

2016 Food Safety Survey

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Background and Methodology

- This report presents selected results of the 2016 Food Safety Survey, a dual-frame (land line and cell phone) survey of 4,169 Americans ages 18 and older.*
- The survey measures consumers attitudes, behaviors, and knowledge about food safety.
- This is the 7th wave of the survey, allowing for trend analysis for many questions. Trends from 2006 to 2016 are presented when appropriate.
- Survey fielding took place from October 6, 2015 to January 17, 2016.
- The survey averaged 17 minutes per respondent.
- The results are weighted to ensure that they are reflective of the American population.
- The response rate is 21% according to the AAPOR RR3.

*For complete survey results please see, “2016 FDA Food Safety Survey – Topline Report.”

**Percentages may not add to 100% because of rounding and because “don’t know” and “refused” are generally not presented, but are included in the sample bases (except where noted otherwise).

Summary

Perceptions and awareness of food risks:

- **Consumers are somewhat concerned about getting a foodborne illnesses from how *they* prepare food** – but they think it is more likely to get a foodborne illness from food prepared at a restaurant compared to food prepared at home.
- **Consumers are more concerned about raw chicken and raw beef being contaminated than other raw foods** – In 2016, the percent of respondents who thought that raw chicken (66%) and raw beef (41%) were “very likely” to have germs was higher than the 6% who thought the same of raw vegetables.
- **Awareness of *Listeria* is increasing** – Awareness increased from 30% in 2006 to 58% in 2016. Awareness remains high in 2016 for *Salmonella* (93%) and *E. coli* (89%), and remains low for *Campylobacter* (16%).

Summary

Food handling behaviors:

- **After increasing between 2006 and 2010, hand washing rates have remained constant or decreased between 2010 and 2016** -- In all years consumers are more likely to wash hands with soap after touching raw meat (85%) or raw fish (85%), than before preparing food (75% use soap all the time), or after cracking raw eggs (43%).
- **Food thermometer ownership rates have remained constant but usage has slightly increased** – In 2016, 67% of respondents reported owning a food thermometer. Usage has increased for roasts, chicken parts, and hamburgers between 2006 and 2016. In 2016, 38% always use a meat thermometer for roasts, compared to 19% for chicken parts, and 10% for hamburgers.
- **Most consumers wash cutting boards after cutting raw meat** -- The percent who either wash or use different cutting boards between cutting raw meat/chicken/fish and cutting other foods has remained high across the years at around 90%.
- **Most consumers refrigerate meat/chicken dishes within two hours of cooking** – The percent who refrigerate these within two hours has varied from 85% in 2006 to 83% in 2016.

Summary

Emerging Issues:

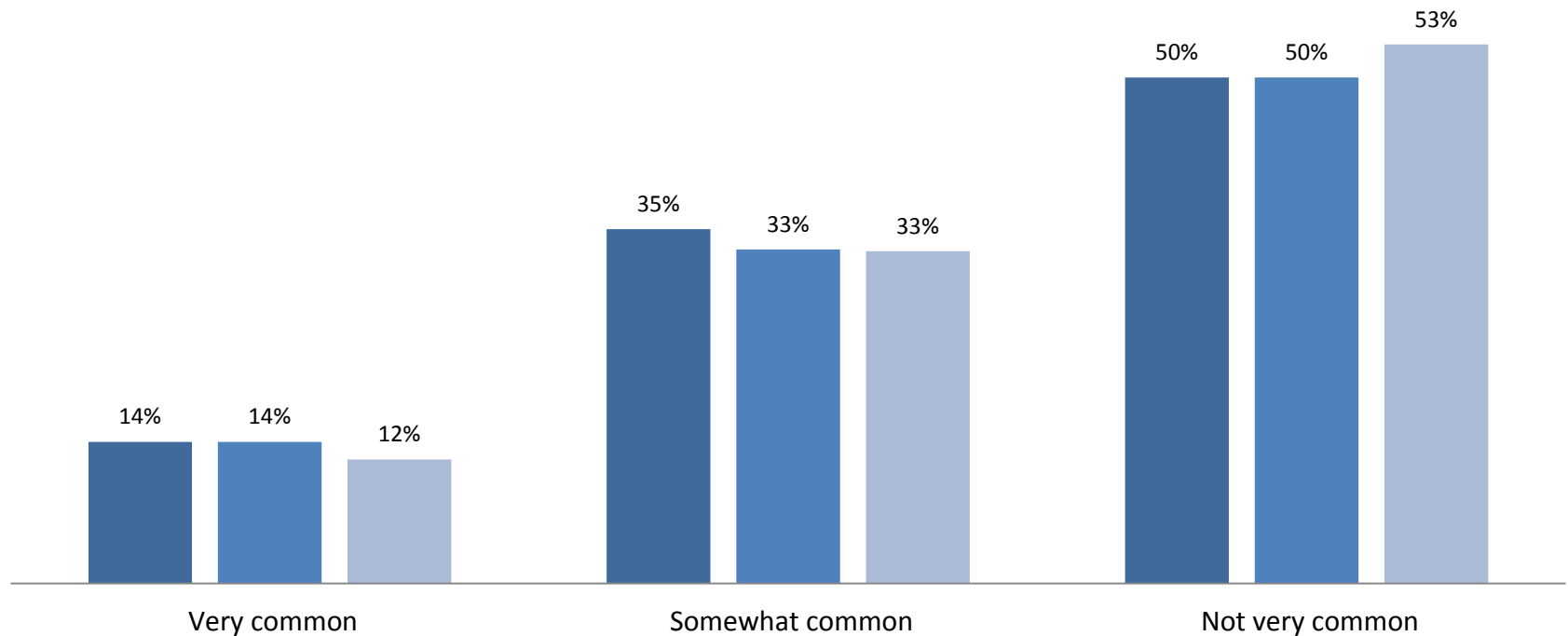
- **Most consumers wash chicken parts or whole chickens before cooking them –** The most common method is by rinsing them with water. (This practice is not recommended by food safety experts since washing will not destroy pathogens and may increase the risk of contaminating other foods and surfaces.)
- **About half of consumers use devices such as smartphones or tablets while preparing food –** Only about a third of those wash their hands with soap after touching the device while preparing food.
- **Most respondents had not heard of mechanically tenderized beef –** Most would not be likely to buy it if they saw it in the store. Labels indicating that meat was mechanically tenderized were required starting in May 2016.

RISK PERCEPTION

In all survey years, about half of all respondents thought that it is “**not very common**” for people to get food poisoning because of the way food is prepared in their home.

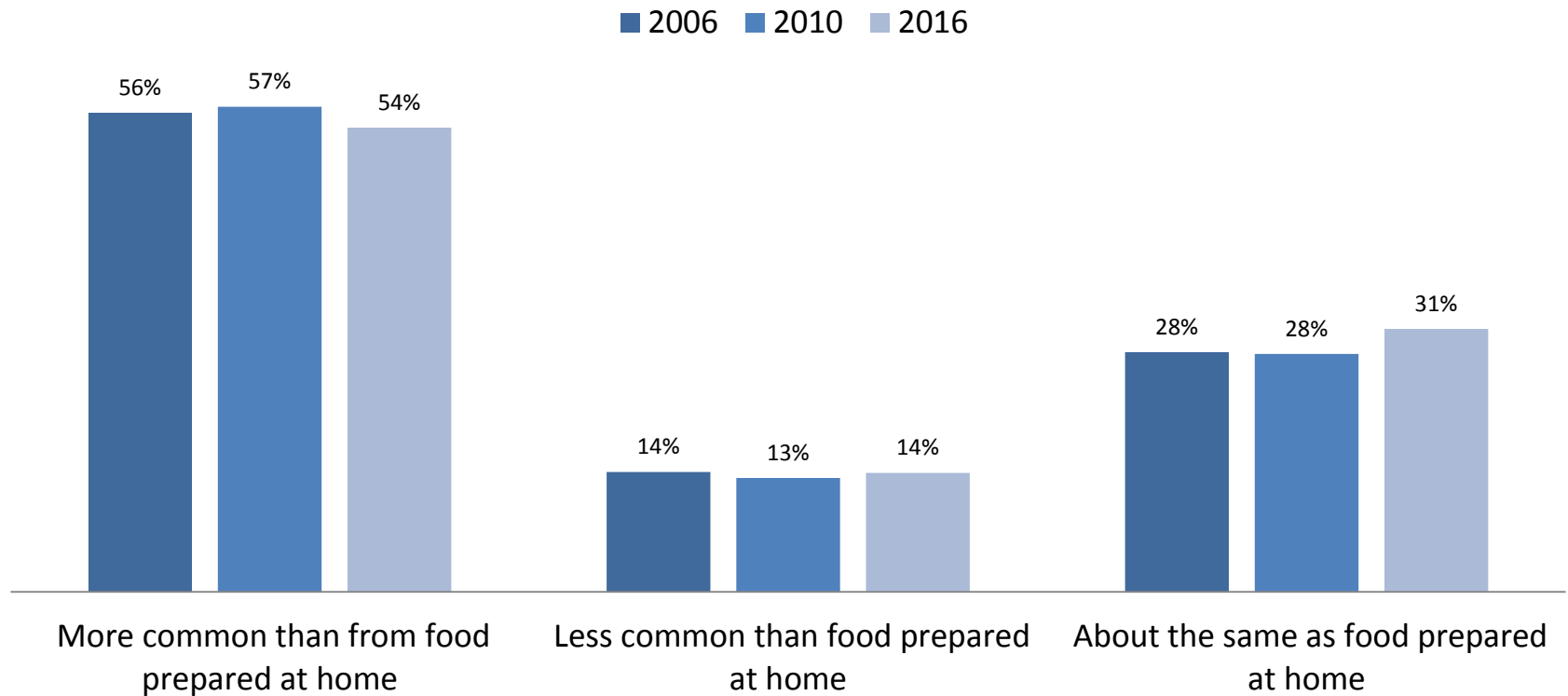
How common do you think it is for people in the United States to get food poisoning because of the way food is prepared in their home?

■ 2006 ■ 2010 ■ 2016



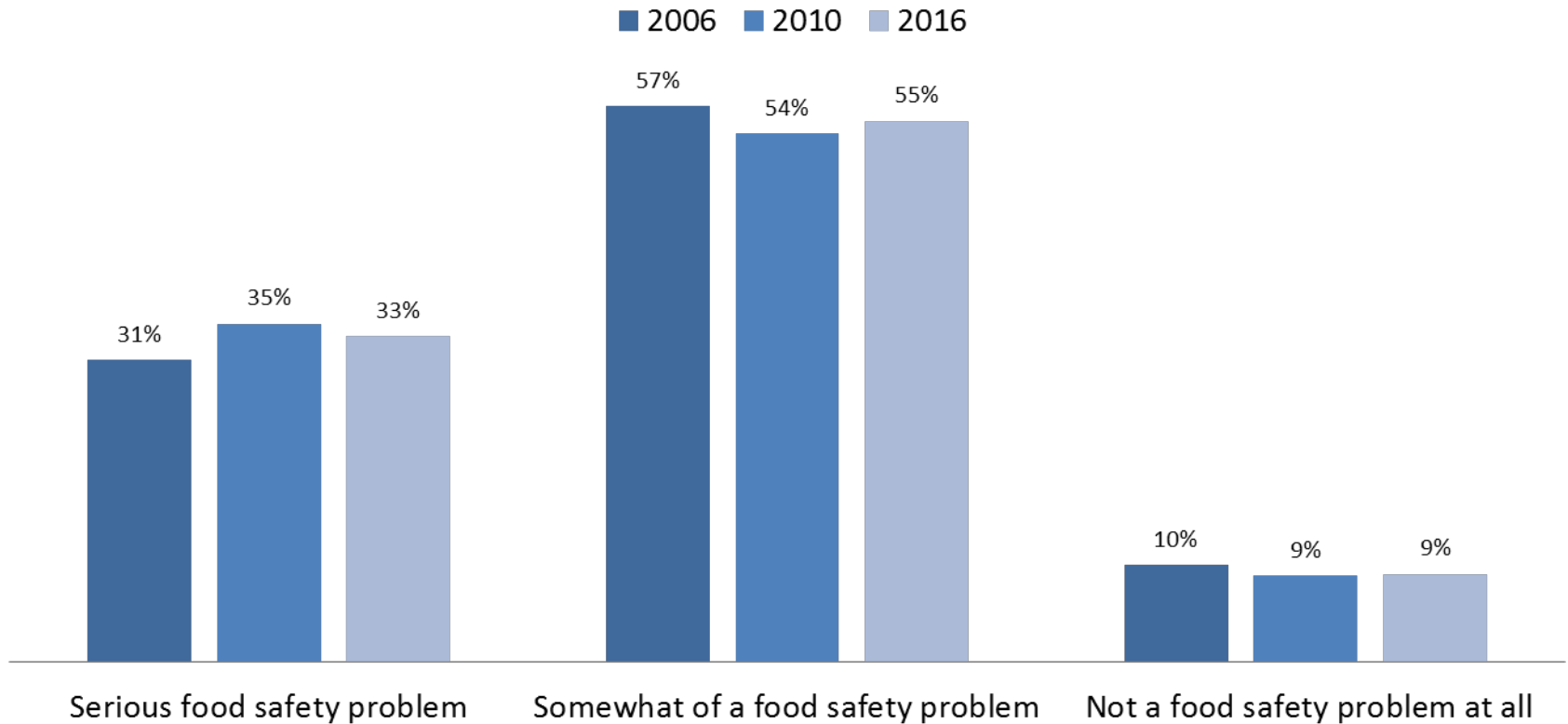
In all survey years, over half of all respondents thought that it is “**more common**” for people to get food poisoning from restaurants compared to food prepared at home.

How common do you think it is for people in the United States to get food poisoning from restaurant food compared to food prepared at home? Would you say that it is...?



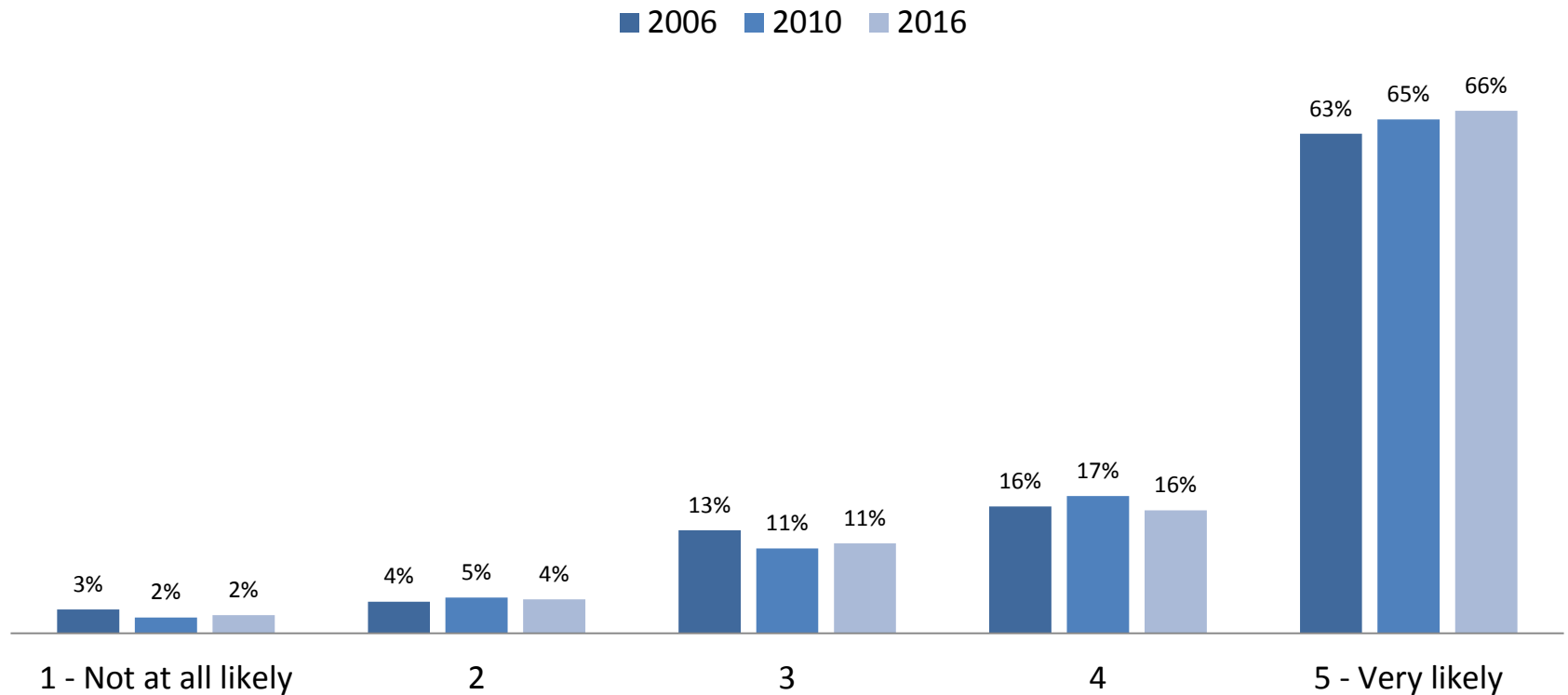
In all survey years, about a third of all respondents thought that food contamination by germs is a serious food safety problem.

Do you think contamination of food by micro-organisms, such as germs, is a serious food safety problem, somewhat of a problem, or not a food safety problem at all?



