

# F&Y2 Wave 6: Chapter 5 Food allergies, intolerances and other hypersensitivities

## Introduction

'[Food hypersensitivity](#)' is a term that refers to a bad or unpleasant physical reaction which occurs as a result of consuming a particular food. There are different types of food hypersensitivity including a [food allergy](#), [food intolerance](#) and [coeliac disease](#).

A **food allergy** occurs when the immune system (the body's defence) mistakes the proteins in food as a threat. Symptoms of a food allergy can vary from mild symptoms to very serious symptoms, and can include itching, hives, vomiting, swollen eyes and airways, or anaphylaxis which can be life threatening.

**Food intolerance** is difficulty in digesting specific foods which causes unpleasant reactions such as stomach pain, bloating, diarrhoea, skin rashes or itching. Food intolerance is not an immune condition and is not life threatening.

**Coeliac disease** is an autoimmune condition caused by gluten, a protein found in wheat, barley and rye and products using these as ingredients. The immune system attacks the small intestine which damages the gut and reduces the ability to absorb nutrients. Symptoms of coeliac disease can include diarrhoea, abdominal pain and bloating.

The FSA is responsible for allergen labelling and providing guidance to people with food hypersensitivities. [By law, food businesses in the UK must inform customers if they use any of the 14 most potent and prevalent allergens \(footnote 1\)](#) in the food and drink they provide.

Food businesses can also voluntarily provide information about the unintentional presence of these 14 allergens which may occur during the production process, for example when several products are made on the same premises. This is called [precautionary allergen labelling](#) (PAL) and includes labels such as 'may contain x' or 'not suitable for consumers with a x allergy'. PAL information can be provided verbally or in writing but should only be provided where there is an unavoidable risk of allergen cross-contamination that cannot be sufficiently controlled through risk management actions.

This chapter provides an overview of the self-reported prevalence and diagnosis of food hypersensitivities, and experiences of eating out or ordering a takeaway among those with a hypersensitivity.

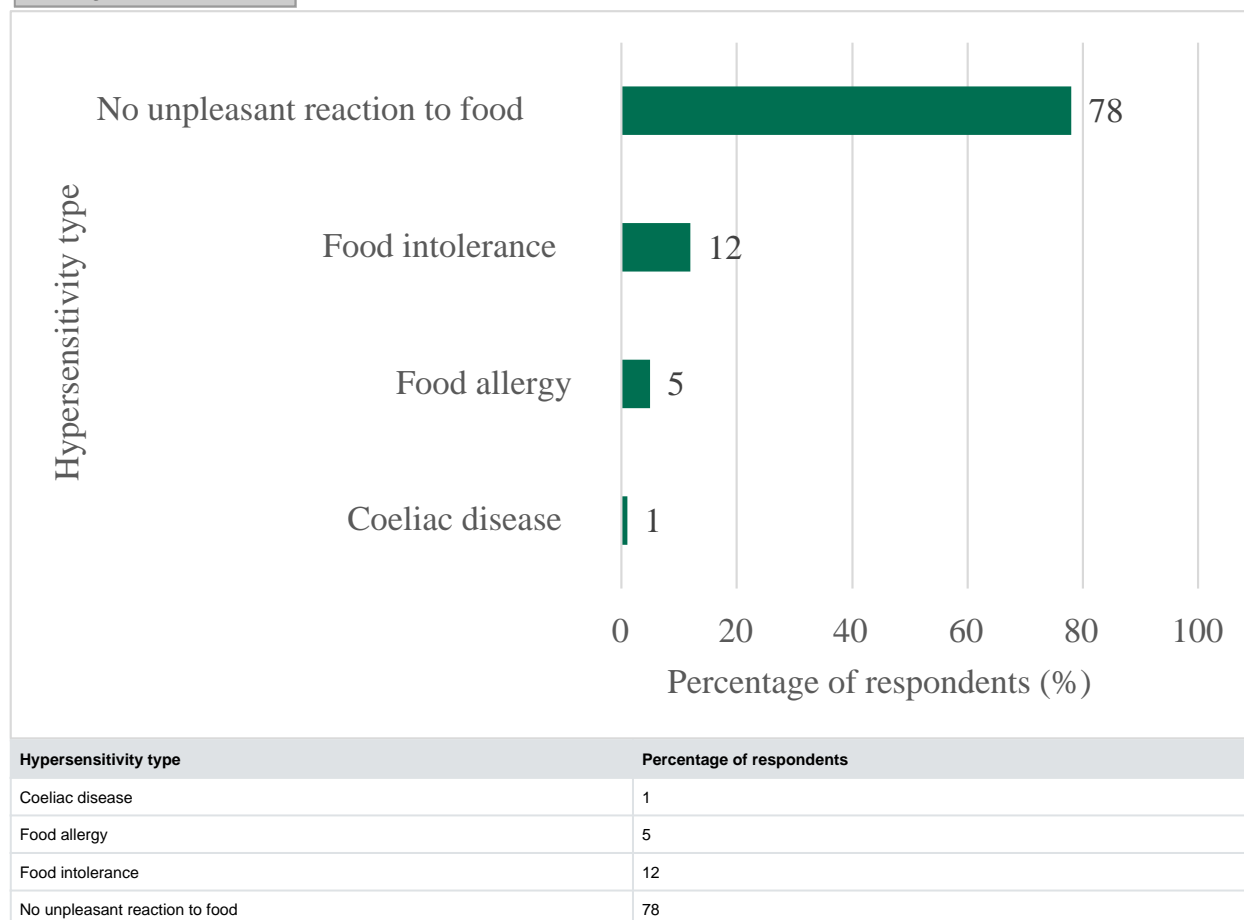
## Prevalence, diagnosis and severity of food hypersensitivities

Around a fifth (22%) of respondents reported that they suffer from a bad or unpleasant physical reaction after consuming certain foods or avoid certain foods because of the bad or unpleasant physical reaction they might cause [\(footnote 2\)](#).

