



Údarás Sábháilteachta Bia NA hÉIREANN
Food Safety AUTHORITY OF IRELAND

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Food Reformulation Task Force:

DRAFT maximum per serving salt targets
for pizza sold in the foodservice sector



DRAFT maximum per serving salt targets for pizza sold in the foodservice sector

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Draft for consultation

Glossary

Term	Text
EFSA	European Food Safety Authority
EU	European Union
FRT	Food Reformulation Task Force
FSAI	Food Safety Authority of Ireland
g	gram (s)
IQR	interquartile range
mg	milligram (s)
min-max	minimum and maximum values
n	number of sample products
NCDs	noncommunicable diseases
OHID	Office for Health Improvement and Disparities
OOH	out-of-home
PAHO	Pan American Health Organization
PHE	Public Health England
UK	United Kingdom
WHO	World Health Organization

1. Introduction

1.1 Purpose

This document outlines the draft maximum per serving salt targets for pizza sold in the Irish foodservice sector¹, and the rationale and methodology behind their development. The draft maximum per serving salt targets are published for consultation to provide interested parties with an opportunity to give their feedback.

1.2 Background

Dietary salt intakes are decreasing in the Irish population; however, they remain above the international recommended target of less than 5 g/day (World Health Organization, 2023) and the Food Safety Authority of Ireland (FSAI) population target of 6 g/day, as highlighted in the [Food Reformulation Task Force Progress Report 2023](#) (FSAI 2024a). The consumption of food from foodservice outlets is associated with higher dietary salt intakes (Gesteiro *et al.* 2022; WHO 2022). One popular food choice amongst Irish consumers, identified as high in salt when purchased from foodservice outlets, is pizza (Bord Bia 2020; safefood, 2012). Given that the dietary intake of salt is a modifiable risk factor for reducing diet-related noncommunicable diseases (NCDs), recent work of the Food Reformulation Task Force (FRT) indicates that pizza served in the foodservice sector contain high levels of salt and is a food category that warrants particular attention for salt reduction (FSAI, 2024b).

1.3 Salt reformulation targets for priority food categories

The [Roadmap for Food Product Reformulation in Ireland](#) has set percentage reductions for target nutrients, which are aimed at all parts of the food industry including food manufacturers, food retailers, ingredient suppliers and the foodservice sector (Department of Health, 2021). The Roadmap has specifically set a salt reduction target of 10% for priority food categories between 2015 and 2025 (Department of Health, 2021). Priority food categories are outlined in the [Priority Food Categories for Reformulation in Ireland Version 3](#) report (FSAI, 2023). The Roadmap also states “As in the UK, the eating out of home sector is expected to procure and/or make products that meet the relevant targets and maximum per serving salt targets will be developed for this sector, drawing on experience from Northern Ireland and Great Britain” (Department of Health, 2021). However, to date, there has been a lack of nutrition composition information for food products sold in the Irish

¹ Foodservice or out-of-home (OOH) sector are terms commonly used to describe any establishment where food and drink are prepared outside of the home for immediate consumption, e.g. restaurant, café, take-away, public house.

foodservice sector. This absence of information has presented a challenge in setting maximum per serving salt targets.

1.4 Benchmark of the salt content of pizza sold in foodservice outlets in 2023

To address this information gap, the FRT has built upon previous research published by *safefood* (2012) by establishing a 2023 benchmark of the salt content of pizzas, a subcategory of the “Savouries” priority food category, sold in the foodservice sector (FSAI, 2024b). The rationale for prioritising pizza and the methodology followed to establish the 2023 benchmark is described in the [Benchmarking the salt content of pizza sold in the foodservice sector in 2023](#) report (FSAI, 2024b). In summary, in 2023, the mean salt content per 100 g of a convenience sample of adult pizzas (n=47) was 1.46 g/100 g and of a convenience sample of children’s pizzas (n=13) was 1.37 g/100 g. The mean salt content per whole adult pizza (n=47) was 7.27 g/pizza and per whole children’s pizza (n=13) was 2.73 g/pizza (FSAI, 2024b). Furthermore, across the three subcategories of pizza for adults and children, a wide variation was observed in the mean analysed salt content. For example, the salt content per whole pizza for adults ranged from 3.34–11.01 g/pizza, while the salt content per whole pizza for children ranged from 1.31–4.68 g/pizza, across all subcategories, respectively (FSAI, 2024b).

1.5 Development of draft maximum per serving salt targets for pizza sold in foodservice outlets

Given the high salt content of pizzas sold to both adults and children in Irish foodservice outlets, and in line with the requirements set out in the [Roadmap for Food Product Reformulation in Ireland](#) (Department of Health, 2021), the FRT has developed draft maximum per serving salt targets for pizzas served in the Irish foodservice sector.