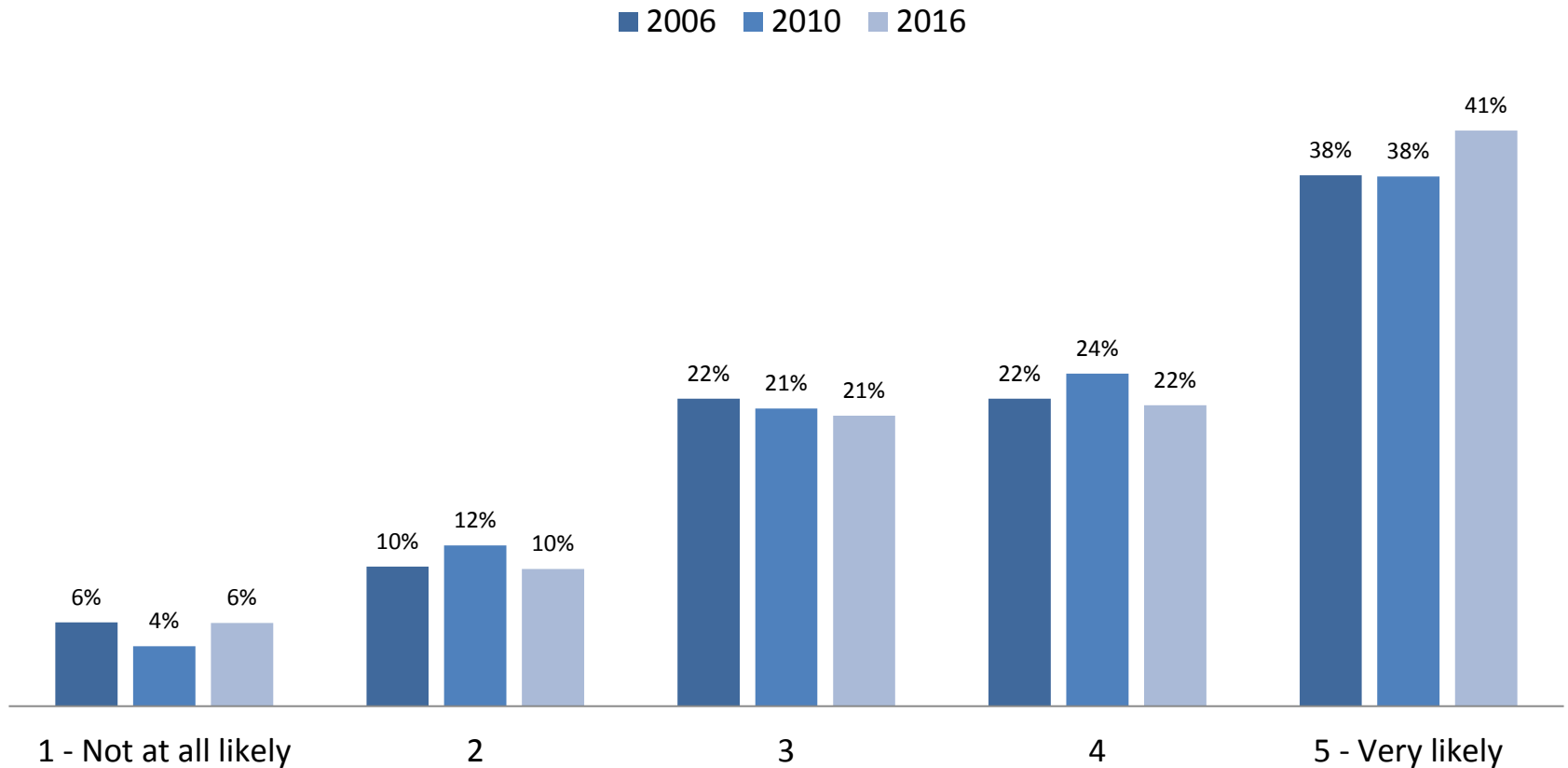
In all survey years, two thirds of respondents thought that it is “**very likely**” for chicken to have germs.

How likely is it that raw chicken has germs that could make you sick? Remember that 1 is “not at all likely” and 5 is “very likely.”



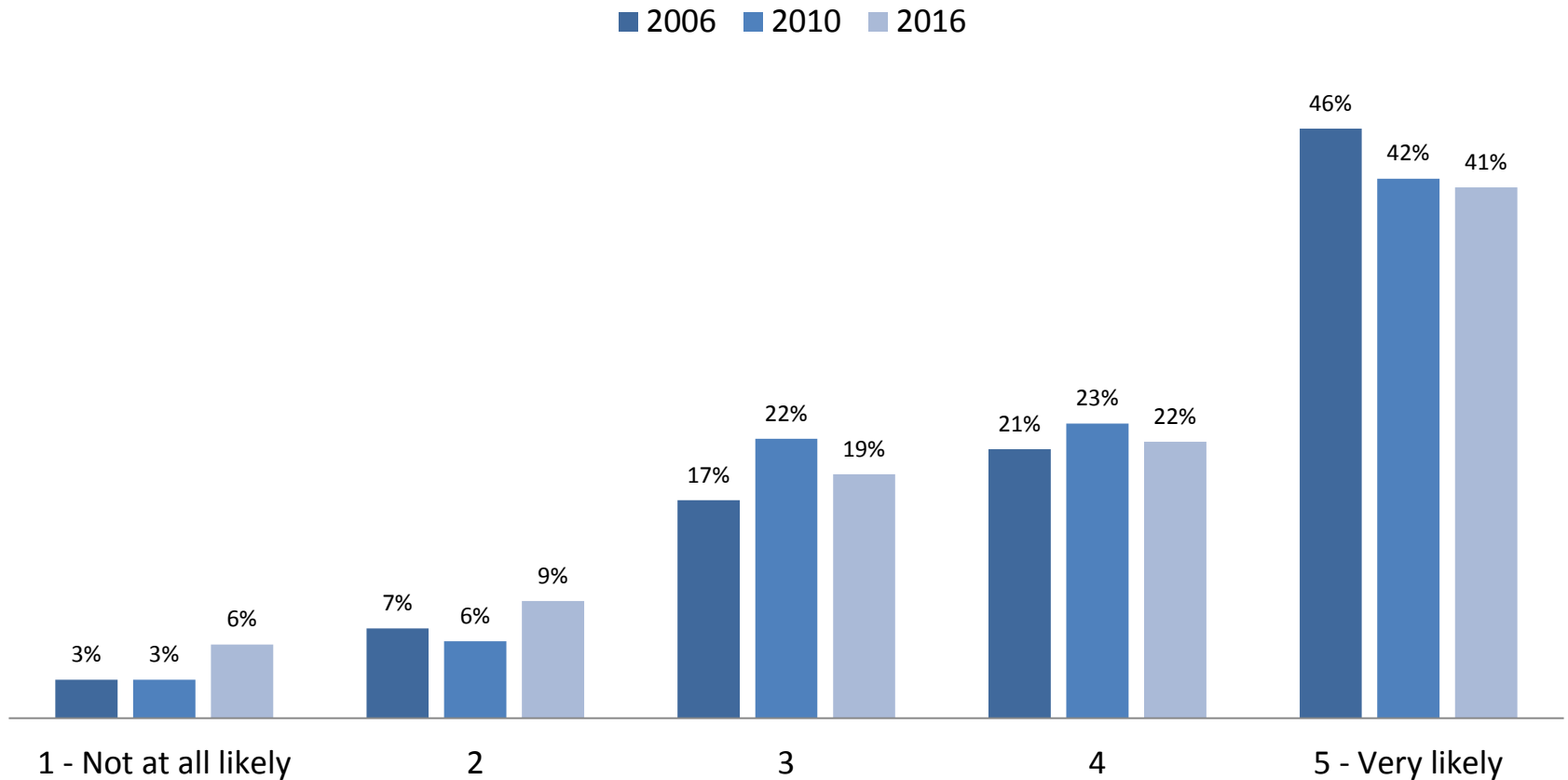
In all survey years, about 40% of respondents thought that it is “**very likely**” for raw beef to have germs.

How likely is it that raw beef has germs that could make you sick?



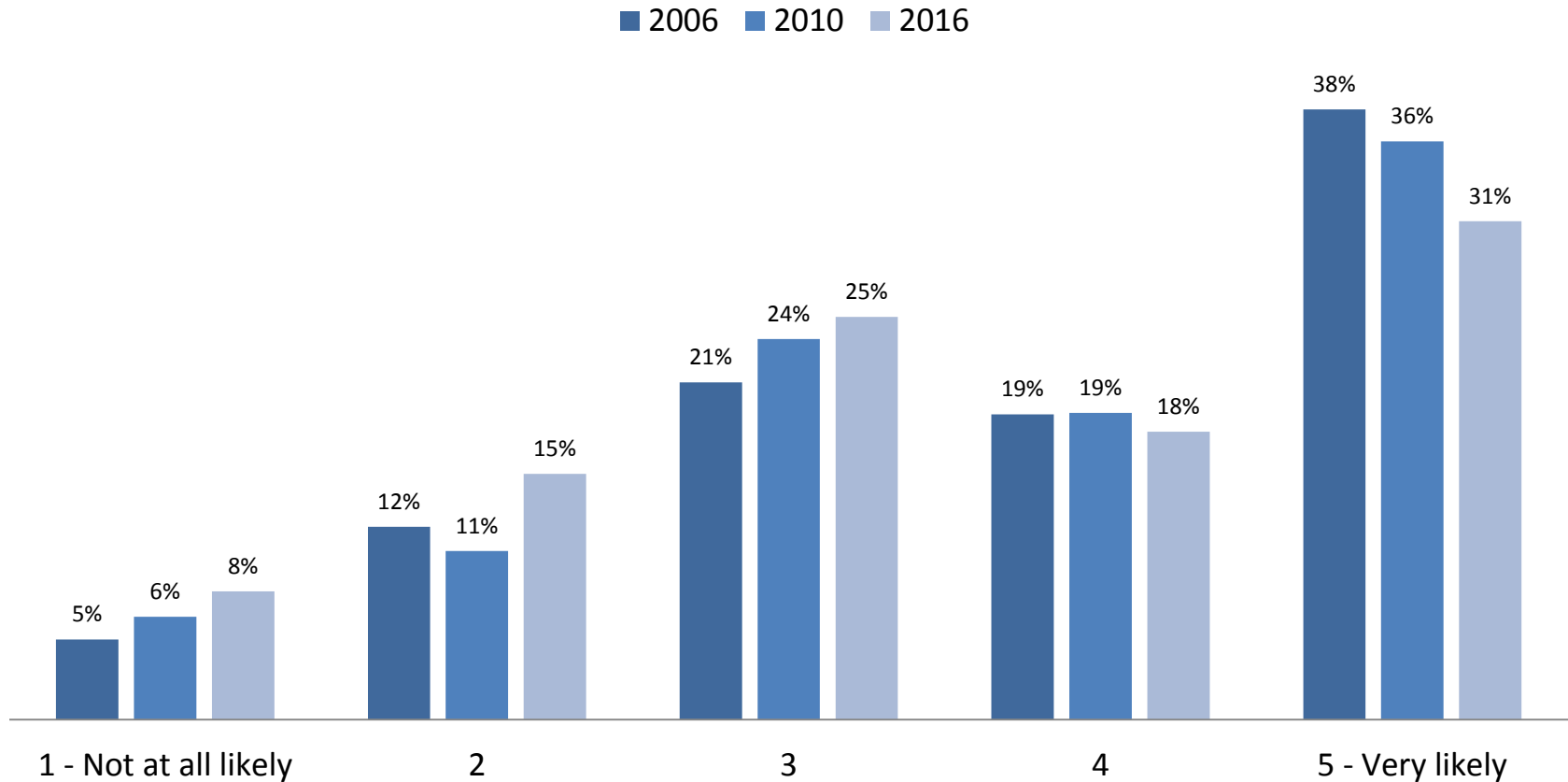
In all survey years, about 40% of respondents thought that it is “**very likely**” for raw shellfish to have germs.

How likely is it that raw shellfish has germs that could make you sick?



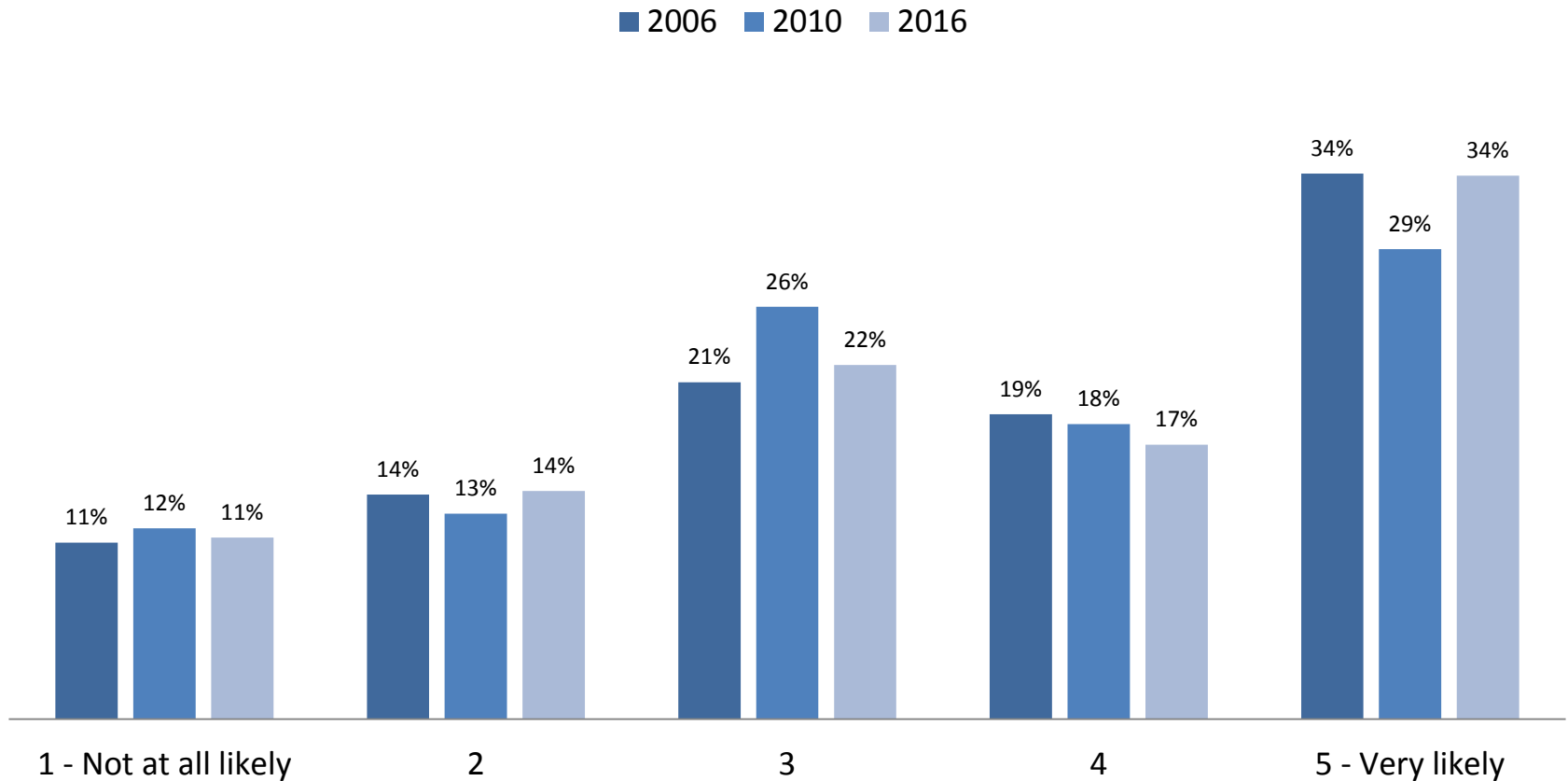
In 2016, fewer respondents thought that it is “**very likely**” for raw fish to have germs.

How likely is it that raw fish has germs that could make you sick?



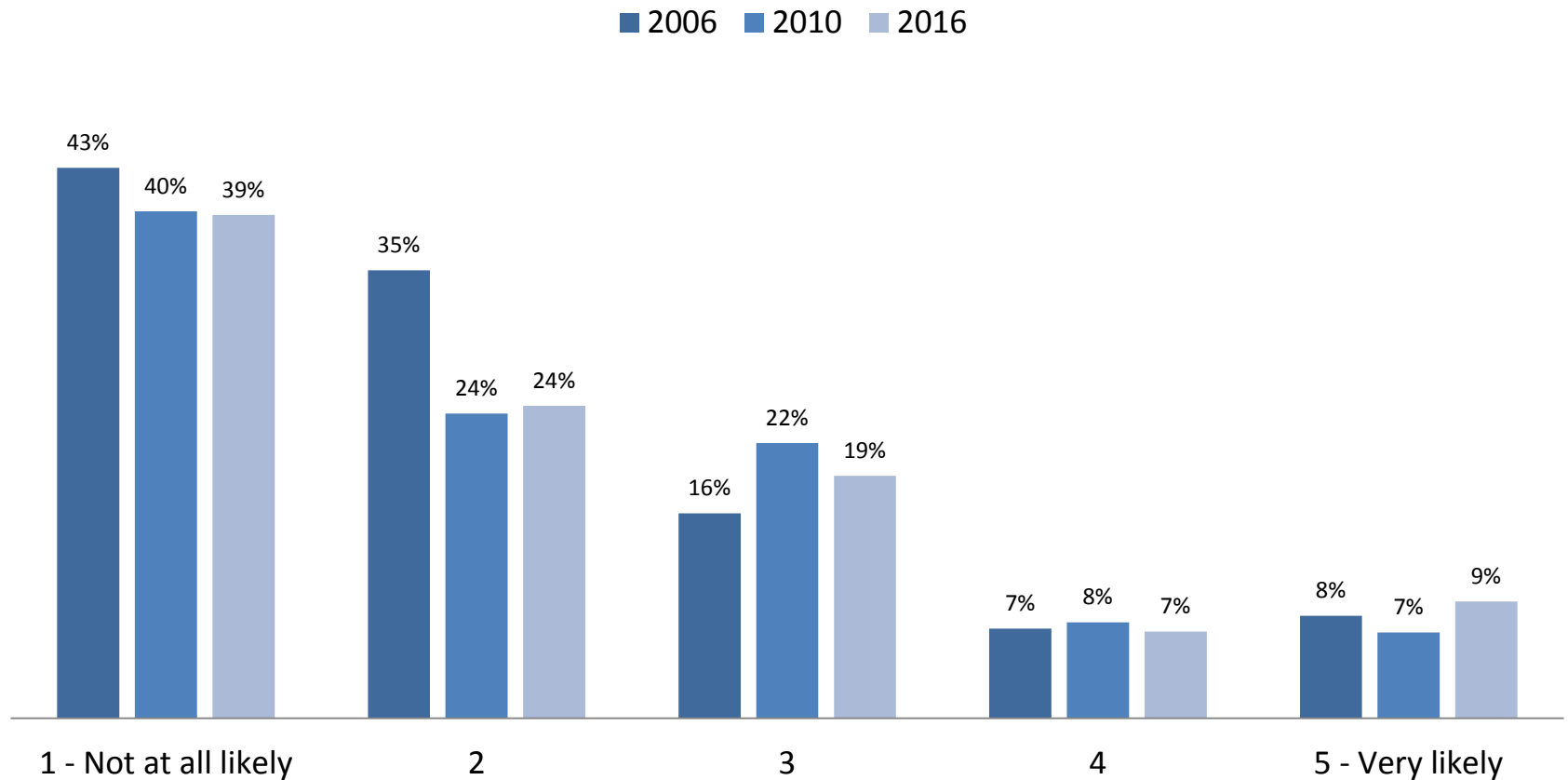
In all survey years, about one third of respondents thought that it is “**very likely**” for raw eggs to have germs.