**Figure 21. Prevalence of different types of food hypersensitivity.**

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Most respondents (78%) reported that they did not have a food hypersensitivity. Around 1 in 10 (12%) respondents reported that they had a food intolerance, 5% reported having a food allergy, and 1% reported having coeliac disease (Figure 21) [\(footnote 3\)](#).

The prevalence of bad or unpleasant physical reactions to food varied between different groups of people in the following ways:

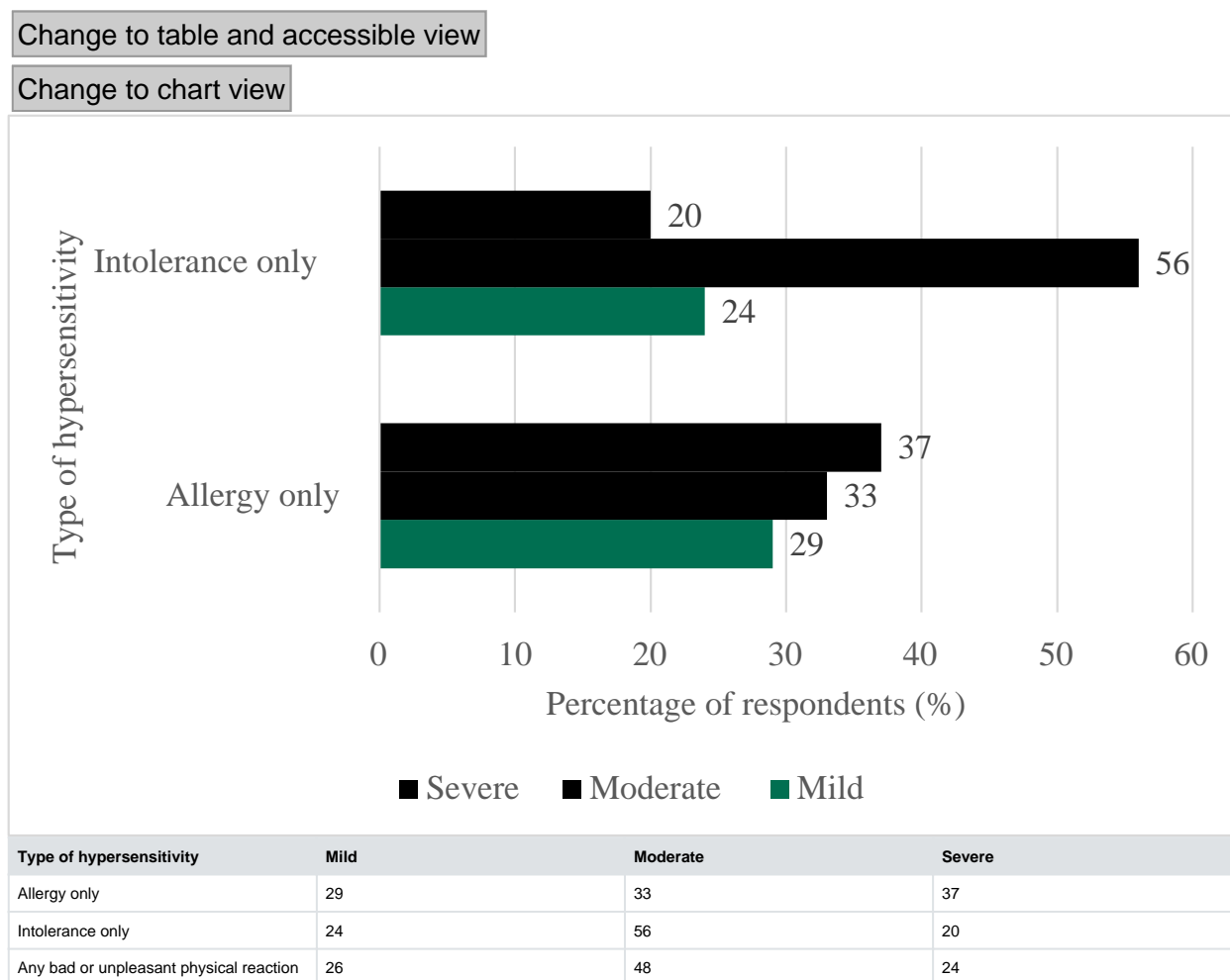
- **gender:** women (28%) were more likely to report a bad or unpleasant physical reaction to food than men (16%).
- **responsibility for cooking:** respondents who are responsible for cooking (23%) were more likely to report a bad or unpleasant physical reaction to food than those who do not cook (7%).
- **responsibility for shopping:** respondents who are responsible for shopping (23%) were more likely to report a bad or unpleasant physical reaction to food than those who do not

shop (10%).

## Severity of food hypersensitivities

Respondents who reported that they suffer from a bad or unpleasant physical reaction after consuming certain foods, or avoid certain foods because of the bad or unpleasant physical reaction they might cause were asked how they would describe their reaction. Around a quarter (26%) of respondents reported that they had a mild reaction, 48% of respondents reported that they had a moderate reaction, and 24% of respondents reported that they had a severe reaction ([footnote 4](#)).