The FRT acknowledges the presence of technical and food safety challenges associated with salt reduction. Therefore, global best practice and evidence-based guidance was considered when developing a methodology for setting maximum salt targets to ensure technical, consumer and industry acceptability (Downs *et al.* 2015). The *Benchmarking the salt content of pizza sold in the foodservice sector in 2023* report (FSAI, 2024b) was used to inform the development of draft maximum per serving salt targets.

Setting maximum level salt targets for food categories prioritised for food reformulation based on their contribution to dietary intakes of salt, is a recommended approach for stimulating the reduction of salt in food products (WHO, 2016; Downs *et al.* 2015; Pan American Health Organization (PAHO)/WHO, 2013; 2021). Employing statistical graphical tools to visualise the salt content

distribution (mean and median salt levels), along with identifying key percentile levels are recommended approaches for determining maximum salt targets for food categories (PAHO/WHO, 2013; 2021).

2. Aim and objectives

2.1 Aim

The aim of this report is to outline the draft maximum per serving salt targets for pizza, sold in the foodservice sector in Ireland in 2023, and the methodology followed in their derivation.

2.2 Objectives

The objectives of this report are:

1. To describe the methodology followed for establishing the draft maximum per serving salt targets for pizzas sold to both adults and children in Irish foodservice outlets.
2. To outline the draft maximum per serving salt targets for adult and children's pizza subcategories sold by foodservice outlets in Ireland.
3. To compare the draft maximum per serving salt targets for adult and children's pizzas with international guidance for dietary salt intake (WHO, 2023; European Food Safety Authority (EFSA), 2019) and with established salt targets for pizzas in other regions (WHO, 2024; PHE², 2020).

² Public Health England (PHE) now referred to as the Office for Health Improvement and Disparities (OHID).

3. Methodology

3.1 Approach to setting draft maximum per serving salt targets for adult and children's pizzas

To define the draft maximum per serving salt targets for both adult and children's pizzas sold by Irish foodservice outlets, the following steps were undertaken:

1. A review of the scientific and grey literature on approaches used to determine maximum per serving salt targets was completed (Downs *et al.* 2015; WHO, 2016, PAHO/WHO, 2013; 2021).
2. Using the 2023 benchmark of the salt content in a convenience sample of adult and children's pizzas, the median salt content for all pizzas and for each subcategory of pizza, per 100 g and per portion (including per whole pizza (g/pizza) and per pizza slice (g/slice)) were determined (FSAI, 2024b).
3. The draft maximum per serving salt target for each subcategory of adult and children's pizzas was established at the median level of salt (50th percentile) per 100 g, per whole pizza (g/pizza) and per pizza slice (g/slice).
4. The feasibility of the draft maximum per serving salt targets was assessed by determining the percentage of existing pizza samples, for both adults and children, that adhere to these draft targets. A feasibility threshold of 33% of existing pizza samples meeting the proposed draft targets was established (Eyles *et al.* 2020). This assessment was supported by visualising the distribution of salt and median level of salt for each subcategory of adult and children's pizzas per 100 g using histograms.
5. To explore technical feasibility and acceptability, the draft maximum per serving salt targets for each subcategory of pizza per 100 g and per portion (g/pizza, g/slice) were considered against the European Union (EU) and international daily intake threshold for salt (EFSA, 2019; WHO, 2023), the WHO sodium benchmarks for priority food categories (WHO, 2024) and the PHE salt reduction targets for food categories based in the foodservice sector (PHE, 2020).

3.2 Data and statistical analysis

Data analysis was completed using RStudio 2023.06.0. The salt content of each pizza subcategory per 100 g (g/100 g), per whole pizza (g/pizza) and per pizza slice (g/slice) was determined using the following statistical tests: median (interquartile range (IQR)), and minimum and maximum values (min-max).

The 50th percentile was calculated to determine the median salt content of each subcategory of pizza (g/100 g), per whole pizza (g/pizza) and per pizza slice (g/slice). The median salt content values were used to determine the percentage of existing pizza samples meeting the feasibility target set at 33% (Eyles *et al.* 2020). As well as this, data was visualised using histograms to explore the salt content distribution in each subcategory of pizza. Finally, the median salt content values were selected as the draft maximum per serving salt targets for pizza sold in Irish foodservice outlets.

Throughout this report, to convert sodium to salt, the sodium value was multiplied by 2.54. In all tables, all values are rounded to the nearest two decimal places.

4. Results

4.1 Median salt content per pizza subcategory

Table 1 provides an overview of the median (IQR) and minimum-maximum (min-max) salt content in a convenience sample of adult and children’s pizzas per 100 g and per portion sold by foodservice outlets in 2023 (FSAI, 2024b). Full details of the survey methodology and salt content are published in the *Benchmarking the salt content of pizza sold in the foodservice sector in 2023* report (FSAI, 2024b).

