

Consumer Food Safety Insights Survey:

Perceptions, knowledge & behaviours

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Scientific Interpretative Summary

This Scientific Interpretative Summary has been prepared by New Zealand Food Safety/Haumarū Kai Aotearoa (NZFS), a business unit of the Ministry for Primary Industries (MPI), to provide context to the following report for MPI risk managers and external readers.

C0035139: Consumer Food Safety Insights Survey

NZFS is responsible for regulating New Zealand's food safety system to make sure food is safe and suitable for all New Zealanders. A strategic priority for NZFS is that it "will equip consumers to make informed food choices and understand safe food preparation practices". Under this priority, NZFS has implemented a Consumer Intelligence Surveillance Programme (the Programme), the outcomes of which will help NZFS to engage more effectively with New Zealand consumers on food safety and suitability.

The first step in the Programme was the Consumer Food Safety Insights Survey. The online survey was carried out between 24 November and 17 December 2023 by The Navigators, a private market research firm.

The survey of 1602 New Zealand food consumers, which was conducted using quota sampling and included booster samples for Māori and Pasifika, collected valuable information about what different New Zealand consumers know about food safety and suitability. The survey also measured consumers':

- food safety attitudes;
- food safety behaviours and practices;
- trust and confidence in different aspects of New Zealand's food safety system.

The main purpose of the report is to profile how different consumer groups responded to the survey questions according to each topic. The report does not examine relationships between consumers' responses to different survey questions, and one must be careful not to draw conclusions that span different areas.

Positively, the results showed that most New Zealand consumers:

- are confident that food in New Zealand is safe to eat;
- have reasonably good food safety knowledge;
- say they undertake safe food safety practices;
- have access to healthy food options;
- use information on food labels to help make food choices.

The report suggests areas where NZFS can improve New Zealand consumers' food safety and suitability knowledge, for example, through enhancements to our consumer messaging, labelling, and food safety campaigns.

The main findings of the report will be used immediately to inform current NZFS programmes and priorities, such as work on the Health Star Rating system and the *Campylobacter* Action Plan, which includes promoting safer food handling practices to reduce the risk of foodborne campylobacteriosis from chicken meat.

NZFS will use the report's findings and suggestions, as well as more in-depth analyses, to continue to identify and prioritise short- and long-term strategies and activities. These will support consumers to make informed food choices and understand safe food preparation practices. This will help NZFS achieve its goals of making sure food is safe and suitable, reducing the risks to consumers of foodborne illnesses, and generally supporting consumers' food-related health and wellbeing.

A person is grilling food on a metal grill. The person is holding a glass of beer in their left hand and using tongs to pick up a piece of food from the grill with their right hand. The grill is filled with various skewers of meat and vegetables. In the background, other people are sitting at tables, and the scene is outdoors with a warm, sunny atmosphere.

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December 2023



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Executive Summary

Executive summary

The vision of New Zealand Food Safety | Haumaru Kai Aotearoa (NZFS) is to ensure food in Aotearoa New Zealand is trusted and recognised by everyone, everywhere. NZFS aims to ensure food for sale in New Zealand is safe and suitable and that New Zealand's food sector thrives. These goals put consumers at the centre of what NZFS does.

To help understand New Zealand consumers' current attitudes, knowledge and behaviours around food safety and suitability, in 2023 NZFS commissioned The Navigators to conduct an online survey. The survey collected responses from 1,602 New Zealand consumers aged 15 or more years and included boosted samples for Māori and Pasifika

The report documents the overall survey findings, compares how different consumers across the population responded, and identifies areas for NZFS to consider to help more New Zealand consumers have safe and suitable food. In comparing the different consumer groups and as part of its Tiriti o Waitangi responsibilities, NZFS sought to use the research to understand how it can also support Māori consumers.

MAIN FINDINGS

The research found that most consumers:

- are **confident** that food in New Zealand is safe to eat;
- have reasonably **good food safety knowledge**;
- say they **undertake safe food safety practices**; and
- **use information on food labelling** to help make their food choices.

That said, the research found that consumers were less likely to say they practice correct food safety behaviours or believe practicing some food safety behaviours is important.

For example:

- 67% of consumers who prepare chicken say they practice the (incorrect) behaviour of **washing their raw chicken** either sometimes or always;
- 79% of consumers who prepare chicken believe (incorrectly) that they **should wash raw chicken** or do not know if they should;
- 85% of consumers do not **view frozen berries, self-collected eggs, or packaged sprouts** as high risk (relative to other foods);
- 11% of consumers who use **frozen berries** say they practice the correct behaviour of **heating them** before use; and
- 39% of consumers who are not vegan or vegetarian do not view **self-gathered shellfish** as a higher risk food.

The research found that consumers **aged between 15 and 29 years, males, Pasifika, and Asian consumers** were less likely to demonstrate or say they:

- had high food safety knowledge;
- had confidence in their food safety knowledge; or
- always undertake food safety practices.

The research found that 38% of consumers were not confident they could make **informed choices using current food labelling**. Most household food shoppers (55%) said that food labelling should be improved, with many stating it would be easier to use and understand labelling if the **text size was larger** or used **everyday language**.

Most consumers said they **trust that New Zealand has food safety rules**, however, fewer consumers trust that these rules are **overseen**. Half of consumers were concerned about food safety in takeaway outlets (51% some/most/every time); especially for those who live in South Auckland (66%) and West Auckland (67%).

Consumers were less confident that **food is true to what it claims** (42% somewhat/little/no confidence), or that **imported food** is safe to eat (56% somewhat/little/no confidence).

Executive summary

AREAS FOR CONSIDERATION

Government is perceived to be the most trusted source of information on food safety by consumers. NZFS can leverage this trust to further reduce the risks of foodborne illnesses and increase food-related health and wellbeing in New Zealand. Listed below are the areas where consumer food safety and suitability information or interventions appear to be most required, based on the research findings.

Based on the research findings, we suggest that NZFS considers increasing or improving information (or supporting initiatives) to:

1. **increase consumers' confidence** in areas where consumers have less trust in the food safety system. That is, to improve consumer trust in:
 - a. **the food safety practices of takeaway outlets;**
 - b. **food claims;**
 - c. **imported foods;**
 - d. **food labelling; and**
 - e. **government oversight of the food safety rules.**

2. **increase consumer knowledge on the food safety practices** that are likely to have the greatest impact on reducing foodborne illness. To identify which practices to focus on, we suggest that NZFS evaluates the current prevalence of food safety perceptions and behaviours in the population (i.e. based on the research findings) and then their associated risk (based on NZFS subject matter expertise). Some of the initial food groups for NZFS subject matter experts to consider (based on current perceptions and associated stated behaviours in the research findings) are:
 - a. **raw chicken;**
 - b. **frozen berries;**
 - c. **self-collected eggs; and**
 - d. **packaged sprouts.**

3. **increase consumer knowledge among those in the population** who exhibit lower knowledge or poorer practices. That is, based on the research these groups are:
 - a. **15- to 29-year-olds;**
 - b. **males;**
 - c. **Māori;**
 - d. **Pasifika; and**
 - e. **Asian consumers.**



Research Background, Objectives & Approach

Project background

New Zealand Food Safety | Haumarū Kai Aotearoa (NZFS), a business unit of the Ministry for Primary Industries (MPI), regulates Aotearoa New Zealand's food safety system, helping to protect the health and wellbeing of consumers.

The vision of New Zealand Food Safety | Haumarū Kai Aotearoa (NZFS) is to ensure food in Aotearoa New Zealand is trusted and recognised by everyone, everywhere. NZFS aims to ensure food for sale in New Zealand is safe and suitable and that New Zealand's food sector thrives. These goals put consumers at the centre of what NZFS does.

NZFS works to ensure the food safety system minimises health risks to consumers. Food also needs to be suitable, which means it needs to be labelled and identified correctly, and not contain anything unexpected. At the same time, many consumers want to make informed choices about the food they eat, based on other characteristics of food such as its source, ingredients, means of production and a range of other certifications.

NZFS's role is to ensure that consumers can access accurate and trusted information so they can make informed food choices that will better support their health and lifestyle preferences.

Consumers themselves also play an important role in food safety. Correct handling and food preparation can have a significant influence in minimising foodborne illness. NZFS supports consumers to make decisions and act in ways that will support their health.

MPI commissioned the last comprehensive food safety consumer research in 2020 ("Food Safety General Public Research", October 2020, n = 728, by The Navigators) and prior to this a baseline survey in 2016 ("Consumer Food Safety Research Report", February 2017, n = 1,000, by Colmar Brunton).

Sources: NZFS Strategy Refresh 2022 – 2024, August 2022 and MPI website.



Research objectives

Given NZFS's vision, the aim of the research was to obtain information about consumer attitudes, knowledge and behaviours around food safety and suitability matters. NZFS especially wanted to learn about how consumers from different backgrounds, in particular Māori and Pasifika, perceive food safety risks, and how their perceptions of risk may affect their food safety behaviour and practices. As part of its Tiriti o Waitangi responsibilities, NZFS wanted to understand how it can support Māori consumers.

The expected outcome was that NZFS has better evidence about how consumers think and behave regarding food safety and suitability issues so it can identify effective methods to communicate with New Zealand consumers.

Specifically, NZFS requested that data be collected about New Zealand consumers':

- food safety risk perceptions;
- food safety behaviours;
- trust and confidence in different aspects of the food safety system;
- knowledge and trust in food safety and suitability information sources; and
- background characteristics to provide for demographic sub-group analyses.



Research approach

Online survey

To collect responses on food safety and suitability matters from the general public, The Navigators conducted a voluntary online survey. Respondents were sourced from two online research panels: Dynata; and ConsumerLink.

Sample sizes

A total sample of **1,602** responses was collected, including 1,040 responses from the general public and boosted samples for Māori and Pasifika. The total sample provides a representative view of New Zealanders aged 15 or more years.

The final sample sizes for the ethnic sub-groups (where a respondent could identify with more than one ethnicity) were:

- Māori: n = 414;
- Pasifika: n = 403; and
- Asian: n = 172.

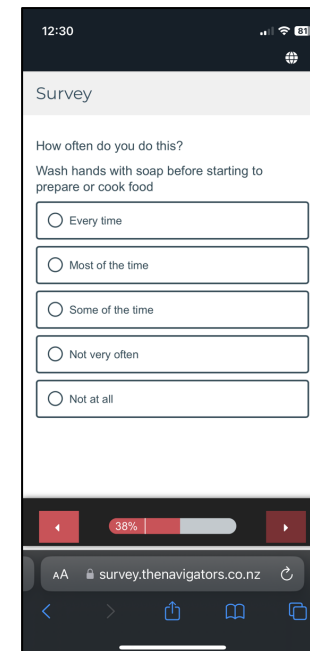
Specific details on the research methodology

- **Fieldwork timing:** The survey questionnaire was piloted between 18 and 19 October with 52 respondents. Data collection was conducted from 24 November to 17 December 2023.
- **Survey duration:** 20-25 minutes average duration.
- **Soft quotas:** Soft quotas were applied during data collection, based on interlocked region, age and gender cells for the general sample of 1,040, and by age and gender for the Māori and Pasifika samples. Using quotas helped to ensure sensible weights were applied to the data set.
- **Data weighting:** A weighting variable was applied to the data set to provide a representative view of the general public and population subgroups. The weighting variable was calculated using rim weighting, based on age, gender and ethnicity sub-population variables. The weights were scaled to adjust for the design effect associated with quota sampling.
- **Margin of error:** Adjusting for the design effect, the maximum margin of error for the total sample of this survey (i.e. n = 1,602) is about $\pm 2.9\%$ at a 95% confidence interval.

Data interpretation notes

- The percentage totals in the charts presented in this report may not equal 100% due to rounding. Likewise, nett totals may not be an exact total of percentage figures in the charts due to rounding.
- We have not reported some percentages on the charts if they were very small (e.g. if the percentage is 1% or 2%).
- We have reported statistically significant profiling differences at a 95% confidence level in this report for age by gender brackets (e.g. males aged between 15 and 29 years), ethnic groups, YOPI (young, old, pregnant or immuno-compromised) status and region (for questions 11 & 16).
- We tested for significant group differences between each group and the remaining respondents in the sample who did not belong to that specific group. That is, the comparisons were not between each group and the total sample.

Further information on the research approach undertaken for this study is provided in the Appendix.



Reporting approach

This report presents the complete results of the 2023 Consumer Food Safety Insights Survey. The report compares how consumers within key demographic sub-groups responded at a 95% confidence level.

The report suggests areas where NZFS could consider how to communicate better with New Zealand consumers and help more consumers to practice correct food safety behaviours.

The report does not examine relationships between consumers' responses to different survey questions. Thus, it would be valuable for NZFS food safety and suitability subject matter experts to review the areas for consideration with a view to conducting further analyses with the survey data, ranging from simple cross-tabulations to more sophisticated regression modelling.

The results of these analyses might help NZFS to understand which strategies may be most effective at helping different consumers to practice correct food safety behaviours; especially among those who are most likely to practice unsafe behaviours.



Key Findings & Areas for consideration

1. Trust & confidence in the food safety system

NZFS works to minimise food health risks to consumers. Consumers should trust and have confidence in the food safety system.

System confidence

Most consumers felt confident that food is safe to eat in New Zealand (78% mostly or completely confident), that food produced in New Zealand is safe to eat (81%) and that they can access healthy food options (77%).

By contrast, fewer consumers were confident that food imported from overseas is safe to eat (44%) or that food is true to what it claims (58%).

Consumers aged between 15 and 29 years, and Māori and Asian consumers were less confident that food in New Zealand is safe to eat.

Areas for consideration

To increase consumers' confidence that New Zealand food is safe to eat, NZFS could conduct further analysis to help understand:

- why some consumers are not confident in the safety of imported food and/or in food claims; and/or
- how consumers' levels of trust, and food safety risk perception and knowledge may affect their confidence in the food safety system.

NZFS could use the results to help develop strategies that may:

- improve confidence among consumers aged between 15 and 29 years, Māori and Asians; and
- increase consumers' confidence in:
 - the safety of imported food, especially amongst older females (who were also more likely to understand the risks with imported frozen berries); and
 - food claims.

System trust

To understand system trust, we measured consumers' trust in farmers and growers, food manufacturers, food retailers, restaurants, cafes and takeaway outlets, and government agencies, using the concepts of competence, openness and care. Consumers trusted farmers and growers the most with food safety competence, openness and care. Consumers trusted restaurants, cafes and takeaway outlets the least, especially in terms of their perceived openness and honesty around food safety (47% of consumers lacked trust) and perceived care in the public's food safety concerns (43% of consumers lacked trust).

Comparing restaurants, cafes and takeaway outlets, consumers are most concerned about the safety of food in takeaway outlets; half of consumers (51%) were concerned at least some of the time about food safety in takeaway outlets. Younger females, Māori, Pasifika and those who live in South and West Auckland were the most concerned about food safety in takeaway outlets. In takeaway outlets, consumers were mostly concerned about the perceived lack of hygiene processes and standards, the food preparation and cooking practices, and the cleanliness of kitchens and premises.

Since 2020, consumers' trust that government agencies have rules in place to ensure food is safe to eat has declined, from 79% who mostly or completely trusted in 2020 to 69% in 2023. Females aged between 15 and 29 years and Māori trusted the least that there are rules in place. Consumers had less trust that government is doing a good job at overseeing the rules (60% mostly or completely trusted).

Consumers were also concerned about the safety of food from food charities or food banks (49% were concerned some, most or every time) and convenience stores like dairies, bakeries or service stations (45% were concerned some, most or every time).

Areas for consideration

To increase consumers' trust in the food safety system, NZFS could:

- conduct further analysis (using the survey data) to help understand how consumers' levels of trust in each area, and food safety risk perception and knowledge, may affect their trust in the food safety system;
- consider ways to improve consumers' trust in takeaway outlets, particularly with those who live in South and West Auckland, females aged between 15 and 29 years, Māori, and Pasifika; and
- improve consumers' trust that government agencies have rules in place to ensure food is safe to eat and are overseeing these rules.

2. Food safety personal confidence and risk perceptions

NZFS understands that consumers play an important role in food safety, given that correct food handling and preparation has a significant role in reducing foodborne illness rates. NZFS wants consumers to feel confident in their own food safety knowledge, take food safety seriously, and be able to assess food safety risks correctly.

Personal confidence

Two-thirds (66%) of consumers felt they know enough about food safety to avoid food poisoning. Those who felt less confident were more likely to be aged between 15 and 29 years, Pasifika, and/or Asian. Consumers aged between 15 and 29 years and Pasifika were also more likely to have had a suspected food poisoning case in their household in the last 12 months.

Area for consideration:

To increase consumers' personal confidence in avoiding food poisoning, NZFS could:

- provide information, education and/or put initiatives in place to increase confidence amongst those who are less confident i.e. consumers aged between 15 and 29 years, Pasifika and Asians.

Risk perceptions

Food poisoning was consumers' second highest food-related concern after food prices. Most (56%) were concerned, suggesting they do take food poisoning seriously. In the general population, females aged under 50 years, Pasifika, and households with a child under three years or a low immunity member, were more concerned about food poisoning, whereas consumers aged 65 or more years were less concerned about food poisoning.

In terms of assessing food risks, consumers believed chicken, shellfish, and pork are the riskiest foods. When asked how risky certain foods were to others, most consumers believed frozen berries, rice, eggs, and packaged salad or sprouts are not high risk. Consumers aged between 15 and 29 years, males aged 65 or more years, Māori, Pasifika, and Asians were less likely to think some foods are high risk.

Areas for consideration

To help more consumers recognise and assess food safety risks, NZFS could:

- consider ways to improve consumers' knowledge about the foods whose risk scores do not reflect the actual risk they pose. For example: 39% of consumers who are not vegan or vegetarian do not view self-gathered shellfish as high risk; about 85% of consumers do not view frozen berries, self-collected eggs or packaged sprouts or rice as high risk.
- consider focusing on consumers who are more concerned about food poisoning and less likely to be undertaking the correct behaviours, that is, Pasifika.
- consider focusing on improving the knowledge of those who are less likely to think some foods are higher risk, that is, consumers aged between 15 and 29 years, males aged 65 or more years, Māori, Pasifika and Asians.
- consider using food safety messages that are more likely to get people to take food poisoning seriously. Of the six statements we presented in the survey, the three that spelt out the negative consequences of food poisoning most seriously, amongst consumers generally, Māori, Pasifika, and consumers aged between 15 and 29 years or 55 or more years, were:
 - *Toxins (poisons) can be present in some shellfish and can result in coma, respiratory failure, paralysis or death. These toxins are not destroyed by freezing or cooking.*
 - *Food poisoning can range from mild symptoms like vomiting and diarrhoea to serious consequences like hospitalisation and even death.*
 - *In 2022, there were 1,784 hospitalisations and 7 deaths as a result of food poisoning.*

3. Food safety behaviours

NZFS wants consumers to follow correct food safety practices.