How likely is it that raw eggs have germs that could make you sick?

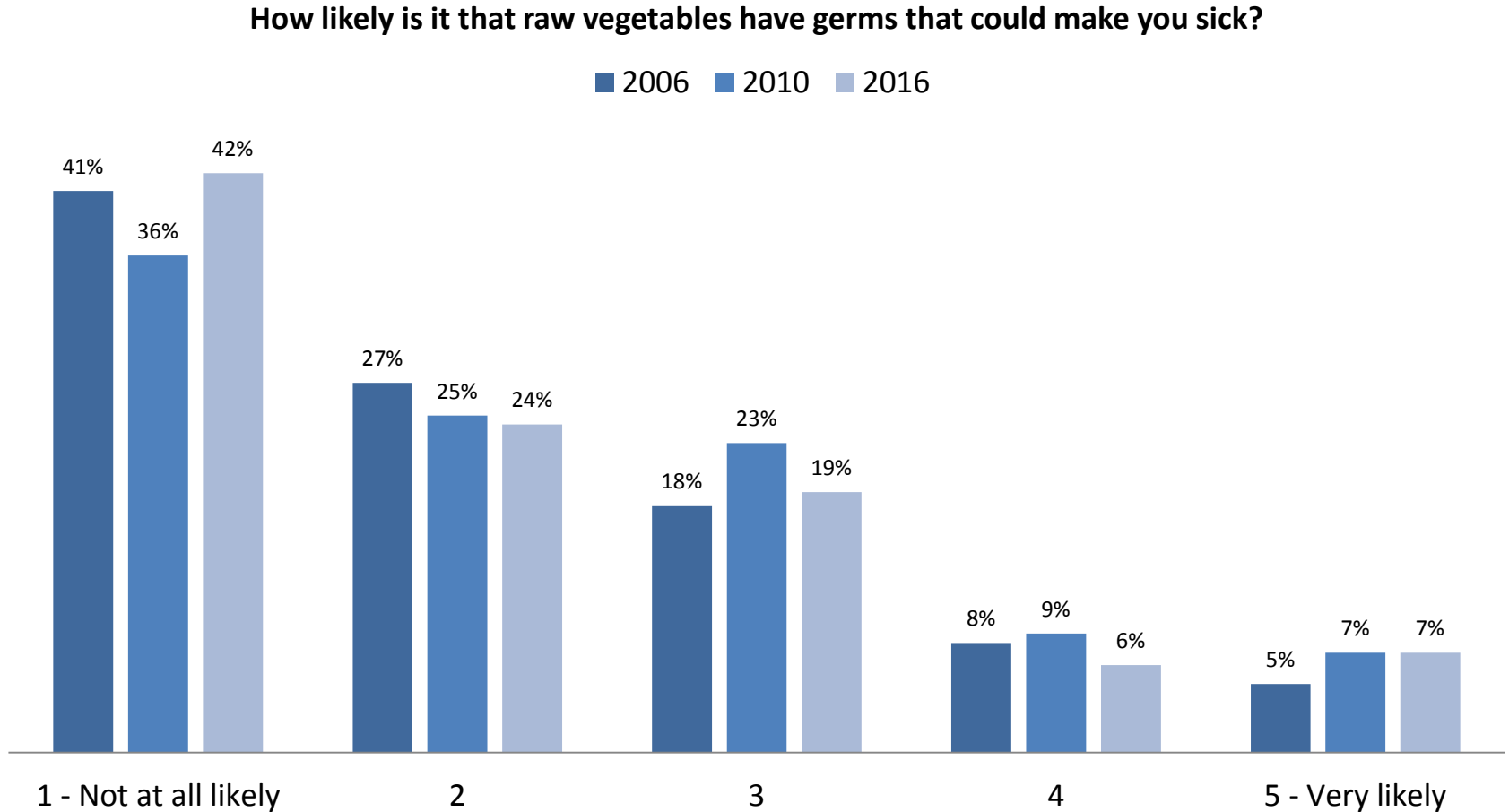


In all survey years, less than 10% thought that it was “**very likely**” for raw fruits to have germs.

How likely is it that raw fruits have germs that could make you sick?

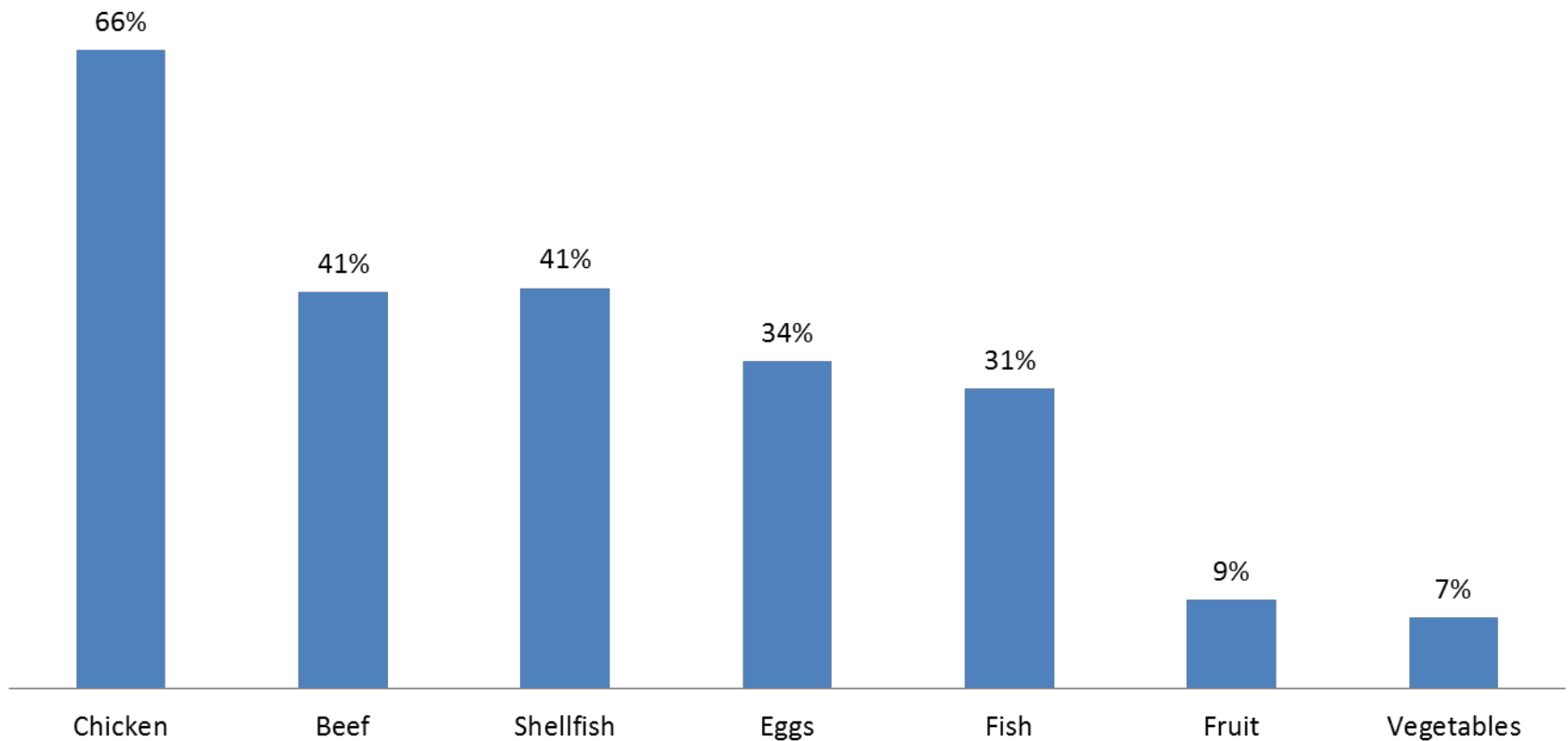


In all survey years, less than 10% thought that it was “**very likely**” for raw vegetables to have germs.



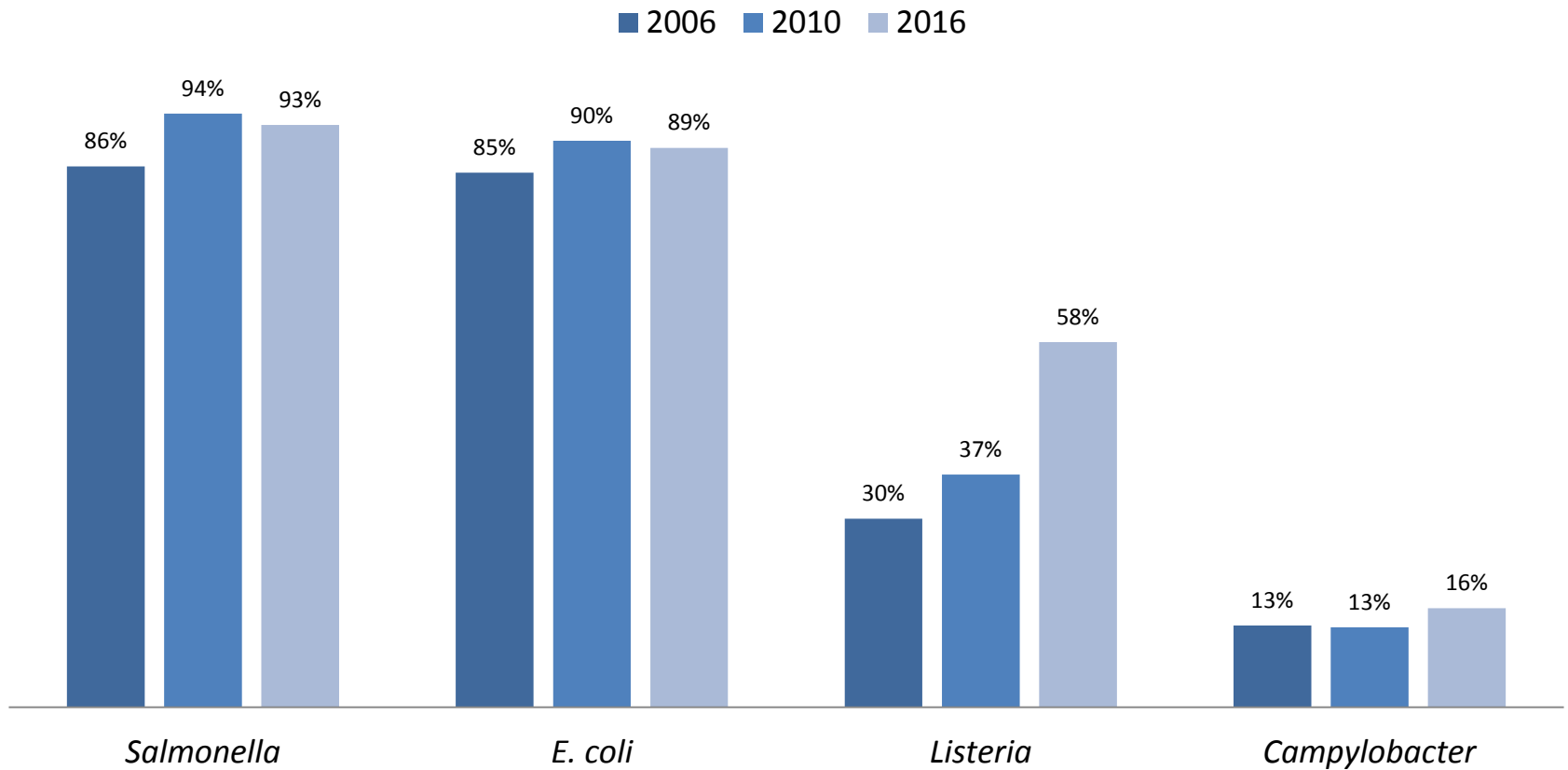
Animal protein foods are considered more likely to have germs compared to fruits or vegetables.

Percent of respondents who thought that each food was “very likely” to have germs in 2016



In all survey years, more respondents had heard of *Salmonella* and *E. coli* as problems in food than *Listeria* or *Campylobacter*.

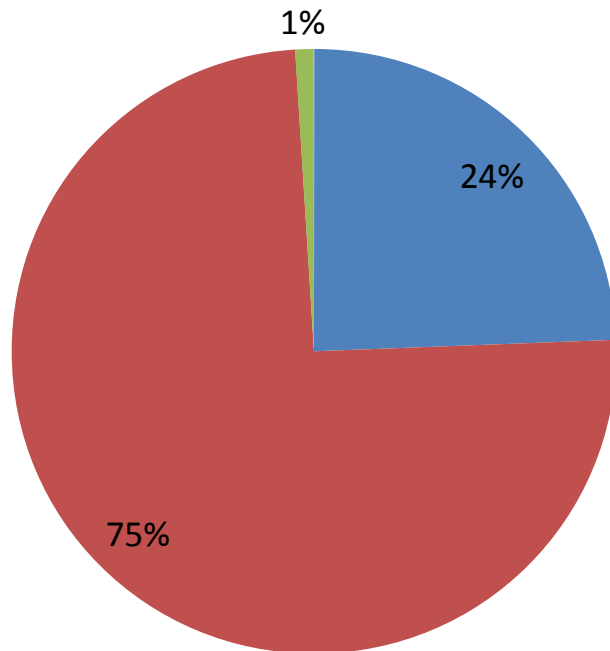
Have you ever heard of [] as a problem in food?



In 2016, about a quarter of respondents had heard of *Toxoplasma* as a problem in food, with the majority believing that a contaminated food **can't be made safe to eat**.

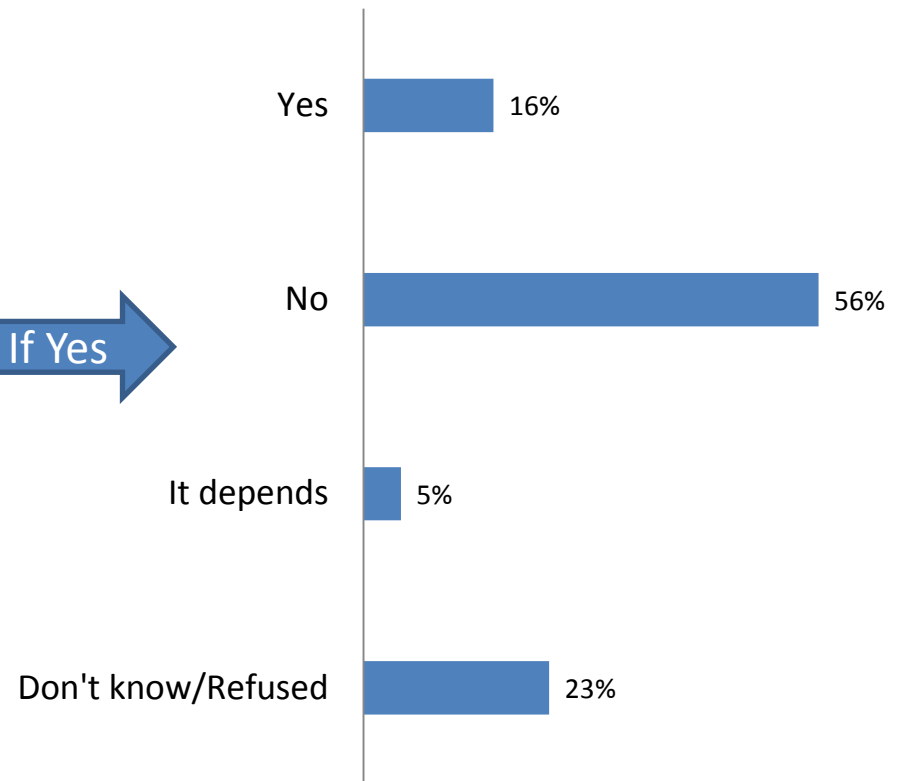
Have you ever heard of *Toxoplasma* as a problem in food?

