



FOLIC ACID FORTIFICATION: CONSUMERS' ATTITUDES AND BEHAVIOURS

REPORT SEPTEMBER 2017



Background

THE NEED FOR THE RESEARCH:

Consumption of adequate amounts of folic acid, a B vitamin, one month before and three months after conception significantly reduces the risk of neural tube defects such as spina bifida.

Women who are planning a pregnancy or are pregnant can take a supplement to obtain the recommended levels of folic acid. However, around 40% of pregnancies in New Zealand are unplanned, so a significant number of women do not take a supplement at the critical time. Fortification of foods with folic acid is therefore part of the public health strategy along with supplementation and education to increase folate intakes in women of child-bearing age.

Voluntary fortification of bread with folic acid has been encouraged in New Zealand since 2012. A survey conducted in 2011 suggested that most New Zealanders did **not** support the idea of moving towards mandatory fortification of bread with folic acid. The Ministry for Primary Industries (MPI) is interested in reassessing public views in 2017.

OBJECTIVES:

MPI is using the research to find out about:

- Bread consumption (type and quantity)
- Attitudes towards fortification of bread with folic acid
- Attitudes towards fortification of food with vitamins and minerals
- Purchase intention with respect to products containing folic acid
- Demographics (particularly a gender and age split)

Methodology (i)

RESEARCH DEVELOPED IN COLLABORATION WITH MPI'S RESEARCH AND EVALUATION TEAM AND MPI'S FOOD POLICY TEAM

2,000

ONLINE SURVEYS OF 5 MINUTE DURATION*



FIELDWORK DATES:
2 TO 25 JUNE 2017

TARGET POPULATION

New Zealand adults aged 16+

QUESTIONNAIRE DESIGN

Colmar Brunton worked closely with MPI and sought peer review from MPI.

To determine the impact of question-wording on answers, half of respondents were shown some questions with the words 'folic acid' and the other half were shown the same questions but with the words 'an essential B vitamin, folic acid' instead.

SAMPLING & WEIGHTING

A broadly representative sample was drawn from Colmar Brunton's online research panel (which contains over 200,000 New Zealanders). The initial sample was broadly representative of the 16+ New Zealand population by age, gender, location, education and income. We set a fieldwork quota to ensure a broadly representative proportion of non-university qualified respondents entered the survey.

The final sample size of 2,000 contained a deliberate boost of women of child-bearing age (to ensure n=1,000 women aged 16-44, so that the views of this important subgroup could be analysed with confidence). Corrective weighting to adjust for this boost was applied to the final sample.

The overall response rate was 32% (meaning that the survey was sent out to 6,250 panellists). As often happens in surveys, different groups of the population responded at different rates. The response rate among young men, Maori and Pacific, was slightly lower than average. Corrective weighting was required to adjust for this non-response.

COMPARISON TO PREVIOUS RESULTS

Key questions on attitudes to folic acid fortification (described on the next slide) are compared with the same questions asked in a survey conducted in 2011: *Consumers' awareness, attitudes and behaviours towards food fortification in Australia and New Zealand – December 2013, conducted by Newspoll and Consumer Link for Food Standards Australia New Zealand (FSANZ)*.

The survey conducted in 2011 used a telephone methodology, whereas the 2017 survey used an online methodology. This could result in unquantifiable differences in how people respond (the former uses an interviewer-completion method whereas the latter uses a self-completion method).

However, the wording of the questions and target population (i.e. adults aged 16+) remained the same, which facilitates comparisons between 2011 and 2017.

SAMPLING ERROR AND SIGNIFICANCE TESTING

+/- 2.2% margin of error for the total sample of 2,000.

All differences are statistically significant at the 95% confidence level. The software package in which the results were analysed uses 'Test of Proportion' to determine statistical significance.

DATA

Results in the charts are shown to 1 decimal place – this may involve rounding (for example, 6.4% would be referred to as 'six percent').

Methodology (ii)

- KEY QUESTIONS ON FOLIC ACID FORTIFICATION WHICH WERE USED IN THE SURVEY CONDUCTED IN 2011 AND THIS SURVEY (IN 2017):

Q4a Folic acid, sometimes known as folate can be added to bread. The reason bread would have folic acid added to it is to reduce the risk of babies being born with neural tube defects like spina bifida. Knowing this, would you say...?

- It should be compulsory for manufacturers to add folic acid to all bread
- It should be optional for manufacturers to add folic acid to bread
- It's difficult to decide either way
- Or, you don't care either way

Q5 Is the strength of your opinion on this...?

- *Very strong*
- *Somewhat strong*
- *Or, not at all strong*

The findings to these questions are described on Slides 14-15.



Bread consumption



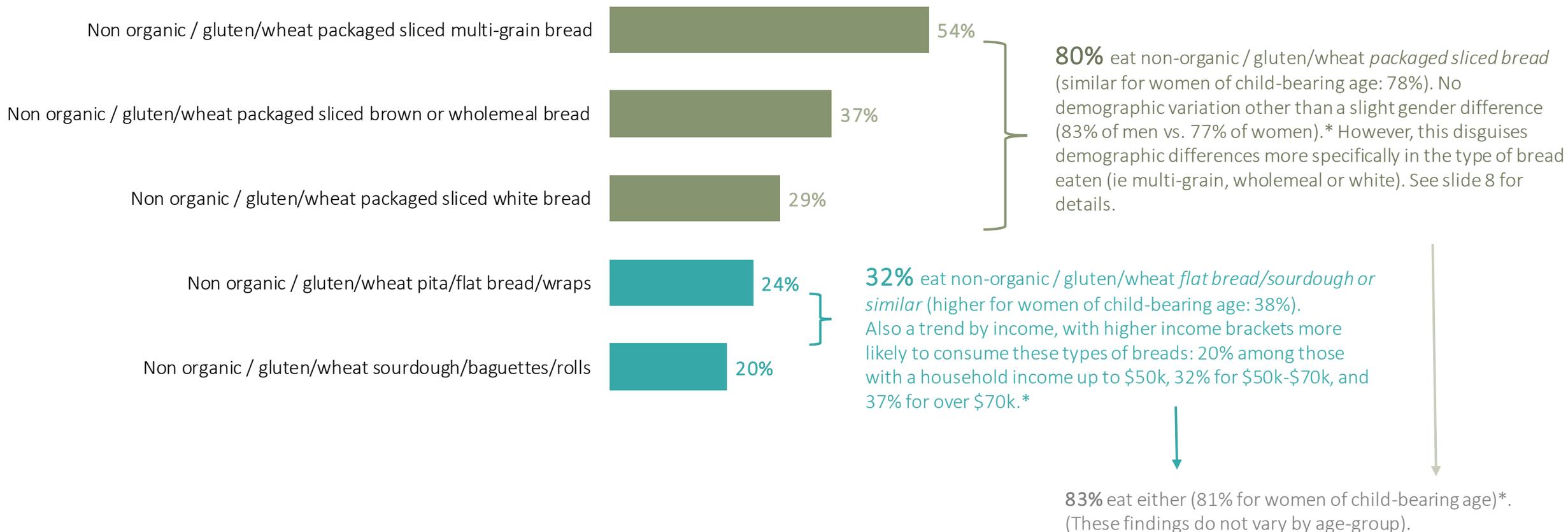


People eat a range of breads (on average eating at least two types). A full break down of responses is provided on the following slide.

8 in 10 eat non-organic **packaged sliced bread** containing wheat/gluten (these breads may contain folic acid and the bread industry has a code of practice that encourage this fortification). The tendency to eat these breads does not vary for women of child-bearing age.