Food preparation, cooking, serving, storing practices

Of the 27 food safety practices tested in the research, the practices that most consumers (to whom the practice was applicable) said they **did not** perform every time were:

- **Heating frozen berries before use, including before adding to smoothies.** 11% of consumers said they do this action every time.
- **Preparing raw chicken without washing it.** Most consumers (67%) said they wash raw chicken (from the odd occasion to always), with older males, Pasifika and Asian being more likely to say they do every time. Most consumers (79%) did not agree they should not wash raw chicken. The most common reason for washing raw chicken was for hygiene or to avoid food poisoning, followed by the need to remove sliminess, juice, blood, fat or gunk.
- **Defrosting frozen food using fridge or by heating in the microwave (rather than at room temperature).** 23% of consumers said they do this action every time. Households with children under three-years-old were the least likely to say they do this every time (13%).
- **Washing hands after handling eggs.** 32% said they do this action every time, with older people being less likely to say they do.
- **After collecting shellfish, keep them alive and cool in salt water.** 40% of consumers said they do this action every time.
- **Eating fridge leftovers within 48 hours (2 days) of cooking.** 44% of consumers said they do this every time. Asians were less likely to say they do (36%).
- **Keeping eggs in the fridge after purchase.** 50% of consumers said they do this every time. Māori (40%) and Pasifika (37%) were less likely to say they do.
- **Using a thermometer to check meat is cooked.** 18% of consumers who had a meat thermometer said they do this action every time.

Areas for consideration

To minimise the risk of foodborne illness, we suggest that NZFS encourages the practices that consumers say they are less likely to perform (as listed above) by sharing information, education campaigns, and/or putting other initiatives in place.

Alternatively, NZFS could consider the proportion of consumers who say they are not doing each food safety practice relative to the risk each poses. For example, 46% of consumers said they do not always reheat leftovers until piping hot. If not reheating leftovers thoroughly is a higher risk practice (and perhaps conducted more frequently), then it may be more important to concentrate on communicating the risks of this practice compared to the other practices listed above.

NZFS could refer to the reasons consumers gave for not performing some of the food safety practices to understand how it could encourage more consumers to practice correct behaviours (see the Appendix and the verbatim comments in the supporting Excel file).

Use-by and best-before date practices

The use-by or best-before date practices that may be increasing food poisoning risk for some consumers are:

- eating food past its use-by date (31% say they do this). (Note: consumers were more likely to say they eat food past its best-before date (63% said they do this)).
- buying food close to or past its best-before or use-by date to save money (59% of consumers said they do this). Younger males and Asians are more likely to do this.
- not following consumption instructions on opened food every time (70% said they do not always do this). Younger people (15-29 years), Pasifika and Asians are more likely to not follow these instructions.

Areas for consideration

We suggest NZFS consider the risks involved in the above practices and decide if further education or interventions could be implemented.

4. Food labelling suitability

NZFS states that food needs to be suitable, which includes being labelled and identified correctly, and not containing anything unexpected. At the same time, NZFS understands that consumers want to make informed choices about the food they eat, based on characteristics of food such as its source, ingredients, means of production, and a range of other certifications. NZFS wants to ensure that consumers can make food choices that will better support their health and lifestyle preferences using accurate and trusted information.

Confidence, use and trust in food labelling information

Most consumers (63%) completely or mostly agreed they can confidently make informed choices using food labelling; leaving 37% who were less confident. Males aged between 15 and 29 years and Asian consumers were less likely to agree they feel confident in making informed choices using food labelling.

When buying a packaged food or drink for the first time, most consumers said they:

- follow food preparation and cooking directions (66%) and storage directions (63%) most or every time,
- use ingredient (50%) and nutrition information (49%) most or every time, and
- use use-by (85%) and best-before dates (79%) (agreed or strongly agreed).

Fewer consumers said they use the Health Star Rating (44% most or every time), or nutrient or ingredient content claims (43% most or every time) or health benefit claims (38% most or every time). Asian consumers were more likely to say they refer to the Health Star Rating, with a majority (58%) saying they do most or every time. Asian consumers were also more likely to refer to health benefit claims (49%).

In terms of trust, one third of consumers completely trusted ingredient lists (33%), allergen information (33%) and advisory or warning statements (32%). One-fifth (22%) completely trusted the Health Star Rating, with 58% stating they somewhat trusted it, 14% had no trust, and 6% didn't know if they trusted it.

Most consumers agreed they clearly understand the difference between use-by and best-before dates (81% agreed or strongly agreed).

Most consumers (55%) stated that food labelling needs to be improved to help them make more informed food choices. Those who were more likely to state they needed better labelling, to help with their food choices, were Māori, Pasifika, and YOPI (Young, Old, Pregnant or Immuno-compromised) households; especially those with low immunity members or with children under three-years-old. For example, 68% of those in low immunity households said food labelling should be improved.

In terms of labelling improvements, most often consumers suggested making the text larger or bolder, so product labels are easier to read. Consumers also suggested using more everyday language would make it easier to understand the information. For example, some consumers thought sugar should be labelled as sugar, labels should use fewer “big” words, and labels should include words for the food additive numbers. Consumers also suggested there should be more health warnings and facts, more consistent information, and less false information.

Area for consideration

To improve food labelling suitability, we suggest NZFS consider consumers' suggestions above. There is more detail on consumers' suggested improvements in the report appendix and in the verbatim comments from consumers (supplied in a separate Excel document). NZFS would need to raise any suggested improvements in the trans-Tasman food regulatory system, since food labelling is jointly regulated with Australia.

5. Other sources of information

NZFS wants consumers to have access to reliable and trustworthy information on food safety practices to avoid food poisoning.

Other sources of information

Using the example of checking food safety storage information for cooked rice, consumers said they would most likely look for this information through an internet or Google search (74%), followed by talking to others such as friends, family or whānau (25%).

For information on handling food safely to avoid food poisoning, consumers saw government agencies (e.g. NZFS and the Ministry of Health) as the most trusted source (54%); with about two-thirds of consumers aged 55 years or more saying they trusted government agencies. The next most trusted sources of information were health professionals (for 50%) and friends, family or whānau (for 38%). There were differences across ethnicity groups in terms of the most trusted sources of information. For instance, Māori were most likely to trust friends, family or whānau, Pasifika were most likely to trust health professionals, and Asian consumers were most likely to trust government agencies.

Of the 15% of consumers who had a household food poisoning case in the last 12 months, the household was most likely to receive information about food poisoning from doctors and GPs, an internet search, and/or from the NZFS and Ministry of Health websites.

Most consumers (58%) remember hearing about food being recalled in the last 12 months. Males (under 50 years) were less likely to have heard about food recalls in the last 12 months.

Areas for consideration

Given NZFS (as a government agency) is seen as a most trusted source of information on food safety, and is a key information source for those who have food poisoning, NZFS could:

- review whether its information is easy for consumers to access and digest, and where any improvements could be made;
- ensure the NZFS website is featured in food safety searches; and
- ensure health professionals have up-to-date food safety information.

Given Māori are most likely to trust friends, family or whānau, NZFS could:

- communicate food safety information through hapū, marae, or any other relevant Māori networks.

APPENDIX

Detailed Findings

1. Trust & confidence in the food safety system

The majority of consumers mostly or completely trust NZ farmers', growers', and manufacturers' food safety competence, honesty and care. Consumers have higher trust in farmers and growers than in food manufacturers.

Trust in the food safety system

Q8. How much do you trust that NZ farmers and growers... Q9. How much to you trust that NZ food manufacturers (e.g. those that process and package food)...
 Base: n=1,602 (total sample), n=1,550 (question statement added after pilot survey completed)

■ Completely trust ■ Mostly trust ■ Somewhat trust ■ Trust a little ■ Don't trust at all

					% completely/ mostly trust	% somewhat/ little/no trust	'Somewhat/little/no trust' MORE likely to be:
NZ farmers & growers...							
are doing a good job at producing food that is safe to eat (n=1,602)	28%	55%	15%	3%	83%	18%	females 15-29yrs 24% Māori 25%, Pasifika 26%
are open and honest around food safety (n=1,602)	21%	54%	18%	6%	75%	25%	males 15-29yrs 34% females 15-29yrs 33% Māori 32%, Pasifika 37% low immunity 39%
care about the public's concerns around food safety (n=1,550)	22%	48%	22%	6%	70%	29%	males 30-49yrs 38%
NZ food manufacturers...							
are doing a good job at providing food that is safe to eat (n=1,602)	21%	53%	20%	5%	74%	27%	males 15-29yrs 34% Māori 38%, Pasifika 37%
are open and honest around food safety (n=1,602)	15%	48%	27%	8%	63%	37%	males 15-29yrs 48% females 15-29yrs 44% Māori 46%
care about the public's concerns around food safety (n=1,550)	15%	47%	26%	8% 3%	63%	37%	males 15-29yrs 45% Māori 47% low immunity 48%

!!
 Younger people, Māori and Pasifika have less trust in farmers, growers and food manufacturers.
 Almost half of those in these groups have low trust in manufacturers' food safety honesty and sense of care.

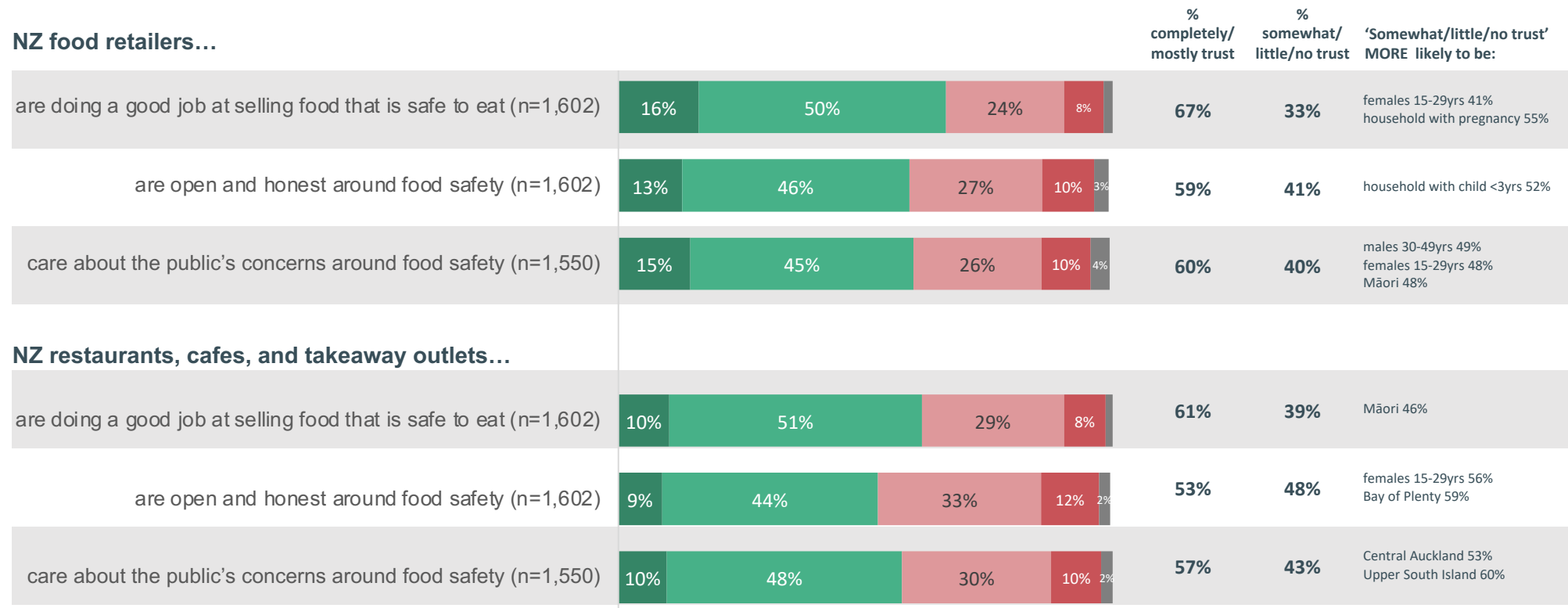
Note: Those with lower levels of general trust in people in NZ were:
 • Females, 15-29 years; and
 • Māori.
 (Source: survey question 7)

The majority of consumers mostly or completely trust NZ food retailers' and eateries' food safety competence, honesty and care. However, consumers are least likely to trust eateries compared to other organisations in the food safety system.

Trust in the food safety system

Q10. How much do you trust that NZ food retailers (e.g. supermarkets, markets, or food stores)... Q11. How much do you trust that NZ restaurants, cafes, and takeaway outlets...
 Base: n=1,602 (total sample), n=1,550 (question statement added after pilot survey completed)

■ Completely trust ■ Mostly trust ■ Somewhat trust ■ Trust a little ■ Don't trust at all



!!
 Younger females and Māori have less trust in food retailers, and in restaurants, cafes and takeaway outlets.
 In fact, almost half of these groups have low trust in retailers' and eateries' food safety competency, honesty and care. Over half (56%) of young females have low trust in eateries' honesty.

Note: Those with lower levels of general trust in people in NZ were:
 • Females, 15-29 years; and
 • Māori.
 (Source: survey question 7)

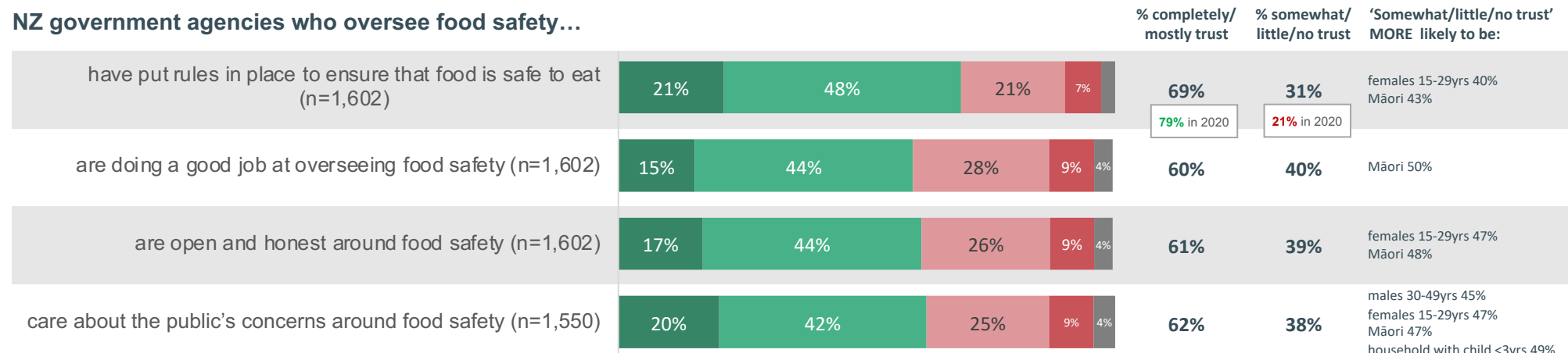
Most consumers trust the government’s food safety management, honesty and care. In 2023, consumers were more likely to trust there are rules in place to ensure food is safe to eat (69%), than that the rules are being overseen (60%). However, since 2020 there has been a decline in consumer trust that there are rules in place (from 79% to 69%).

Trust in the food safety system

Q12. How much do you trust that the New Zealand government agencies who oversee food safety...
 Base: n=1,602 (total sample), n=1,550 (question statement added after pilot survey completed)
 2020 question wording: How much do you trust that New Zealand has rules in place to ensure that food is safe to eat? Base: n=728

■ Completely trust ■ Mostly trust ■ Somewhat trust ■ Trust a little ■ Don't trust at all

NZ government agencies who oversee food safety...



!!
 Younger females and Māori have less trust in the government agencies who oversee food safety.
 Half of Māori have low trust that government agencies are doing a good job at overseeing food safety.

Note: Those with lower levels of general trust in people in NZ were:
 • Females, 15-29 years; and
 • Māori.
 (Source: survey question 7)

Most consumers are confident that food in NZ is safe to eat and they can access healthy food options. Consumers have quite high confidence in food produced in NZ, but much lower confidence in imported food. Sentiment is mixed as to whether food claims are true.

Confidence in the food safety system

Q13. Now for New Zealand overall, how confident are you that ...
Base: n=1,602 (total sample)

■ Completely confident ■ Mostly confident ■ Somewhat confident ■ A little confident ■ Not confident at all

In New Zealand overall...

						% somewhat/ little/no confidence	'Somewhat/little/no confidence' MORE likely to be:
food is safe to eat in NZ (n=1,602)	22%	56%	17%	4%		22%	males 15-29yrs 31% females 15-29yrs 29% Māori 31%, Asian 29% household with child <3yrs 30%
food imported from overseas is safe to eat (n=1,602)	7%	37%	39%	14%	3%	56%	females 65+yrs 71% Māori 63% YOPI 61%
food produced in NZ is safe to eat (n=1,602)	27%	54%	15%	4%		19%	males 30-49yrs 25% Māori 27% household with child <3yrs 27%
you can access healthy food options (n=1,602)	31%	46%	18%	5%		23%	males 30-49yrs 33% females 15-29yrs 31% Māori 30% household with child <3yrs 33%
food is true to what it claims (e.g. on the label, in advertising) (n=1,602)	11%	47%	30%	9%		42%	No significant differences

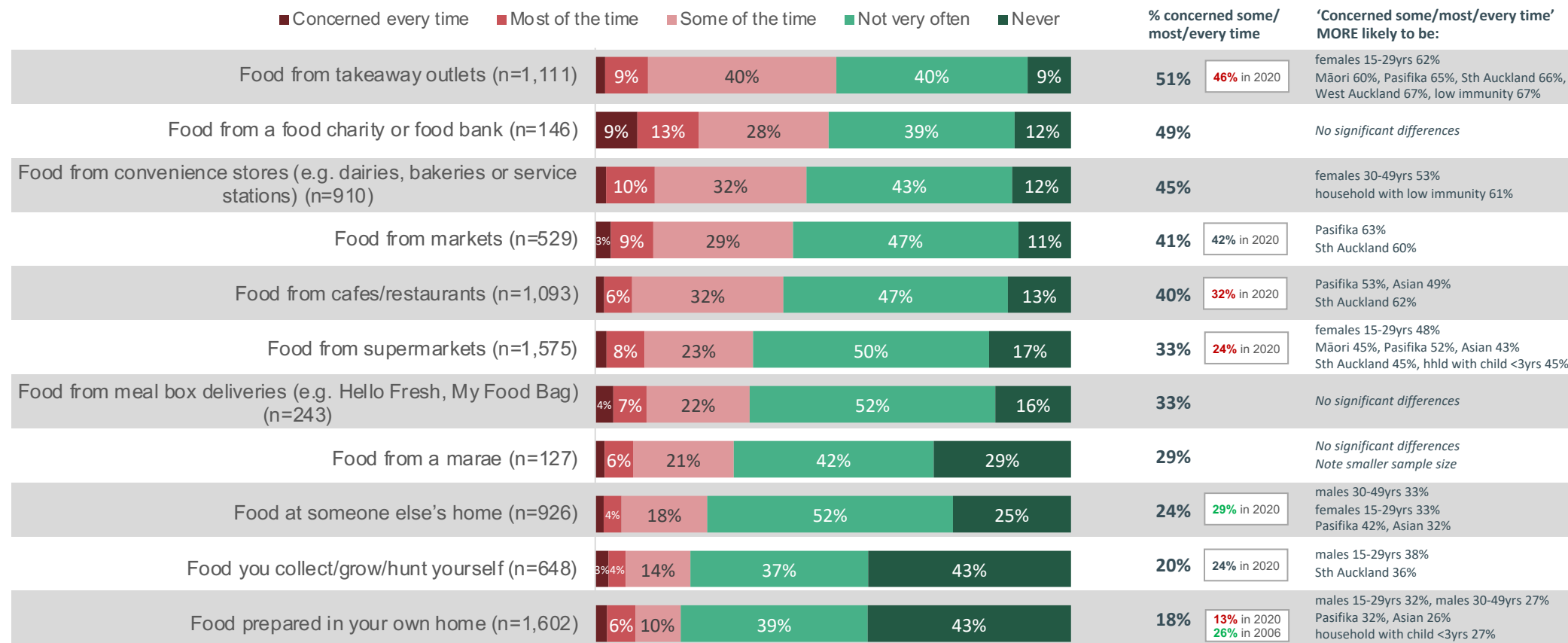
!!
Younger people, Māori and Asians generally have less confidence in food safety in New Zealand.