Table 1: Median (IQR) salt content of pizza subcategories per 100 g and per portion by population type

Salt content in pizza ^(a)			per 100 g		per whole pizza (g/pizza)		per pizza slice (g/slice)	
Population type	Pizza subcategory	(n)	Median (IQR) salt content	Min-max salt content	Median (IQR) salt content	Min-max salt content	Median (IQR) salt content	Min-max salt content
Adults	Cheese-only	12	1.42 (0.21)	1.02–1.60	6.63 (3.06)	3.34–8.05	0.80 (0.30)	0.43–1.55
	Pepperoni, salami, meatballs beef or sausage	21	1.57 (0.30)	1.30–2.08	8.66 (2.00)	4.54–11.01	1.12 (0.42)	0.55–2.80
	Other toppings	14	1.28 (0.29)	0.97–1.60	6.80 (1.73)	4.63–9.44	0.92 (0.28)	0.59–2.61
Children	Cheese-only	4	1.19 (0.13)	1.07–1.60	2.64 (1.92)	1.31–3.82	0.77 (0.40)	0.47–1.31
	Pepperoni, salami, meatballs beef or sausage	4	1.41 (0.19)	1.35–1.88	2.43 (0.60)	1.87–4.04	0.72 (0.65)	0.45–1.87
	Other toppings	5	1.24 (0.30)	0.91–1.78	2.09 (1.90)	1.69–4.68	0.49 (0.34)	0.38–1.03

Data provided as median and interquartile range (IQR), and minimum and maximum values (min-max). (a) All samples were analysed as sold.

4.2 Median salt content of pizzas and draft maximum per serving salt targets

Using the median salt content values for the three pizza subcategories, draft maximum per serving salt targets were derived. Tables 2 and 3 outline the draft maximum per serving salt targets for both adults and children, per pizza subcategory.

Table 2: Draft maximum per serving salt targets for adult pizzas

Adults	Draft maximum per serving salt targets		
Pizza subcategory	per 100 g	per whole pizza	per pizza slice
Cheese-only	1.42 g/100 g	6.63 g/pizza	0.80 g/slice
Pepperoni, salami, meatballs, beef, or sausage	1.57 g/100 g	8.66 g/pizza	1.12 g/slice
Other toppings	1.28 g/100 g	6.80 g/pizza	0.92 g/slice

Table 3: Draft maximum per serving salt targets for children's pizzas

Children	Draft maximum per serving salt targets		
Pizza subcategory	per 100 g	per whole pizza	per pizza slice
Cheese-only	1.19 g/100 g	2.64 g/pizza	0.77 g/slice
Pepperoni, salami, meatballs, beef, or sausage	1.41 g/100 g	2.43 g/pizza	0.72 g/slice
Other toppings	1.24 g/100 g	2.09 g/pizza	0.49 g/slice

4.3 Feasibility of draft maximum per serving salt targets and salt distribution in each pizza subcategory

The draft maximum per serving salt targets were established using the median salt content values for each subcategory of pizza for both adults and children. In each subcategory, 50% of pizzas met these draft targets, which exceeds the 33% threshold for target feasibility. Based on this, given half of existing pizza samples have already achieved the maximum per serving salt targets, the draft targets are considered feasible for each pizza subcategory. This is supported by the distribution of salt in each subcategory of pizza per 100 g, for both adults and children, as shown in Figure 1.