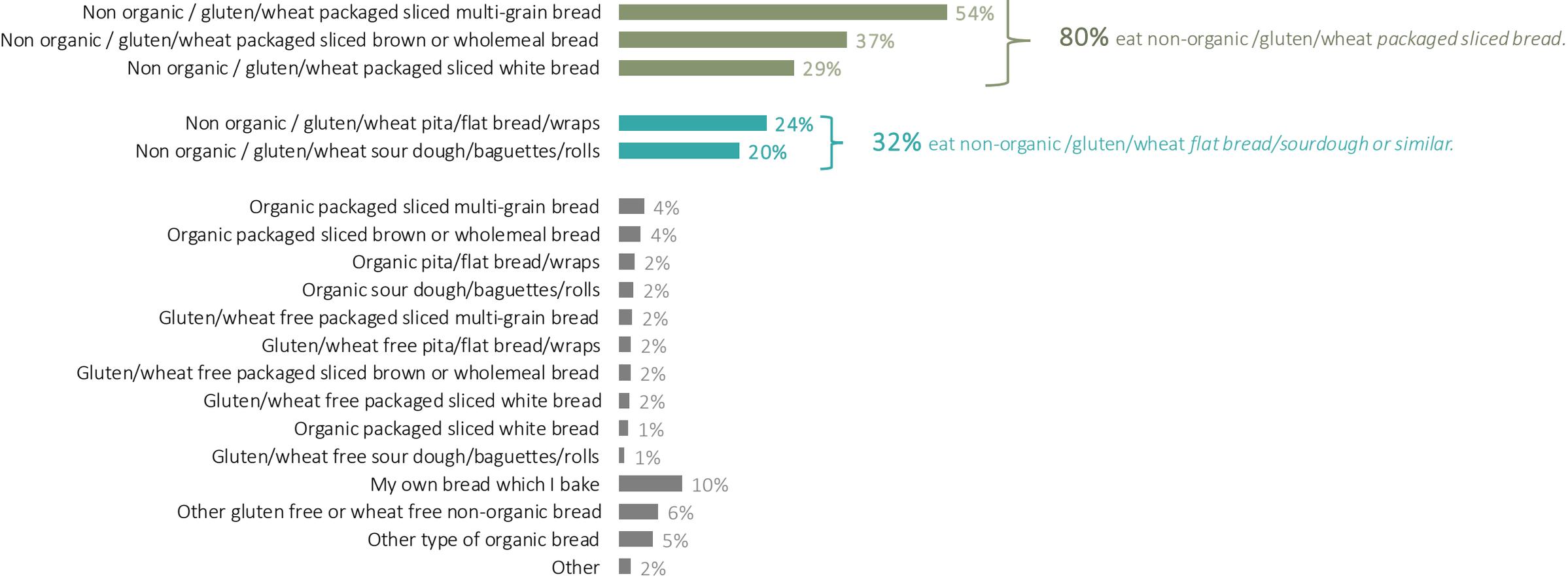
3 in 10 eat non-organic **pita/flat/sourdough/baguettes** containing wheat/gluten (higher among women of child-bearing age). However, this type of bread is eaten infrequently (see slide 9). Non-organic pita/flat/sourdough/baguettes are permitted to contain folic acid, but there is no industry code of practice to encourage fortification of these breads.

Type of bread eaten



A full break down of the type of breads eaten by respondents is provided below.

Type of bread eaten



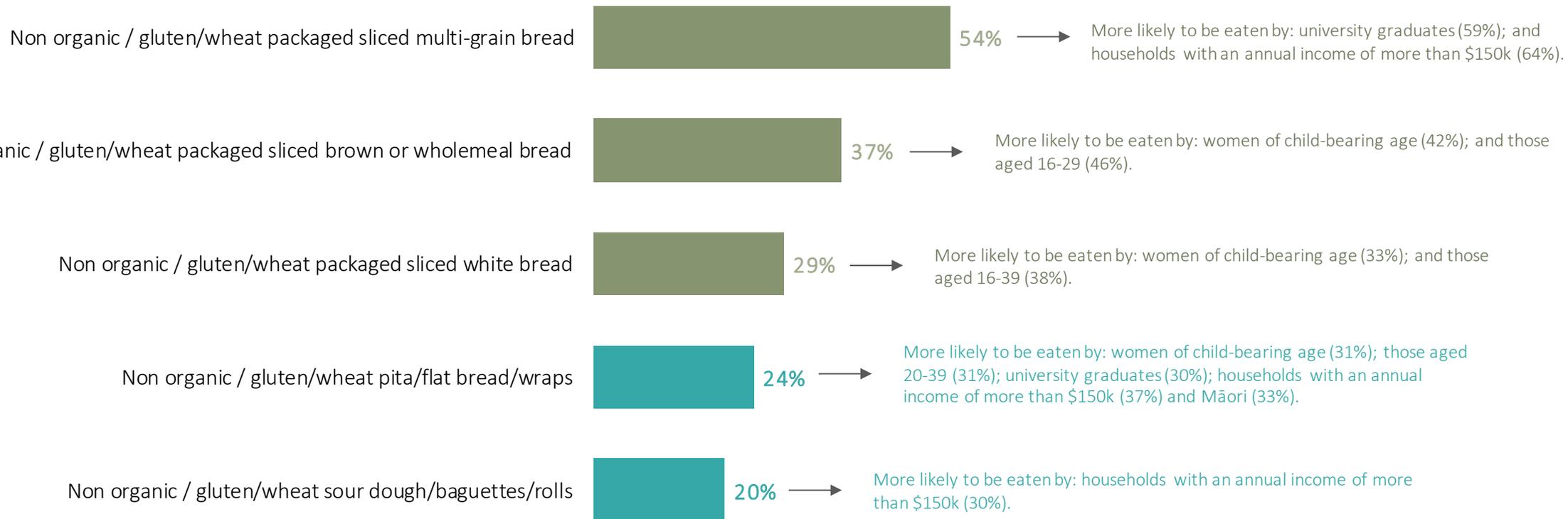
Source: Q1 - What type of bread/s do you mostly eat? And Q2 - You mentioned that you eat the following types of bread. For each, can you tell us if you mostly eat organic, gluten-free/wheat-free, or neither? Base: All respondents (n=2,000)

* - note these 'net' categories include a small proportion of people who are unsure if their bread is organic / gluten free or not (on the assumption that they are probably eating generic varieties) – without this assumption the percentages are slightly lower.



Details of how consumption of different types of bread varies by demographic group is provided below.

