edge of the Olympic Park in Barra, there was a large construction which was a physical manifestation of Coca Cola's sponsorship called "ThatsGold". Upon entering spectators could exchange a token received at the entry for a commemorative golden bottle, with Coca Cola inside. There was also a Coca Cola truck which fans could have their photo taken on, Olympic torches which could be posed with for photos, a display of Coca Cola's historical involvement with the Olympic Games, and a Coca Cola store.

It is difficult to describe to site as anything other than a total celebration of Coca Cola. People would wait in a line for up to an hour to enter the venue, at which time they were encouraged to proceed to a large counter where they would exchange their token for a free Coca Cola. There was no obvious place to access water. The researchers witnessed people of all ages in this venue, including many young toddlers who were sipping on the free Coca Cola.

After waiting in line for up to an hour, spectators could swap tokens for a free Coca Cola. Young children were drinking the full bottles of Coca Cola.



People would line up late into the evening to enter the Coca Cola zone.



The zone included energetic music, dancing Coca Cola representatives and Coca Cola paraphernalia to be photographed with and purchase.



Spectator Perceptions of Health and Nutrition of Food and Drink at Rio 2016.

30 spectators who attended a variety of Olympic and Paralympic events were asked about their perceptions of the health and nutrition quality of the food and drink offered at the venues. Overall, the interviewees believed that the food and drink on offer was not healthy or nutritious and that Brazilian culture and cuisine was not well-represented. Here is a selection of thoughts from the various interviewees:

"Nutrition I think was so bad. I'm not happy with that. Only fast food and soda. I know that is not good for health."

"For drink the first thing you see was Coca Cola, Coca Cola everywhere. And for food I don't feel the sandwich had a good appearance. It looked weird and so I ate chips because I don't like what I saw. It was not beautiful food."

"You can only drink water, and it's so expensive, or you can drink Coke, or beer ... so much sugar in the drinks ... the worst thing in the Olympics is the food."

"There wasn't healthy options. I think the only thing healthy was the water. They are only thinking about the profit because they are selling cheap food for expensive prices ..."

"It was popcorn, it was sodas, ice cream, hamburger, hot dogs, ... normal junk food."

"A lot of people like to eat unhealthy food but I think there should probably be options of healthy food. What about some apples, bananas, some fruit here, so people get the choice."

"I did not notice any healthy options. If they did have, it was not very well displayed."

"I would say that these Olympics - from food and drink consumption and the corporate sponsorship that I have seen - don't promote health living and that's a disappointment based on the potential for otherwise ... I would not call it healthy food."

"There was too much the same. Hot dogs, cheese burgers and Coca Cola."

"There was only fast food, and by the end of the event I needed to eat real food."

"In the Olympic Games we expected healthy food, not Coca Cola."

"I think there was no nutrition in that food and no fresh food. There was only pizza and soda, and Coke, there is no nutritious food, there is no options for the people."

"I am vegetarian and yesterday (at the opening ceremony) while everyone had a choice of hamburger, hot dog, chicken sandwich, vegetarians only had the option of eating popcorn, peanuts or a sweet."

"I was not satisfied, everything was artificial, and the taste of the food was not good. I did not expect to eat well here, but it was worse than I thought."

"The food did not look fresh! And there was a lot of fried food."

"They are processed food, pre-made, packaged foods."

"There were no options like fruits, fruit salad for example."

"I do not think that there was health promotion, mainly because the food that were considered healthy! There was only popcorn and Açaí, which was industrialized."

"It has variety, but most things are not healthy."

"There is nothing! You look for it and the only thing that you can find is an ice tea, from the same brand of the soda. Or you find a whole "cookie", but it has white sugar, white flour. It is better than the bread with a sausage on it ..."

"I did not see any healthy and nutritious food. The "least worst" was the popcorn."

"Here, from what I can see, they have a big issue with health promotion. To begin with, the fact that McDonalds itself is one of the sponsors of the Games."

"I can't find anything healthy or balanced about it. It's impossible."

"While everyone who eats meat had some options like hamburger, hot dog and chicken sandwich, for those who are vegetarians there was only the option for popcorn, peanuts and to eat a candy."

"I think that instead of having hamburgers, there should be an offer of natural sandwiches, instead of having candies, there should be fruits. Instead of coke, there should be natural juices or natural tea."

"Yesterday in the opening ceremony ... the only thing considered healthy there were popcorn and peanuts and acai, which was industrialized.... Here, in the Olympic Park I found the same thing because McDonald's is one of the sponsors of the Games. And it sells the opposite of health."

"The main point is that there is no inclusion, as they said in the opening ceremony. They said that we are all equal and such ... Opportunities should be the same for everyone. Here anyone who has diabetes cannot buy coffee with milk because it is already sweetened, a vegetarian cannot buy a sandwich because there is no vegetarian option, and so on. This is wrong. How do people talk about inclusion and making all good for everyone if even during the Paralympic Games things are not inclusive."

Brazilian food on offer?

"In Brazil I know we have a lot of fresh things that could be used in the Olympic Games."

"It didn't represent Brazilian culture because here we eat a lot of fruit and vegetables. We have a lot of nutritious food here. And why didn't we see that kind of food there. I think it's because of Coca Cola which is paying to be there. This does not represent Brazilian food."

"Maybe for the athletes, but for the general customers, it's not true."

"The frozen Açaí? That is the only thing that I saw."

"There was no typical Brazilian food. It was more fast food."

"This dry pizza we do not have the tradition to eat! The hot dog without a sauce, I never saw. Unimaginable!"

"The food was the only part of the games that disappointed me."

"I think that everything had to be more natural, for example, instead of having hamburger, they should had to have natural sandwich, instead of having sweets should have fruits, instead of having Coke should have natural juices."