**Figure 22. Reaction severity of respondents with an intolerance or allergy**



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Respondents who suffer from an allergy only (37%) were more likely to report that they had a severe reaction than those with only an intolerance (20%). Conversely, respondents who suffer from an intolerance only (56%) were more likely to report that they had a moderate reaction than

those with only an allergy (33%) (Figure 22).

## Prevalence, frequency and causes of food reactions

Respondents who reported that they suffer from a bad or unpleasant physical reaction after consuming certain foods, or avoid certain foods because of the bad or unpleasant physical reaction they might cause, were asked if they had experienced a reaction in the previous 12 months. Of these respondents, 56% reported that they had experienced a reaction and 39% reported that they had not experienced a reaction [\(footnote 5\)](#).

Respondents who had experienced a bad or unpleasant physical reaction in the previous 12 months were asked how many times they had experienced a reaction. Around a quarter (27%) of respondents had experienced reactions once or twice, 45% of respondents had experienced between 3 and 10 reactions and 26% had experienced more than 10 reactions [\(footnote 6\)](#).

Respondents who had experienced a bad or unpleasant physical reaction in the previous 12 months were asked what they thought caused their last reaction. The most reported causes were food made to order from a restaurant or café (19%), food ordered directly from a takeaway shop or restaurant (19%), food prepared/cooked by the respondent at home (18%) and pre-packaged food bought in a shop or café (16%) [\(footnote 7\)](#).

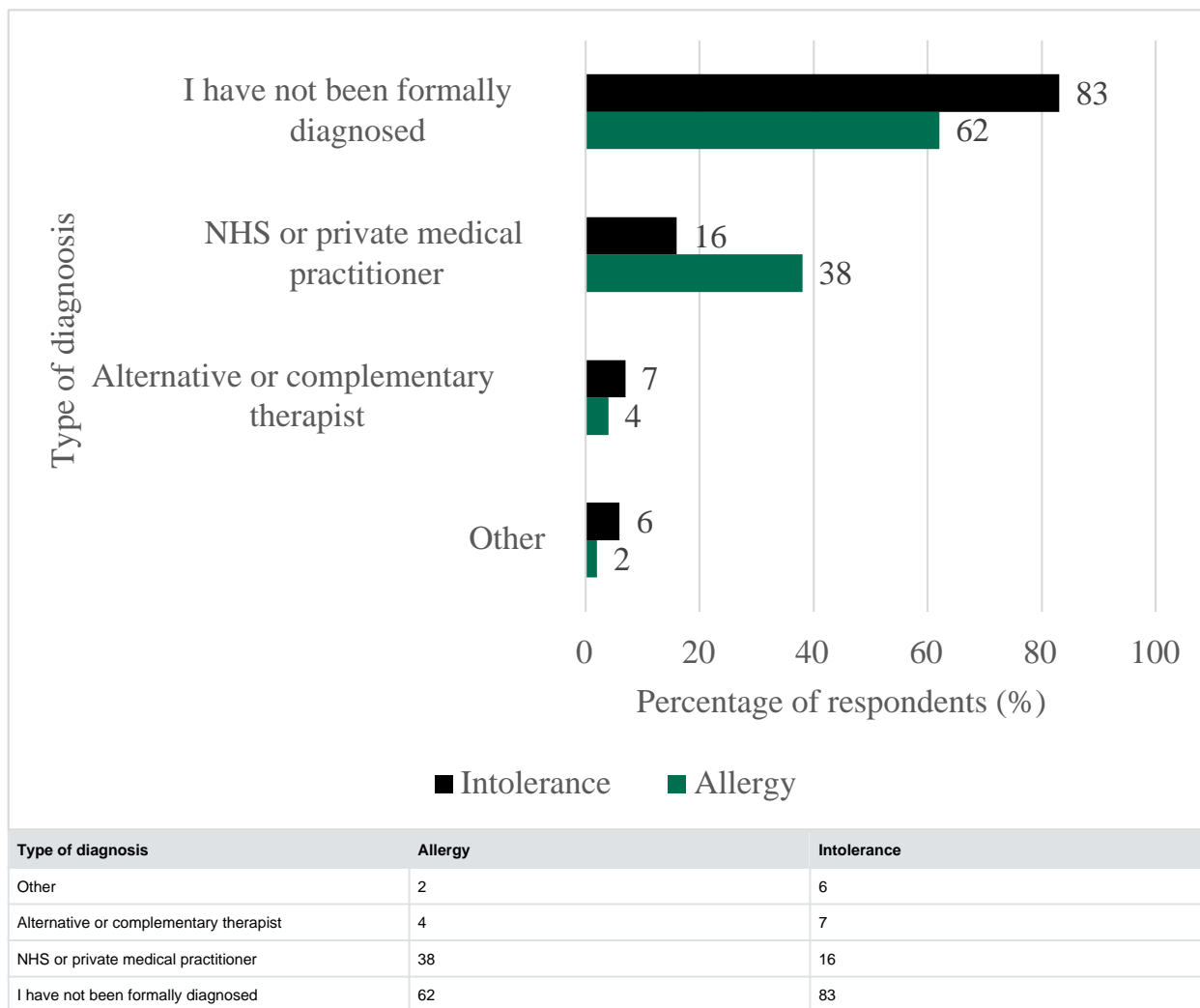
## Diagnosis of food hypersensitivities

Respondents who reported having a bad or unpleasant reaction were asked how they had found out about their condition. Around a quarter (26%) of respondents who had a food hypersensitivity had been diagnosed by an NHS or private medical practitioner and 5% had been diagnosed by an alternative or complementary therapist. However, most respondents (74%) had not received any diagnosis [\(footnote 8\)](#).