Type of bread eaten



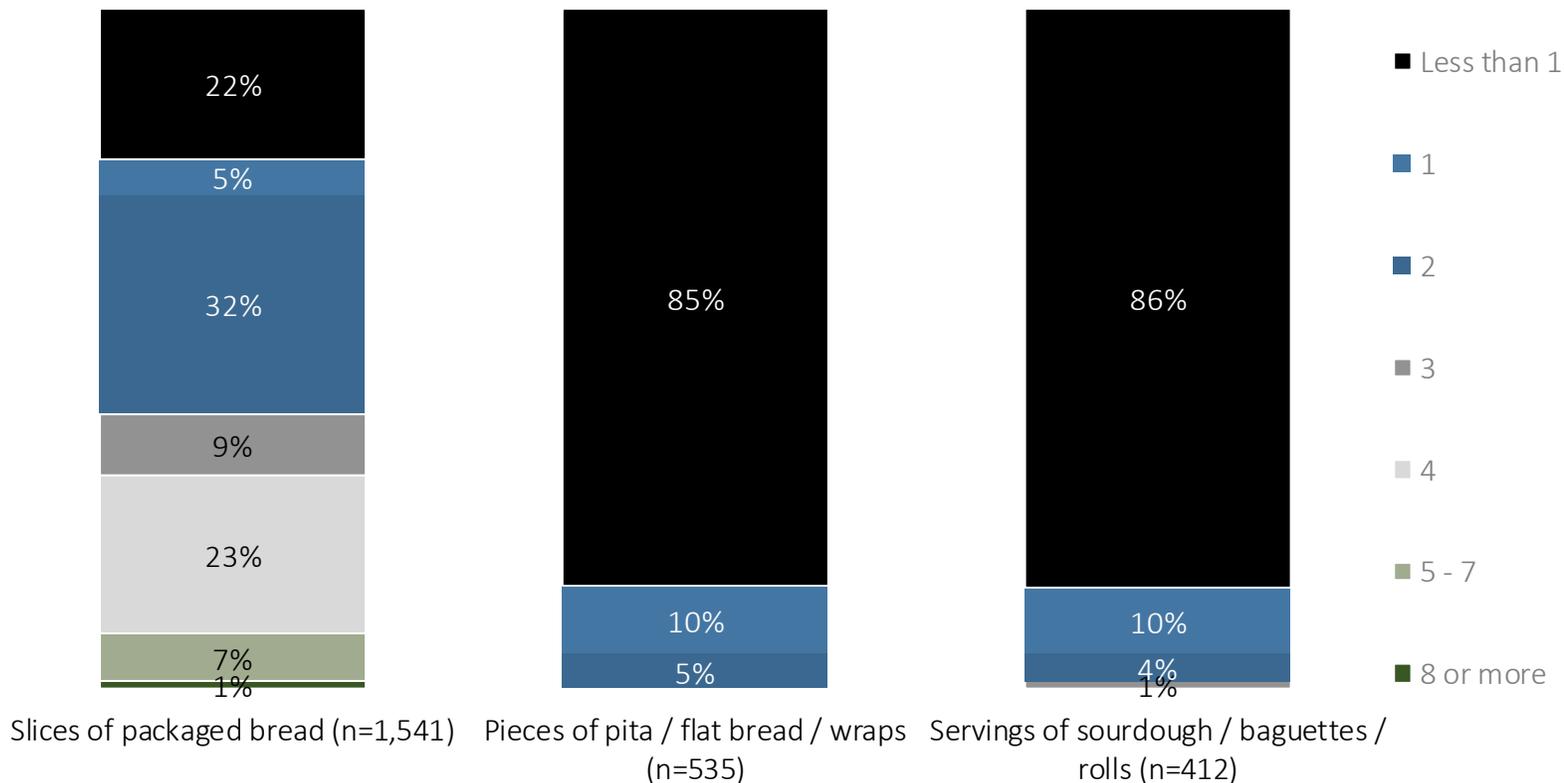
Source: Q1 - What type of bread/s do you mostly eat? And Q2 - You mentioned that you eat the following types of bread. For each, can you tell us if you mostly eat organic, gluten-free/wheat-free, or neither? Base: All respondents (n=2,000)

* - note these 'net' categories include a small proportion of people who are unsure if their bread is organic / gluten free or not (on the assumption that they are probably eating generic varieties) – without this assumption the percentages are slightly lower.



On average, those who eat packaged sliced bread (which is non-organic and contains wheat/gluten) eat 2.5 slices per day. The equivalent frequency is much lower for pita/flat breads and sourdough/baguettes (around 0.6 pieces per day – similar for women of child-bearing age).

Number eaten per day (non-organic & containing wheat/gluten – excluding 'don't know' frequency)



Source: Q3, Q3b and Q3c. About how many do you eat in an average day?

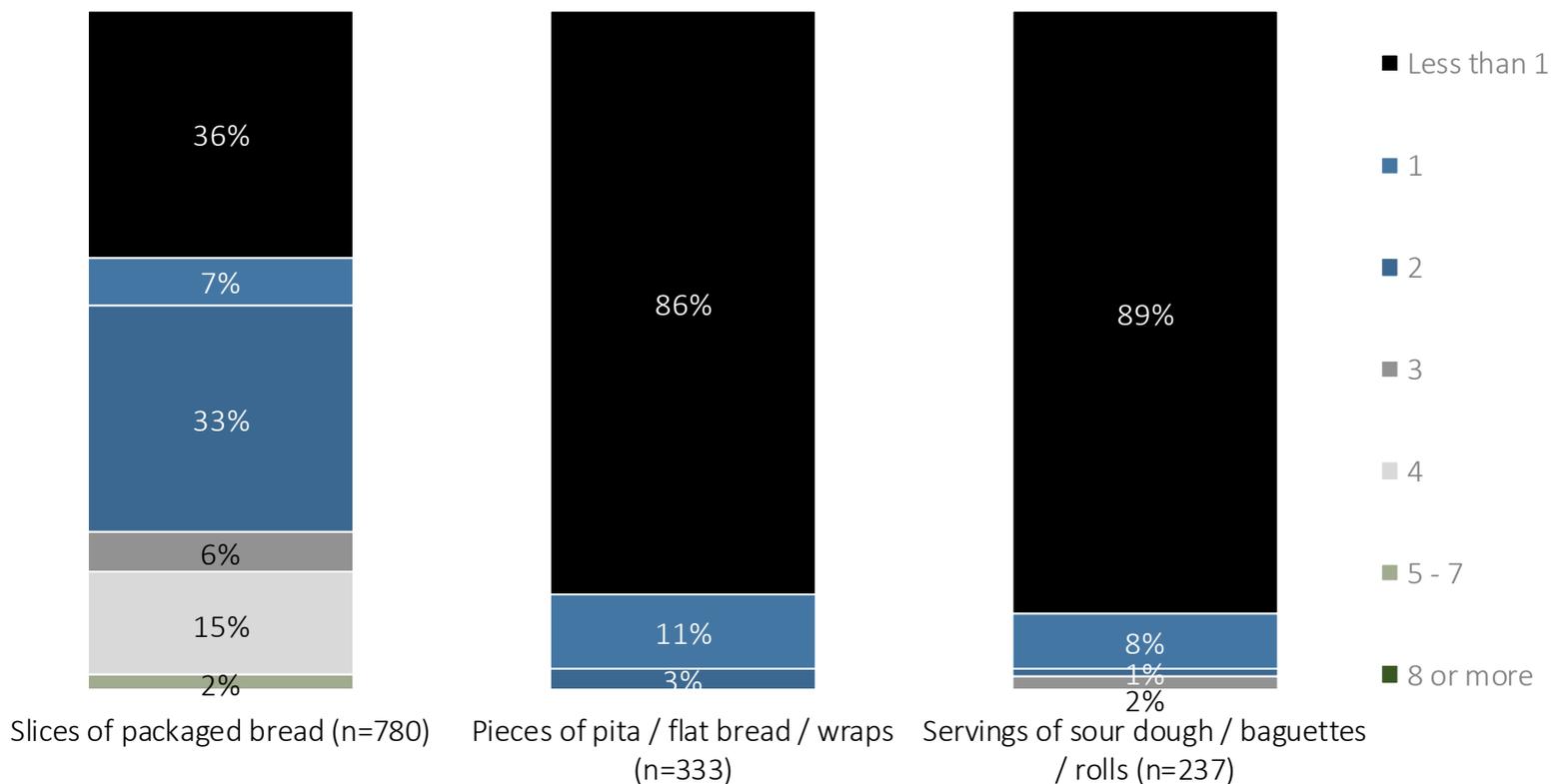
Base: All those eating non-organic breads which contain wheat/gluten, excluding those who say 'don't know' or 'other' to frequency at Q3 (refer to chart for base sizes) but we include those who are uncertain about the organic / gluten-free status of their breads on the assumption that they are probably eating generic varieties.