Older females are more likely to have less confidence in food that is imported from overseas. Older females are also more aware of the risk associated with frozen berries (see later chart).

Consumers are most concerned about the safety of food from takeaway outlets, charities, convenience stores and markets. Concern with food from takeaway outlets, cafes/restaurants & supermarkets has increased since 2020.

Food sources: Levels of concern

Q16. How often are you concerned about the safety of the food you eat in New Zealand from each of the following locations?
Base: n=1,602 (total sample). Rest based on whether they received food from that source in last 12 months.



!!

Younger people, Māori, Pasifika and Asians are more concerned than the general population about the safety of their food from different sources.

Pasifika are particularly concerned across the board, even for food prepared in their own homes, and especially for food from takeaway outlets.

Those in South Auckland are more likely to be concerned about food safety in takeaway outlets, markets, cafes/restaurants, and supermarkets.

Those in West Auckland are also concerned about food safety in takeaway outlets.

In takeaway outlets, markets, and cafes, or restaurants, consumers are most concerned about the perceived lack of hygiene processes and standards.

Food sources: Reasons for concerns (top 3 sources of greatest concern)

Q17. Why are you concerned about the safety of the food you eat from... [respondents provided written response which have been coded into categories below]

Takeaway outlets

(n=143 concerned most/every time)

• Hygiene processes/standards (NFI)	20%
• Food preparation/cooking practices	18%
• Cleanliness of kitchen/premises	16%
• Quality of ingredients/food (e.g. freshness, GM)	10%
• Care or ability of staff	9%
• Previous experiences	9%
• Risk of food poisoning (incl. prior sickness)	9%
• Time since cooked (e.g. age, freshness of food)	7%
• Food safety (NFI)	5%
• What not seen	5%
• Food storage/handling practices	5%
• Use of hands (without gloves)	3%
• Handwashing practices	3%
• Unknown or untrustworthy ingredients	2%
• Country of origin	2%
• Certificates not always displayed	2%
• Labelling not correct (e.g. GF)	1%
• Other	9%
• Don't know/ Unsure	2%

"I'm truly concerned, some outlets are dirty with food preparation, and they sell expired food. I've been sick from a few takeaway stores in Auckland."

Markets

(n=69 concerned most/every time)

• Hygiene processes/standards (NFI)	28%
• Open air/makeshift setting	19%
• Time since cooked (e.g. age, freshness of food)	8%
• Cleanliness of kitchen premises	8%
• Trust in foods bought from retailer/manufacturer/supplier	7%
• Personal health, wellness	6%
• Risk of food poisoning (incl. prior sickness)	6%
• Food safety (NFI)	6%
• Food storage/handling practices	5%
• Handwashing practices	4%
• Quality of ingredients/food (e.g. freshness)	3%
• For family/children/consumer	3%
• What not seen	3%
• Food preparation/cooking practices	3%
• Use of hands (without gloves)	2%
• Care or ability of staff/handler	1%
• Previous experiences	1%
• Country of origin	1%
• Other	21%

"Flies and common for cash handling staff to be handling food without swapping gloves or washing hands between tasks."

Cafes/restaurants

(n=107 concerned most/every time)

• Hygiene processes/standards (NFI)	20%
• Quality of ingredients/food (e.g. freshness)	16%
• Cleanliness of kitchen/premises	12%
• Risk of food poisoning (incl. prior sickness)	10%
• What not seen	9%
• Time since cooked (e.g. age, freshness of food)	7%
• Food preparation/cooking practices	6%
• Food storage/handling practices	5%
• Care/ability of staff	5%
• Food safety (NFI)	4%
• Use of hands (without gloves)	3%
• Country of origin	3%
• Health of staff	2%
• Handwashing practices	2%
• Unqualified profession	2%
• Certificates not always displayed	2%
• Labelling not correct (e.g. GF)	2%
• Other	12%
• Don't know/ Unsure	2%

"The uncertainty of their food safety processes and how staff are following them."

Note: NFI means No Further Information

In their own and others' homes, consumers are most concerned about food preparation and cooking practices. For meal box deliveries, consumers are most concerned about the risks involved with the delivery, like the time taken, or the packaging. At marae, consumers are most concerned about the care or the ability of the food preparers.

Food sources: Reasons for concerns (other locations)

Q17. Why are you concerned about the safety of the food you eat from... [respondents provided written response which have been coded into categories below]

Someone else's home

(n=58 concerned most/every time)

• Food preparation/cooking practices	38%
• Hygiene processes/standards (NFI)	22%
• Risk of food poisoning (incl. prior sickness)	11%
• What not seen	9%
• Personal health, wellness	8%
• Time since cooked (e.g. age, freshness of food)	7%
• Care or ability of staff/handler	6%
• Food safety (NFI)	5%
• Cleanliness of kitchen/ premises	4%
• Quality of ingredients/food	3%
• Previous experiences	3%
• Trust in foods bought from retailer/manufacturer/ supplier	3%
• Food storage/handling practices	3%
• For family/children	2%
• Handwashing	1%
• Other	12%
• Don't know/ Unsure	5%

*"Some people are not as hygienic as I thought."
"Hand washing and cleanliness of cooking gears and kitchen utensils."*

Own home

(n=152 concerned most/every time)

• Food preparation/cooking practices	22%
• Quality of ingredients/food	13%
• Hygiene processes/standards (NFI)	12%
• Risk of food poisoning (incl. prior sickness)	10%
• Due to family/children wellness	9%
• Time since cooked (e.g. age, freshness of food)	8%
• Personal health, wellness	5%
• Food safety (NFI)	5%
• Care or ability of staff/handler	4%
• Trust in foods bought from retailer/manufacturer/ supplier	4%
• Cleanliness of kitchen/ premises	4%
• Food storage/handling practices	3%
• Avoiding waste / eating leftovers	2%
• Previous experiences	2%
• What not seen	1%
• Other	13%
• Don't know/ Unsure	4%

*"I have made mistakes preparing chicken and other meat and given myself food poisoning before."
"If it has not been stored correctly or passed it's used by date."*

Meal box deliveries

(n=30 concerned most/every time)

• Delivery time/quality/trust/packaging	41%
• Quality of ingredients/food	18%
• Freshness of food	17%
• Trust in foods bought from retailer/manufacturer/supplier	15%
• Food storage/handling practices	9%
• Food preparation/cooking practices	9%
• What not seen	6%
• Risk of food poisoning (incl. prior sickness)	4%
• Care or ability of staff/handler	2%
• Food safety (NFI)	1%
• Other	3%
• Don't know/ Unsure	1%

Marae

(n=11 concerned most/every time)

• Care or ability of staff/handler	46%
• Hygiene processes/standards (NFI)	31%
• What not seen	28%
• Handwashing practices	22%
• Food preparation/cooking practices	18%
• Unqualified profession	13%
• Quality of ingredients/food	12%
• Food safety (NFI)	5%
• Cleanliness of kitchen/premises	5%
• Food storage (and handling)	5%
• Other	19%

Note: NFI means No Further Information

2. Food safety personal confidence & risk perceptions

Two-thirds of consumers completely or mostly agree they know enough about food safety to avoid food poisoning, while one-third feel they do not know enough.

Confidence in food safety knowledge

Q19a: To what extent do you agree or disagree with the following statements?
Base: n=1,602

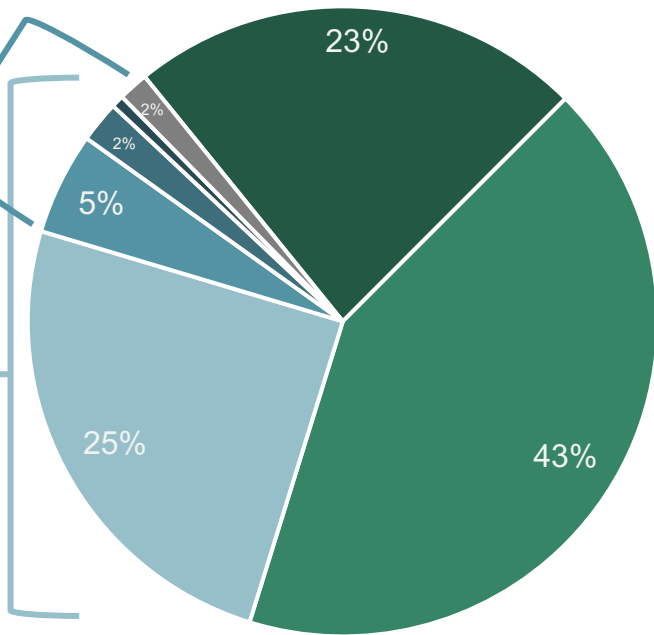
I feel I know enough about food safety to avoid food poisoning

10% of consumers feel they do not know enough about food safety to avoid food poisoning.
They are more likely to be:

- males, 15-29 years (19% of this group);
- females, 15-29 years (15%).

34% of consumers feel they do not know enough, or only somewhat agree they know enough, about food safety to avoid food poisoning.
They are more likely to be:

- males, 15-29 years (50% of this group);
- females, 15-29 years (44%);
- Pasifika (44%); and
- Asian (49%).



- Completely agree
- Mostly agree
- Somewhat agree
- Somewhat disagree
- Mostly disagree
- Completely disagree
- Don't know

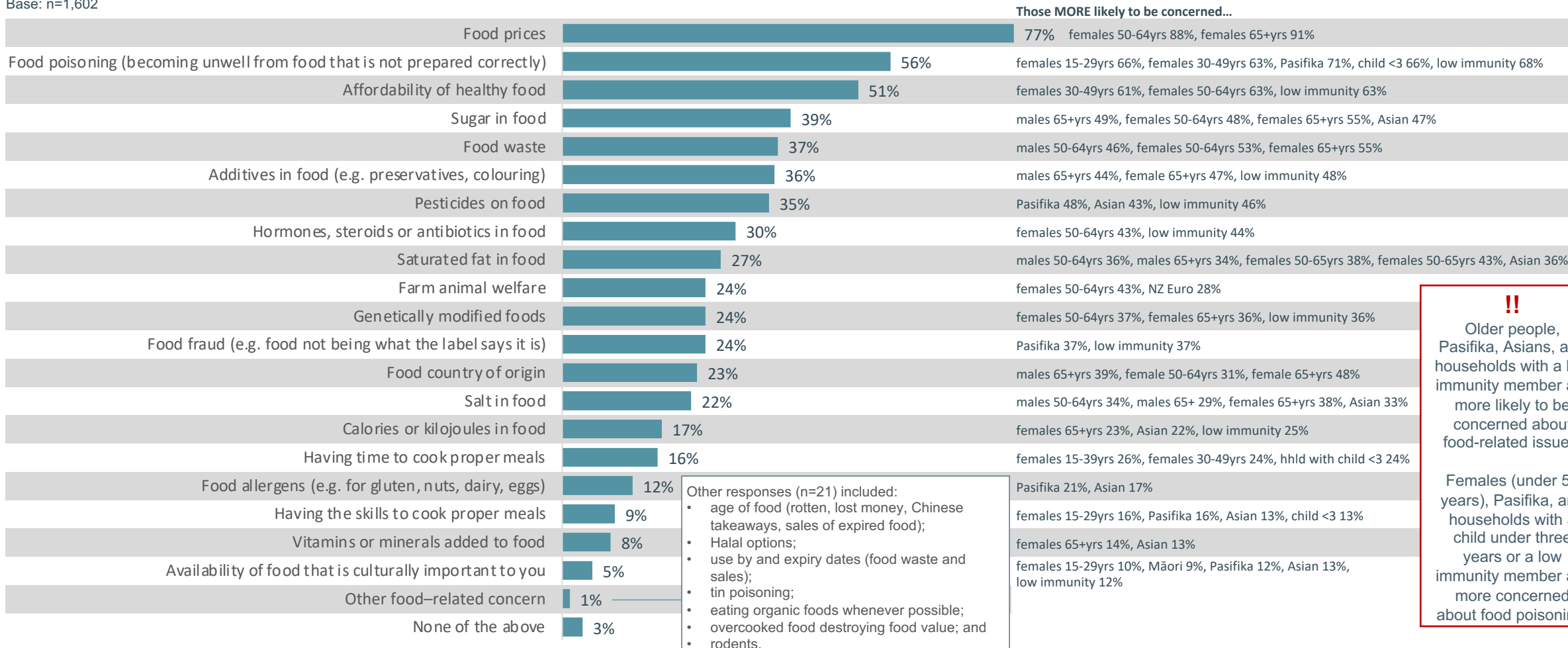
!!
Younger males, younger females, Pasifika and Asians are less likely to feel they know enough about food safety to avoid food poisoning.

Food poisoning is the second highest food-related concern for consumers, after food prices. These are the top two concerns for Māori, Pasifika and Asian communities.

Food concerns

Q18. Which, if any, of the following are you often concerned about? (Please select all that apply.)

Base: n=1,602



!!

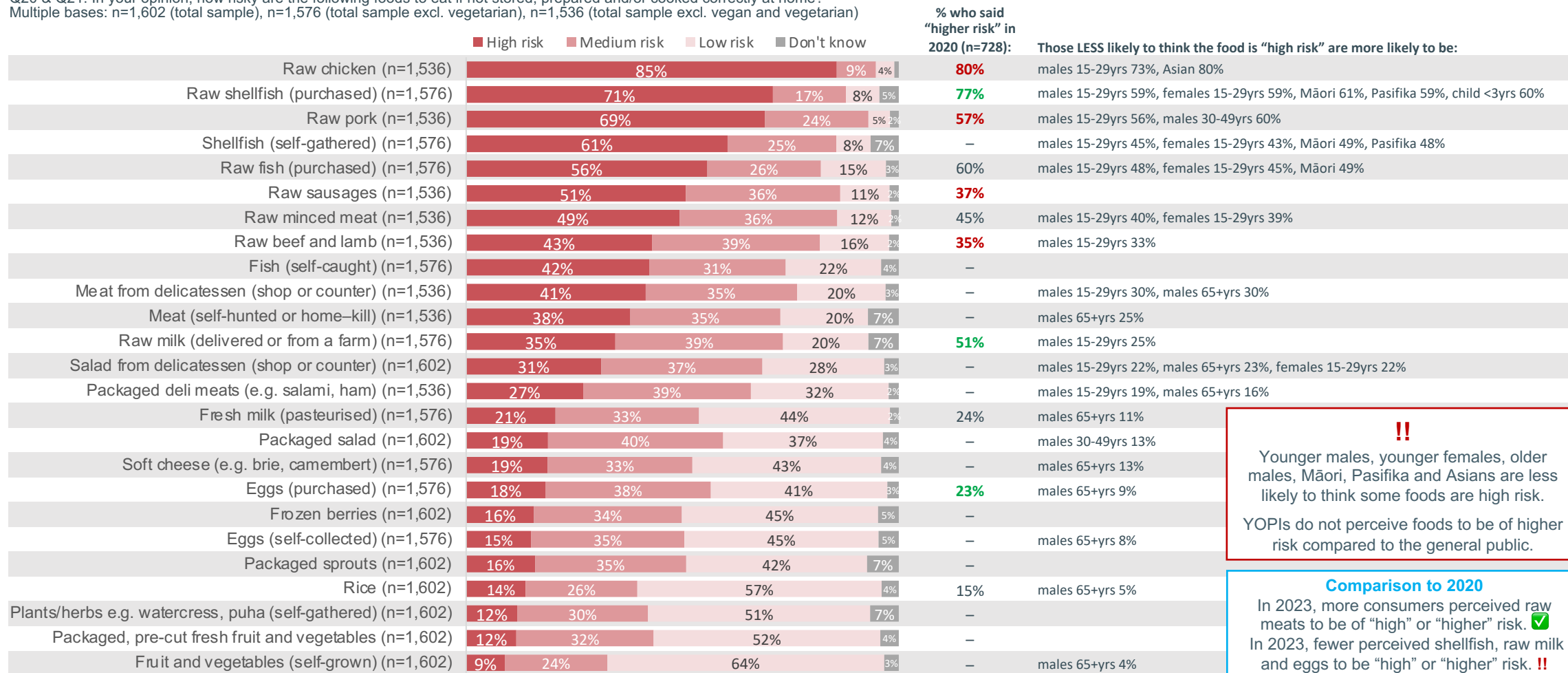
Older people, Pasifika, Asians, and households with a low immunity member are more likely to be concerned about food-related issues.

Females (under 50 years), Pasifika, and households with a child under three years or a low immunity member are more concerned about food poisoning.

Most consumers view chicken, shellfish and pork as high-risk foods. Most consumers believe frozen berries, rice, eggs and packaged salad or sprouts are not high risk.

Food risk

Q20 & Q21. In your opinion, how risky are the following foods to eat if not stored, prepared and/or cooked correctly at home?
Multiple bases: n=1,602 (total sample), n=1,576 (total sample excl. vegetarian), n=1,536 (total sample excl. vegan and vegetarian)



!!
Younger males, younger females, older males, Māori, Pasifika and Asians are less likely to think some foods are high risk.
YOPIs do not perceive foods to be of higher risk compared to the general public.