## Figure 23. Prevalence and type of food reaction and intolerance diagnosis

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Most respondents who have a food intolerance (83%) have noticed that a particular food causes them problems, but have not been formally diagnosed with a specific condition. However, 16% of respondents with a food intolerance had been diagnosed by an NHS or private medical practitioner (for example GP, dietician, allergy specialist in a hospital or clinic) and 7% had been diagnosed by an alternative or complementary therapist (for example, homeopath, reflexologist, online or walk-in allergy testing service).

Around 6 in 10 (62%) respondents who have a food allergy have noticed that a particular food causes them problems, but have not been formally diagnosed with a specific condition. However, 38% of respondents with a food intolerance had been diagnosed by an NHS or private medical practitioner (for example GP, dietician, allergy specialist in a hospital or clinic) and 4% had been diagnosed by an alternative or complementary therapist (for example, homeopath, reflexologist, online or walk-in allergy testing service).

Respondents with a food allergy (38%) were more likely to be diagnosed by an NHS or private medical practitioner (for example GP, dietician, allergy specialist in a hospital or clinic) than those with a food intolerance (16%) (Figure 23).

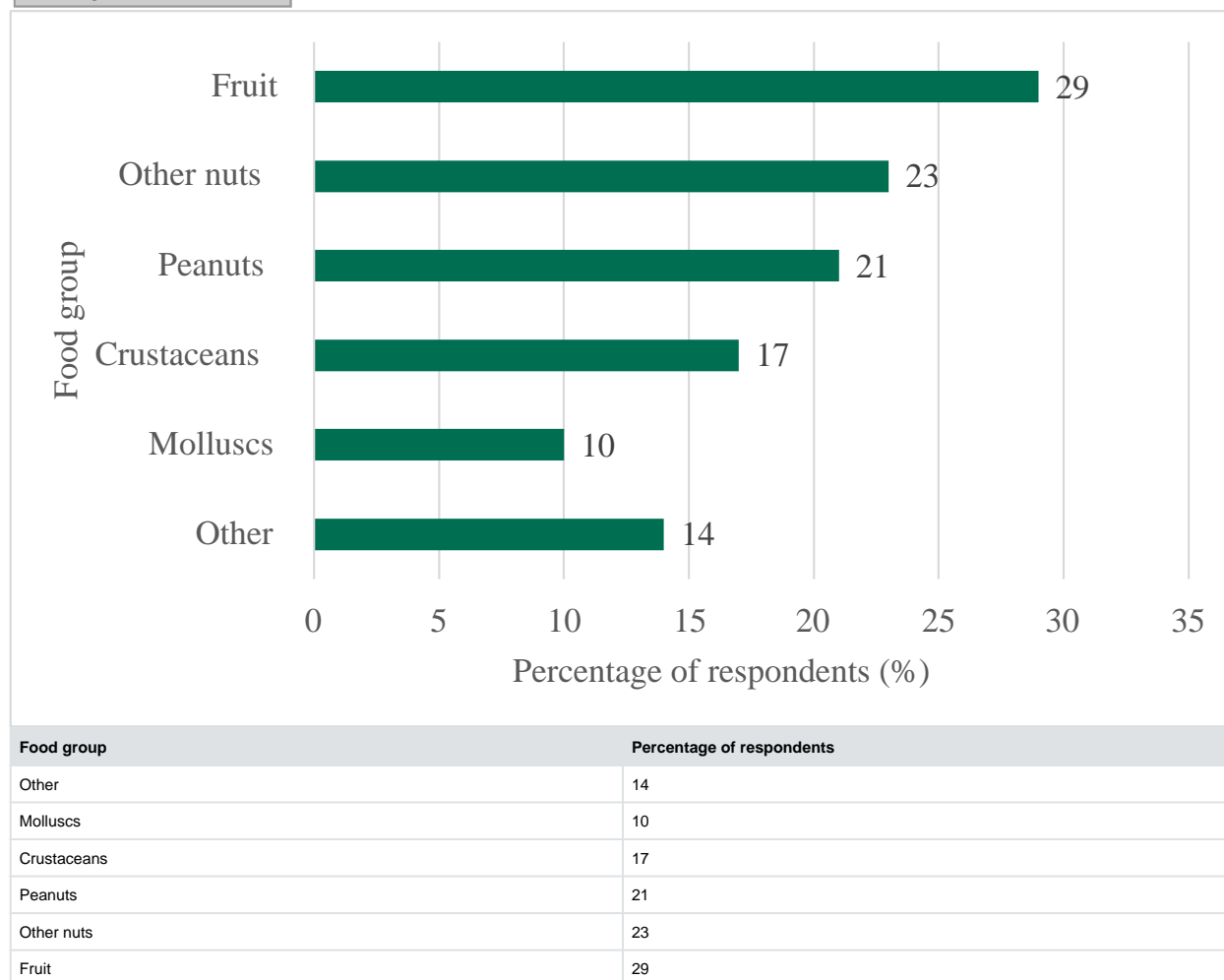
## Foods most likely to cause unpleasant reactions

Respondents who reported that they suffered from a bad or unpleasant physical reaction after consuming certain foods, or avoided certain foods because of the bad or unpleasant physical reaction it might cause, were asked which foods they experience reactions to.