Frequency is calculated assuming that less than one a day is 0.5, and that five-to-seven is 6, and that eight or more is 9, then the average is 2.5 for sliced bread (2.6 for white, 2.1 for brown or wholemeal, 2.7 for multigrain) and 0.6 for both pita and sourdough. (All based on non-organic / wheat/gluten breads only).



Women of child-bearing age eat packaged sliced bread (which is non-organic and contains wheat/gluten) at a lower rate than the general public. On average they eat 1.9 slices compared to 2.5 slices for the general population.

*Number eaten per day (non-organic & containing wheat/gluten – excluding ‘don’t know’ frequency)
Women of child-bearing age only*



Source: Q3, Q3b and Q3c. About how many do you eat in an average day?

Base: All women of child-bearing age eating non-organic breads which contain wheat/gluten, excluding those who say ‘don’t know’ or ‘other’ to frequency at Q3 (refer to chart for base sizes) but we include those who are uncertain about the organic / gluten-free status of their breads on the assumption that they are probably eating generic varieties. (All based on non-organic / wheat/gluten breads only).

Women of child-bearing age eat less bread that is likely to be fortified with folic acid compared to the general population.

As the last two slides show, a sizeable group of the population eat bread infrequently (i.e. less than once per day). By filtering these respondents out, we can examine the **proportion of people who say they eat at least one slice/piece of fortifiable bread per day** (62% of the general population and 51% of women of child-bearing age). The table below also shows the proportion of high-frequency consumers of fortifiable bread (which is under a quarter of the general population – and lower for women of child-bearing age).

Group	% eat at least ONE slice of non-organic / wheat/gluten packaged sliced bread per day	% eat at least ONE piece of non-organic / wheat/gluten pita/flat bread or sourdough baguette per day	% eat at least ONE slice/piece of either per day	% eat at least FOUR slices of non-organic / wheat/gluten packaged sliced bread per day (note: less than 1% eat pita/sourdough 4+ times a day)
All public (n=2,000)	60%	4%	62%	24%
Women of child-bearing age (n=1,000)	49%	4%	51%	13%
Household income up to \$70,000 (n=740)	63%	3%	65%	29%
Household income over \$70,000 (n=892)	58%	4%	61%	22%

Source: Q3, Q3b and Q3c. About how many do you eat in an average day?

Base: subgroup base size in table. Note that those who 'don't know' their frequency are counted in the denominator.

Note: we include those who are uncertain about the organic / gluten-free status of their breads on the assumption that they are probably eating generic varieties. Note that unlike the last slide those who say 'other' or 'don't know' to frequency are counted in the denominator so that the numerator only includes those who state a frequency.



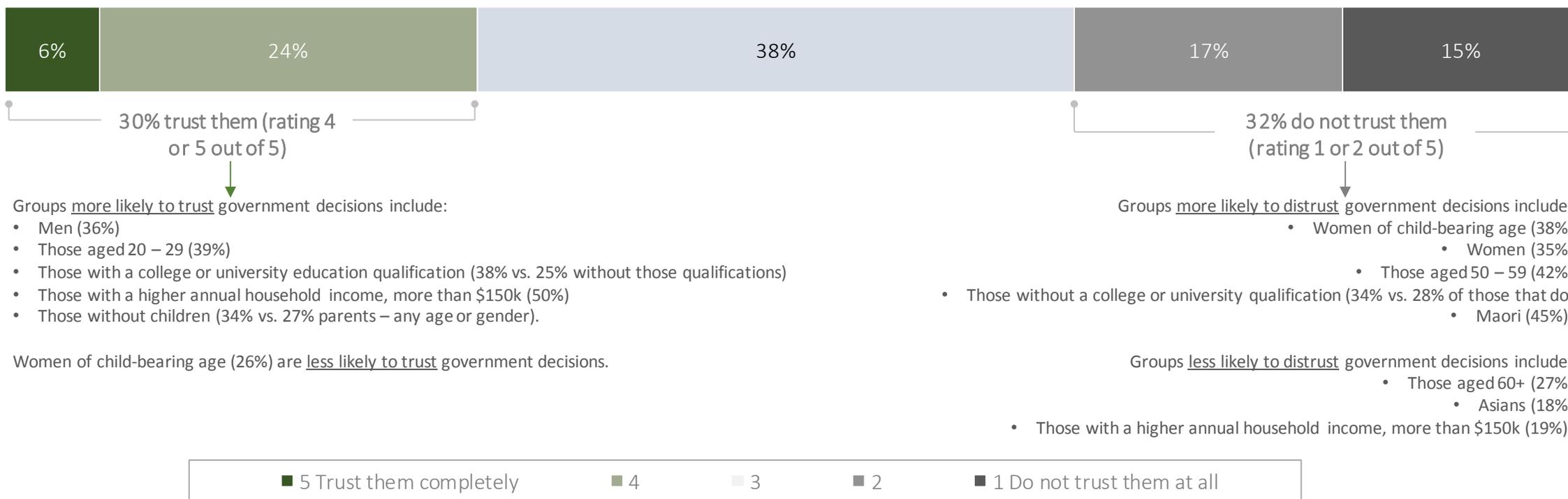
Attitudes towards fortification





The New Zealand public are evenly split regarding trust in government decisions about food fortification in general. Roughly a third trust government decisions to compel manufacturers to add particular vitamins or minerals to food (if research suggests there are health benefits). A third do not trust government, and a third are neutral. Women of child-bearing age are slightly more distrustful (38% do not trust government) as are people aged 50-59 (which is different from the older cohort aged 60+ who are more trusting).

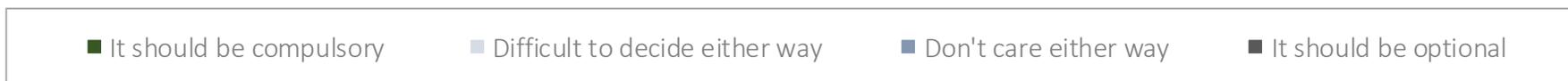
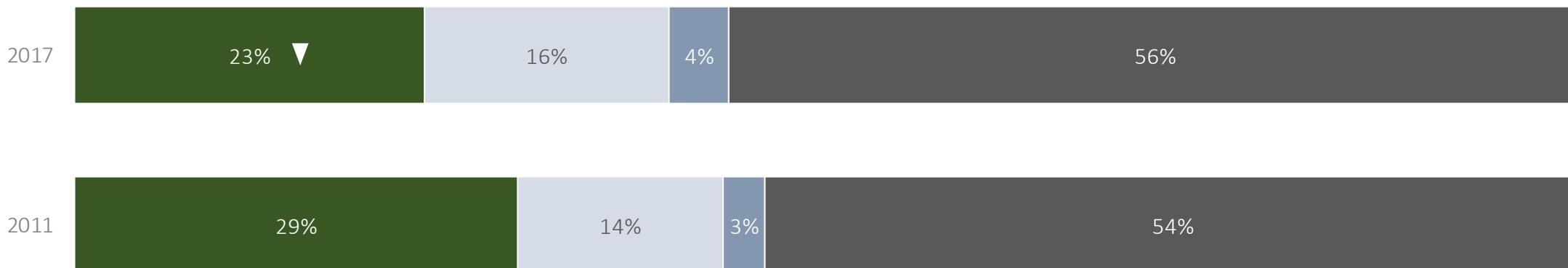
General trust in government decisions



Just under a quarter of New Zealanders believe that adding folic acid to bread should be compulsory, while over half think it should be optional (see question wording at bottom of slide). Support for compulsory fortification of bread has decreased by 6 percentage points since 2011. Even some of those who trust government decisions on food fortification (see last slide) oppose mandatory fortification of bread with folic acid. Views differ by demographic subgroup (see Slide 17 for details).