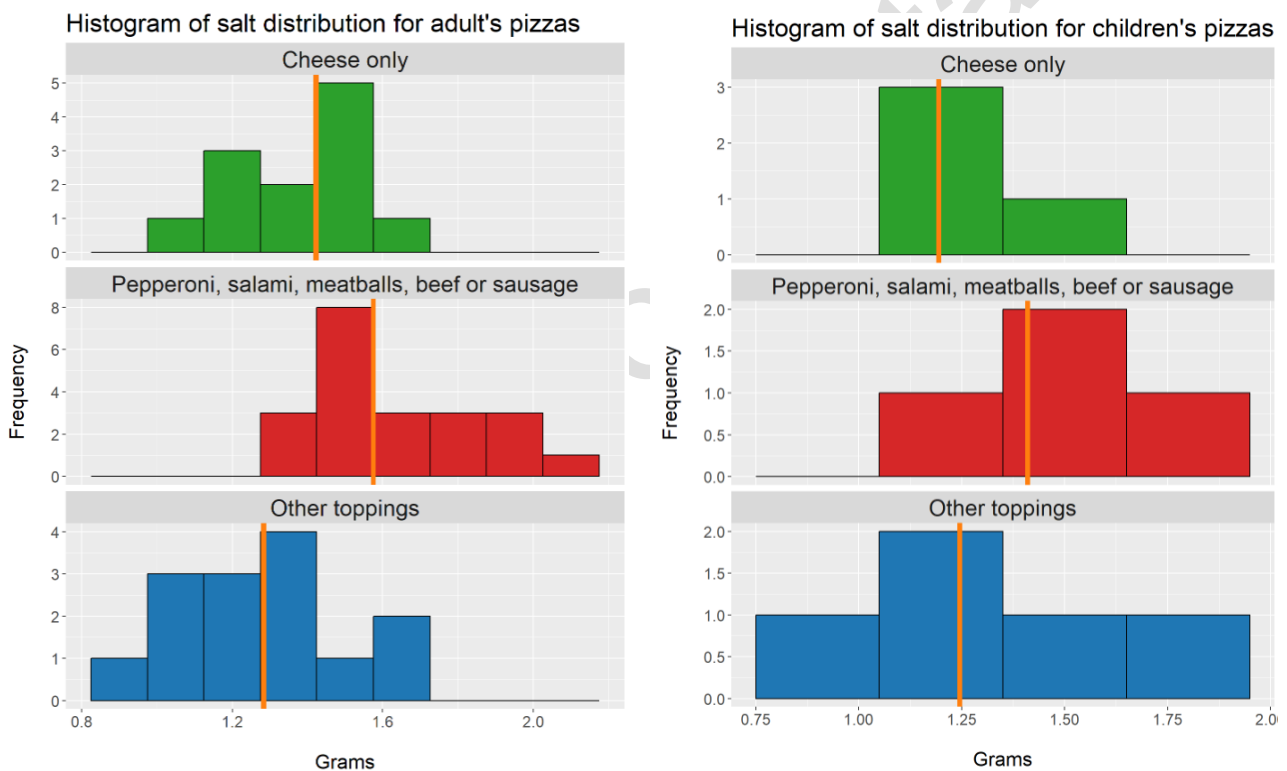


Figure 1: Histogram of salt distribution for adult and children's pizzas

4.4 Comparison of draft maximum per serving salt targets with international dietary guidance and reformulation targets

4.4.1 Draft maximum per serving salt targets for adult pizzas compared with international dietary salt intake guidelines and with salt targets in other regions

When compared with international health-based upper thresholds for dietary salt intake, the draft maximum per serving salt targets per whole pizza for adults across all subcategories exceed the WHO and EFSA's 5 g/day health-based upper threshold (WHO, 2023; EFSA, 2019). This is a reflection of the high salt content of pizzas sold in Irish foodservice outlets. The median salt content per pizza slice (g/slice), across all subcategories ranged between 0.80 g–1.12 g/slice, which is equivalent to 16.0%–22.4% of an adult's recommended daily salt intake limit (WHO, 2023; EFSA, 2019).

Furthermore, when compared with the WHO global sodium benchmarks for priority food categories, the draft maximum salt targets for each subcategory of pizza for adults per 100 g (g/100 g), exceed the WHO sodium benchmark for pizza of 450 mg/100 g (equivalent to 1.14 g/100 g of salt) (WHO, 2024). Additionally, when compared with the PHE salt reduction targets, similar targets were observed with the draft maximum per serving salt targets per pizza slice for adults (g/slice) (PHE, 2020). The PHE salt target for takeaway style pizza (per slice) with cured meat toppings such as pepperoni was set at 1.13 g/slice and for takeaway pizza toppings without cured meat such as margherita, the salt target was set at 0.88 g/slice (PHE, 2020). These targets are similar to our proposed draft maximum per serving salt targets per slice.

4.4.2 Draft maximum per serving salt targets for children's pizzas compared with international dietary salt intake guidelines

When compared with dietary reference values for salt intake in children, the draft maximum per serving salt targets in some children's pizza varieties, exceeded the adequate intake levels for sodium in children set at 1.1 g/day for 1–3 years, 1.3 g/day for 4–6 years, 1.7 g/day for 7–10 years and 2.0 g/day for 11–17 years, as established by EFSA (EFSA, 2019). The median salt content per whole pizza (g/pizza) for children aged 4–6 years, across all subcategories ranged from 2.09 g–2.64 g/pizza, which is equivalent to approximately 63.3%–80.0% of a child's adequate intake level for sodium (EFSA, 2019). Similar to adults, this is a reflection of the high salt content of pizzas sold in foodservice outlets, which warrants attention for salt reduction (FSAI, 2024b).

5. Application and monitoring of adherence to draft maximum per serving salt targets

The salt content of pizza sold in Irish foodservice outlets should be reduced to below the draft maximum per serving salt targets outlined in this report, within a one-year period.

Progress by the foodservice sector in achieving the draft maximum per serving salt targets for pizzas sold to both adults and children will be monitored by repeating a survey in line with the methodology for sampling and analysis outlined in the *Benchmarking the salt content of pizza sold in the foodservice sector in 2023* report.

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