**Figure 24. The food groups most likely to cause allergic reactions**

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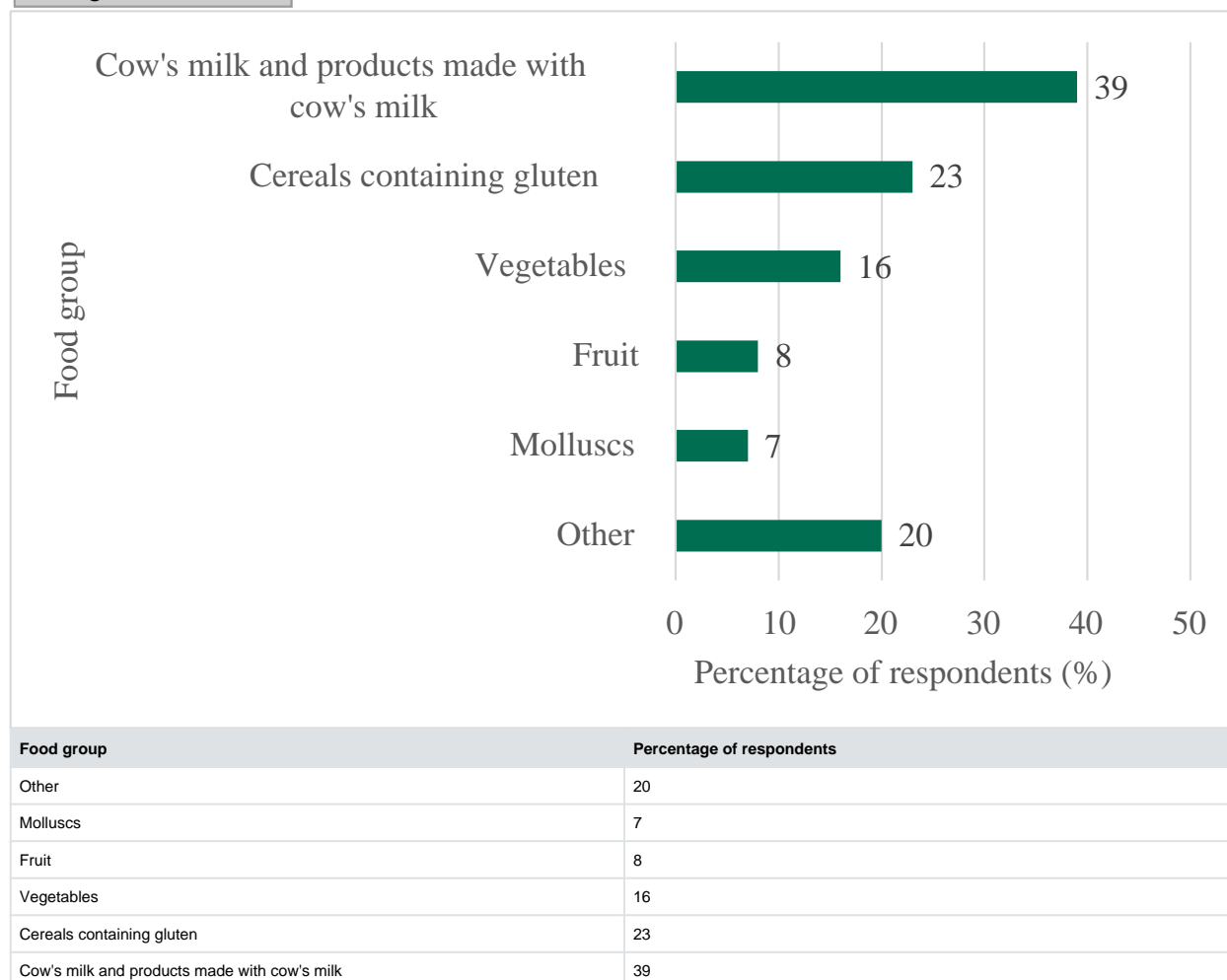
Amongst the respondents who reported having a food allergy, the most common food reported as causing a reaction was fruit (29%). Other common allergens were other nuts (for example almonds, hazelnuts, walnuts, cashew nuts, pecans) (23%), peanuts (21%), crustaceans (for example, crabs, lobster, prawns, scampi) (17%) and molluscs (for example, mussels, snails, squid, whelks, clams, oysters) (10%). However, 14% of respondents reported an allergy to a food

which was not in the given list, which included the 14 most potent and prevalent allergens (Figure 24) ([footnote 9](#)).