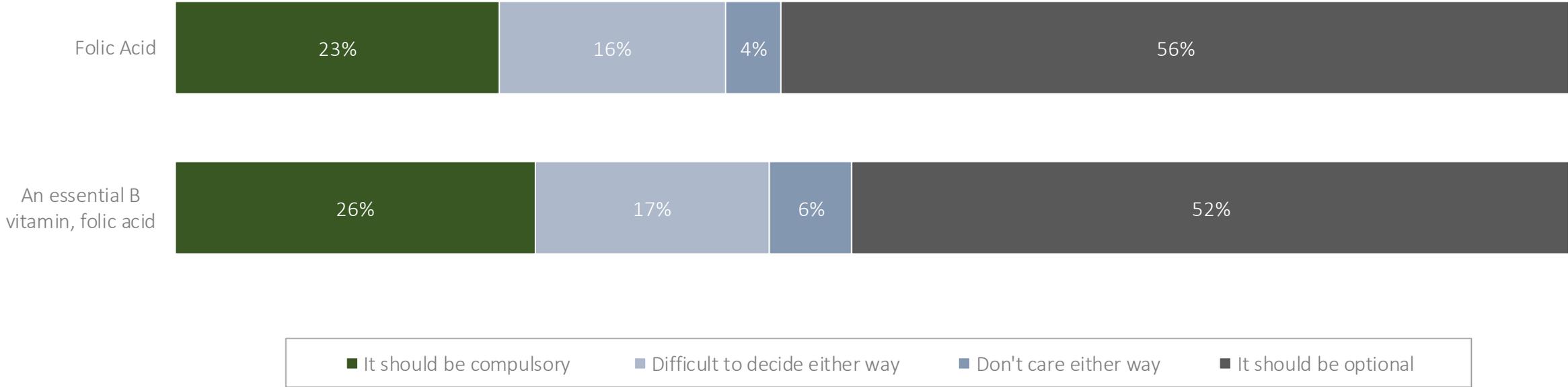
Attitudes to fortification of bread with folic acid



▲ Significantly higher or lower than 2011
▼ (at the 95% level of confidence)

We swapped the words 'folic acid' with 'an essential B vitamin, folic acid' for half of respondents (one half were asked for their attitudes towards fortification of bread with 'folic acid' and the other half were asked for their attitudes towards the fortification of bread with 'an essential B vitamin, folic acid'). There is no significant difference in attitudes according to the terms used.

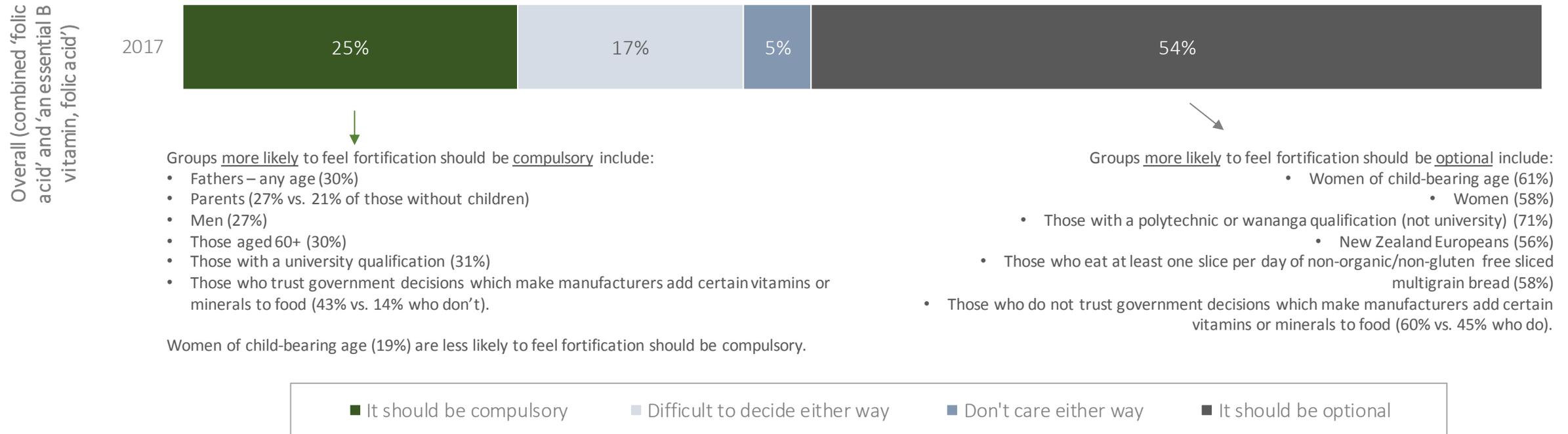
*Attitudes to fortification of bread
Comparing use of the words 'folic acid' vs. 'an essential B vitamin, folic acid'*



Note: There is no significant difference in 'strength of feeling' among those asked about 'an essential B vitamin, folic acid' (rather than 'folic acid').

By combining those who were asked about 'folic acid' and those asked about 'an essential B vitamin, folic acid' (to increase our sample size for more robust subgroup analysis), it is apparent that certain groups, including men and people aged over 60, are more likely to believe fortification of bread should be compulsory. In contrast, women of child-bearing age are more likely to believe that it should be optional (61%), as are those who do not trust government decisions on fortification (60%). There are different views among different subgroups (explained below and in a table on the next slide).

Attitudes to fortification of bread



Note: that the subgroup trends do not vary much by whether respondents were asked about 'folic acid' or about 'an essential B vitamin, folic acid'.

The table below shows different attitudes by subgroup (based on total sample of 2,000 including those who were asked about 'folic acid' and those who were asked about 'an essential B vitamin, folic acid'). Those groups which are significantly higher than the total are shown in green.



	Total (n=2,000)	Women aged 16-44 (n=1000)	Mothers aged 16-44 (n=476)	Women currently pregnant (n=42)	Fathers (any age) (n=376)	Fathers with currently pregnant partner (any age) (n=23)	Parents (any age or gender) (n=1142)	Parents currently pregnant (any age or gender) (n=65)	Women (n=1366)	Men (n=628)	Birth parent to any child (n=1142)	Not parent to any child (n=833)	Expecting a child in next 8 months (n=65)	Not expecting a child in next 8 months (n=1514)
Compulsory	25%	19%	19%	30%	30%	36%	27%	33%	22%	27%	27%	21%	33%	24%
Optional	54%	61%	58%	41%	50%	60%	53%	52%	58%	49%	53%	55%	52%	53%
Difficult to decide either way	17%	14%	17%	24%	15%	0%	16%	11%	16%	18%	16%	18%	11%	17%
Don't care either way	5%	6%	7%	5%	5%	4%	4%	4%	4%	6%	4%	6%	4%	6%