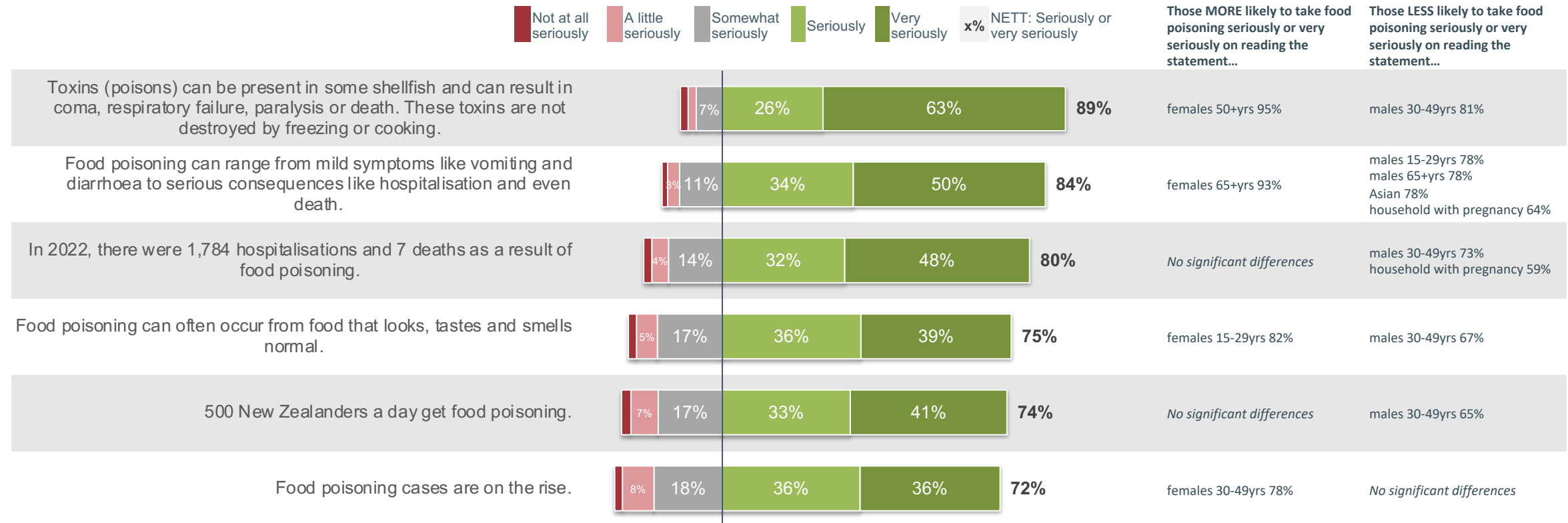
Comparison to 2020
In 2023, more consumers perceived raw meats to be of "high" or "higher" risk. ✓
In 2023, fewer perceived shellfish, raw milk and eggs to be "high" or "higher" risk. !!

Significantly higher x% or lower x% compared to 2023.

Food safety is a serious topic for most consumers, especially messaging about toxins in shellfish.

Seriousness of food poisoning

Q39: How seriously would you take food poisoning if you read the following statements?
 Base: n=1,037 (asked of general public sample and not of booster samples)



3. Food safety behaviours

The majority of consumers always, mostly or sometimes wash their raw chicken, do not wash their hands after handling eggs, and do not heat frozen berries before use. Most also do not agree they should prepare raw chicken without washing it.

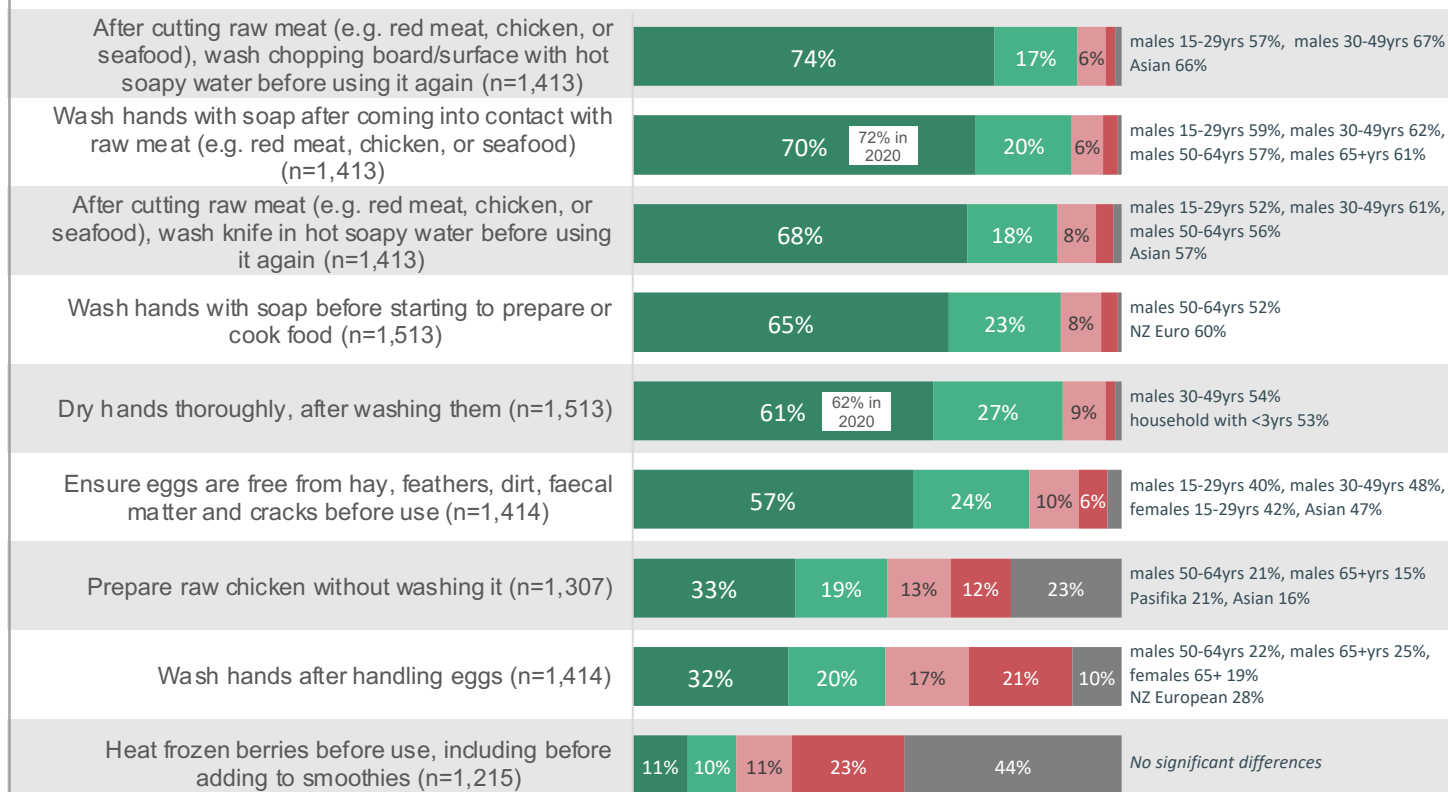
Food preparation: Frequency of practices

Q24. Please now think about when you are preparing food... How often do you do this?

Multiple bases: n=1,413 (prepare raw meat, chicken or seafood), n=1,513 (prepare meals), n=1,414 (prepare eggs), n=1,307 (prepare chicken), n=1,215 (prepare frozen berries)

■ Every time ■ Most of the time ■ Some of the time ■ Not very often ■ Not at all

'Every time' LESS likely to be:



!!
Males, Asians and Pasifika are less likely to be undertaking food safety preparation practices every time.

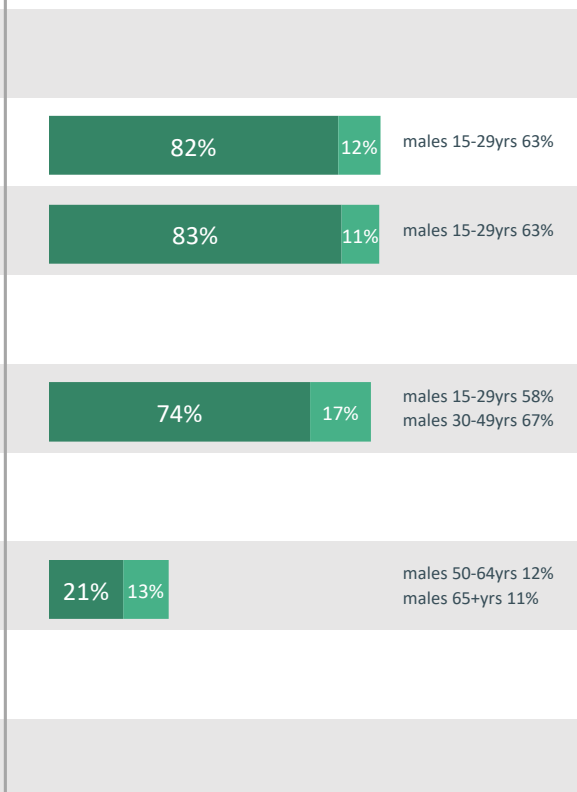
Younger males are less likely to agree they should always undertake these food safety practices.

Agreement with practices

Q26. Do you agree or disagree you should always...

■ Agree ■ Somewhat agree

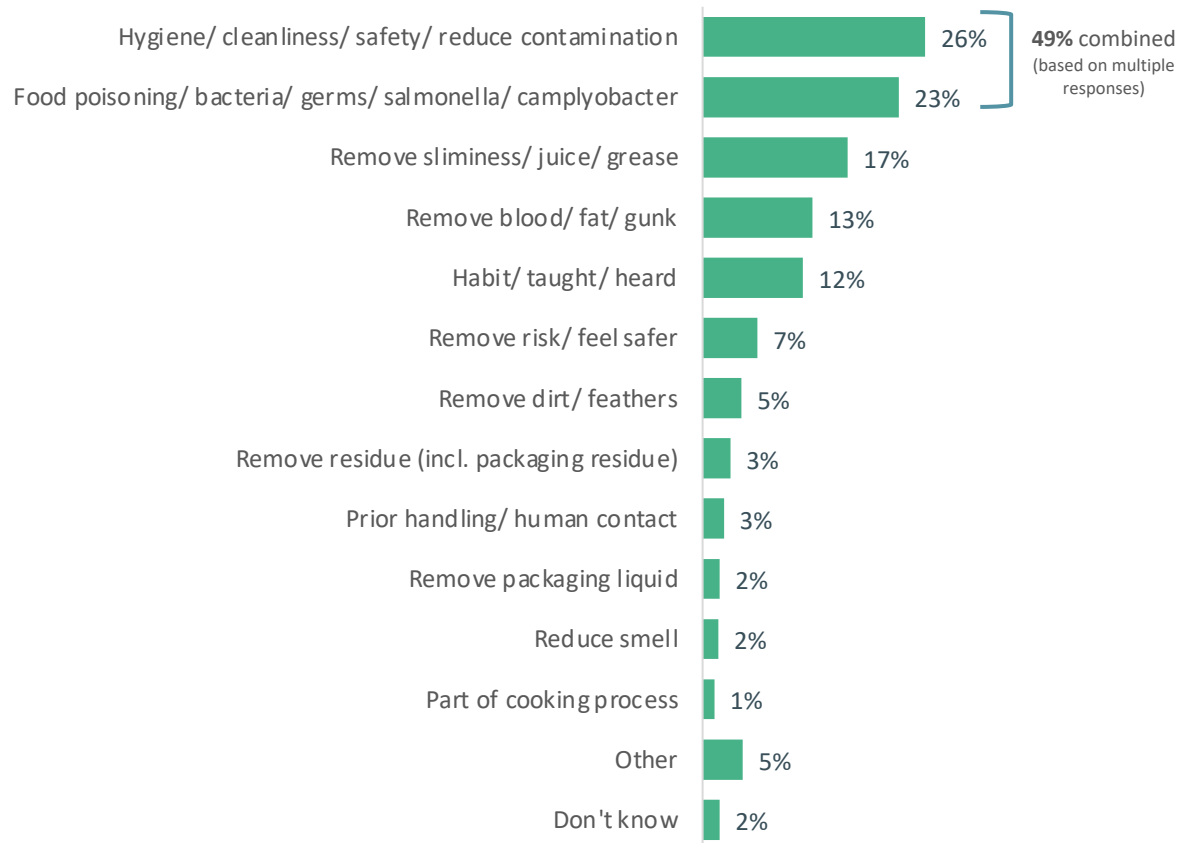
LESS likely to 'agree':



Among consumers who said they washed raw chicken, the most common reason was for hygiene or to reduce the perceived risk of food poisoning.

Food preparation: Reasons for washing raw chicken

Q25.2. What are your reasons for washing raw chicken? [Respondents provided written response which have been coded into the categories below.]
 Base: n=664 (Those who said they prepare raw chicken without washing it "some of the time" to "not at all".)



Example quotes from consumers:

"To make sure it is clean and not slimy."
"To avoid cross contamination."
"I don't feel it's clean yet."
"I don't know how it has been handled - especially supermarket wrapped chicken."

"Chicken is a known source of salmonella and washing or rinsing under cold water then drying off helps to prevent this."
"To remove the dirty stuff and virus."

"To rinse off all of the slimy outer layer that makes the chicken slippery and harder to cut."

"I wash all meat that I cook. Chicken specifically to get rid of any blood."
"Clean off blood and other fluids."

"To remove any residue."

"I have always been told you should. Raw chicken has higher amounts of bacteria, etc."
"I have heard it is the thing to do."

"Just a habit, not really sure why."

"To remove any remains from packaging."

"It can carry diseases which can make you sick."

Consumers who did not wash their chopping board with hot soapy water after cutting raw meat said they did not use hot water or soap, forgot, or did not realise they should, among other reasons.

Food preparation: Reasons for not washing chopping board/surface with hot soapy water

Q25.1. What are your reasons for not doing the action below more regularly? After cutting raw meat (e.g. red meat, chicken, or seafood), wash chopping board/surface with hot soapy water before using it again. [Respondents provided written responses – some of the quotes that cover the key themes are listed below.]

Base: n=73 (Those who said they wash their chopping board or surface with hot soapy water “some of the time” to “not at all”.)

Example quotes from consumers:

“Didn’t realise you should.”

“Don’t always remember to do it.”

“Forgetting and in a rush.”

“Time and hassle of it.”

“Laziness.”

“Don’t think about it, I have never in my 80 years had food poisoning.”

“I use hot water but not soap.”

“Don’t use soap much – mainly hot water.”

“I don’t use hot water.”

“Can’t afford to use hot water.”

“I use cold soapy water instead to save costs on bills.”

“Depends on what meat.”

“I do it for chicken and seafood but not normally for red meat.”

“If cutting vegetables needing to be cooked, I’ll just continue using it until I finish.”

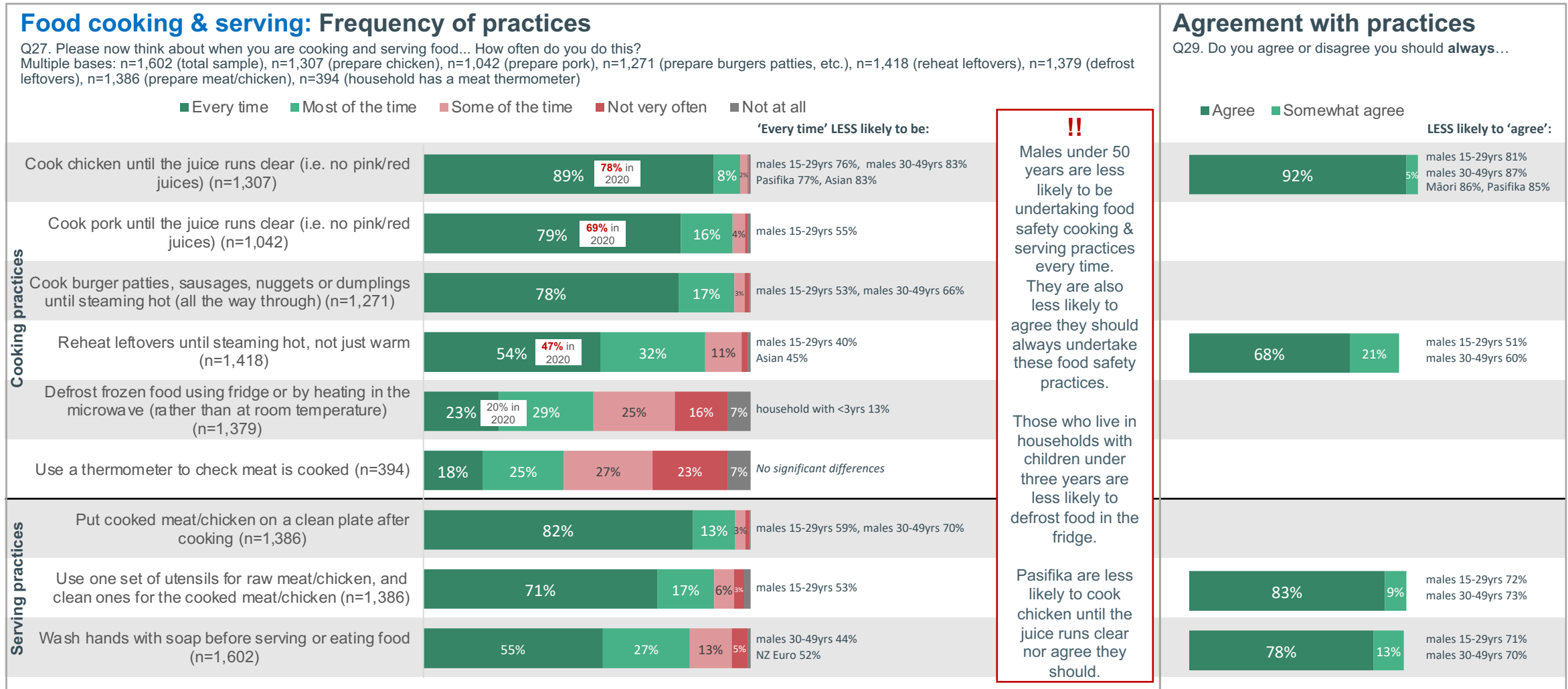
“Have different type of board for every use.”

“I just wipe the surface with a cloth.”

“I rinse it off then use the reverse side.”



Half of consumers do not always heat leftovers until hot & many do not agree they always should. Most do not often use a meat thermometer even if they have one. In 2023, more were cooking chicken and pork until the juice runs clear and were reheating food correctly.



Significantly higher x% or lower x% compared to 2023.

Consumers who were not undertaking some of the correct cooking and serving actions said they were short on time, did not realise they should, did not think it was necessary, or forget.

Cooking & serving actions: Reasons for not undertaking food safety actions

Q28. What are your reasons for not doing the action below more regularly? [Respondents provided written responses – some of the quotes that cover the key themes are listed below.]