"I think it's because of money. The hot dogs, the cheeseburgers, the Coca Cola, the McDonald's is in the Olympics because of the money. The industrialists have money. And for the IOC. Maybe another company wouldn't have the same power to represent the market."

"It should have natural juices, not industrializes ones."

"I expected that, because Brazil has so many fruits, colourful and delicious fruits, we would be able to show the world the richness of the flavours and fruits."

"But there is nothing healthy, we do not have any option. Salad? None of this. So we came for three days, and these three days it was cheese burgers ..."



Conclusion and Recommendations

This research aimed to answer: **Was Rio 2016 food and drink for spectators healthy, nutritious and balanced?**

The analysis demonstrated serious problems with the food and beverage provision at Rio 2016. These problems included:

- most of the prominent food and drink for spectators at the Olympic and Paralympic Games was “ultra-processed”. The 2014 Dietary Guidelines for Brazil, published by the Ministry of Health, suggests ultra-processed foods and drinks should be avoided because they tend to be consumed in excess, displace natural or minimally processed foods, and their means of production, distribution, marketing, and consumption damage culture, social life, and the environment.
- a Rio 2016 policy claimed to promote “healthy” food but also favoured sponsors’ products to the exclusion of other healthy options.
- a venue entry policy which involved the confiscation of spectators’ own food and drink at the entry points to various venues, particularly at the Olympic Games.
- a perceived lack of access to free drinking water at various venues.
- a narrow choice of food and drink.
- a poor selection of local, Brazilian food and drink.
- promotion of “family meals” that did not meet spectators’ perceptions of healthy and nutritious food.

This study concludes that much of the food and drink for spectators at Rio 2016 was perceived to be categorised as *unhealthy, not nutritious and imbalanced*. Spectator food and drink provision at Rio 2016 failed to meet World Health Organisation standards, the Brazilian government’s dietary advice, as well as the Rio 2016 organising committee’s own aims. This document proposes significant changes should be made in future Olympic and Paralympic Games to ensure that spectators are not deprived of access to healthy food and drink, and that healthy eating is elevated above the importance of corporate sponsors. Indeed, sponsors have an ethical obligation to ensure spectators have access to healthy food.

There are clearly tensions involved in having corporate sponsors having significant control over what is made available to consume at sports events. On one hand companies are often lambasted for being promoting unhealthy products to consumers. And on the other hand, corporate sponsors are often lauded as being essential in making the events happen at all. However, given the health consequences of poor diets and the human rights issues increasingly being attached to nutrition provision, it is unacceptable for spectators to be denied access to an appropriate range of healthy food and drink.⁵⁰

Given the failings of both the Olympic Games and Paralympic Games to adequately promote and provide healthy food for spectators, the report proposes a number of policy and practice changes for future events:

Policy Recommendations

- The IOC and sponsoring companies should alter sponsorship agreements to ensure that a wide variety of healthy food and drink options are available and promoted to spectators.
- Currently, the IOC requires LOC’s to take various actions, including “Submit to the IOC for approval a plan detailing the provision of food and beverage services in all venues to each stakeholder” as well as ensure “Compliance with Olympic marketing rights in food and beverage spaces”. Both the IOC and LOC’s must ensure that health promotion is a central feature of food and drink provision. At the time of writing

preparations are being made for the Japan 2020 Olympics and Paralympics Games. Also, various potential hosts are preparing the candidate files in order to host the 2024 Olympics and Paralympics Games. There is a clear and urgent need to ensure that healthful nutrition is a central theme of the Olympic and Paralympic Games.

- The IOC and LOC's should commit to certain standards of food and drink for spectators. To ensure this, they should consult with independent nutrition experts regarding the quality of food and drink at venues.
- The IOC should use its significant social capital to more explicitly promote healthy eating. For example, the Olympic motto could be revised to include the term "healthier". The Latin term "salubrious" ("healthier") could be infused into the IOC's marketing of the event. While a seemingly radical change to the existing Olympic motto, it should be noted there is nothing particularly ancient or immutable about the current motto.
- The IOC Charter does not include explicit reference to spectators. Just as the "health of athletes" features as a core concern in the IOC Charter, so too should the health of spectators.

Practice Recommendations

- Allow patrons to bring in their own food and drink into venues. While there are clearly pressures to appease current sponsorship arrangements, it is unethical to prohibit fresh food from being brought into venues whilst not providing spectators with healthy food options.
- At all venues, ensure that free water is provided. Further, ensure that access to free water is well signposted.
- Ticket information should include what food and drink will be available at the events.
- Menus should include visual displays of the content of food.
- A far greater emphasis should be put on vegetarian options. It was particularly concerning that most menus at Rio 2016 included only one vegetarian option (the veggie sandwich) and this option was often unavailable.
- Rethink the idea of all spectators wanting "food on the run". This idea does a disservice to the amount of time that spectators appeared to stay inside venues.

Broad Stakeholder Advice

Beyond Rio 2016, there are implications for various stakeholder groups regarding health promotion at sport mega events:

- 1) **Governments and policy makers** should insist that sport mega events commit to healthy eating provision at sport mega events, with penalties applied (such as forfeiture of a portion of profit) for non-compliance.
- 2) **Food and drink companies** which sponsor sport mega events should acknowledge the potential harm of consuming a limited range of products and that monopolising access to food and drink in confined spaces is unethical practice.
- 3) **Sport mega event organisers** should emphasise healthy eating and drinking and adopt a human rights approach to the provision of healthy food and drink at venues.
- 4) **The public** should be encouraged to resist event organisers who prohibit spectators from bringing their own healthy food and drink into venues.

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Note: All images aside from those referenced come from the personal collections of individuals helping the PHANSMER study group.