■ Yes ■ No ■ Don't know/Refused



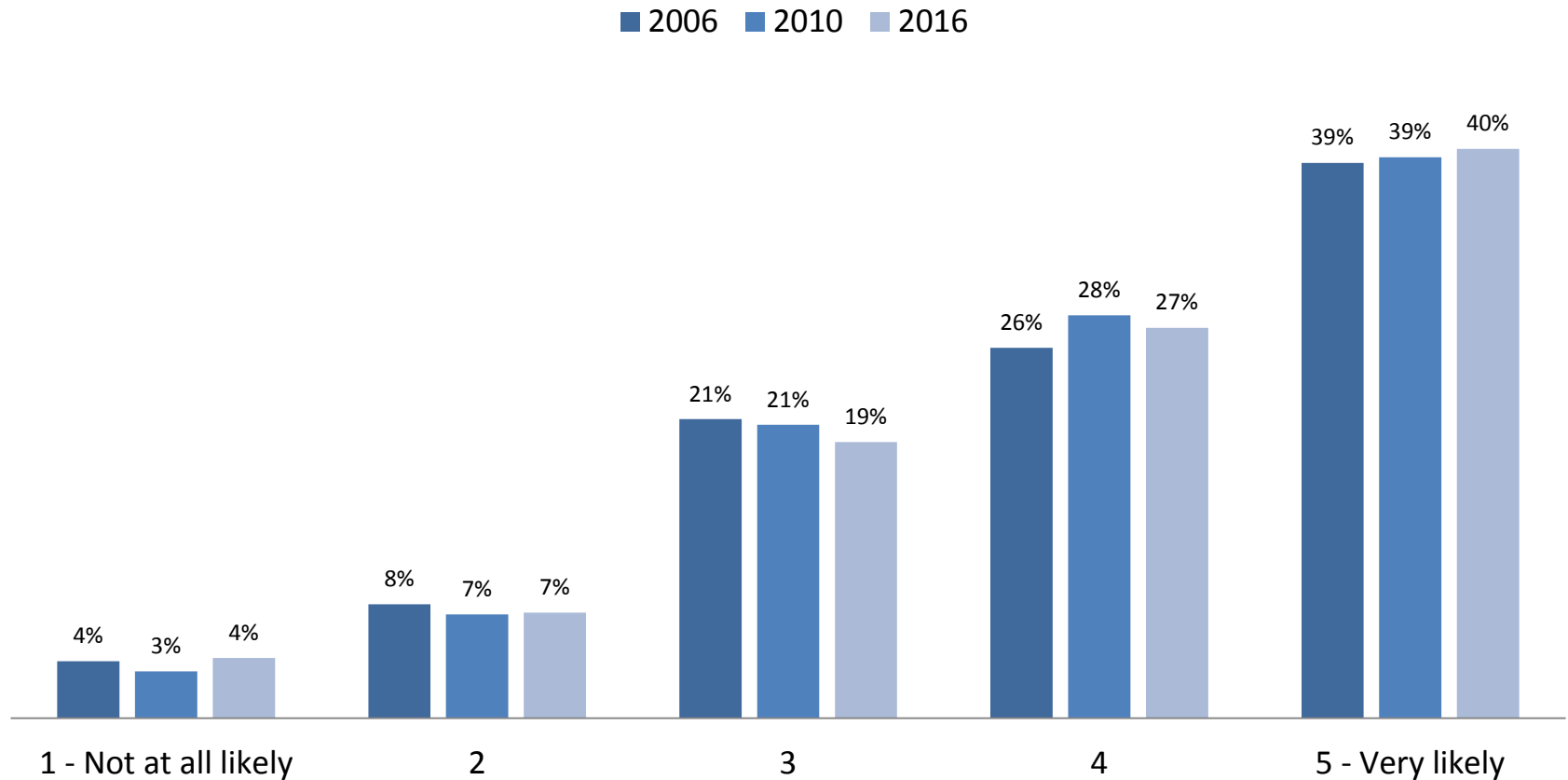
If Yes →

Do you think you can make a food that is contaminated with *Toxoplasma* safe to eat?



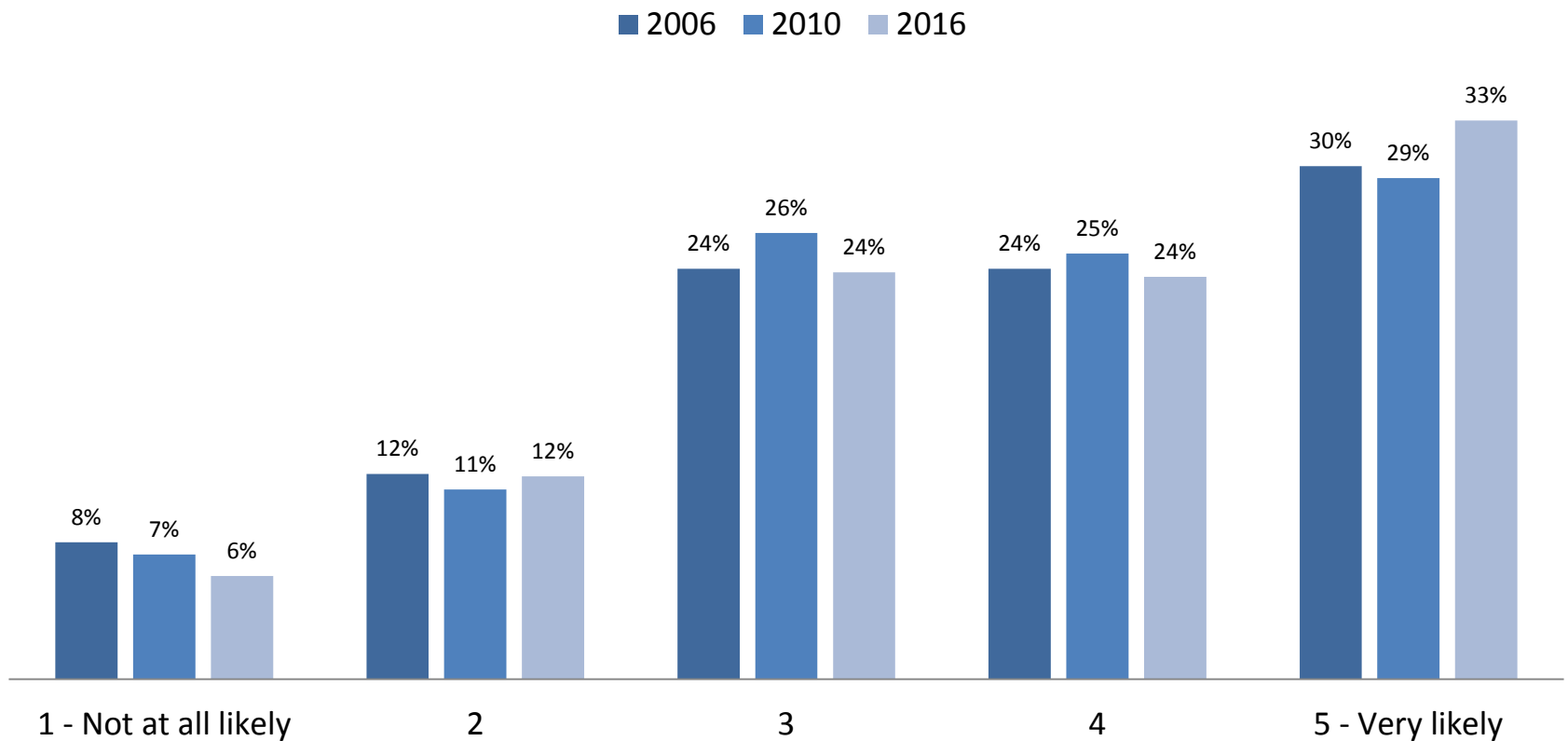
In all survey years, about 40% of respondents thought they were “**very likely**” to get sick if they ate meat or chicken that was not thoroughly cooked.

If you eat meat or chicken that is not thoroughly cooked, how likely are you to get sick?



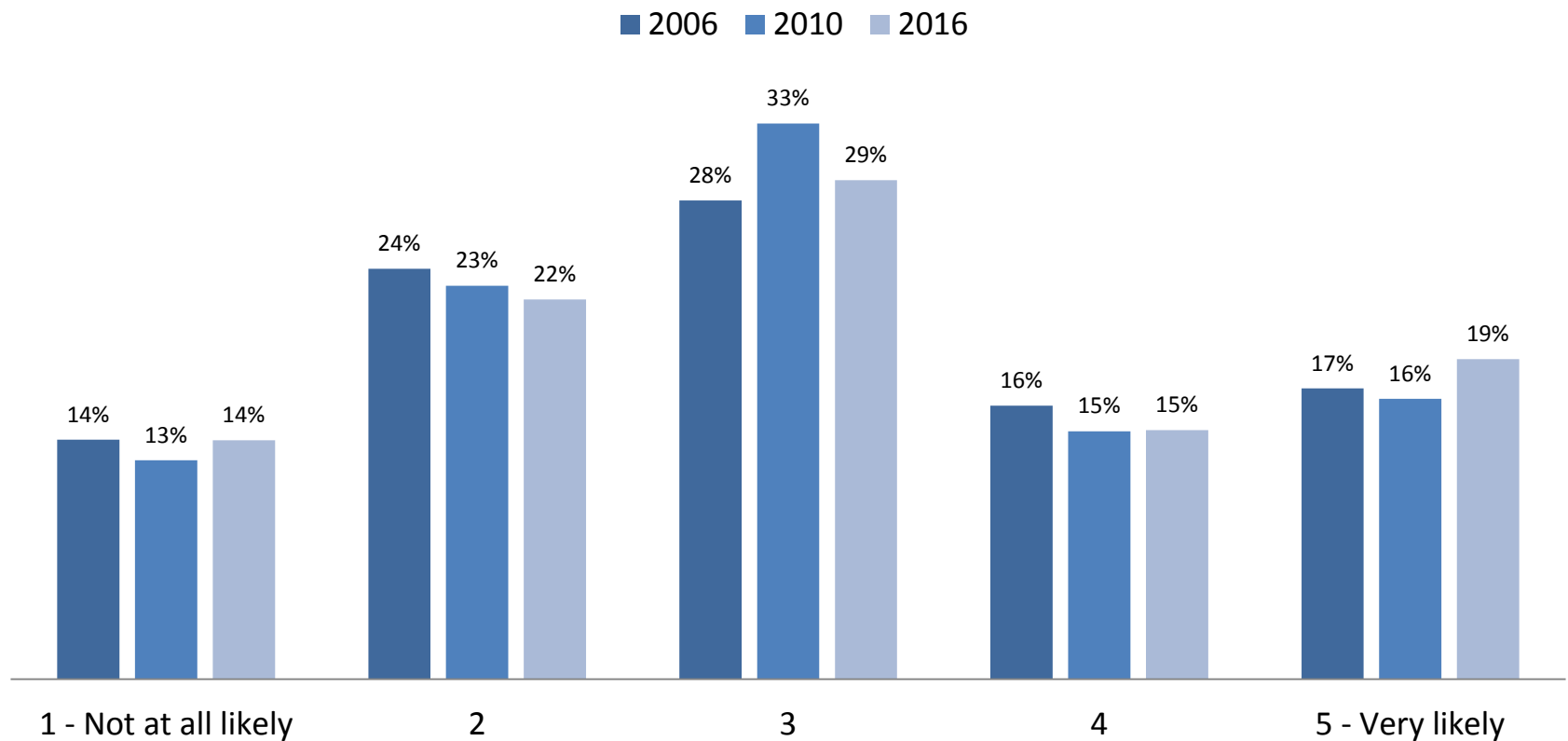
In all survey years, about a third of respondents thought they were “**very likely**” to get sick if they ate vegetables that touched raw meat.

If vegetables that you will eat happen to touch raw meat or chicken, how likely are you to get sick?



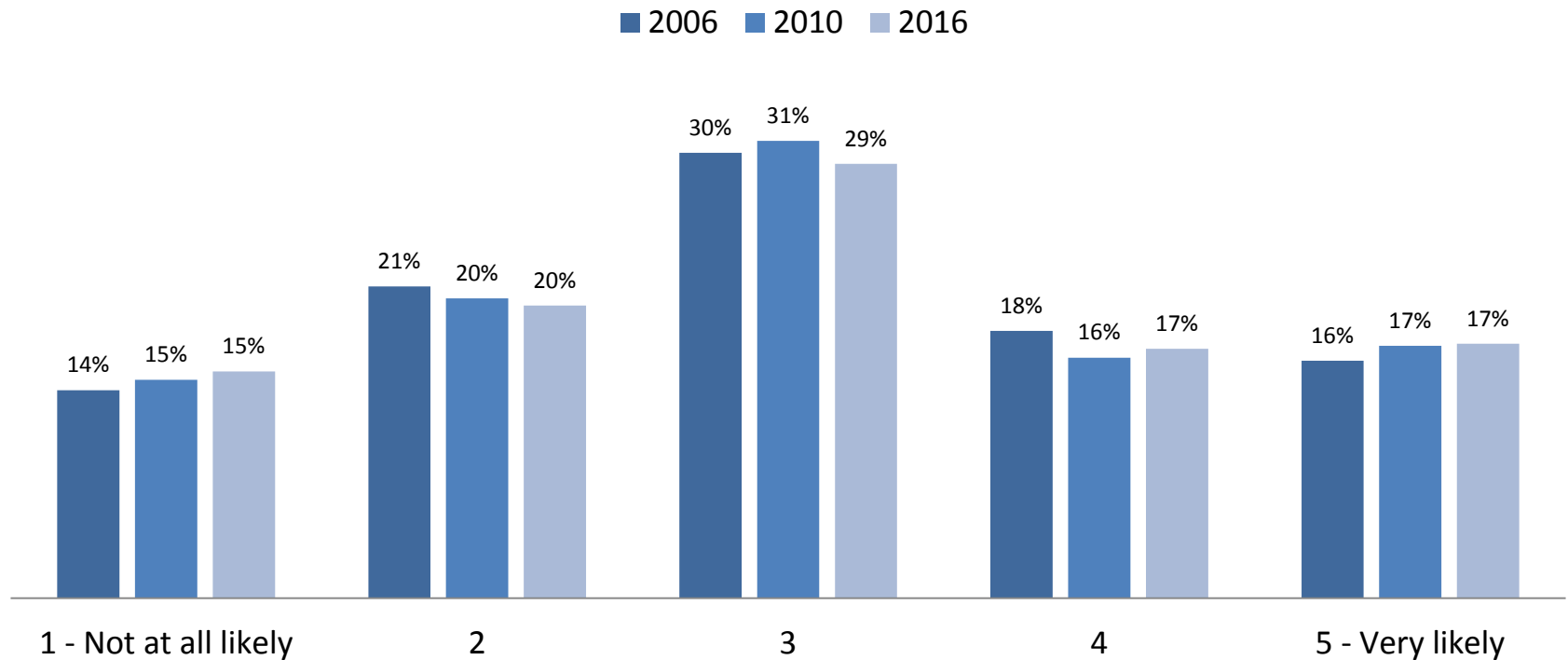
In all survey years, slightly less than 20% of respondents thought they were “**very likely**” to get sick if they forgot to wash their hands before beginning to cook.

If you forget to wash your hands before you begin cooking, how likely are you to get sick?



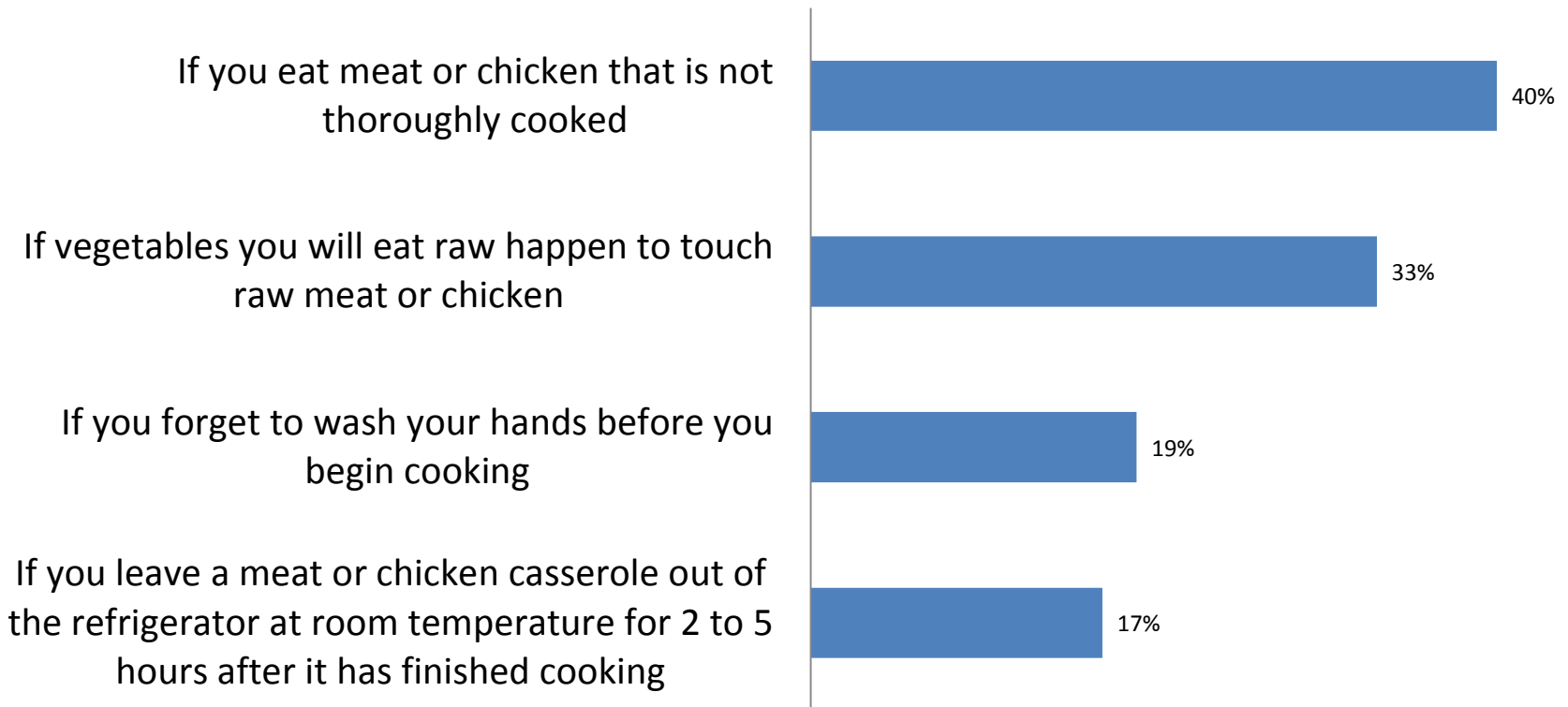
In all survey years, less than 20% of respondents thought that they were “**very likely**” to get sick if they ate a meat or chicken casserole that had been out of the refrigerator for 2 to 5 hours.