Cook chicken until the juice runs clear (i.e. no pink/red juices) (n=16)	Reheat leftovers until steaming hot, not just warm (n=115)	Wash hands with soap before serving or eating food (n=185)	Use one set of utensils for raw meat/chicken, and clean ones for the cooked meat/chicken (n=185)
<p><i>“I was unaware that it was safe to do this method.”</i></p> <p><i>“Time when I’m in a big hurry.”</i></p> <p><i>“Don’t have the time.”</i></p> <p><i>“Too lazy to do it.”</i></p> <p><i>“I cook meat until I cut it open and can see it is cooked through – I don’t notice juices at all!”</i></p> <p><i>“I forget to check for juice to run clear because I cook to time and chicken juice is always clear.”</i></p> <p><i>“Sometimes hormones in chicken can affect the juices, I trust my judgement.”</i></p> <p><i>“It depends on the cuisine.”</i></p> <p><i>“Don’t want it over cooked.”</i></p> <p><i>“I over cook chicken most the time.”</i></p> <p><i>“I use an air fryer.”</i></p> <p><i>“Don’t know.”</i></p>	<p><i>“Don’t like eating piping hot food, the flavour doesn’t seem to be as good.”</i></p> <p><i>“I like cold food too.”</i></p> <p><i>“It is not necessary to cook it again.”</i></p> <p><i>“The food I eat can be eaten cold after cooking it the day before.”</i></p> <p><i>“Didn’t realise it mattered.”</i></p> <p><i>“I didn’t know the food had to be steaming hot.”</i></p> <p><i>“Do not think it’s necessary.”</i></p> <p><i>“Hunger.”</i></p> <p><i>“Sometimes I’m in a rush and want to eat the previously cooked food immediately and not wait 10 minutes for it to stop cooking/cool down after taking it out of the microwave oven.”</i></p> <p><i>“Like warm so I can chow down.”</i></p> <p><i>“Forget about it and short work meal break.”</i></p>	<p><i>“No particular reason, just don’t think of it.”</i></p> <p><i>“I usually feel like just water is enough, I should use soap.”</i></p> <p><i>“Just don’t think of it at the time, which is poor on my part.”</i></p> <p><i>“I am the only person handling my food.”</i></p> <p><i>“Often I am regularly rinsing my hands in the kitchen when cooking anyways.”</i></p> <p><i>“I am regularly washing my hands while cooking anyway... and use utensils to serve rather than my hands.”</i></p> <p><i>“My hands are in water and detergent all day and very cracked. I only wash hands when I believe I have touched something that requires it.”</i></p> <p><i>“Have never been in the habit.”</i></p> <p><i>“To increase immune system.”</i></p>	<p><i>“Didn’t realise it mattered if it was the same raw meat then getting cooked.”</i></p> <p><i>“Never thought about it.”</i></p> <p><i>“Have never considered it.”</i></p> <p><i>“I don’t think I need to.”</i></p> <p><i>“I don’t feel it is necessary to do so.”</i></p> <p><i>“I usually can’t be bothered it seems like too much effort.”</i></p> <p><i>“Not fussy and causes more dishes.”</i></p> <p><i>“Too much to wash afterwards.”</i></p> <p><i>“I’m only feeding me and I rinse under hot tap.”</i></p> <p><i>“I forget.”</i></p> <p><i>“I need to do this more regularly I just get lazy and tired.”</i></p> <p><i>“I will from now on but keeping it separate is tricky.”</i></p> <p><i>“Easier.”</i></p>

Most consumers do not always eat fridge leftovers within 48 hours, and many do not agree they should. In 2023, more consumers are refrigerating or freezing leftovers within two hours of cooking compared to 2020.

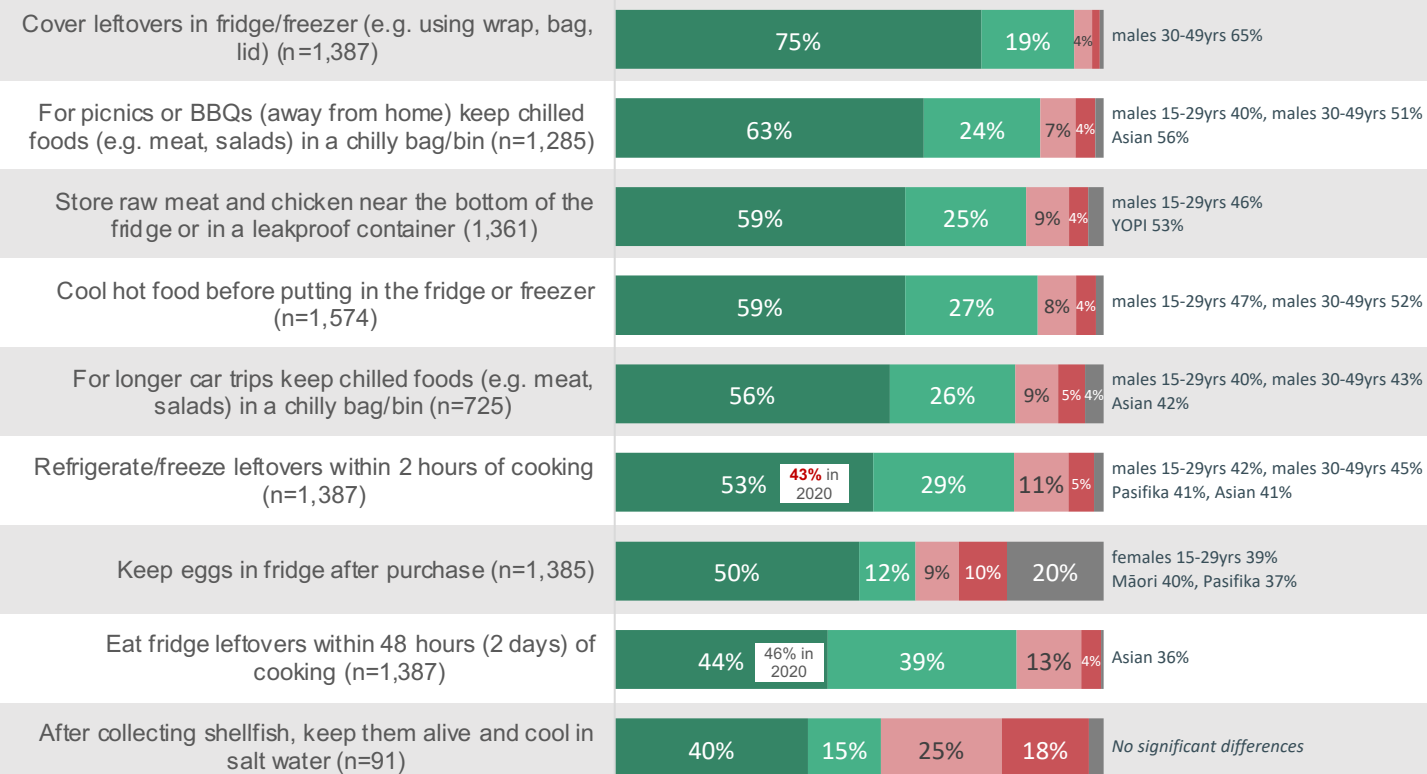
Food storing: Frequency of practices

Q30. Please now think about when you are storing food... How often do you do this?

Multiple bases: n=1,387 (reheat leftovers & have fridge), n=1,285 (have picnics or BBQs), n=1,361 (prepare meat/chicken), n=1,574 (have a fridge or freezer), n=725 (have chilled foods in car for >30 mins), n=1,385 (prepare eggs), n=91 (collect shellfish)

■ Every time ■ Most of the time ■ Some of the time ■ Not very often ■ Not at all

'Every time' LESS likely to be:



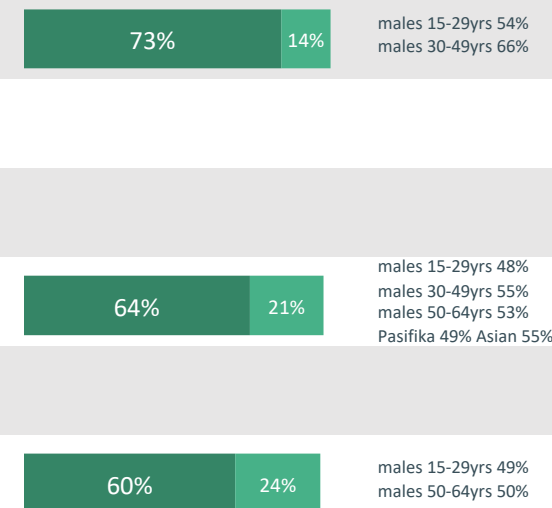
!!
Males under 50 years, Pasifika and Asians are less likely to be undertaking food storing safety practices every time. These groups are also less likely to agree they should always undertake these food safety practices.

Agreement with practices

Q32. Do you agree or disagree you should always...

■ Agree ■ Somewhat agree

LESS likely to 'agree':



Significantly higher x% or lower x% compared to 2023.

Consumers who were not doing some of the correct storage actions said they forget, need to wait for food to cool, did not feel it was necessary to eat leftovers within 2 days, or did not realise they should put raw meat at the bottom of the fridge.

Storage actions: Reasons for not undertaking food safety actions

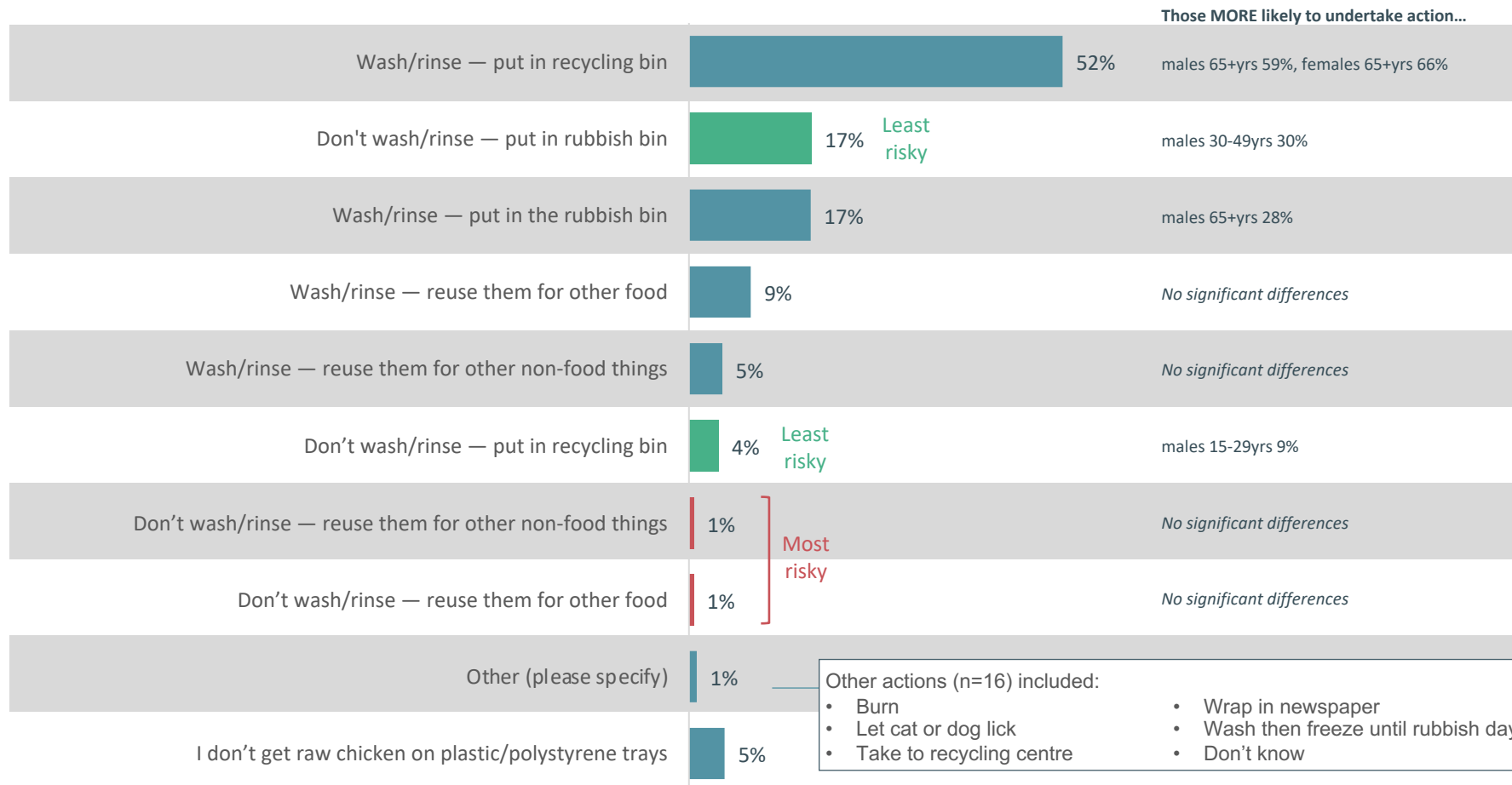
Q31. What are your reasons for not doing the action below more regularly? [Respondents provided written responses – some of the quotes that cover the key themes are listed below.]

Refrigerate/freeze leftovers within 2 hours of cooking (n=151)	Eat fridge leftovers within 48 hours (2 days) of cooking (n=140)	Store raw meat and chicken near the bottom of the fridge or in a leakproof container (n=129)
<p>“I am lazy, and I have never got sick from eating unrefrigerated leftovers, I like to think I'm strengthening my gut. 😊” “Forgetfulness.” “Sometimes we forget!” “Forget, get distracted, didn't realise it was necessary.” “They may be left as I'm busy.” “I am either lazy to do it or I forget it and do the next day.”</p> <p>“Waiting for the food to cool.” “It depends how hot the item is, I aim to freeze asap but sometimes it take more than 2 hours to cool food.” “I wait for it to cool down and sometimes forget.” “Usually, I leave it overnight before refrigerating.”</p> <p>“If I intend eating say for the next meal I will just leave in the microwave.” “They are not leftovers until mealtimes are over and sometimes 2-3 hours after.”</p> <p>“Not aware I should.”</p>	<p>“We find that some foods keep well over that time, and we are avoiding throwing it out we hate waste.” “Often we don't eat then within 2 days, and I can't afford to waste food.”</p> <p>“Most things last longer and there's only me to eat them!” “Food is generally ok up to 5 days in the fridge. I've never had an issue with this rule.” “It may sit in the fridge for a few days before the need to use it arises. Usually not more than 3 or 4 days, or it goes to the dog or compost.” “Think it's OK for things such as pizza to last longer if I'm reheating it in the microwave.” “Sometimes nobody wants it, so I leave it for another couple of days.” “I thought cooked chicken could last 4 or 5 days in the fridge.”</p> <p>“Forget when I put them into the fridge.”</p> <p>“We cook in bulk to last a week.”</p>	<p>“Didn't know about that.” “Didn't know you were supposed to do this.” “Didn't know to.” “Have never heard of having to store meat or poultry near the bottom of the fridge.”</p> <p>“We do not have much space in the bottom of the fridge it is where our veges are stored.” “The bottom of my fridge is too full.”</p> <p>“I put them on a plate in their original wrapping.”</p> <p>“I just thought it wouldn't matter where it's placed on the fridge.” “Have good solid shelves in the fridge that do not drip through.” “Living in a shared flat means I need to use my shelf to store my food.”</p> <p>“Raw meat directly goes to the freezer.” “That meat we put in the freezer.” “Don't store in fridge always in freezer.”</p>

Most consumers wash or rinse their raw chicken trays and put them in the recycling bin. Very few consumers are not washing or rinsing their trays and reusing them.

Raw chicken trays: Practices

Q33. What do you do with your plastic/polystyrene raw chicken trays after use? (Please select all the apply.)
 Base: n=1,537 (excluding vegetarian and vegan households)

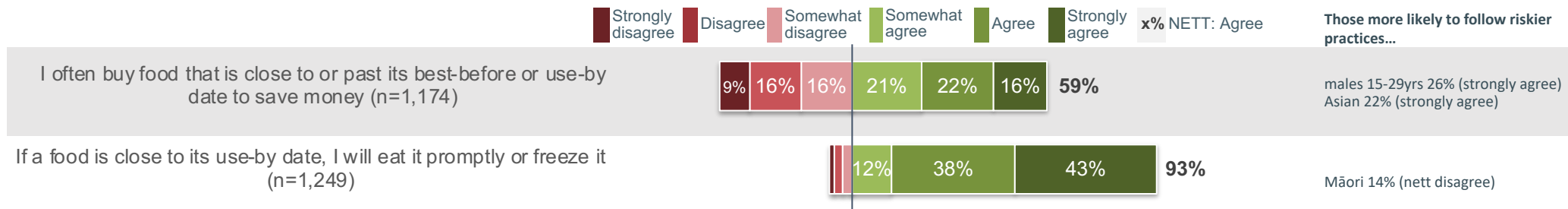


!!
 Older males and females are more likely to be undertaking the moderately risky actions (i.e. washing their raw chicken trays).
 Younger males are more likely to be undertaking the least risky actions (i.e. by not washing their chicken trays).

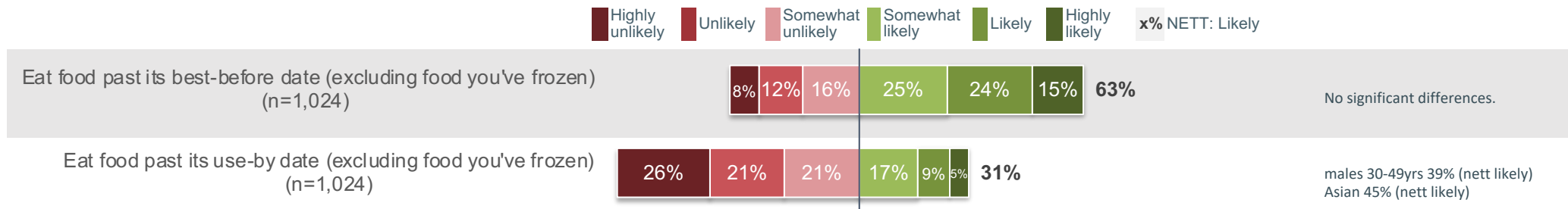
Most consumers buy food close to or past its best-before or use-by date to save money. Most eat food past its best-before date, but not past its use-by date. Most follow the consumption instructions for opened food at least most of the time.

Use-by and best-before dates: Practices

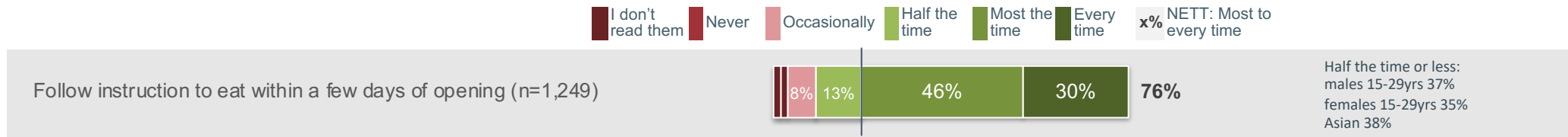
Q34.5 & Q34.6. Some foods and drinks have a best-before date and some have a use-by date. To what extent do you agree or disagree with the following?
 Multiple bases: n=1,174 (Do household food shopping – not asked of all booster samples), n=1,249 (asked of general public sample – not all booster samples)



Q35. How likely would you be to:
 Base: n=1,024 (Those who check dates before eating or preparing food. Asked of general public sample – not all booster samples.)