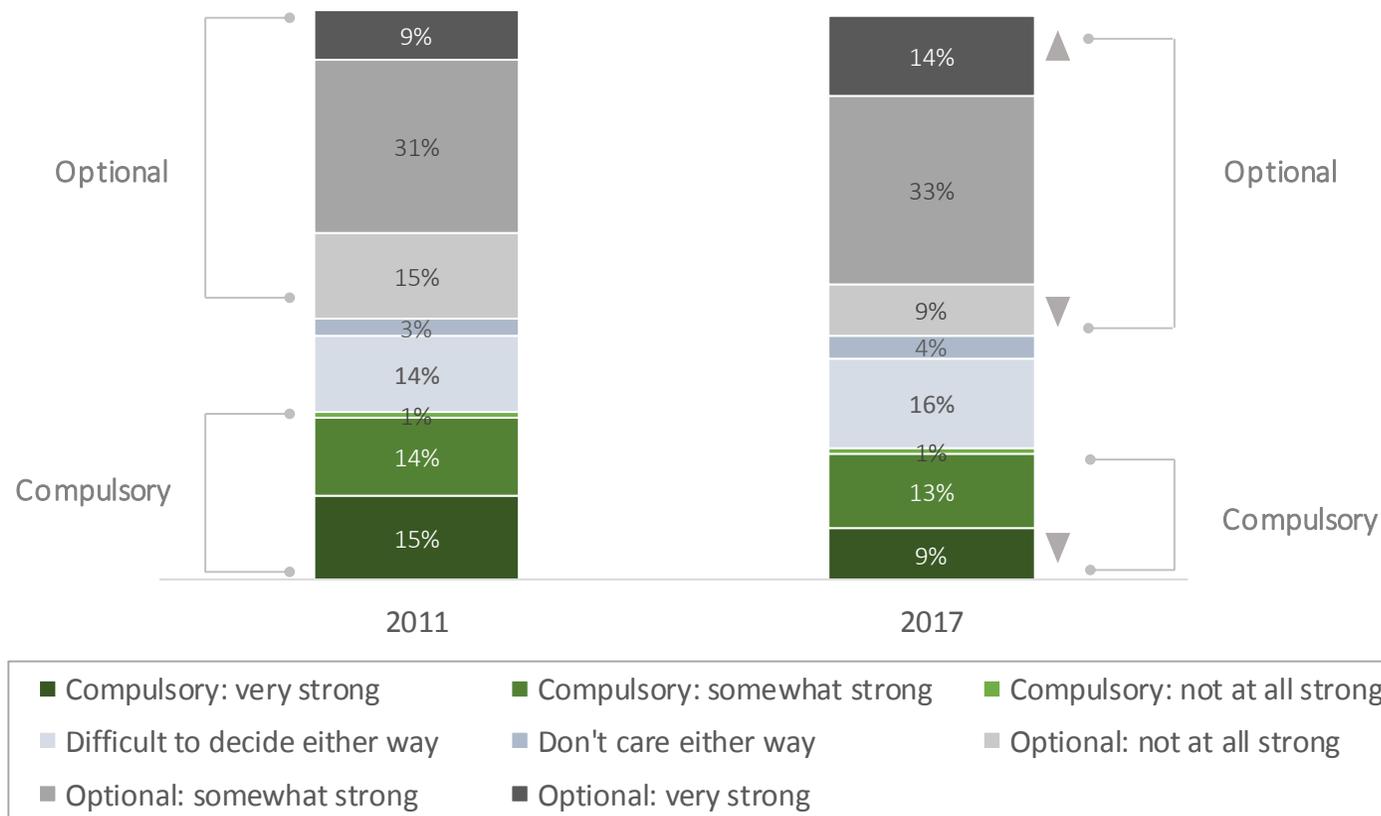
	Total (n=2,000)	16- 19 (n=89)	20-29 (n=514)	30-39 (n=449)	40-49 (n=413)	50-59 (n=186)	60+ (n=340)	College/ polytechnic education or higher (n=990)	University qualification (n=702)	Neither (n=1010)	Trust government decisions on fortification (n=629)	Don't trust government decisions (n=606)
Compulsory	25%	26%	25%	21%	21%	22%	30%	27%	31%	23%	43%	14%
Optional	54%	46%	50%	58%	55%	60%	51%	57%	54%	52%	45%	60%
Difficult to decide either way	17%	25%	18%	15%	16%	14%	18%	11%	11%	20%	9%	20%
Don't care either way	5%	4%	7%	7%	7%	4%	1%	5%	5%	5%	3%	7%

	Total (n=2,000)	New Zealand European (n=1629)	Maori (n=126)	Pacific Peoples (n=37)	Asian (n=182)	Other (n=129)	Household income: up to \$50,000 (n=450)	\$50,001 to \$70,000 (n=290)	\$70,001 to \$100,000 (n=337)	\$100,001 to \$150,000 (n=362)	\$150,001+ (n=193)
Compulsory	25%	24%	22%	27%	30%	34%	26%	27%	20%	27%	32%
Optional	54%	56%	56%	37%	53%	41%	51%	54%	59%	48%	56%
Difficult to decide either way	17%	16%	15%	34%	12%	21%	19%	13%	16%	18%	10%
Don't care either way	5%	4%	7%	2%	4%	5%	4%	6%	5%	6%	2%



We also asked about 'strength of feeling'. Since 2011 there has been an increase in the proportion who 'feel strongly that it should be *optional*' (from 9% to 14%) and there has been a decrease in the proportion of the public that 'feel strongly about *compulsory* fortification of bread with folic acid' (from 15% to 9%).

Attitudes to fortification of bread with folic acid by strength of opinion

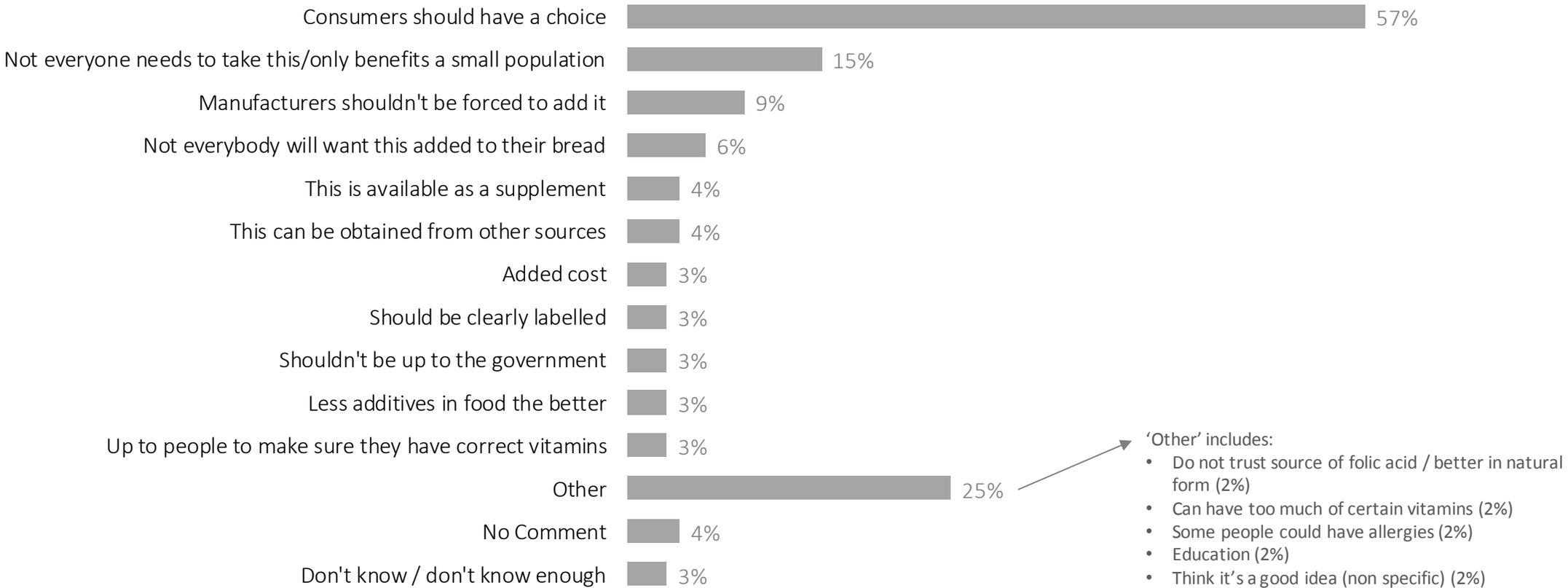


Source: Q4a/Q4b [Folic acid, sometimes know as folate / An essential B vitamin, folic acid, (sometimes known as folate)] can be added to bread. The reason why bread would have [folic acid / this particular B vitamin] added to it is to reduce the risk of babies being born with neural tube defects like spina bifida. Knowing this, would you say...
 Q5 Is the strength of your opinion on this...?