If you happen to leave a meat or chicken casserole out of the refrigerator at room temperature for 2 to 5 hours after it has finished cooking, and eat it, how likely are you to get sick?



Respondents are more concerned about getting sick from eating undercooked meat or chicken (or anything that it touches) than from not washing hands or leaving food out for too long.

Percent who think they are "very likely" to get sick from each behavior (2016 data)

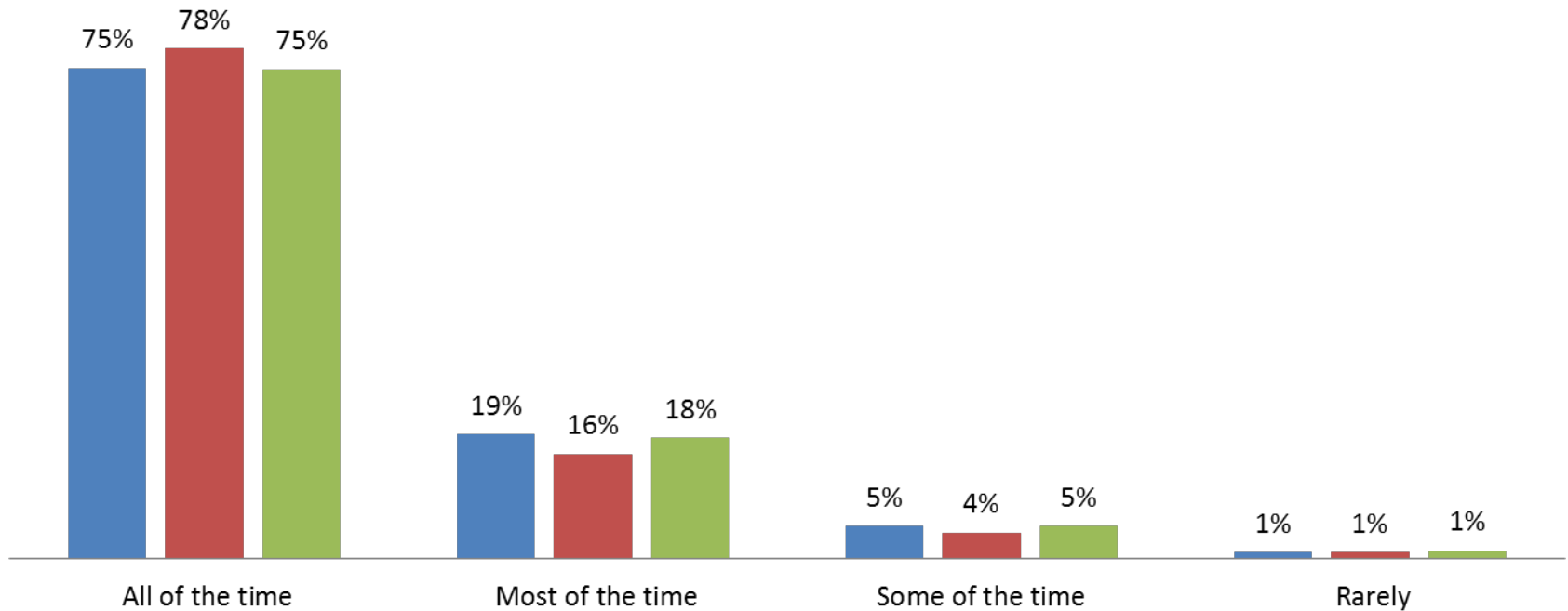


FOOD HANDLING BEHAVIOR

The rate of washing hands before preparing food has stayed the same over the 2006 to 2016 time frame.

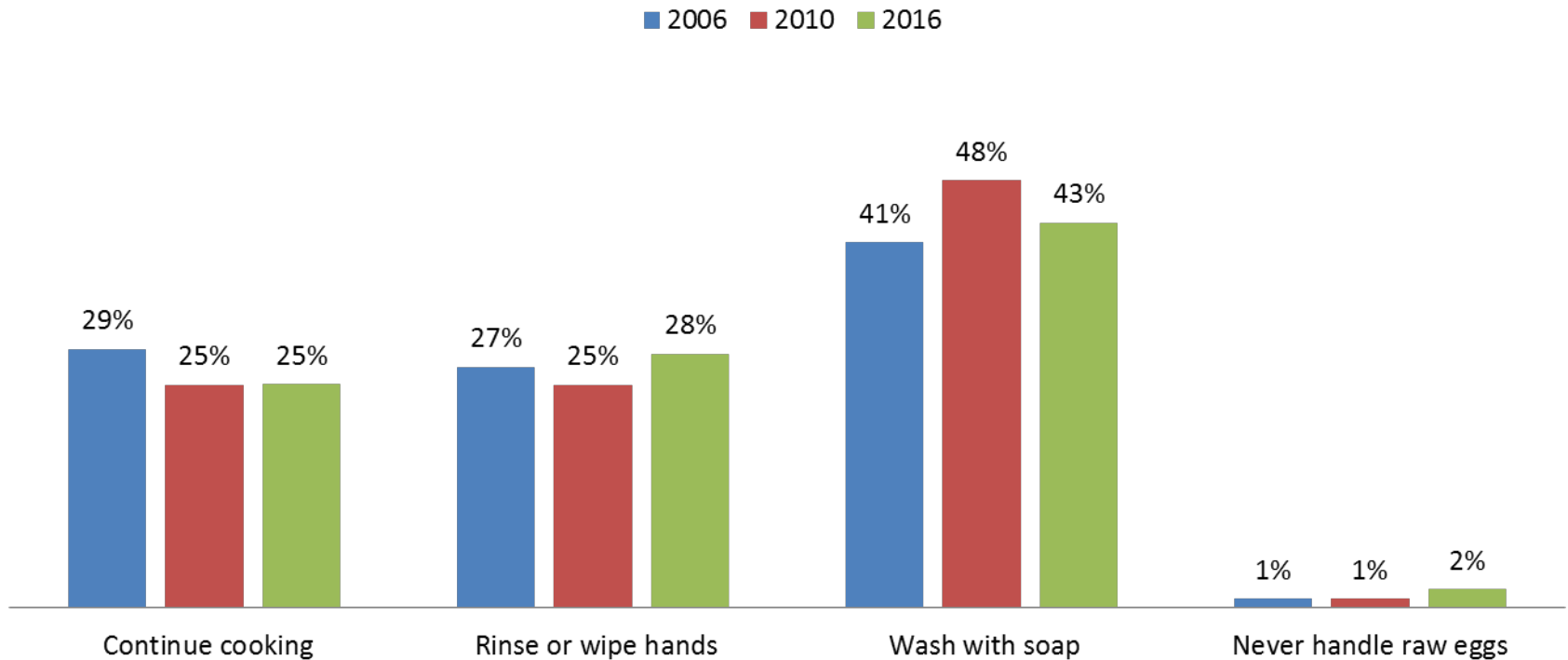
Before you begin preparing food, how often do you wash your hands with soap?

■ 2006 ■ 2010 ■ 2016



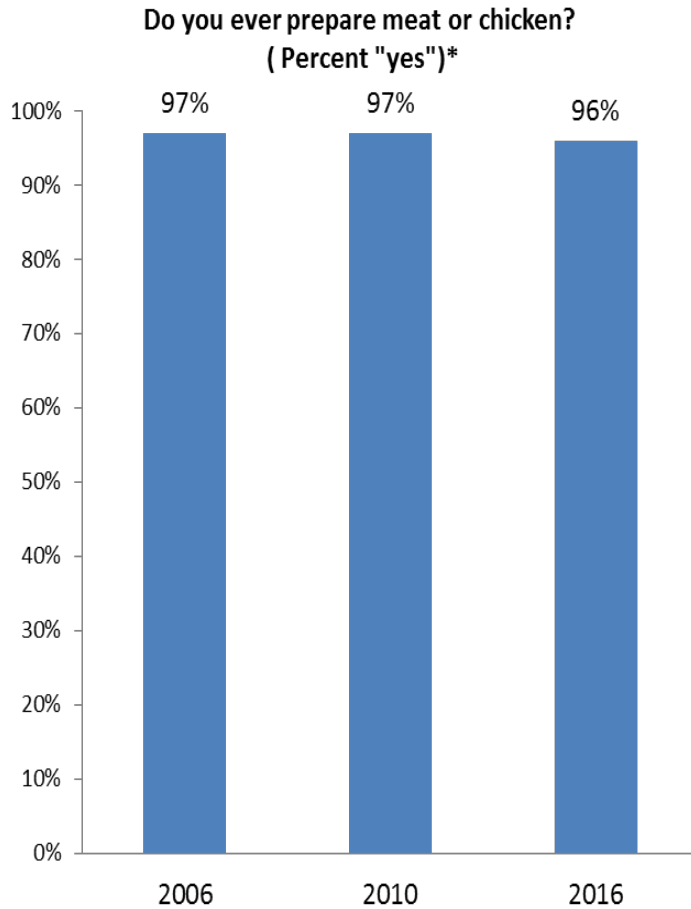
After increasing from 2006 and 2010, from 2010 and 2016 the percent who wash with soap after cracking raw eggs declined.

After you have cracked open raw eggs, do you usually continue cooking, or do you first rinse your hands, or wipe them, or wash them with soap?*

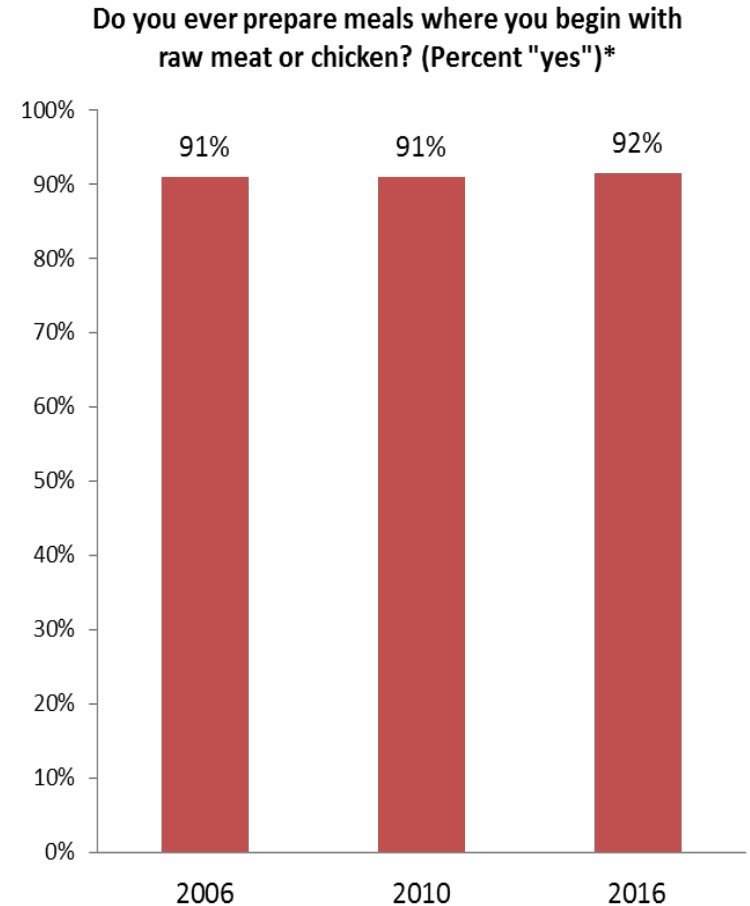


*Asked of those who prepare the main meal.

In all years, most prepare meals with raw meat or chicken.



If Yes →

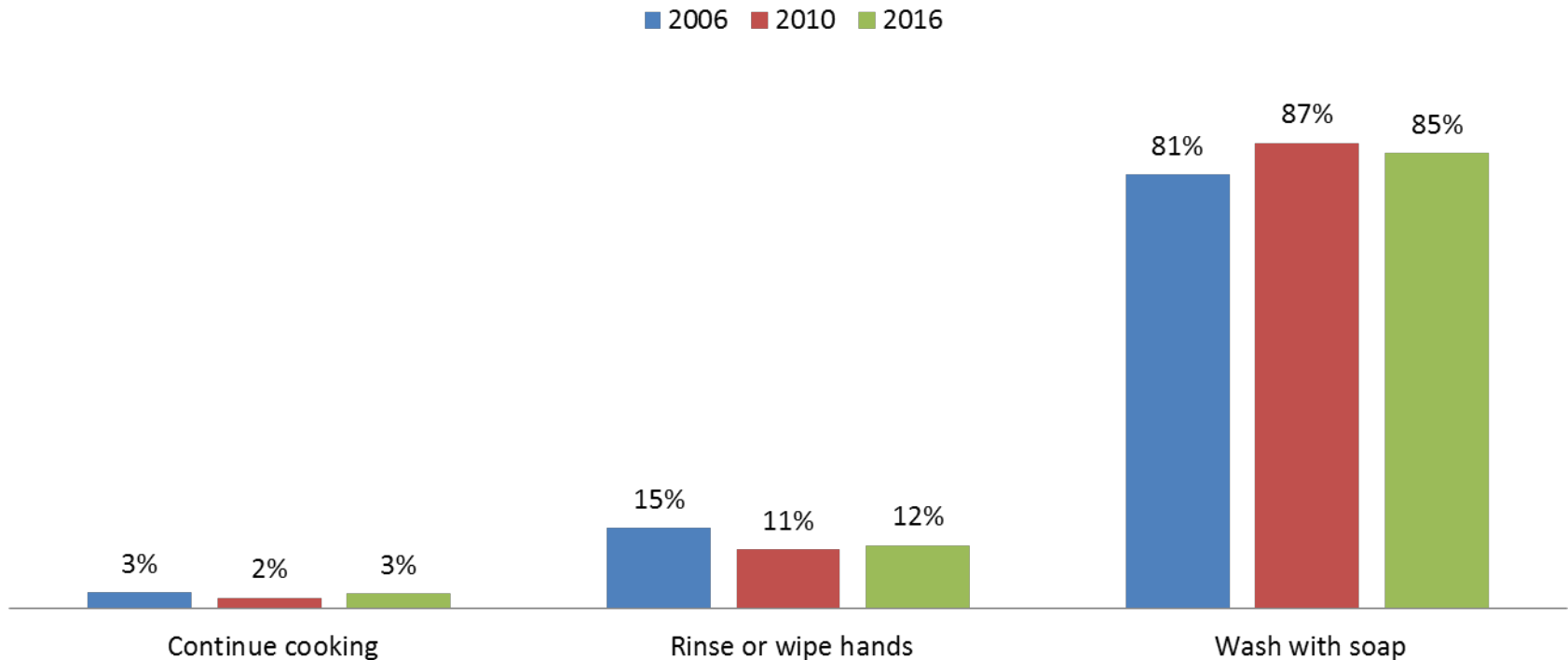


*Asked of those who prepare the meal.

*Asked of those who prepare raw meat or chicken.

After increasing from 2006 and 2010, the percent who wash with soap after handling raw meat or chicken remained the same in 2016 as in 2010.

After handling raw meat or chicken, do you usually continue cooking, or do you first rinse your hands, wipe them, or wash them with soap?*

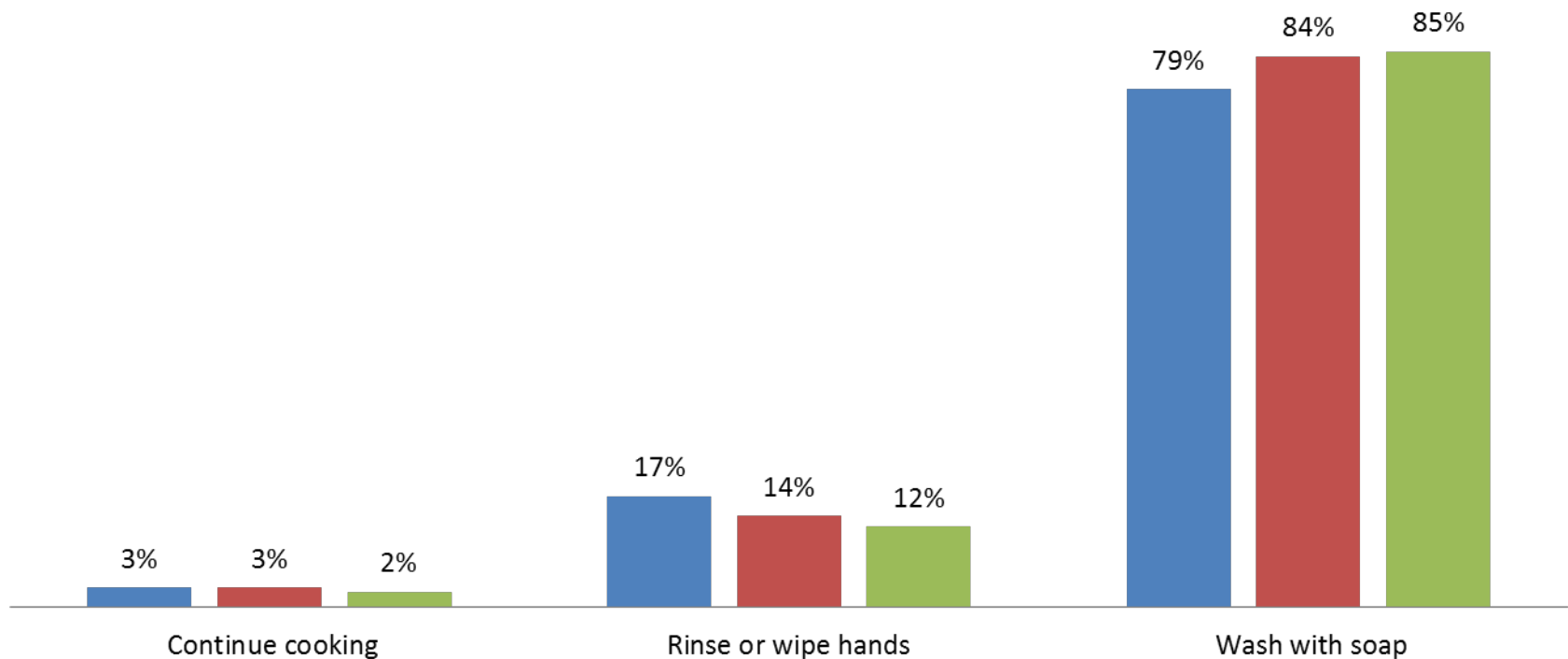


*Asked of those who prepare raw meat or chicken.