## Figure 25. The food groups most likely to cause a food intolerance

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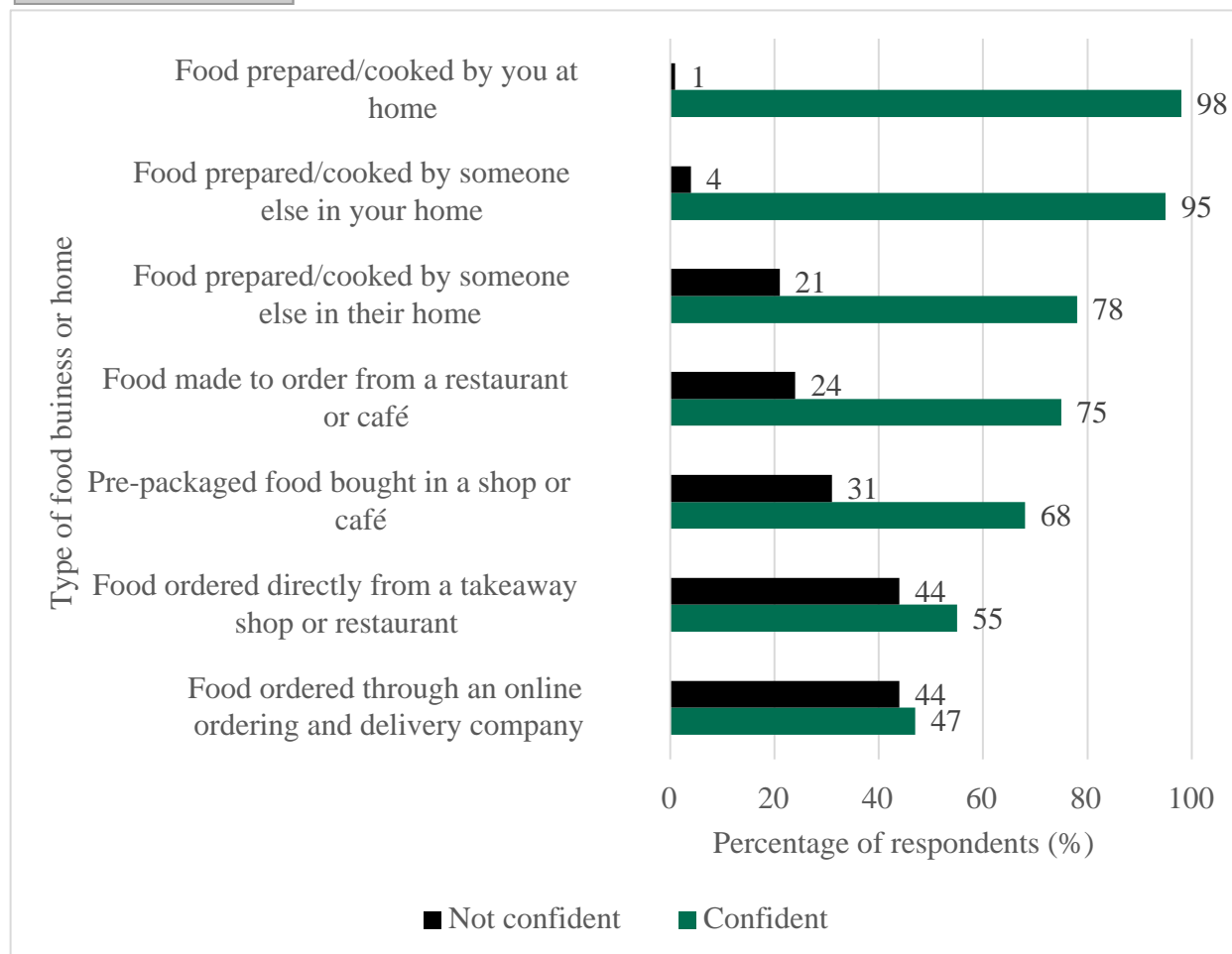
Amongst the respondents who reported having a food intolerance, the most common food group reported as causing a reaction was cow's milk and products made with cow's milk (for example, butter, cheese, cream, yoghurt) (39%). Other common allergens were cereals containing gluten (for example, wheat, rye, barley, oats) (23%). A fifth (20%) of respondents reported an intolerance to other foods which were not listed in the questionnaire (Figure 25) ([footnote 10](#)).

## Confidence in avoiding unpleasant reactions when eating food in a home setting or from a food business

**Figure 26. Confidence of respondents with a food hypersensitivity in avoiding a bad or unpleasant reaction when eating food in a home setting or from different types of food business**

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Type of food business or home	Confident	Not confident
Food ordered through an online ordering and delivery company	47	44
Food ordered directly from a takeaway shop or restaurant	55	44
Pre-packaged food bought in a shop or cafe	68	31
Food made to order from a restaurant or cafe	75	24
Food prepared/cooked by someone else in their home	78	21
Food prepared/cooked by someone else in your home	95	4
Food prepared/cooked by you at home	98	1

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Respondents who had a food hypersensitivity were asked how confident they were in their ability to avoid food that might cause a bad or unpleasant physical reaction when eating food from different food businesses and food that had been prepared or cooked in a home environment.

Almost all respondents were confident (for example, very or fairly confident) in their ability to avoid unpleasant reactions when eating food they had prepared or cooked at home (98%) or food prepared or cooked by someone else in the respondents' home (95%). Around 8 in 10 (78%) were confident in their ability to avoid unpleasant reactions when food was prepared or cooked by someone else in their home.

Most respondents reported they were confident avoiding unpleasant reactions when eating food made to order from a restaurant or café (75%) and pre-packaged food bought in a shop or takeaway (68%). Respondents were less likely to report confidence when eating food ordered directly from a takeaway shop or restaurant (55%) and food ordered through an online ordering and delivery company (for example, Just Eat, Deliveroo, Uber Eats) (47%) (Figure 26) [\(footnote 11\)](#).

## Eating out with a food hypersensitivity

The [FSA provides guidance for food businesses on providing allergen information](#). Food businesses in the retail and catering sector are required [by law to provide allergen information and to follow labelling rules](#). The type of allergen information which must be provided depends on the type of food business. However, all food business operators must provide allergen information for [pre-packed and non-pre-packed food and drink](#). Foods which are pre-packed or pre-packed for direct sale (PPDS) are required to have a label with a full ingredients list with allergenic ingredients emphasised.

## How often people checked allergen information in advance when eating somewhere new

Respondents who suffer from a bad or unpleasant physical reaction after consuming certain foods were asked how often, if at all, they checked in advance that information was available which would allow them to identify food that might cause them a bad or unpleasant reaction when they ate out or ordered a takeaway from somewhere new.