Q36. Some foods have an instruction to eat them within a few days of opening (e.g. "consume within 3 days of opening"). How often, if at all, do you follow this type of instruction?
 Base: n=1,249 (Asked of general public sample – not all booster samples.)



!!
 Younger males and Asians are less likely to be undertaking safer food practices regarding use-by and best-before dates.

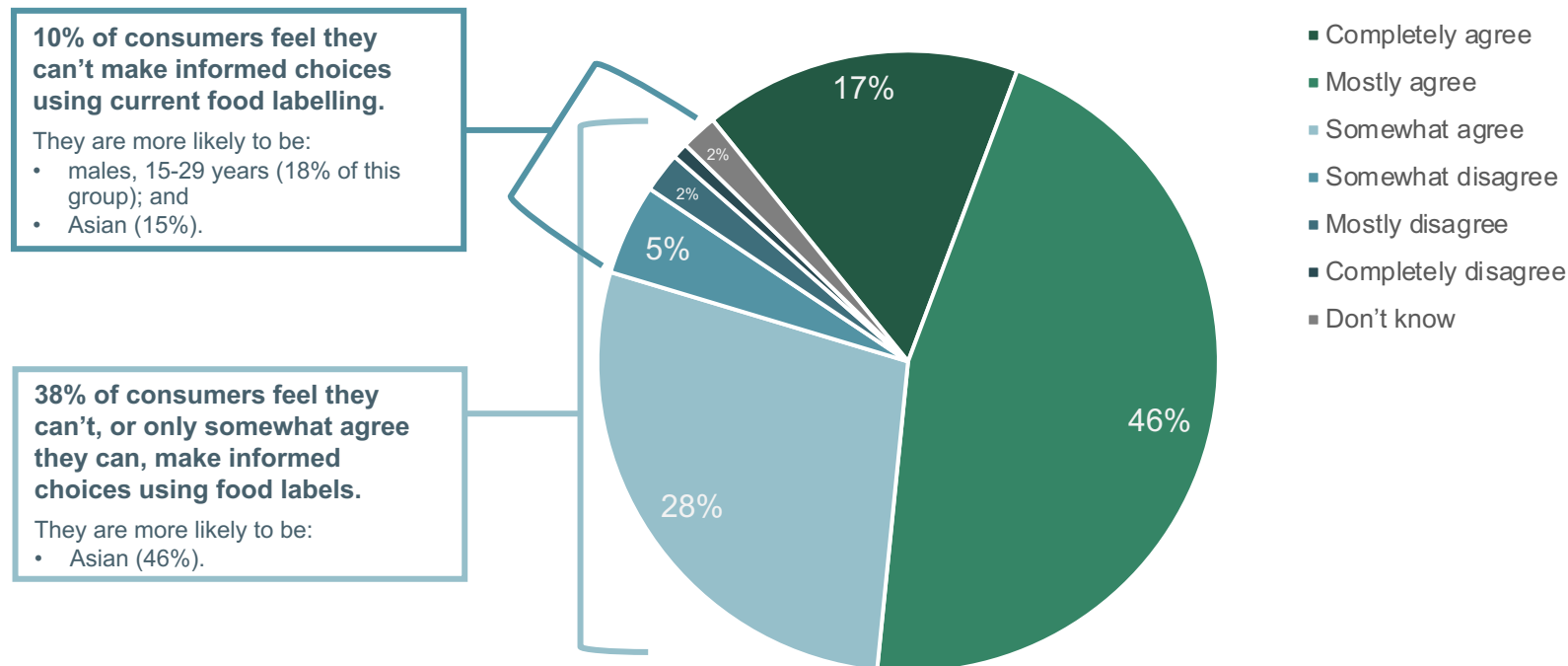
4. Food labelling suitability & other sources of information

Most consumers completely or mostly agree they can make informed choices using current food labelling. However, over two-fifths feel less confident they can.

Confidence in making choices using labelling

Q19b: To what extent do you agree or disagree with the following statements?
Base: n=1,602

I feel confident I can make informed choices using the labelling on food



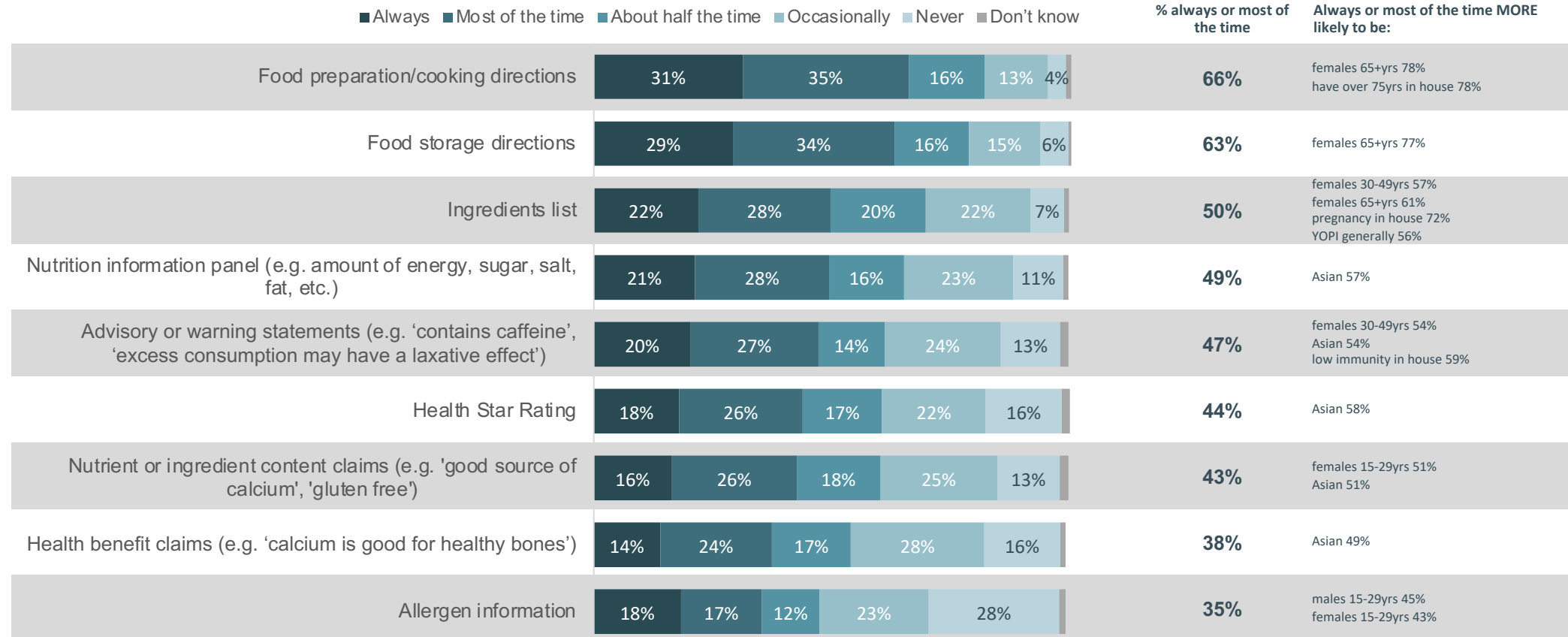
!!
Younger males and Asians are less likely to feel they can make informed choices using current food labels.

YOPIs have similar levels of confidence to the general public.

Most household food shoppers refer to the preparation and cooking directions, storage directions, ingredients list and nutritional information when buying packaged food for the first time.

Labelling information: Use

Q40. When buying a packaged food or drink for the first time, how often do you refer to the following labelling information?
Base: n=1,174 (Do household food shopping)

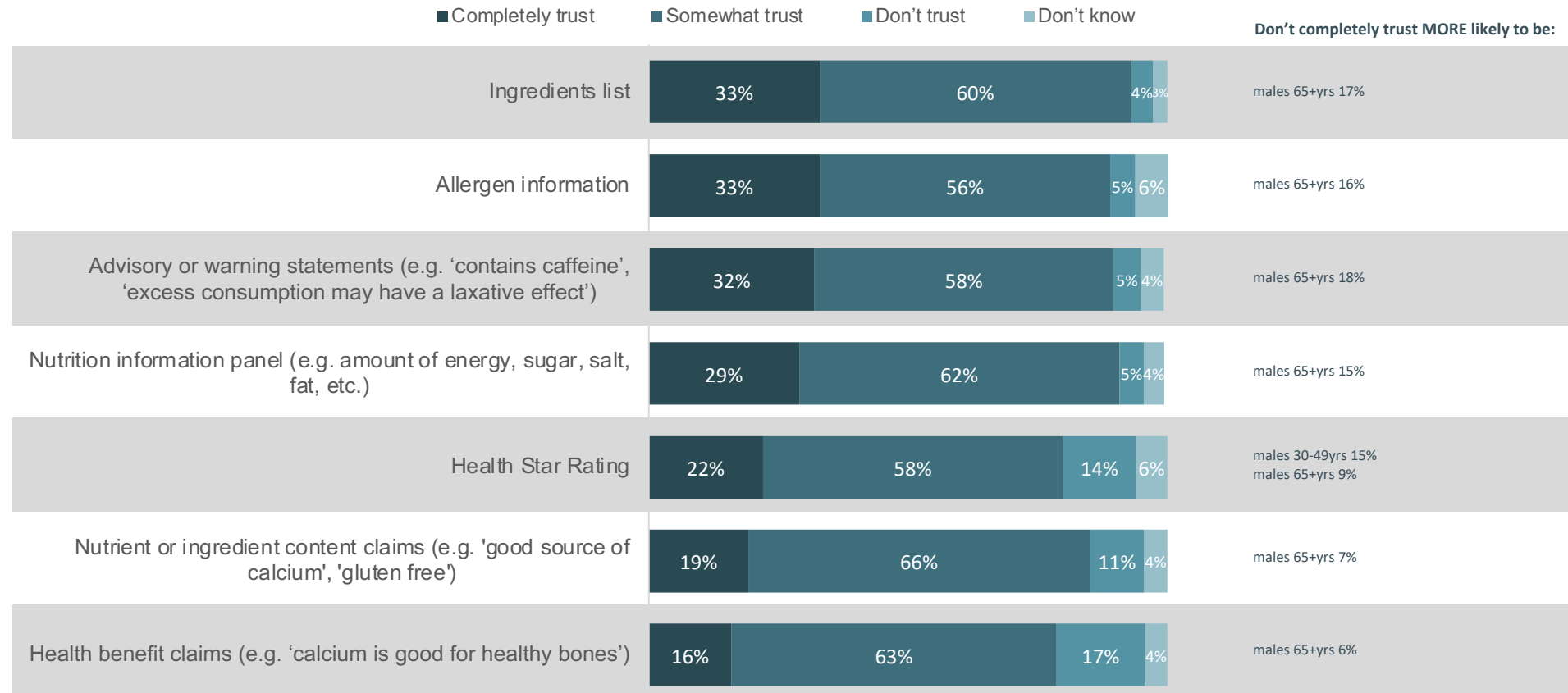


!!
Compared to the general public, Asians are more likely to refer to nutrition information, advisory or warning statements, health star ratings, nutrition or ingredient claims, and health benefit claims.

One third of household food shoppers completely trust ingredient lists, allergen information and advisory or warning statements. One-fifth completely trust health star ratings.

Labelling information: Trust

Q41. And how much do you trust each of the following types of information on packaged food and drink? Please answer this question, even if you don't currently use the information.
Base: n=1,174 (Do household food shopping)

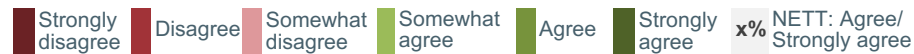


!!
Compared to the general public, older males are less likely to trust information on food and drink packaging.

Most household food shoppers agree they make use of use-by and best-before dates and understand the difference between them.

Use-by and best-before dates: Use & understanding

Q34. Some foods and drinks have a best-before date and some have a use-by date. To what extent do you agree or disagree with the following?
 Multiple bases: n=1,174 (Do household food shopping – not asked of all booster samples), n=1,249 (asked of general public sample – not all booster samples)



!!
 Young males are less likely to use use-by or best-before dates or clearly understand the difference between them.
 YOPIs have similar levels of use and understanding to the general public.

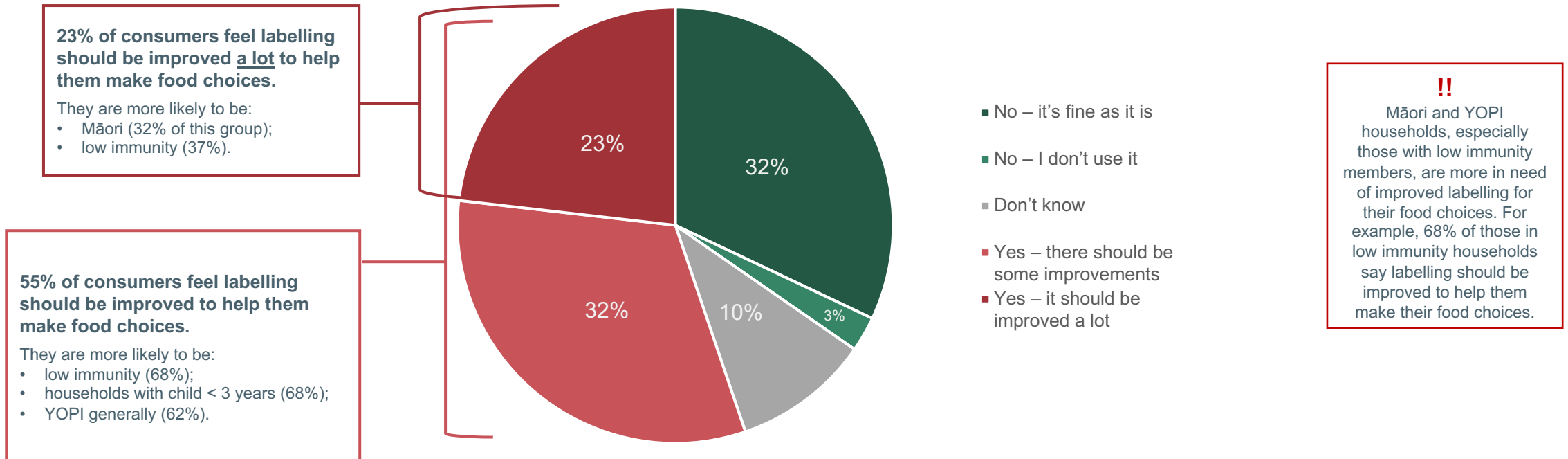
Most household food shoppers believe that food labelling should be improved to help them make food choices.

Labelling information: Improvements required

Q42: Still thinking about labelling and the types of information listed in the previous questions...Do you think labelling on packaged food and drinks should be improved to help you make food choices? For example, so it is easier to use or trust the information?

Base: n=1,174 (Do household food shopping)

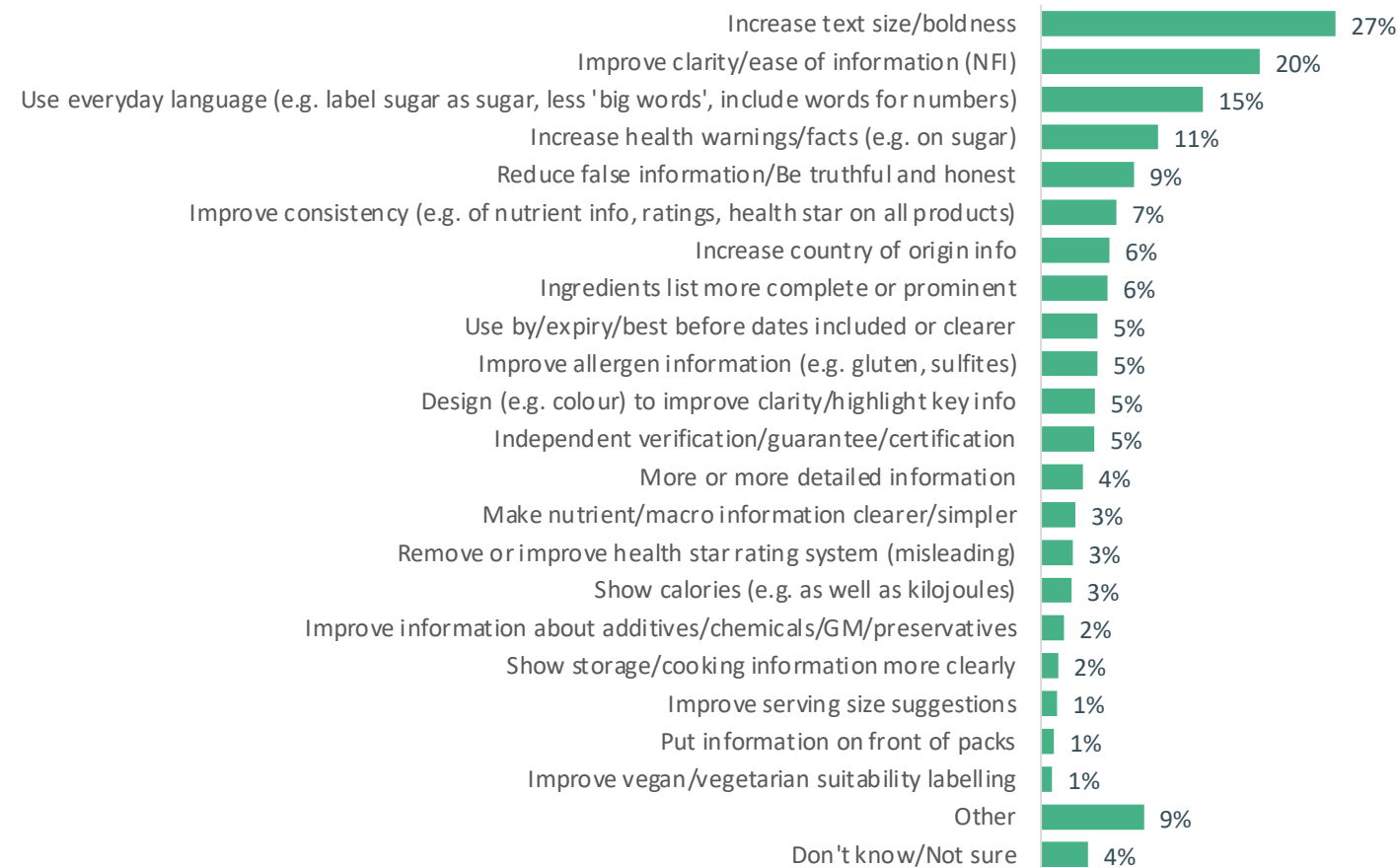
Should labelling be improved to help you make food choices
e.g. so it is easier to use or trust the information?