After increasing between 2006 and 2010, the percent who wash with soap after handling raw fish remained the same in 2016 as in 2010.

After handling raw fish, do you usually continue cooking, or do you first rinse your hands, wipe them, or wash them with soap?

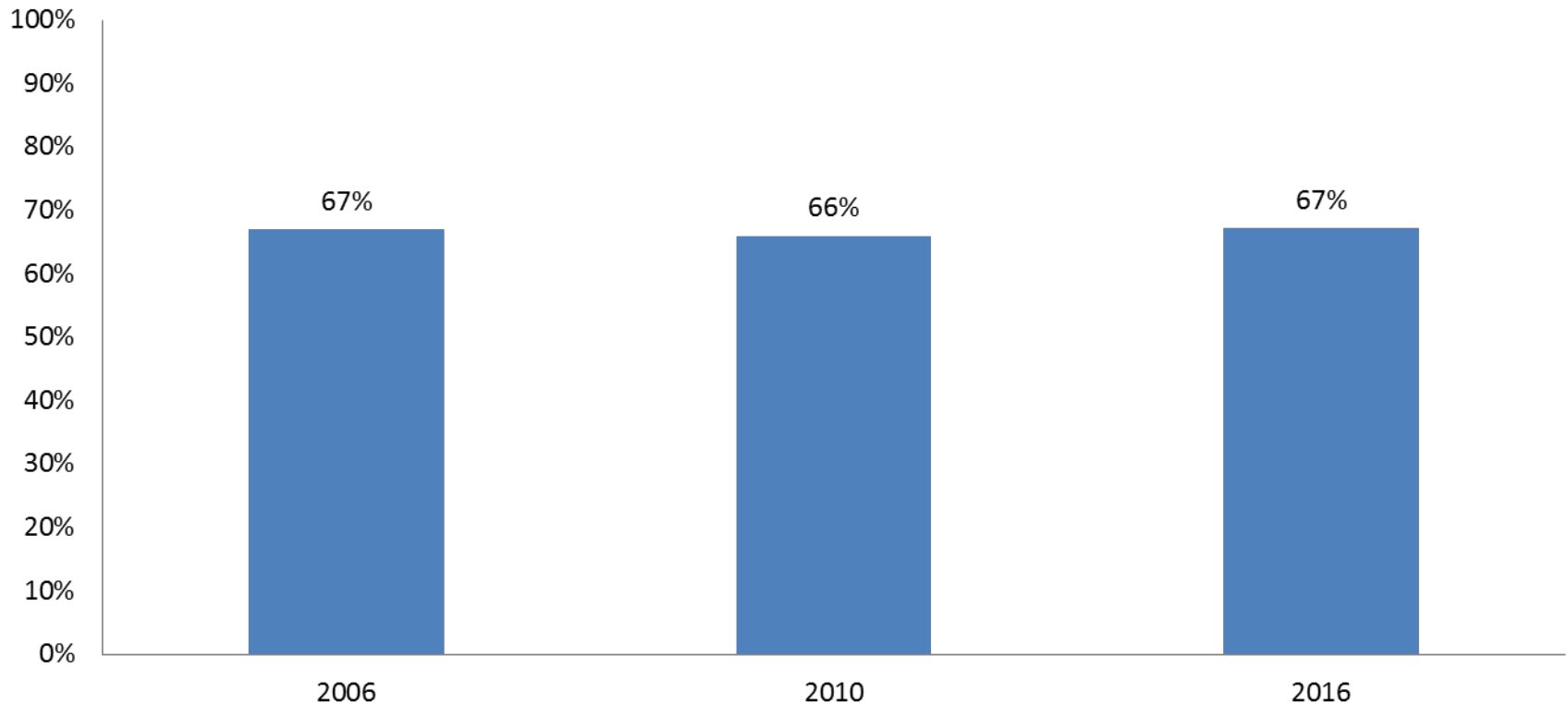
■ 2006 ■ 2010 ■ 2016



*Asked of those who prepare raw fish or shellfish.

The percent who have a food thermometer has not changed.*

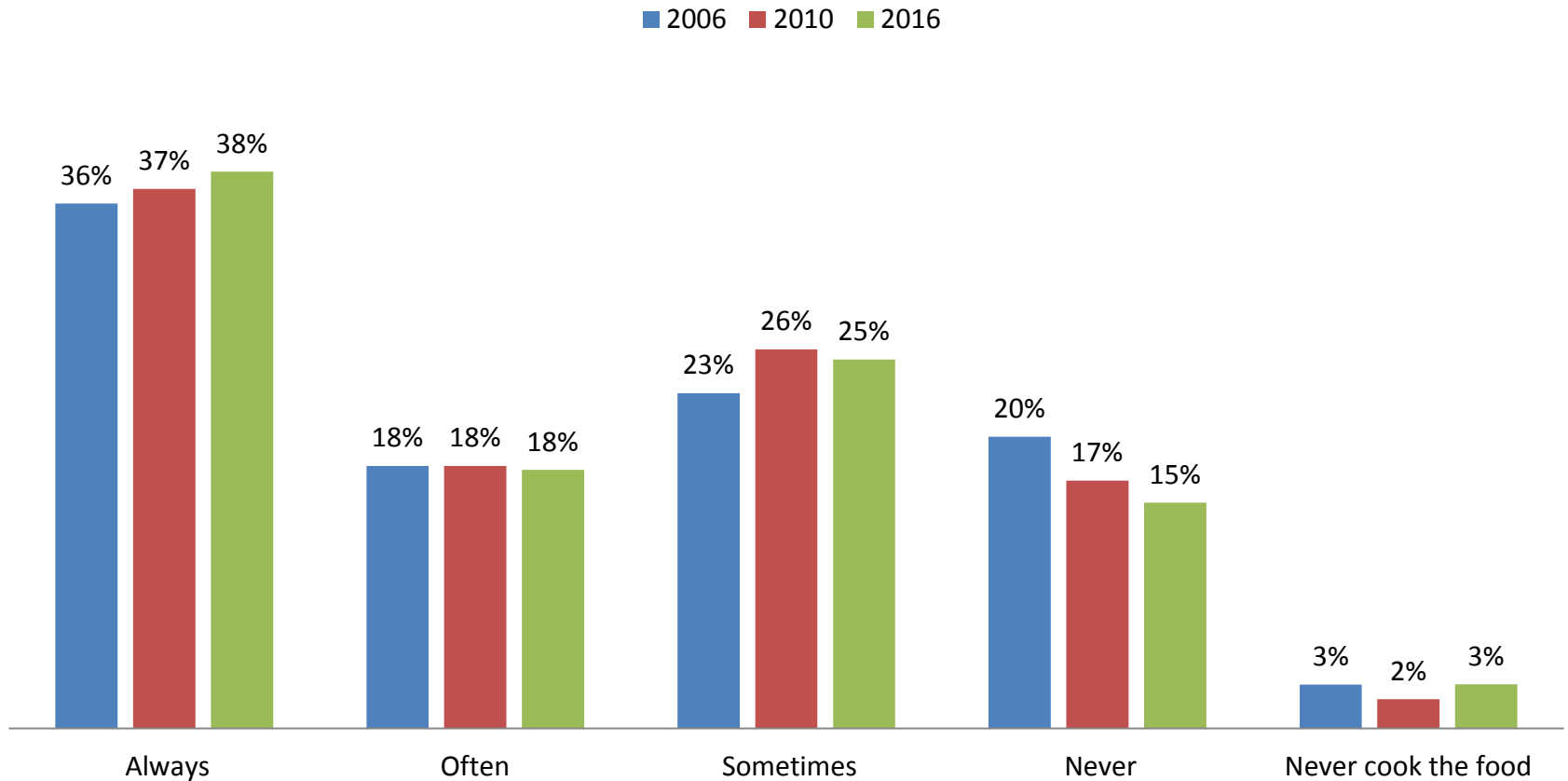
Do you have a food thermometer, such as a meat thermometer? (% Yes)



*This question as asked of everyone, including those who don't prepare food.

The percent of raw meat preparers who use a thermometer at least sometimes when cooking roasts has increased slightly since 2006.*

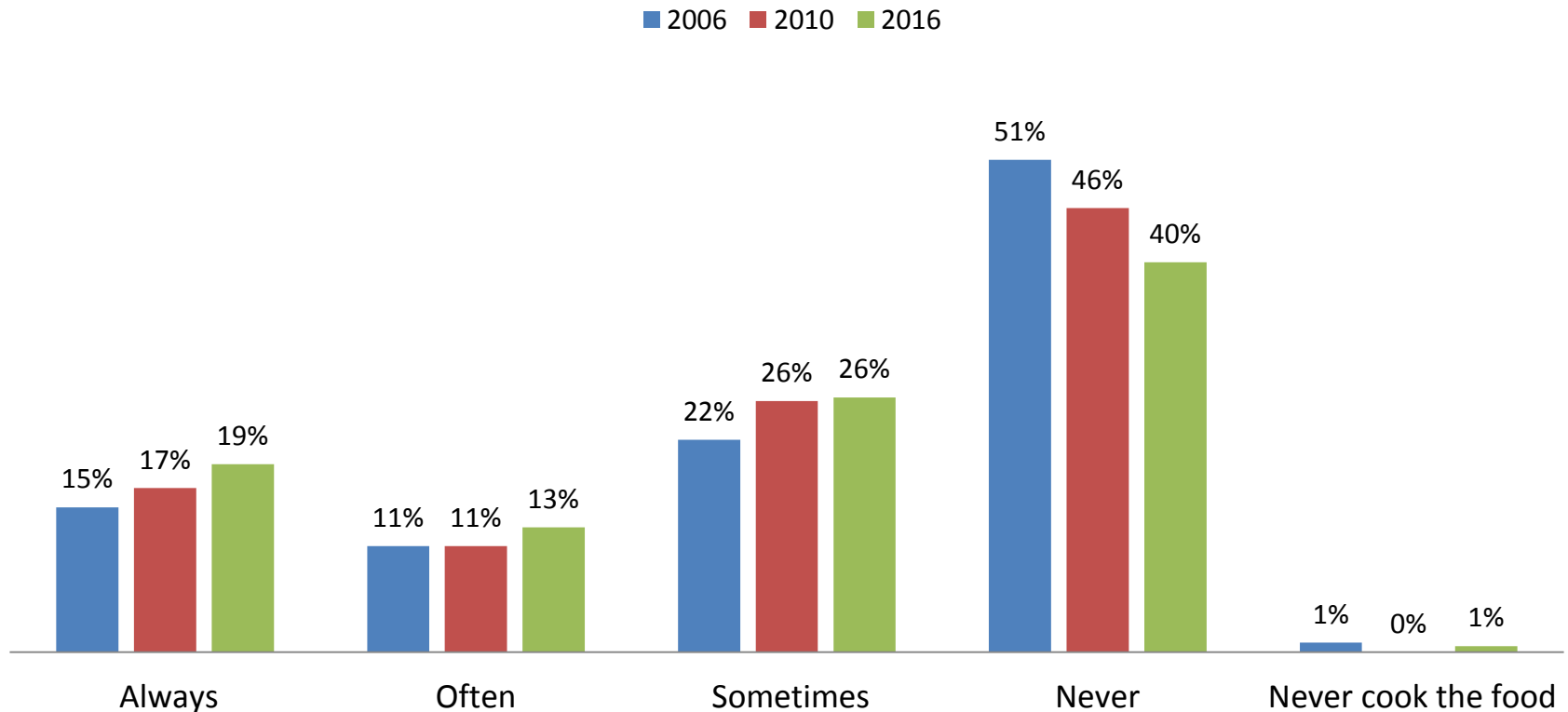
How often do you use a meat thermometer when you cook roasts? Would you say...



*Asked of those who have a food thermometer and prepare raw meat/chicken.

The percent who use a food thermometer for chicken parts at least sometimes has increased since 2006, but remains low.*

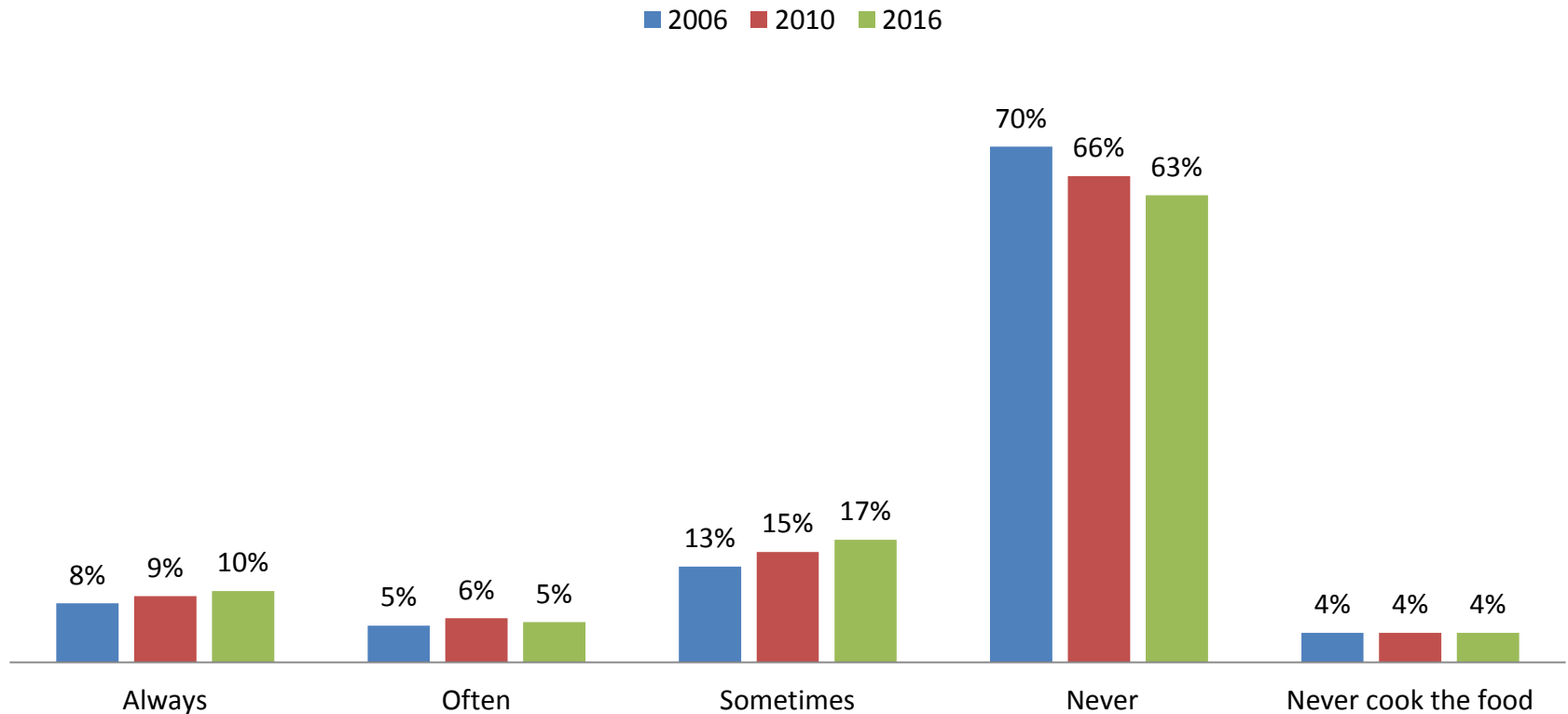
How about chicken parts, such as breasts or legs - how often do you use a thermometer when you cook chicken parts? Would you say...



*Asked of those who have a food thermometer and prepare raw meat/chicken.

There has been a slight increase in the percent who use thermometers for cooking hamburgers at least sometimes since 2006.*

How about hamburgers - how often do you use a thermometer when you cook or grill hamburgers? Would you say...

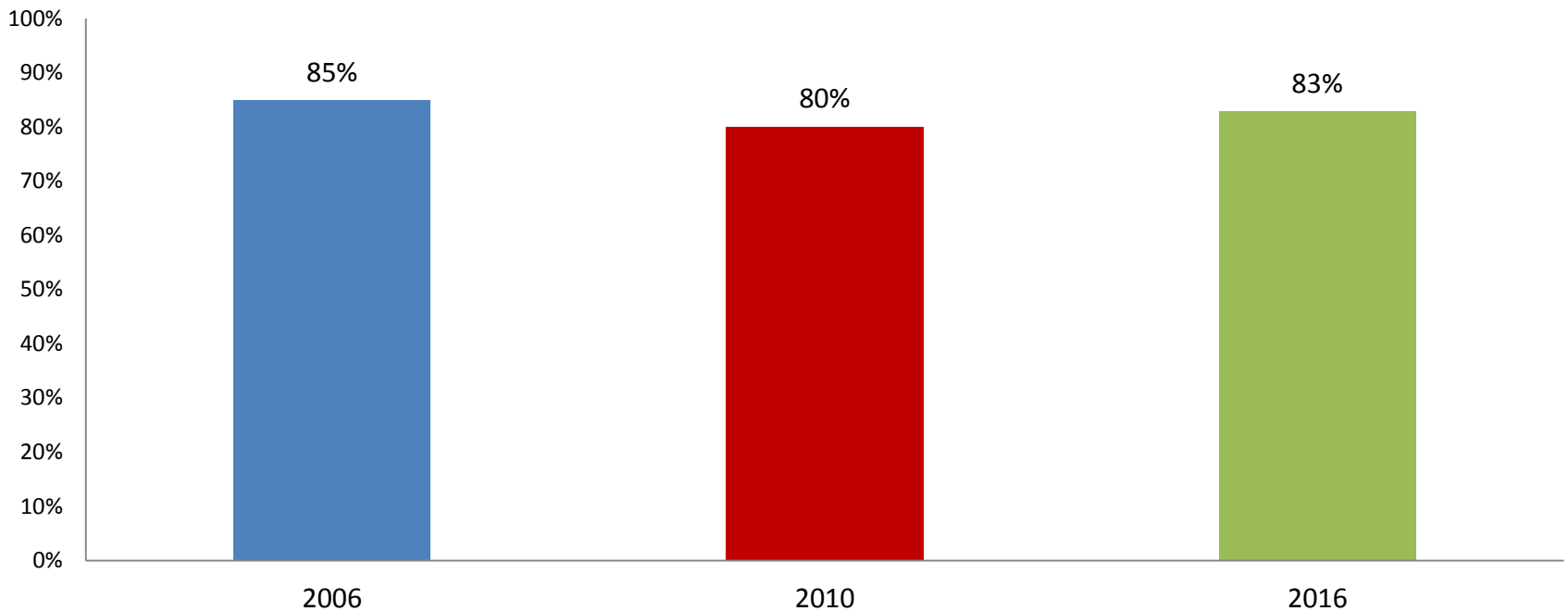


*Asked of those who have a thermometer and who cook raw meat/chicken. In 2016 those that said they did not eat hamburgers in their household were not asked the question. To make the bases equal across the years, those respondents have been classified as "Never cook the food" in this graph.