Around a quarter (26%) of respondents always checked in advance that information was available which would allow them to identify food that might cause them a bad or unpleasant reaction, and 44% of respondents checked this information was available less often (i.e., most of the time, about half of the time, or occasionally). However, around 3 in 10 (29%) respondents never checked in advance that information was available which would allow them to identify food that might cause them a bad or unpleasant reaction [\(footnote 12\)](#).

## Prepacked for direct sale (PAL) labelling

Respondents who suffer from a bad or unpleasant physical reaction were asked how likely they would be to buy a food product if they saw a label on the product which stated that the product may contain a food which might cause them to have a reaction. Over half (56%) of respondents reported that it was unlikely (for example, not very likely or not at all likely) that they would purchase the product, however 30% of respondents reported that it was likely (for example, very likely or fairly likely) that they would still purchase the product [\(footnote 13\)](#).

## Availability and confidence in allergen information when eating out or ordering takeaways

Respondents who suffer from a bad or unpleasant physical reaction after consuming certain foods were asked how often information which allowed them to identify food that might cause them a bad or unpleasant reaction was readily available when eating out or buying food.

Around 1 in 710 (14%) respondents reported that this information was always readily available and 71% of respondents reported that this information was available less often (for example, most of the time, about half of the time, occasionally). However, 9% of respondents reported that this information was never readily available ([footnote 14](#)).

Respondents were asked how often they asked a member of staff for more information when it is not readily available. Around a quarter (24%) of respondents reported that they always asked staff for more information, whilst 51% did this less often (for example, most of the time, about half of the time, occasionally) and 24% of respondents never asked staff for more information ([footnote 15](#)).

Respondents were asked how comfortable they felt asking a member of staff for more information about food that might cause them a bad or unpleasant physical reaction. Around 7 in 10 (72%) respondents reported that they were comfortable (for example, very comfortable or fairly comfortable) asking staff for more information, however 17% of respondents reported that they were not comfortable doing this (for example, not very comfortable or not at all comfortable) ([footnote 16](#)).

Respondents were asked how confident they felt that the information provided would allow them to identify and avoid food that might cause a bad or unpleasant physical reaction. Most respondents were confident (for example, very confident or fairly confident) that the information provided in writing (89%) or verbally by a member of staff (68%) would allow them to identify and avoid food that might cause a bad or unpleasant physical reaction. However, 6% of respondents were not confident (for example, not very confident or not at all confident) that the information provided in writing (6%) or verbally by a member of staff (24%) would allow them to identify and avoid food that might cause a bad or unpleasant physical reaction ([footnote 17](#)).

## Confidence in allergen labelling

Respondents who go food shopping and take into consideration a person who has a food allergy or intolerance were asked how confident they were that the information provided on food labelling allows them to identify foods that will cause a bad or unpleasant physical reaction. Overall, 90% of respondents stated that they were confident (for example, very confident or fairly confident) in the information provided ([footnote 18](#)).

Respondents were asked how confident they were in identifying foods that will cause a bad or unpleasant physical reaction when buying foods which are sold loose, such as at a bakery or deli-counter. Respondents who bought food loose were more confident in identifying these foods in-store at a supermarket (78%), when buying food from a supermarket online (74%) and when shopping at independent food shops (73%). However, respondents were less confident when buying food from food markets or stalls (54%) ([footnote 19](#)).

1. Allergens: celery, cereals containing gluten (such as barley and oats), crustaceans (such as prawns, crabs and lobsters), eggs, fish, lupin, milk, molluscs (such as mussels and oysters), mustard, peanuts, sesame, soybeans, sulphur dioxide and sulphites and tree nuts

(such as almonds, hazelnuts, walnuts, Brazil nuts, cashews, pecans, pistachios and macadamia nuts).

2. Question: Do you suffer from a bad or unpleasant physical reaction after consuming certain foods, or avoid certain foods because of the bad or unpleasant physical reaction they might cause? Responses: Yes, No, Don't know, Prefer not to say. Base= 5991, all respondents.
3. Question/ Responses: This data is derived from multiple questions, see the Technical Report for further details. See data tables (REACTYPE\_1 to REACTYPE\_18 combined NET). Base= 5991, all respondents. Please note: the figures shown do not add up to 100% as not all responses are shown.
4. Question: How would you describe your bad or unpleasant physical reaction? Responses: Mild, Moderate, Severe, Don't know. Base = 1300, all respondents who suffer from a bad or unpleasant physical reaction after consuming certain foods, or avoid certain foods because of the bad or unpleasant physical reaction they might cause.
5. Question: In the last 12 months, have you experienced any bad or unpleasant physical reactions after consuming certain foods? Responses: Yes, No, Can't remember. Base = 1316, all respondents who suffer from a bad or unpleasant physical reaction after consuming certain foods, or avoid certain foods because of the bad or unpleasant physical reaction they might cause.
6. Question: In the last 12 months, approximately how many times have you experienced a bad or unpleasant physical reaction after consuming certain foods? Responses: Once, Twice, Between 3 and 10 times, More than 10 times, Don't know. Base = 754, all respondents who experienced a bad or unpleasant physical reaction after consuming certain foods, in the last 12 months.
7. Question: Thinking about the last time you experienced a bad or unpleasant physical reaction after consuming food, what do you think caused the reaction? Responses: Food made to order from a restaurant or café, Food ordered directly from a takeaway shop or restaurant, Food prepared/cooked by you at home, Pre-packaged food bought in a shop or café, Other, Food ordered through an online ordering and delivery company, Don't know, Food prepared/cooked by someone else in your home, Food prepared/cooked by someone else in their home. Base = 450, all online respondents who experienced a bad or unpleasant physical reaction after consuming certain foods, in the last 12 months.
8. Question: How did you find out about your problem with these foods? Responses: I have been diagnosed by an NHS or private medical practitioner (for example GP, dietician, allergy specialist in a hospital or clinic), I have been diagnosed by an alternative or complementary therapist (for example homeopath, reflexologist, online or walk-in allergy testing service), I have noticed that this food causes me problems, but I have not been formally diagnosed with a specific condition, Other. Base= 1302, all respondents who suffer from a bad or unpleasant physical reaction after consuming certain foods, or avoid certain foods because of the bad or unpleasant physical reaction they might cause.
9. Questions/Respondents: Derived variable, see data tables (REACSOURCAL) and Technical Report. Base= 139.