Base: All respondents (2011 n=802; 2017 n=2,000)

We asked why people came to their viewpoint on the fortification of bread with folic acid using an open-ended question. Findings were grouped together into the categories shown in the chart below. Over half (57%) who think it should be 'optional' believe that **consumers should have a choice**. 15% say it should be optional because 'it only benefits a small population'. This is mentioned less often by respondents asked about 'an essential B vitamin, folic acid', compared with respondents asked about 'folic acid' (11% vs. 19% respectively). There are no other significant differences between those asked about 'an essential B vitamin, folic acid' vs. 'folic acid'.

Why it should be optional to add 'folic acid'/'an essential B vitamin, folic acid' (mentions 3% or above shown)





Some illustrative comments from those who think it should be 'optional'...

KEY:

- Consumers should have a choice
- Not everyone needs to take this / only benefits small population
- Manufacturers shouldn't be forced to add it

Comments on why respondents think fortification should be optional

So that people can have a choice. 'Compulsory' is not allowing people freedom of choice. A blanket addition of vitamin B to cover the whole population for a tiny percentage of people that eat it and are pregnant! Vitamins acquired through a balanced diet are much more beneficial and don't carry the same health risks.
 [European female, aged 50-59]

Because nothing should be forced on to anyone.
 [New Zealand European male, aged 65-69]

Because there would be added cost that would be passed onto the consumer and the consumer should be able to choose if they want to have this or not.
 [New Zealand European male, aged 40-44].

It should be a manufacturer's decision. If it is added then it needs to be clearly stated on the bag so the consumer has the option to select something different.
 [New Zealand European female, aged 25-29]

Why should us that are not having or likely to have children require this additive?
 [New Zealand European male, aged 50-59]

Bread is not the only channel consumers can get B vitamin, folic acid. Also people put different spreads that could contain this B vitamin, folic acid. We do not want to overdose. People can be educated in various ways from health organizations as to the benefits of this vitamin and can decide if they need to have supplements. There is such a vast variety of foods that we eat and consumers can choose where they will get their source of vitamins.
 [Asian female, aged 60-64]

Because as long as it is advertised whether or not the bread has vitamin B, it should be up to the consumer whether or not they want this added. Not everyone is a pregnant woman and they can also take supplements if they need it.
 [New Zealand European female, aged 25-29]

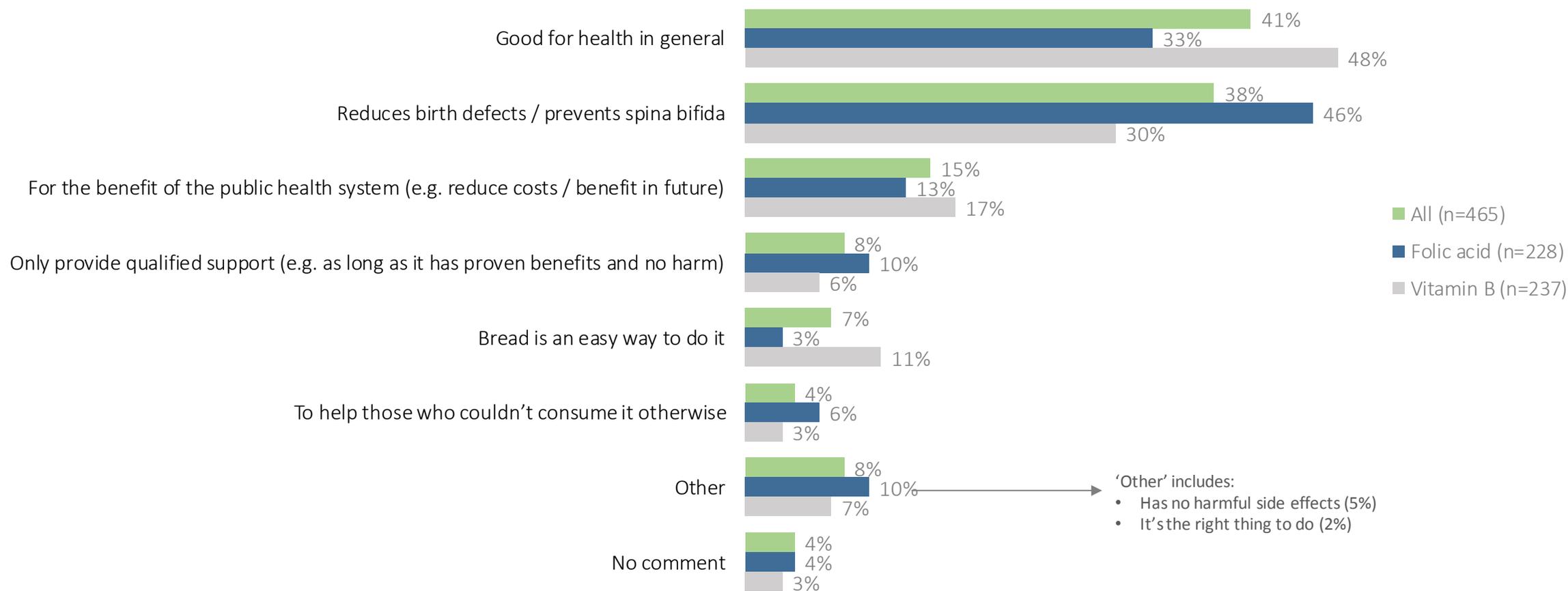
Pregnant women are the minority - why should everyone else have to eat the folic acid? They should be able to choose how and when they get their folic acid.
 [Pacific female, aged 25-29]

People need to have the choice to buy nutrient added products, and not all manufacturers will want to add these nutrients. For example, are the additives organic, gluten free or non-GMO?
 [New Zealand European female, aged 50-54]

The reason for supporting compulsory fortification varies depending on whether respondents were asked about 'folic acid' or 'an essential B vitamin, folic acid'. Those asked about 'folic acid' tend to emphasise the benefit to babies whereas those asked about 'an essential B vitamin, folic acid' tend to emphasise the general health benefits (not just to babies). This is despite the fact both sets of respondents were specifically told that the intended benefit is to reduce neural tube defects in babies.



Why it should be compulsory to add 'folic acid' / 'an essential B vitamin, folic acid'





Some illustrative quotes from those who think it should be 'compulsory'...

KEY:



Anything that helps babies / reduces birth defects



Health benefits for everyone / good for you

Comments on why respondents think fortification should be compulsory

Because the magnitude of the birth defects that can be prevented by taking folic acid are so severe. Not all young parents are informed enough about the dangers and this is a way of making sure the new life has the best start regardless.

[New Zealand European female, aged 25-29]

Because it helps prevent spina bifida, but also helps everyone else too. I can't quite remember the specifics but something to do with it helping protect from heart disease. So kind of a win all round, helps everyone, including unborn helpless children who cannot help themselves.

[New Zealand European female, aged 25-29]

For the sake of good health - particularly with young mothers and the elderly.

[New Zealand European female, aged 75+]

Most people in New Zealand eat bread. Far fewer eat other foods with sufficient folate composition. Even fewer are likely to buy vitamin B supplements. The health benefits and potential cost savings to the country are compelling reasons.

[New Zealand European male, aged 65-69]

It's a commonly eaten item which pregnant women are encouraged to eat and B vitamins are needed by everybody. It is an easy precaution to guard against a life-altering disability.