The percent who properly store a meat or chicken dish safely, by putting it in the refrigerator within two hours of cooking, has remained high across the years.

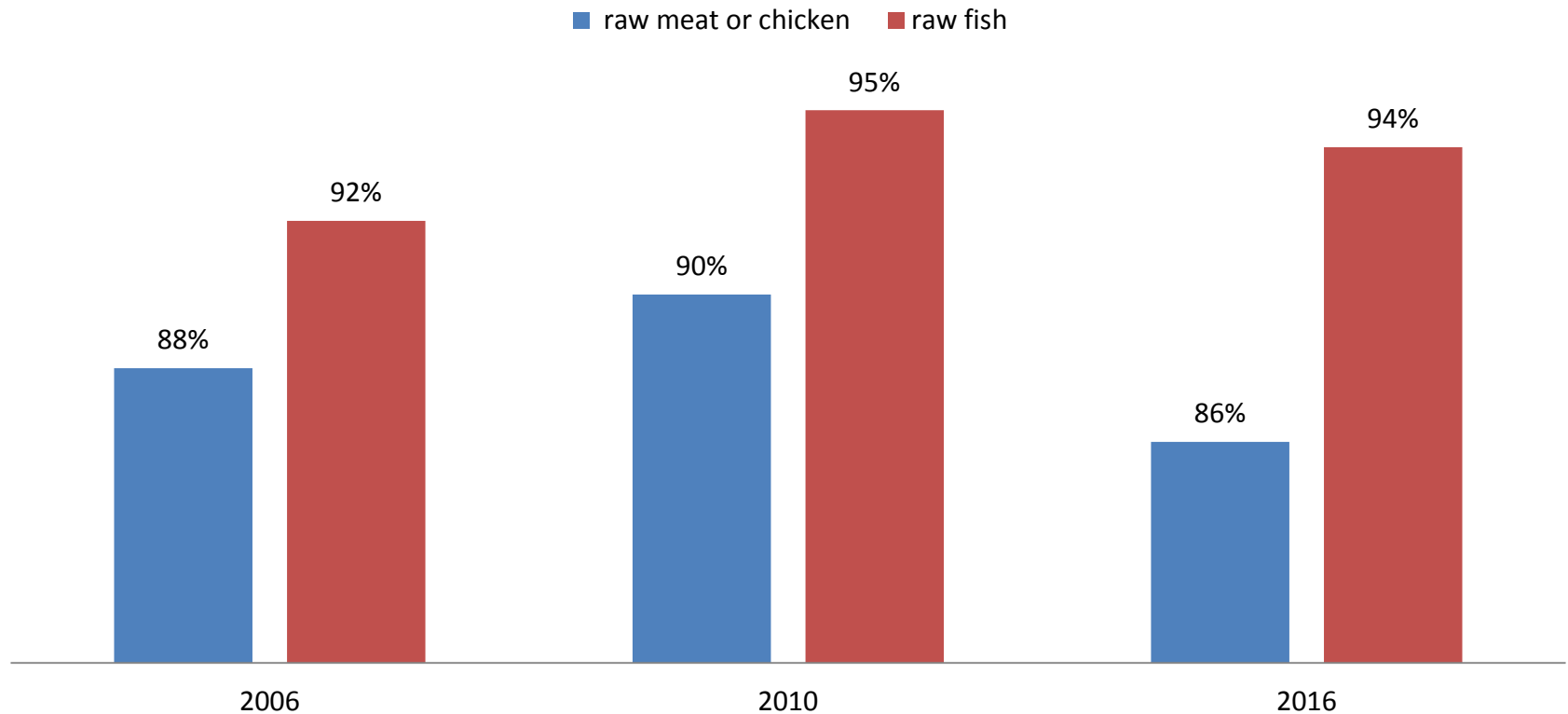
If you cook a large pot of soup, stew, or other food with meat or chicken and want to save it for the next day, when do you put the food in the refrigerator?

(% who gave a response consistent with keeping the food safe)



The percent who wash cutting boards with soap or disinfect or use a different cutting board after preparing raw meat/chicken or fish has remained high across the years. There is a slight decline in the percent who wash cutting boards after cutting raw meat between 2010 and 2016.

The percent who wash cutting boards with soap or disinfect or use a different one after cutting raw meat/chicken or fish*

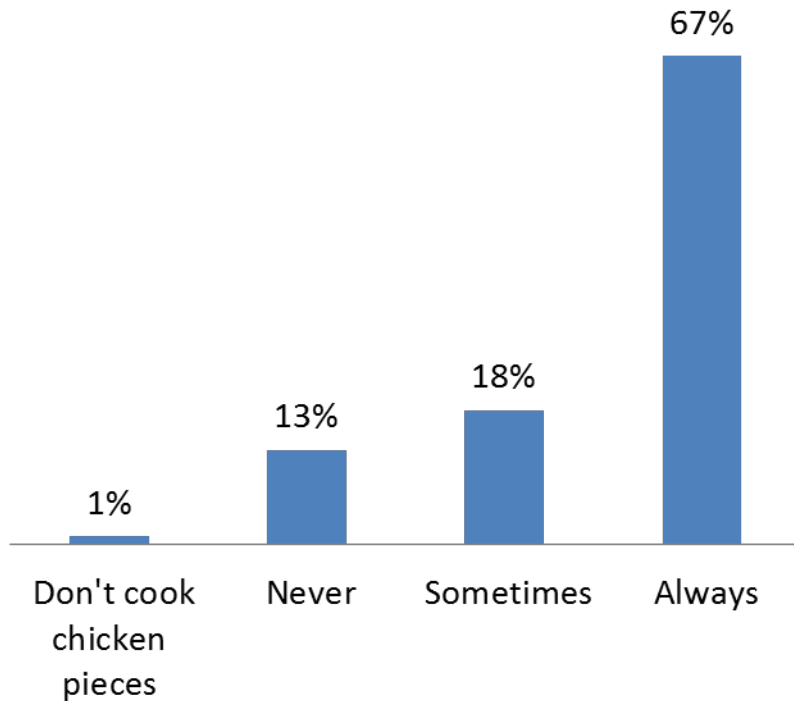


*Only those who prepare raw meat/chicken or raw fish and who answered the question are included in this chart.

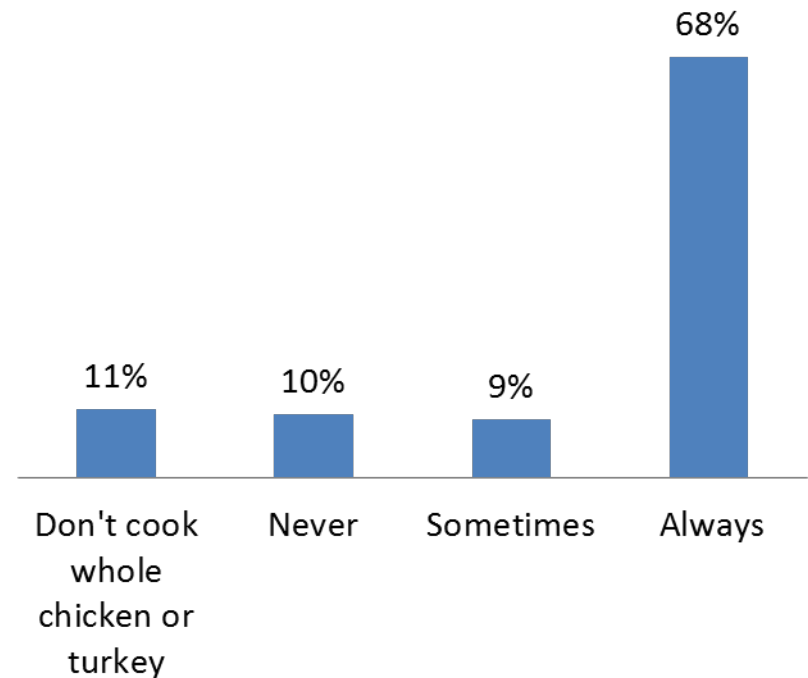
WASHING CHICKEN AND DEVICES

Most Americans report washing chicken parts or whole chickens/turkeys before cooking them.

Would you say that you always, sometimes, or never wash or rinse raw chicken pieces before cooking them?

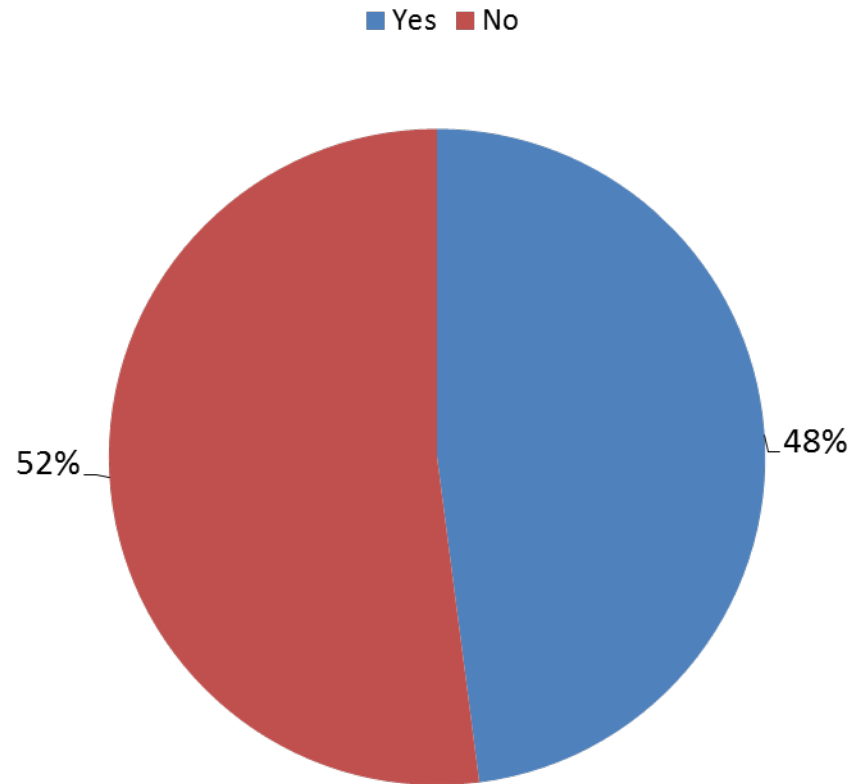


What about when you prepare a whole chicken or whole turkey, do you always, sometimes, or never wash or rinse whole chickens or turkeys before cooking?



About half of respondents use devices such as cell phones, tablets, laptops, telephones, or computers while preparing food.*

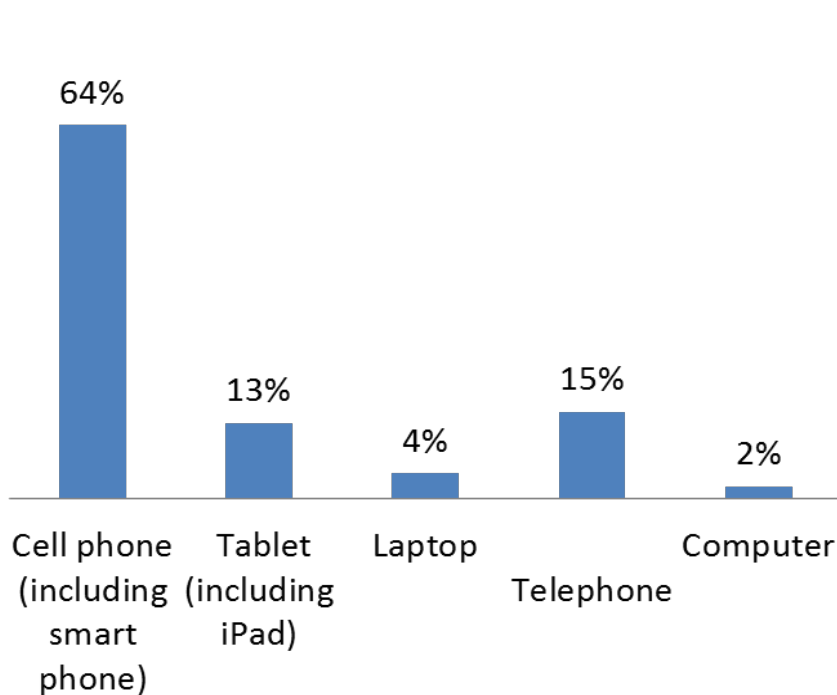
Do you ever use a telephone, cell phone, smart phone, tablet, or computer while preparing food?



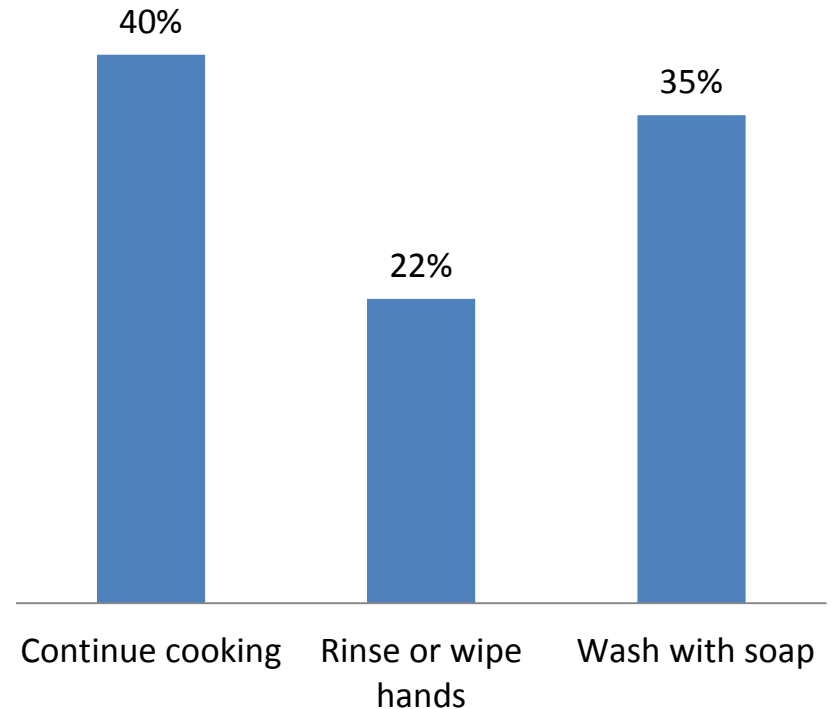
*This was asked of those who have a refrigerator and stove/microwave and for Version 2 also had to prepare the main meal.

Of those who use a device while cooking, most use a cell phone (including smart phone) and only about a third wash their hands after touching the device.

Which one do you handle most often while preparing food?

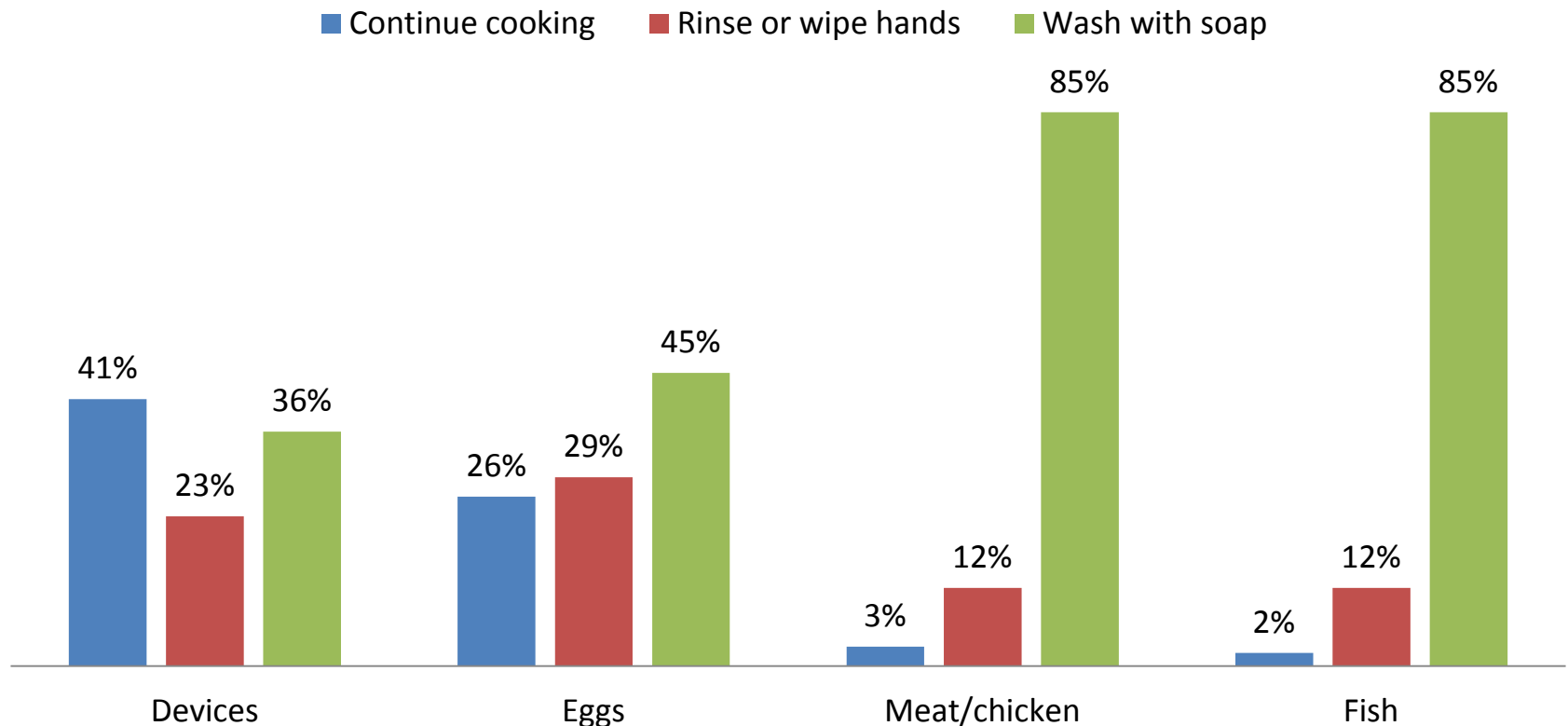


After you touch your [device] while preparing food, what you usually do next? Do you...?