10. Questions/Respondents: Derived variable, see data tables (REACSOURCEIN) and Technical Report. Base= 450.
11. Question: How confident would you feel in your ability to avoid a bad or unpleasant physical reaction if you were eating...A) Food prepared/cooked by you at home. B) Food prepared/cooked by someone else in your home C) Food prepared/cooked by someone else in their home D) Pre-packaged food bought in a shop or café E) Food made to order from a restaurant or café F) Food ordered directly from a takeaway shop or restaurant G) Food ordered through an online ordering and delivery company (for example, Just Eat, Deliveroo, Uber Eats). Responses: Very confident, Fairly confident, Not very confident, Not at all confident, It varies from place to place, Don't know. Base = 774, all online respondents who suffer from a bad or unpleasant physical reaction after consuming certain foods, or avoid certain foods because of the bad or unpleasant physical reaction they might cause.
12. Question: When eating out or ordering food from somewhere new, how often, if at all, do you check in advance that information is available allowing you to identify food that might cause you a bad or unpleasant physical reaction? Responses: Always, Most of the time, About half of the time, Occasionally, Never, Don't know. Base= 1242, all online respondents who eat out or buy food to take away and have a food reaction, and all postal respondents, who suffer from a bad or unpleasant physical reaction after consuming certain foods, or avoid certain foods because of the bad or unpleasant physical reaction they might cause who eat out or order takeaways.
13. Question: If you saw a label on a food product that stated, 'This product may contain [food type] which might cause [you] a bad or unpleasant physical reaction', how likely would you be to still buy it? Responses: Very likely, Fairly likely, Not very likely, Not at all likely, It depends on the product, It varies from place to place, Don't know, I don't do any food shopping. Base = 841, all respondents who suffer from a bad or unpleasant physical reaction after consuming certain foods, and who consider dietary requirements when shopping.
14. Question: When eating out or buying food to take out, how often, if at all, is the information you need to help you identify food that might cause you a bad or unpleasant physical reaction readily available? Responses: Always, Most of the time, About half of the time, Occasionally, Never, Don't know. Base= 1237, all online respondents who eat out or buy food to take away and have a food reaction, and all postal respondents, who suffer from a bad or unpleasant physical reaction after consuming certain foods, or avoid certain foods because of the bad or unpleasant physical reaction they might cause, who eat out or order takeaway.
15. Question: When information is not readily available, how often do you ask a member of staff for more information? Responses: Always, Most of the time, About half of the time, Occasionally, Never, I don't need to ask because the information is always readily available, Don't know. Base= 1162, all online respondents who eat out or buy food to take away and have a food reaction, and all postal respondents, who suffer from a bad or unpleasant physical reaction after consuming certain foods, or avoid certain foods because of the bad or unpleasant physical reaction they might cause, excluding those who say 'I don't need to ask because the information is always readily available'.

16. Question: How comfortable do you feel asking a member of staff for more information about food that might cause you a bad or unpleasant physical reaction? Responses: Very comfortable, Fairly comfortable, Not very comfortable, Not at all comfortable, It varies from place to place, Don't know. Base = 1237, all online respondents who eat out or buy food to take away and have a food reaction, and all postal respondents, who suffer from a bad or unpleasant physical reaction after consuming certain foods, or avoid certain foods because of the bad or unpleasant physical reaction they might cause.
  
17. Question: How confident are you that the information provided will allow you to identify and avoid food that might cause you a bad or unpleasant physical reaction? A) when the information is provided in writing (for example, on the main menu or a separate allergen menu). B) when the information is provided verbally by a member of staff. Responses: Very confident, Fairly confident, Not very confident, Not at all confident, It varies from place to place, Don't know. Base= 1237, all online respondents who eat out or buy food to take away and have a food reaction, and all postal respondents, who suffer from a bad or unpleasant physical reaction after consuming certain foods, or avoid certain foods because of the bad or unpleasant physical reaction they might cause, who eat out or order takeaways.
  
18. Question: How confident are you that the information provided on food labels allows you to identify foods that will cause you, or another member of your household, a bad or unpleasant physical reaction? Responses: Very confident, Fairly confident, Not very confident, Not at all confident, It varies from place to place, Don't know. Base= 2534, all respondents who consider the dietary requirements of themselves/someone else in the household when shopping for food.
  
19. Question: When buying food that is sold loose (for example at a bakery or deli counter), how confident are you that you can identify foods that will cause you or another member of your household a bad or unpleasant physical reaction? Consider food sold loose from the following sources...A) Supermarkets in store. B) Supermarkets online. C) Independent food shops. D) Food markets/stalls. Responses: Very confident, Fairly confident, Not very confident, Not at all confident, It varies from place to place, Don't know. Base A=1725, B=1453, C=1665, D=1584, all online respondents who consider the dietary requirements of themselves/someone else in the household when shopping, excluding 'I don't buy food from here'/'I don't buy food sold loose'.