[New Zealand European female, aged 35-39]

If there is anything that can be done to ensure a healthy child is born, then as citizens, we have a moral obligation to give them every chance to be that healthy child.

[New Zealand European male, aged 50-54]

The most advantaged women take folate tablets when wanting a baby. Less advantaged women often fall pregnant by surprise and/or aren't organized and/or can't afford folate tablets and fortification of the types of bread they eat is the only way to prevent neural tube defects in their babies. To be effective folate has to be taken within 2-3 weeks of conception and women often don't realise they are pregnant that early on.

[New Zealand European female, aged 60-69]

It seems to be for the well being of babies, also it is very good for everyone of all ages.

[New Zealand European female, aged 70-74]



Purchase intentions





A relatively high proportion (45%) of New Zealanders would choose a food product containing added vitamins and minerals if it was the same cost as a non-fortified product. Women of child-bearing age are more likely than average to prefer a fortified product (if price is not an issue).

Proportion that would purchase a fortified product if price was not a factor

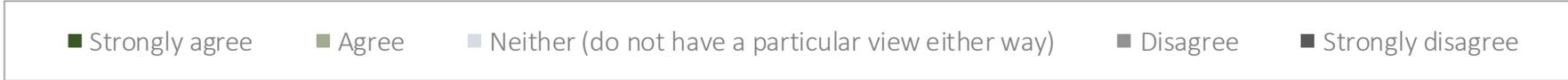


Groups more likely to agree include:

- Women of child-bearing age – 16-44 (48%)
- Parents – any age or gender (48% vs. 42% not a parent)
- Those who are currently pregnant or their partner is (63%)
- Those with a college/university education qualification (51% vs. 42% haven't got those qualifications)
- Asians (63%)
- Those with a higher annual household income, more than \$150k (57%)
- Eat at least one slice per day of non-organic/non-gluten free sliced brown (51%) or multigrain (50%) bread.

Groups more likely to disagree include

- Those aged 50 – 59 (29%)
- Those who do not trust government decisions which make manufacturers add certain vitamins or minerals to food (41%).

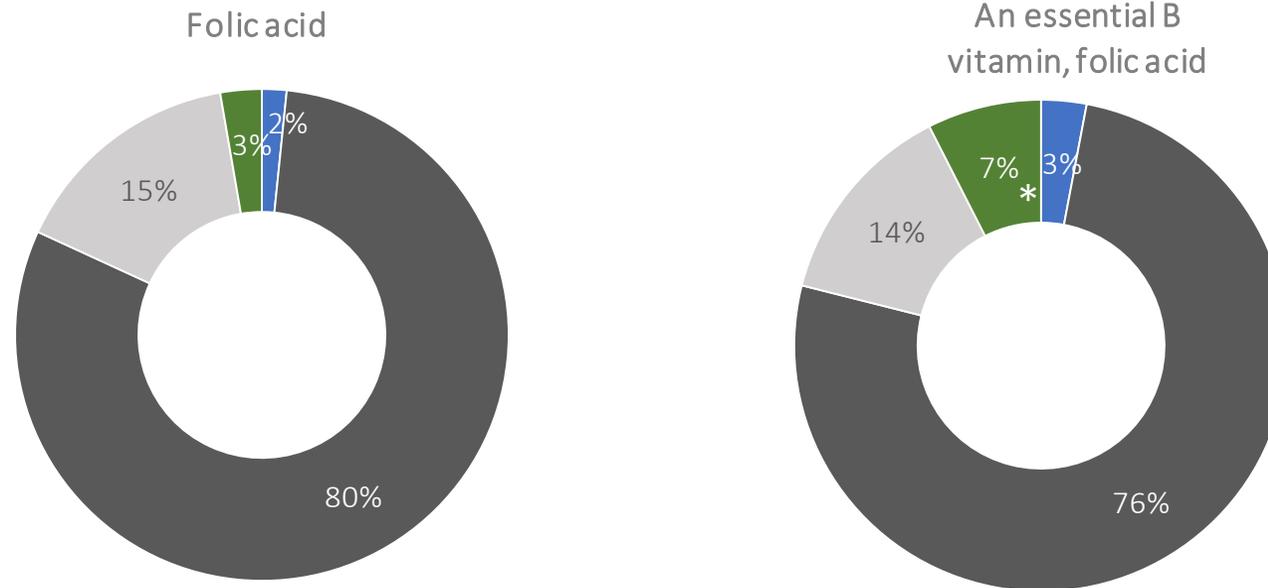


Most people (around 8 in 10) say that 'folic acid' / 'an essential B vitamin, folic acid' has no real influence on their current purchasing behaviour. Only a small proportion (2%) are actively avoiding it.



Respondents who were asked about 'an essential B vitamin, folic acid' in the questionnaire (rather than 'folic acid') are more likely to say they specifically purchase products based on that fortification (7% vs. 3% for those shown 'folic acid'). This is the only place in the questionnaire that showed statistically significant differences between the two sets of wording.

Influence of fortification on current purchase behaviour



A small minority of people specifically *avoid* products containing 'folic acid' (2%) or 'an essential B vitamin, folic acid' (3%).

- Avoid products because they contain [folic acid/this B Vitamin]
- No influence (other criteria more important)
- Uncertain
- Currently buy products containing [folic acid/this B Vitamin]

Demographic groups that are *more* or *less* likely to buy products containing either ‘folic acid’ or ‘an essential B vitamin, folic acid’

Across the full sample of 2,000, **5%** of respondents said they currently buy products containing either ‘folic acid’, or ‘an essential B vitamin, folic acid’ (this was shown as the green portion in the donut charts in the previous slide). Particular groups were significantly more likely, or less likely, to say this:

Groups more likely to buy a product because it contains ‘folic acid’ / ‘an essential B vitamin, folic acid’ include:

- Men (7% compared to 3% of women)
- Asians (12% compared with 4% among non-Asians)
- Those who trust in government decisions which make manufacturers add certain vitamins or minerals to food (8% compared to 2% who do not trust).

Groups less likely to buy a product because it contains ‘folic acid’ / ‘an essential B vitamin, folic acid’ include:

- Women of child-bearing age (4% compared to 6% of other demographic groups)
- Those aged 40-49 (2% compared with 6% of other demographic groups)
- New Zealand Europeans (4% compared with 8% of non-New Zealand Europeans).

As previously noted a small minority of people specifically *avoid* products containing ‘folic acid’ (2%) or ‘an essential B vitamin, folic acid’ (3%). Due to low base sizes it is not possible to present percentages on the reasons why people avoid this. However, some of the verbatim comments are show below. Key themes relate to ‘it not being necessary’ or ‘because it is not a natural way to consume these vitamins/minerals’.



Why avoid products which contain folic acid / a B vitamin, folic acid

I don't need it and it is only the minority that do. Those that are pregnant or thinking of having a baby can get this vitamin if they need it.

[European female, aged 65-69]

I do no need it and I don't want to support products with added things that don't need to be added.

[New Zealand European female, aged 20-24]

The product has been altered to add more B vitamin, folic acid. I trust myself that what I eat is within balance - no need for this world of adding more and more to food.

[New Zealand European female aged 60-64]

I already take vitamin B every day, twice a day, that last 8 hrs. It is a complex vitamin B - one that is made from things humans eat, not from pond scum etc.

[New Zealand European female aged 60-64]

Folic acid is synthetic and my family eat a large amount of bread. Too much folic acid shows a correlation to respiratory ailments, which already feature highly in my family's health.

[New Zealand European female aged 30-34]

I don't like anything added to food to make it more processed than it already is. I try to buy products with the least amount of additives to them as I perceive the likelihood of this being safer for me long term. It is way safer to eat natural food than processed garbage.

[New Zealand European female aged 30-34]