Household food shoppers stated that food label text should be easier to read and easier to understand.

Labelling information: Improvements suggested

Q43: How should labelling on packaged food and drinks be improved? [Respondents provided written response which have been coded into the categories below.]
 Base: n=671 (Do household food shopping and state 'yes' food labelling should be improved)



Example quotes from consumers:

"Larger, bolder font, I can barely read some of it."

"Additives are often listed by a number only which doesn't tell me anything."

"Every item should be listed in its non-scientific name."

"Have more clearer information – some of the information is so hard to understand."

"Ingredients should be able to be deciphered by normal person."

"Some labelling is still unclear about gluten content/ contaminants."

"Have calories as well as kilojoules."

"The health star rating is backwards, less processed food is actually healthier than more processed food."

"The health star rating is misleading and should be removed."

"Fix star rating."

"Should have more star ratings."

"Certain claims in bold can take the attention from smaller information and be misleading."

"Benefit claims should be definitive not 'may'."

"Ministry of health certified claims."

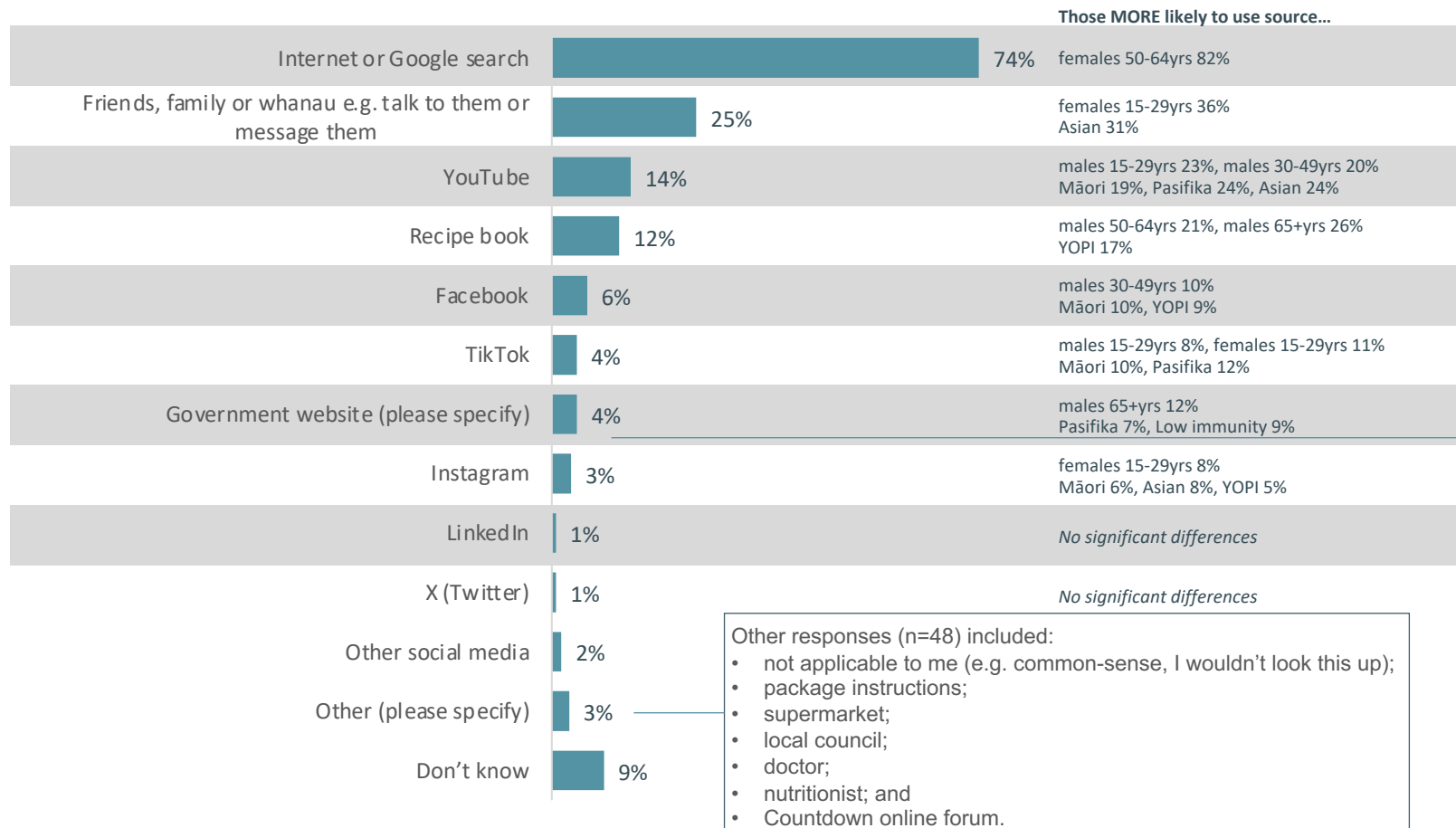
"More regulations regarding health claims."

"Foods promoting 'weight loss' that are actually so unhealthy."

To check food safety storage information, consumers are most likely to search the internet or Google, followed by talking to others.

Information sources: Mostly likely source for checking food safety knowledge

Q45. If you needed to check the latest information on how to store cooked rice safely (or something similar), where would you go to get this information? Please answer this question even if you do not cook rice. (Please select all that apply.)
Base: n=1,602



The most common references for “government website” (n=78) were:

- Ministry of Health or Health Department;
- Food Safety; and
- MPI.

Other responses (n=48) included:

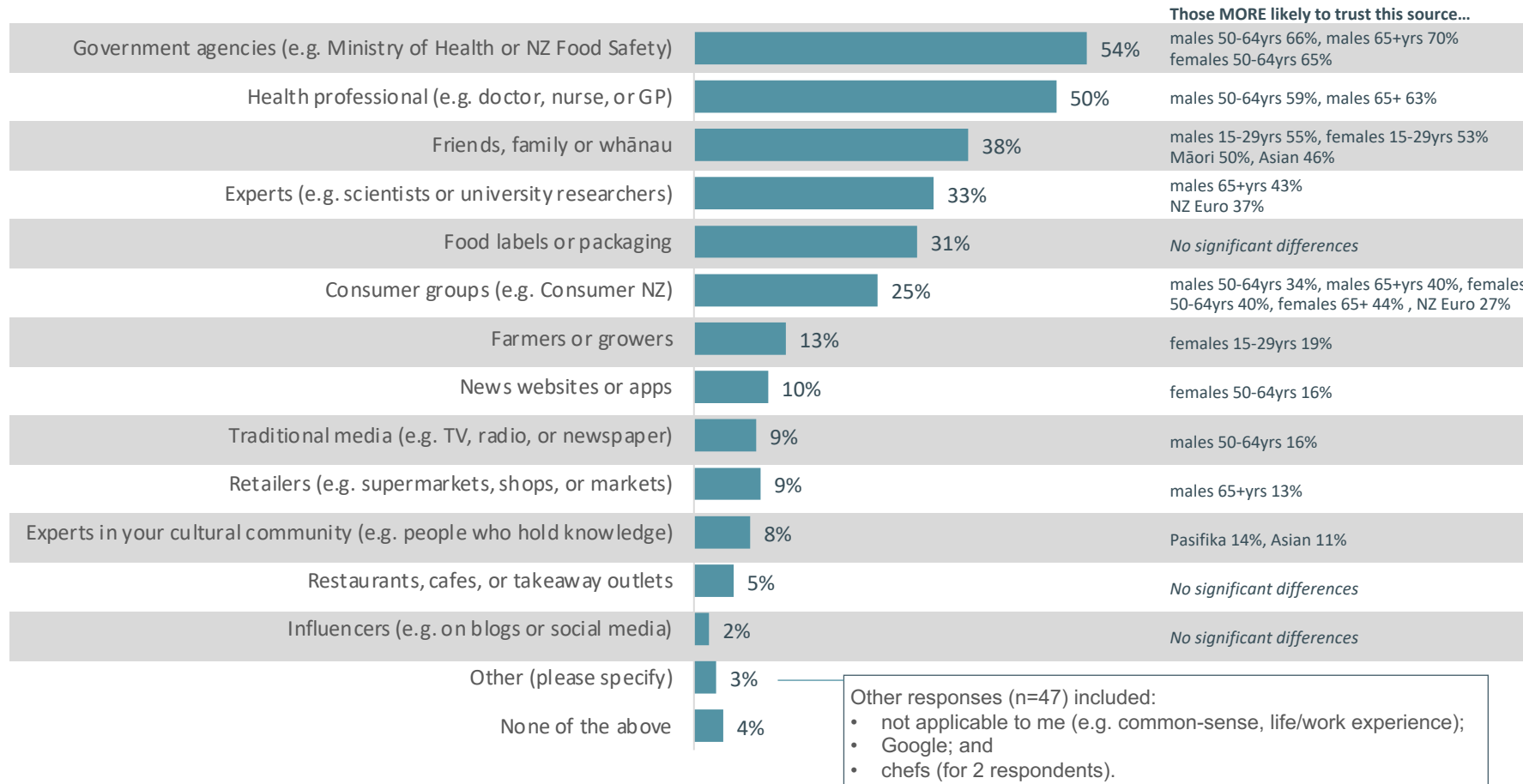
- not applicable to me (e.g. common-sense, I wouldn't look this up);
- package instructions;
- supermarket;
- local council;
- doctor;
- nutritionist; and
- Countdown online forum.

For information on handling food safely to avoid food poisoning, consumers (including Pasifika and Asian) are most likely to trust government agencies and health professionals. Māori are most likely to trust friends or whānau and health professionals.

Information sources: Trust the most for food safety information

Q46. For information on handling food safely to avoid food poisoning, which of the following sources would you trust the most? (Please select all that apply.)

Base: n=1,602



!!

Māori are most likely to trust:

- Friends, family or whānau (50%)
- Health professional (e.g. doctor, nurse, or GP) (44%)
- Government agencies (e.g. Ministry of Health or New Zealand Food Safety) (39%)
- Food labels or packaging (26%).

Pasifika are most likely to trust:

- Health professional (e.g. doctor, nurse, or GP) (52%)
- Government agencies (e.g. Ministry of Health or New Zealand Food Safety) (47%)
- Friends, family or whānau (42%)
- Food labels or packaging (34%).

Asians are most likely to trust:

- Government agencies (e.g. Ministry of Health or New Zealand Food Safety) (53%)
- Health professional (e.g. doctor, nurse, or GP) (49%)
- Friends, family or whānau (46%)
- Experts (e.g. scientists or university researchers) (30%)
- Food labels or packaging (30%).

The incidence of claimed food poisoning increased between 2020 & 2023 – from 9% to 15% of households. The incidence was higher for Pasifika, Māori and younger people. Core sources of information were GPs, internet searches and government websites.

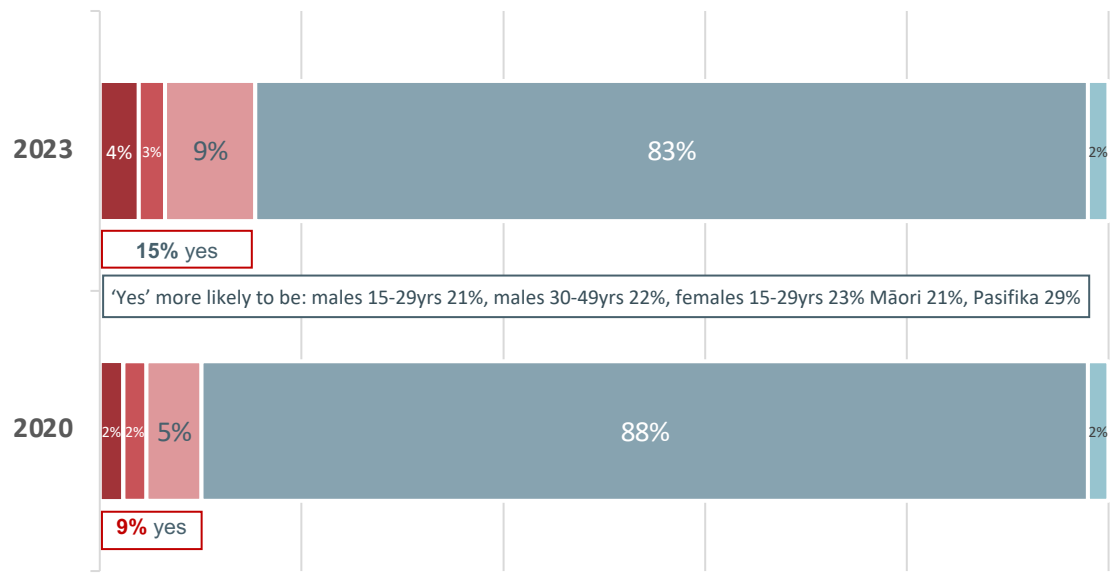
Food poisoning: Incidence

Q37. Have you or someone in your house had food poisoning (or something that was thought to be food poisoning) in the last six months (i.e. since 1 April 2023)? Note: Food poisoning is the result of eating food that has been incorrectly handled, stored or cooled. Symptoms of food poisoning can include abdominal pain, diarrhoea or vomiting, and can be mild (e.g. one case of diarrhoea or vomiting).

2020 question wording: Have you or someone in your house had food poisoning in the last six months?

Bases: n=1,602 in 2023, n=728 in 2020

- Yes – I/they saw a doctor and it was confirmed by a test
- Yes – I/they saw a doctor but it was not confirmed by a test
- Yes – I/they self-diagnosed it
- No – I don't think so
- Don't know

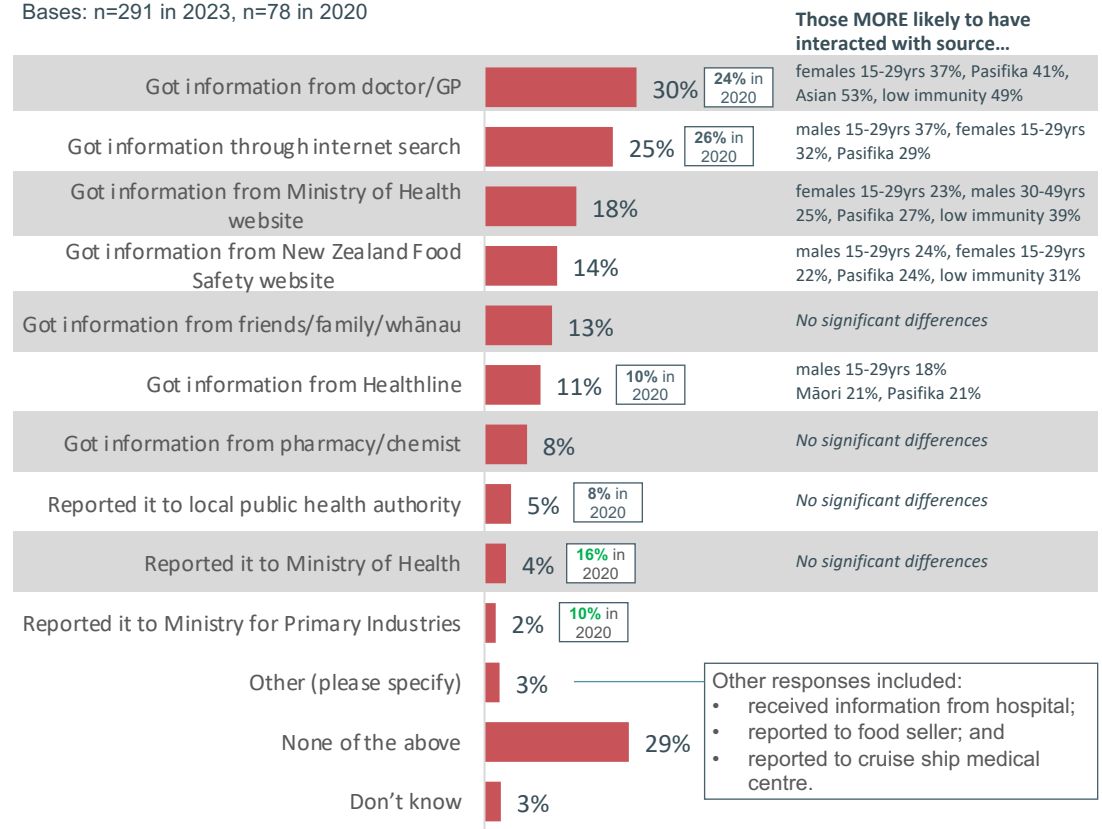


!!
 Younger people, Māori and Pasifika are more likely to have had food poisoning.

Food poisoning: Information sources & reporting

Q38. Did you/they get information from, or report the food poisoning to, any of the following? (Please select all that apply).

Bases: n=291 in 2023, n=78 in 2020



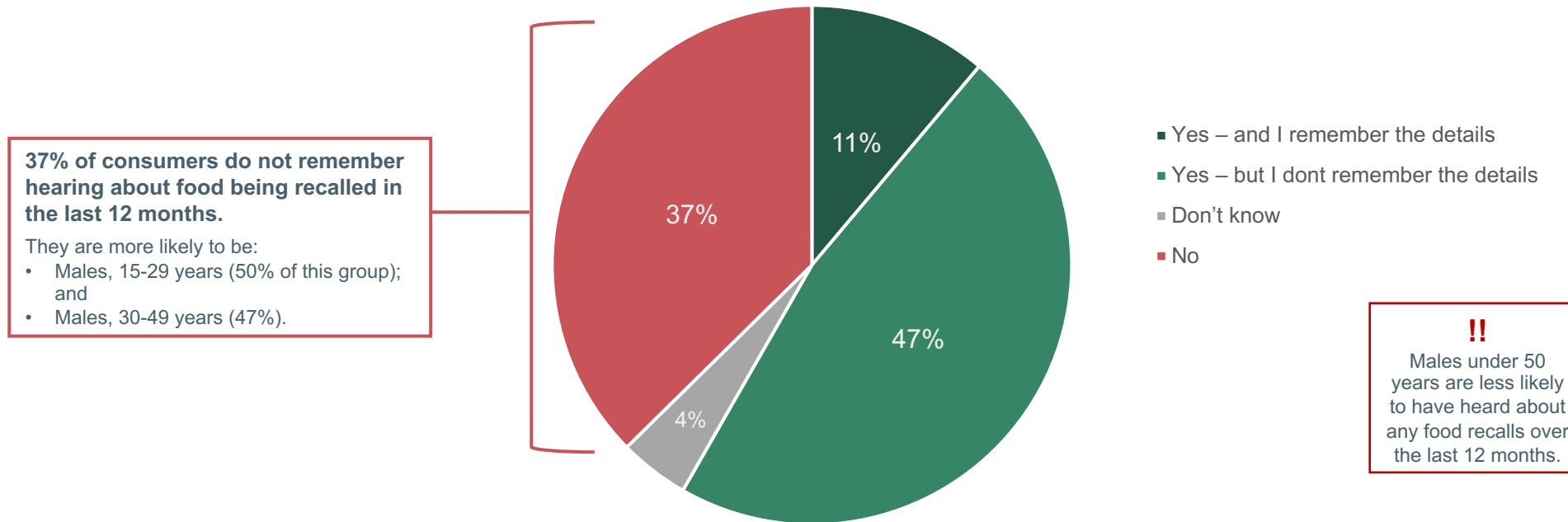
!!
 Younger people, Pasifika and those in households with low immunity members are more likely to have sought information from the range of different sources.

Most consumers remember hearing about food being recalled in the last 12 months.

Food recalls: Awareness

Q44: Do you remember hearing about any food being recalled in the past 12 months? A food recall is when an unsafe food product is removed from distribution and sale and returned to the manufacturer.
Base: n=1,037 (Asked of general public sample – not all booster samples)

Do you remembering hearing about any food being recalled in last 12 months?

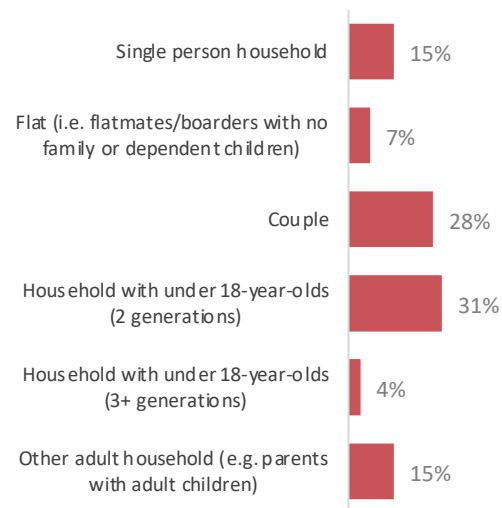


5. Population profiling

Household characteristics

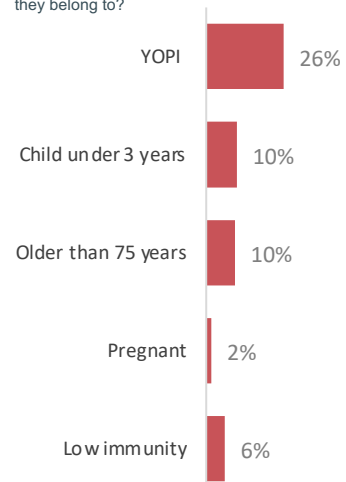
Household composition

Q48 recoded from question: Which of the following best describes who else lives in your household?



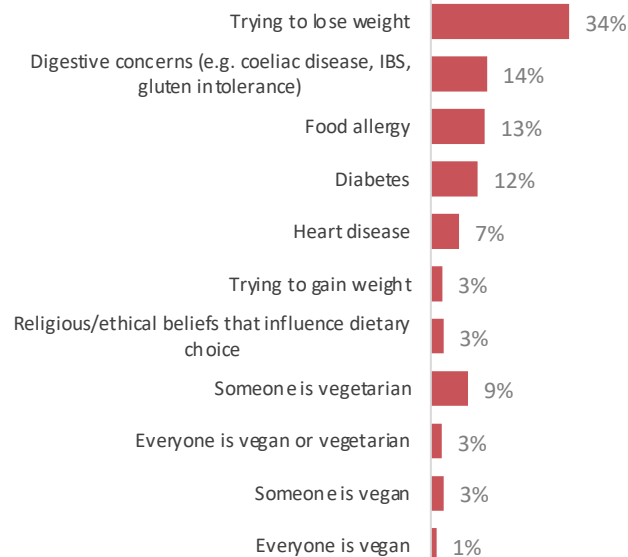
YOPI households

Q51. Do any of the following apply to you or any members of your household?
Q49. For the children in your household, which age groups do they belong to?



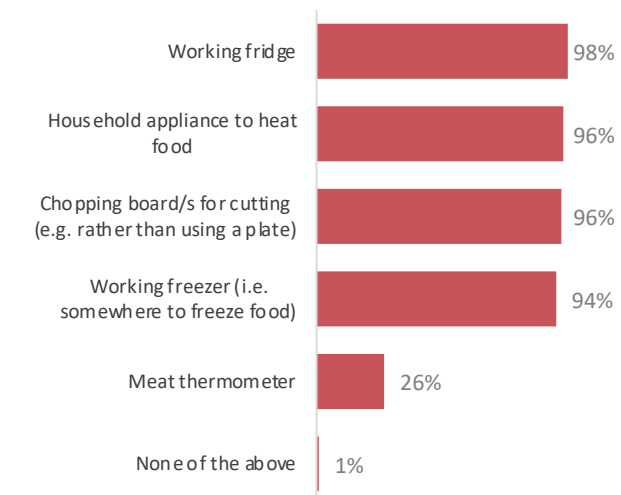
Household characteristics

Q51. Do any of the following apply to you or any members of your household? Q6. Is anyone in your household strictly vegan or vegetarian? (Noting that some vegetarians may eat fish or seafood.)



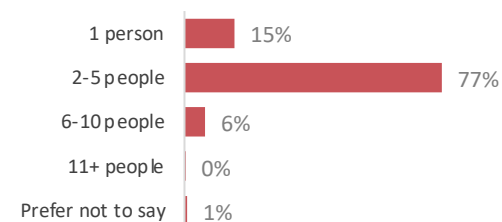
Household equipment

Q23. Does your household currently have the following? (Please select all that you have.)



people in household

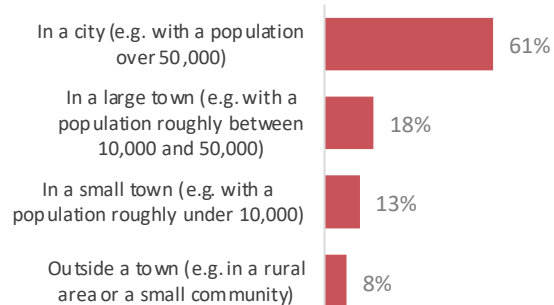
Q50 recoded. In total, how many people are usually living in your household?



Total sample n=1,602

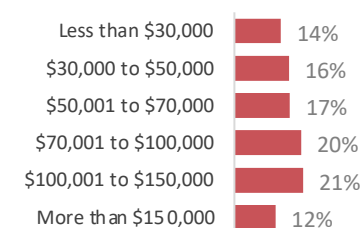
Location

Q52. Where do you live?



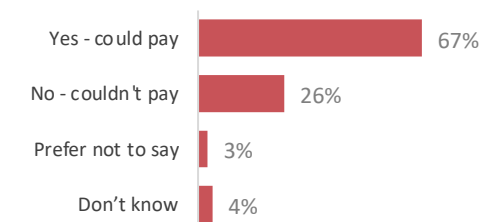
Household income

Q47. Which of the following best describes the total annual income of your whole household before tax? If you live in a flat or shared household, what is your personal total annual income?



Deprivation measure

Q53. If you had an unexpected and unavoidable expense of \$500 arise, could you pay it within a month without borrowing money?



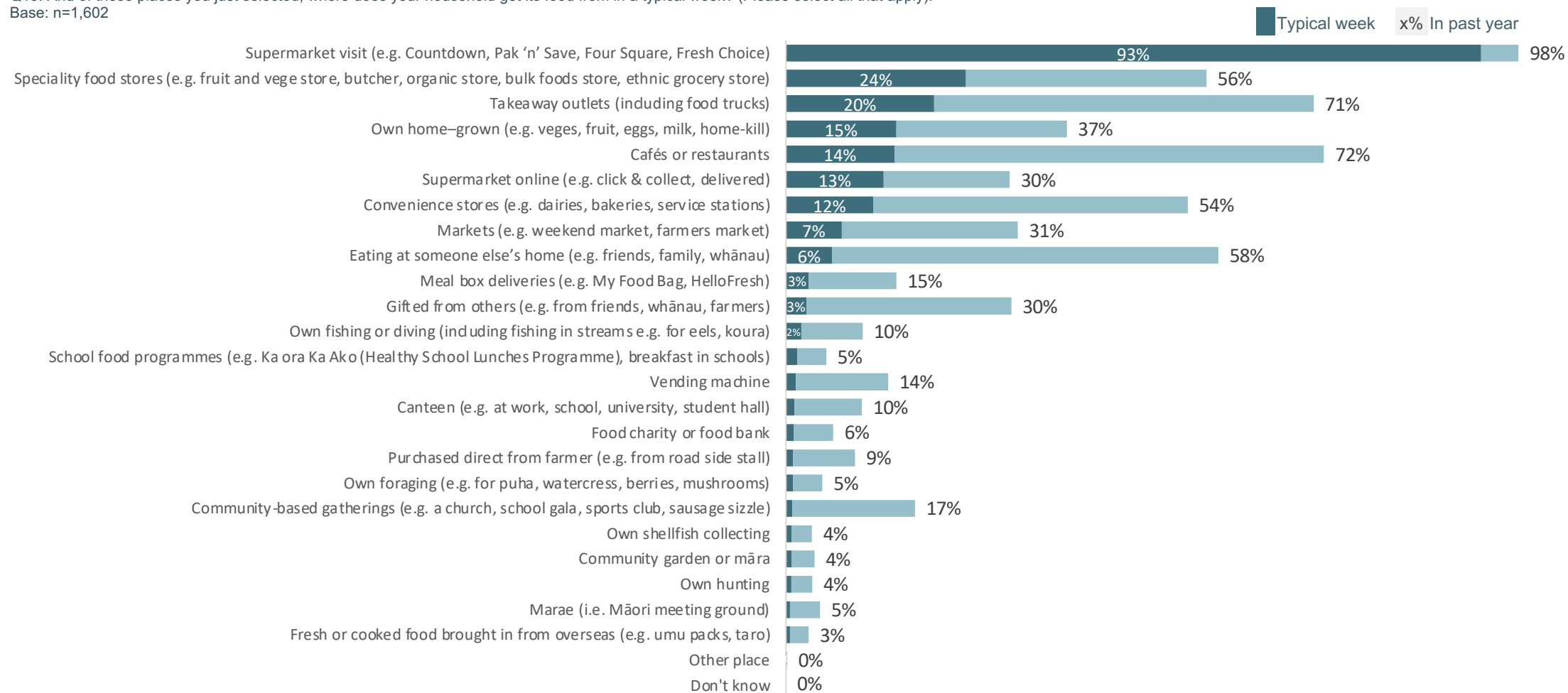
Household characteristics

Food sources

Q14. Where has anyone in your household got any food from over the last 12 months? Please include all sources, even if your household only got food from there a few times. (Please select all that apply).

Q15. And of those places you just selected, where does your household get its food from in a typical week? (Please select all that apply).

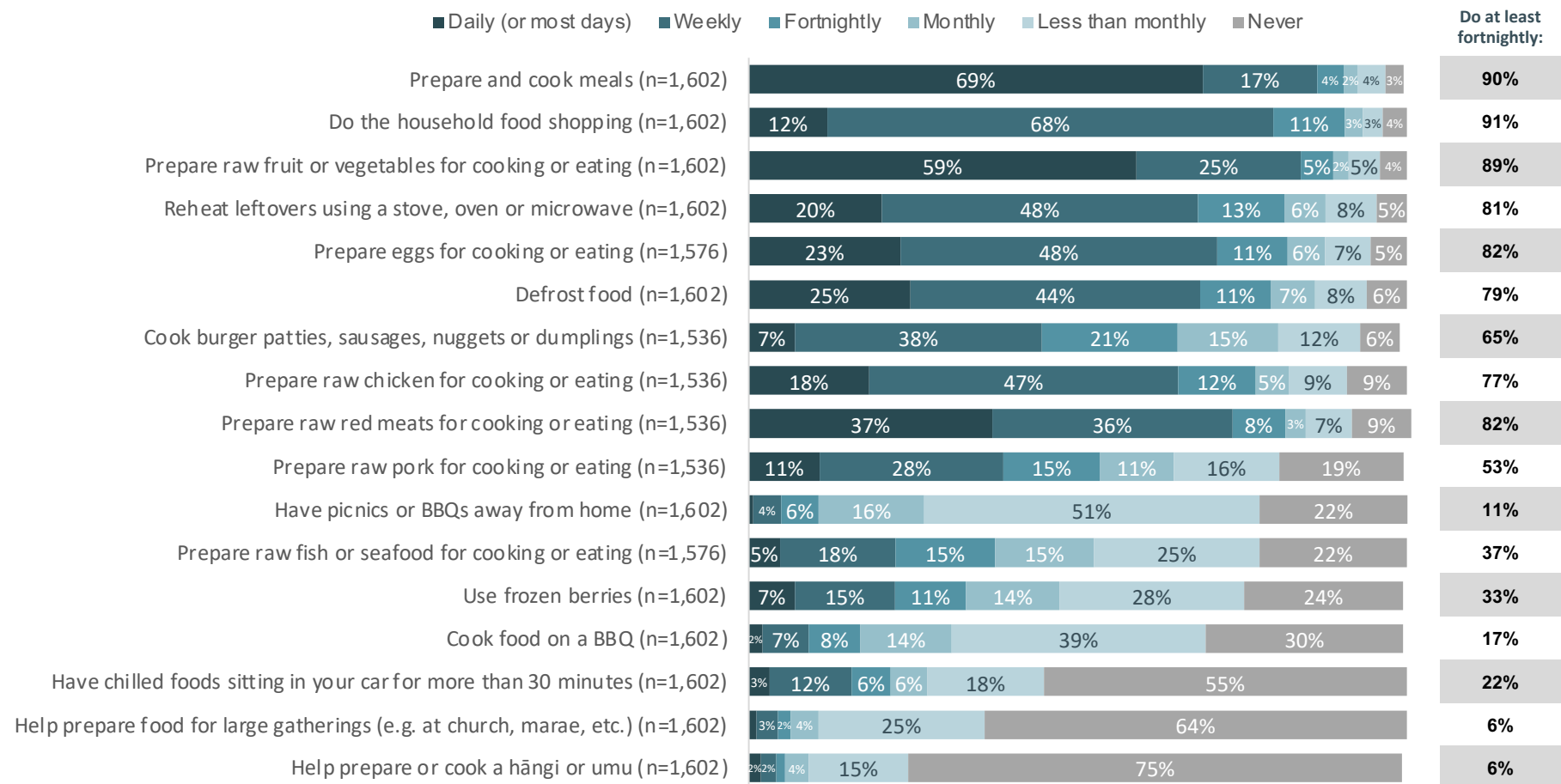
Base: n=1,602



Consumer characteristics

Frequency of food related activities

Q22. On average, how often do you personally ...
 Bases: n=1,602 (total sample), n=1,576 (non-vegan households), n=1,536 (non-vegetarian households)



**Further details on
research approach & processes**

Further details on research approach and processes



This section provides further details on the research approach and processes, in addition to what is provided on page 8 of this report.

Te Reo Māori survey questionnaire

Respondents who participated in the survey had the opportunity to complete the survey in Te Reo Māori. The Translation Service at Te Tari Taiwhenua | Department of Internal Affairs translated the survey questionnaire into Te Reo. The translation was tested with a cognitive testing interview.

One respondent completed the entire survey in Te Reo Māori. Two respondents completed the upfront demographic questions in Te Reo Māori and then used the English language questionnaire for the rest of the survey. This experience suggests that respondents who were fluent in Te Reo Māori and English were happy to use the English language version of the online survey questionnaire.

Cognitive testing

We carried out ten cognitive test interviews during questionnaire development help refine question wording, including:

- nine interviews in English (with participants of a range of ages and gender) with:
 - two Māori
 - three Pasifika
 - two Asian (one Chinese and one Indian)
 - two New Zealand European; and
- one interview in Te Reo Māori.

The cognitive testing interviews were conducted over Zoom and took one hour. Participants were offered \$80 for their time and any expenses. The results from the cognitive testing interviews were provided to NZFS with suggested edits to question wording and the rationale for each.

Including 15- to 17-year-olds

We collected survey responses from consumers aged 15- to 17-years. To recruit these respondents, we asked research panel members who were parents of children in this age group if they would be happy to pass their survey on to their 15- to 17-year-old. We recruited a total of 60 15- to 17-year-olds.

Supporting documents

Along with this report, we have provided with a raw datafile and data dictionary, crosstabulations of the survey question response percentages by profiling variables, and an Excel workbook containing respondents' verbatim comments to the open response questions in the survey.

Pros and cons of online surveys

Online surveys are a cost-effective way of gaining a large sample of responses from the general public and groups which are large enough within the population (e.g. main ethnic groups, age groups, gender groups, regions, and so on). General public online research panels are typically used for general public online surveys. Those who are on the large general public panels in New Zealand can read and write in English, are comfortable using online devices (e.g. phone, tablet, laptop, computer) and have access to online devices and an internet service. To survey groups in the population who may not read and write in English we have access to other panels (e.g. new immigrant Asian panels) and can translate the survey into the languages required. To survey groups in the population who are not comfortable using online devices, do not have access to an online device or internet service, or just prefer not to be online, these groups are better surveyed with either phone, face-to-face, or hard copy interactions.

Further details on research approach and processes (continued)



Accounting for sampling design effects

The quota sampling design used in this research inflated the margin of error associated with the survey compared to a simple random population sample. The expected impact of a sampling design on the variance of the population estimates is known as a 'design effect'.

The design effect for this survey was about 1.4. The maximum margin of error for the survey is $\pm 2.9\%$ at a 95% confidence interval, compared to $\pm 2.4\%$ for a simple random sample.

To calculate more accurate standard errors with which to determine differences between sub-groups members, we scaled the sampling weights by the survey design effect.

How we scaled the sampling weights by the survey design effect

- We calculated weights for each respondent based on population proportions taken from the 2018 New Zealand census. We calculated the weights using Thomas Lumley's [R 'survey' package](#) (v. 4.2-1) with rim weighting, based on age (3 groups), gender (2 groups), ethnicity (4 groups) and strata (3 groups) variables. The three strata groups included the main sample, the Māori booster sample, and the Pasifika booster sample.
- Based on the weights, we then calculated an 'effective sample size' (or effective base) of 1,177 for the survey. The effective sample size is an estimate of the sample size needed for the same level of statistical precision as a simple random sample.
- We then scaled down each respondent's sample weight according to the ratio of the effective sample size to the sum of the original weights (1,602).

We collected booster samples for the Māori and Pasifika sub-population groups. The final sample sizes for the ethnic sub-groups (where a respondent could identify with more than one ethnicity) were:

- Māori: n = 414;
- Pasifika: n = 403;
- Asian: n = 172.

Re-scaling the sampling weights resulted in the following equivalent sample sizes for the following ethnic sub-groups:

- Māori: n = 174;
- Pasifika: n = 83; and
- Asian: n = 184.

We used these group sizes in tests of statistical differences between the ethnic sub-groups.



If you have any questions about this research, please contact us.

Penny Turner or Matt Benson
www.thenavigators.co.nz
penny.turner@thenavigators.co.nz