Consumers are less likely to wash hands after touching devices than after touching raw meat/chicken, raw fish, and raw eggs.

After handling [], do you usually continue cooking, or do you first rinse your hands with water, or wipe them, or wash with soap?*

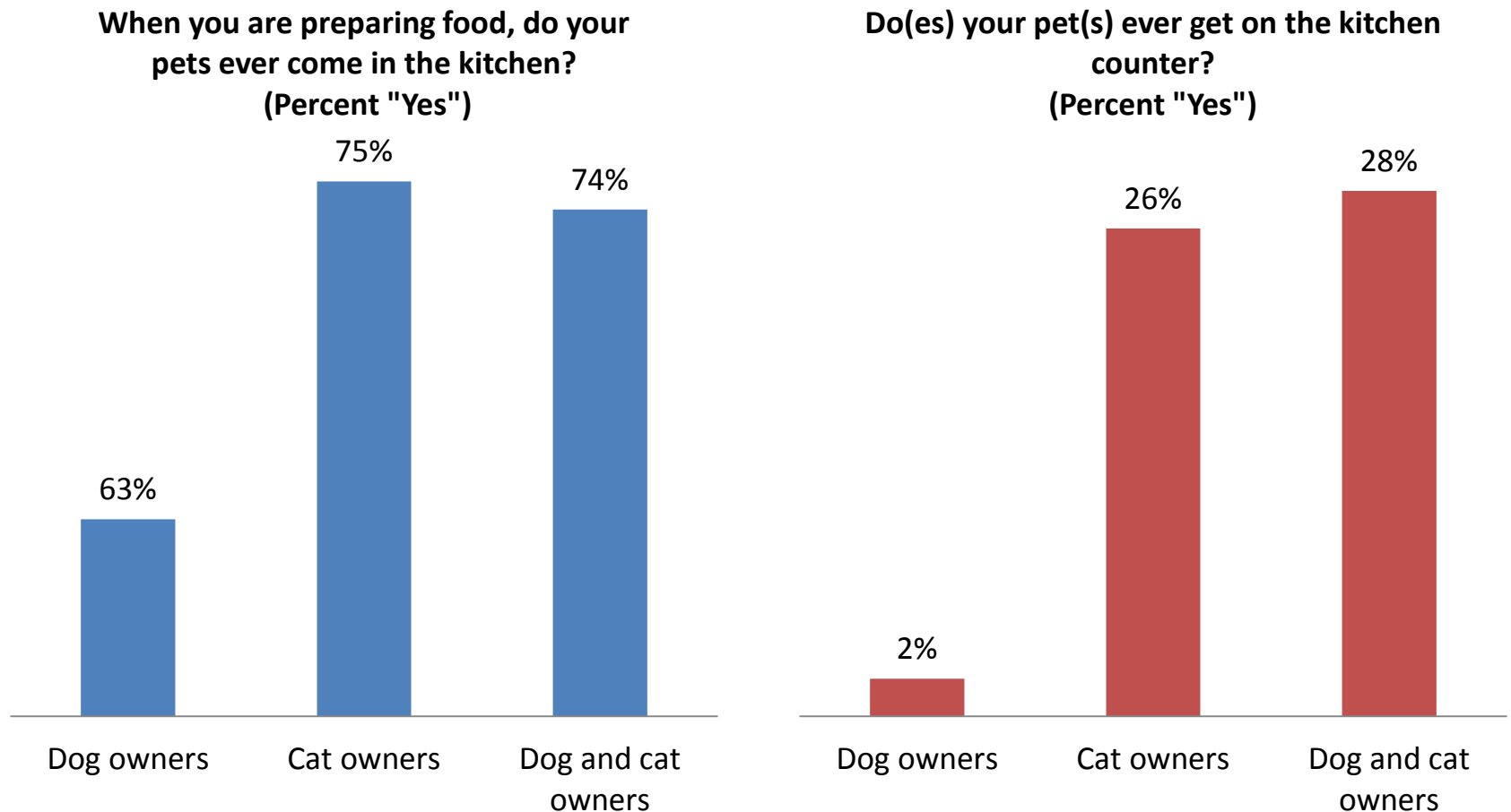


*Percentages reported for food preparers who engage in the behavior. This is a different base than what was shown on the previous slide and is why the percentages change slightly .

PETS IN THE KITCHEN

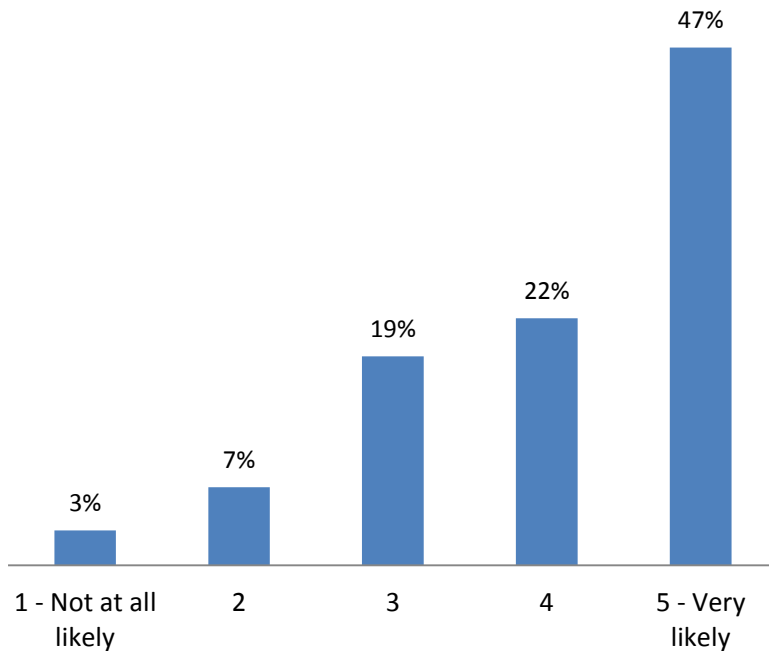
Slightly over half (55%) of respondents reported having a pet in their household - 42% owned dogs and 22% cats.

For both cat and dog owners, pets are often in the kitchen when the owners are preparing food and the pets sometimes get on the counters.



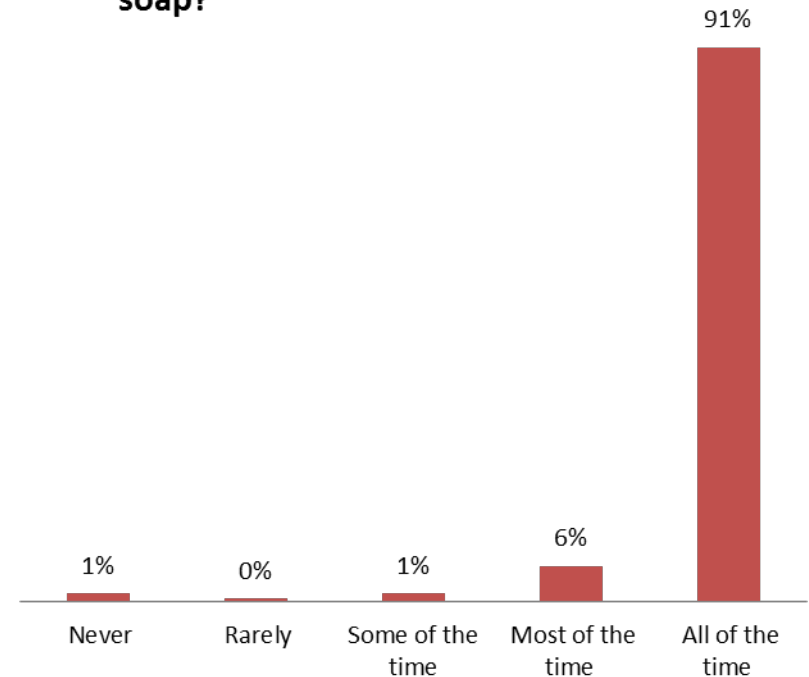
In 2016, 22% of respondents had a cat. Of those, almost half thought that they were “**very likely**” to get sick from not washing hands their after cleaning the litter box. Over 90% indicated they **washed** their hands every time they clean the box.

If you forget to wash your hands after cleaning out a cat litter box before you prepare food, how likely are you to get sick?*



*Of those who have a cat.

After you clean the cat litter box, how often do you wash your hands with soap?*



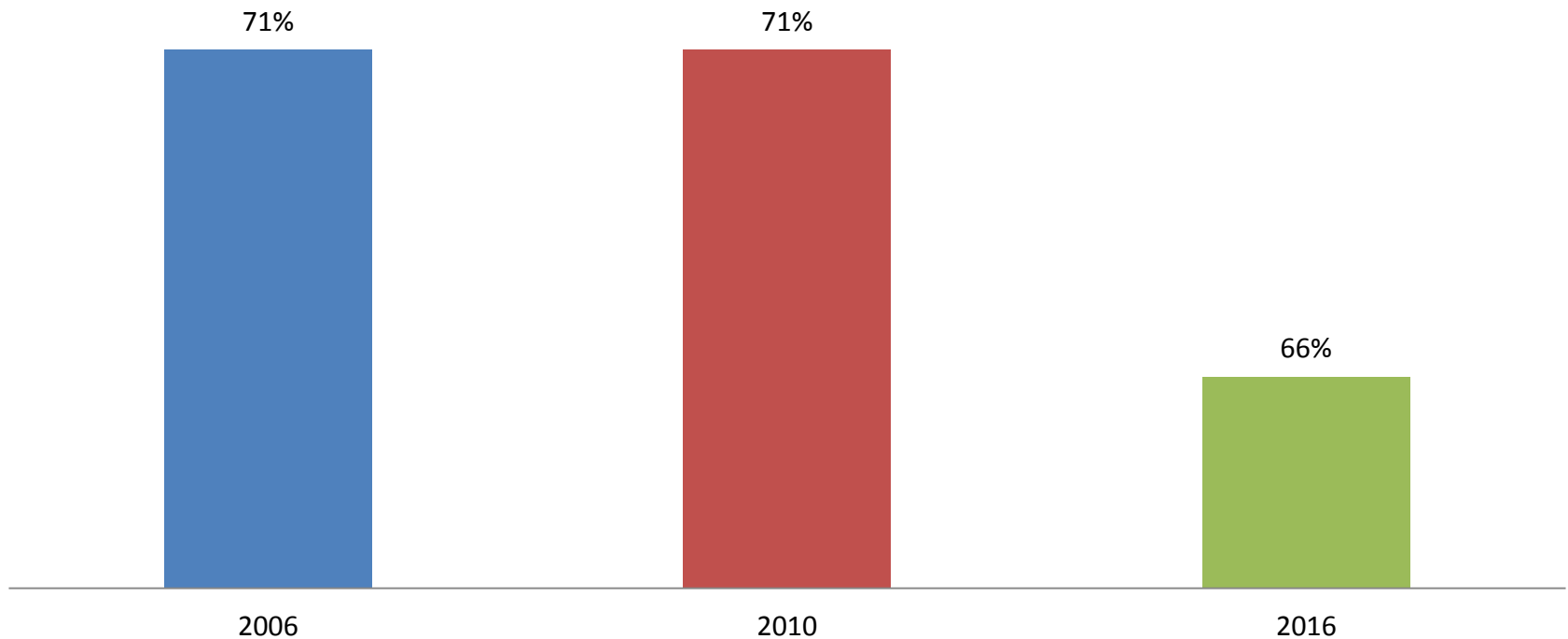
*Of those who clean the cat litter box.

FRUIT AND VEGETABLE WASHING

In all years, most respondents reported buying bagged lettuce.
(The question changed in 2016 to be more specific and fewer reported buying bagged lettuce.)

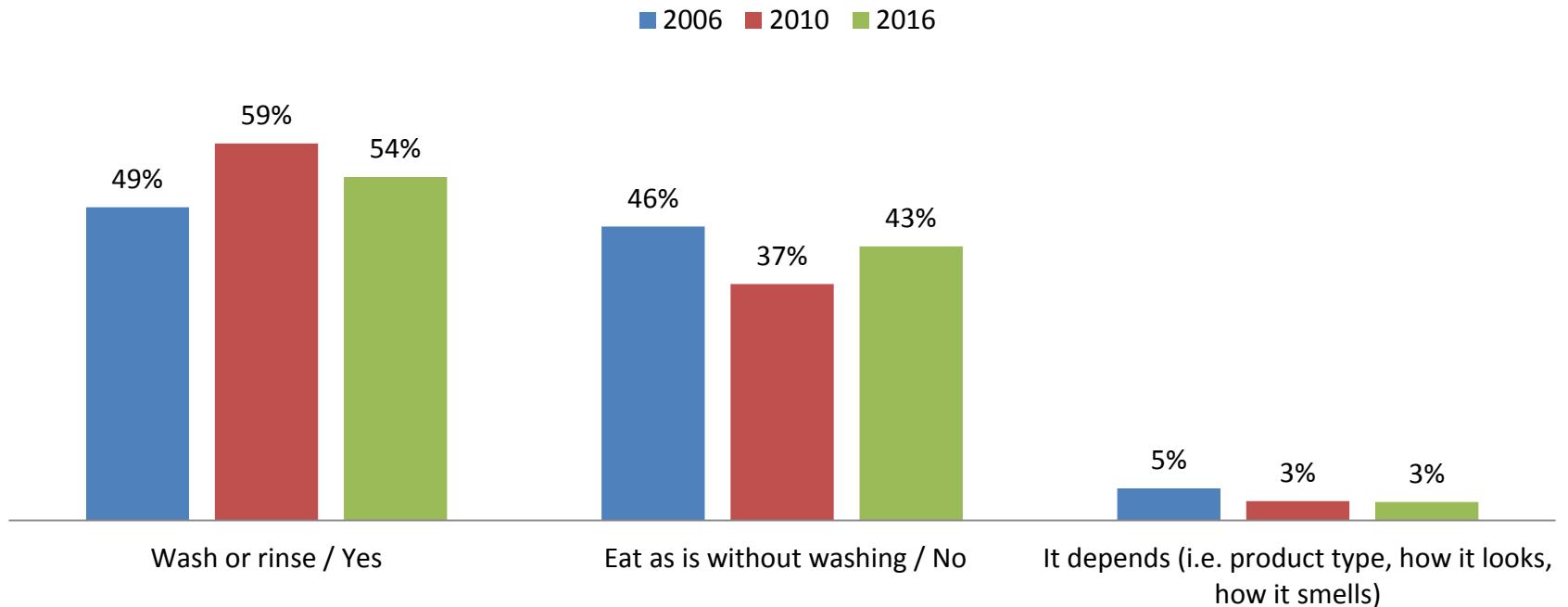
**Do you ever buy bagged lettuce marked "prewashed" or "ready to eat"?
(Percent "Yes") (2016)**

Do you ever buy bagged, precut lettuce? (Percent "Yes") (2006, 2010)



In all years, about half of respondents who bought bagged lettuce washed or rinsed it before eating.

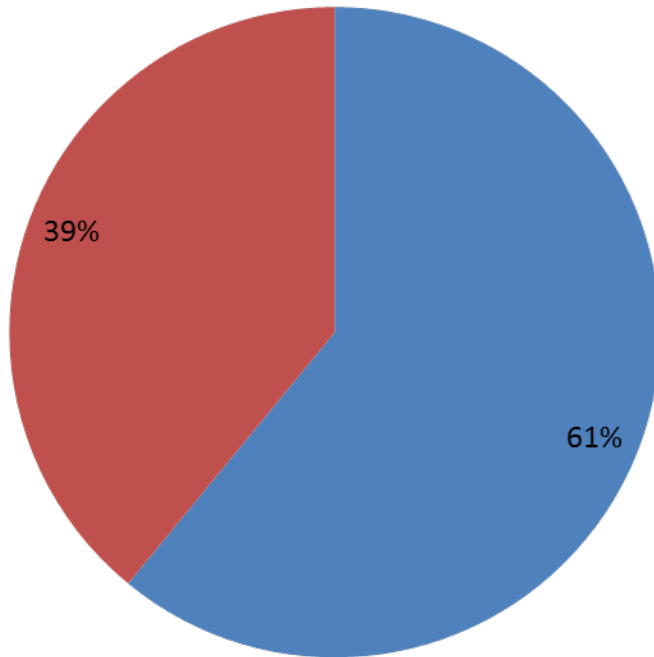
Do you usually wash or rinse bagged lettuce that is marked "prewashed" or "ready to eat" or do you eat it as is from the bag? (2016)
Do you usually wash or rinse bagged, precut lettuce before your eat it? (2006, 2010)



In 2016 we asked about buying and washing **avocados**. Previously we had asked about strawberries and tomatoes and found that almost all wash them before eating them.

Do you ever buy whole avocados?

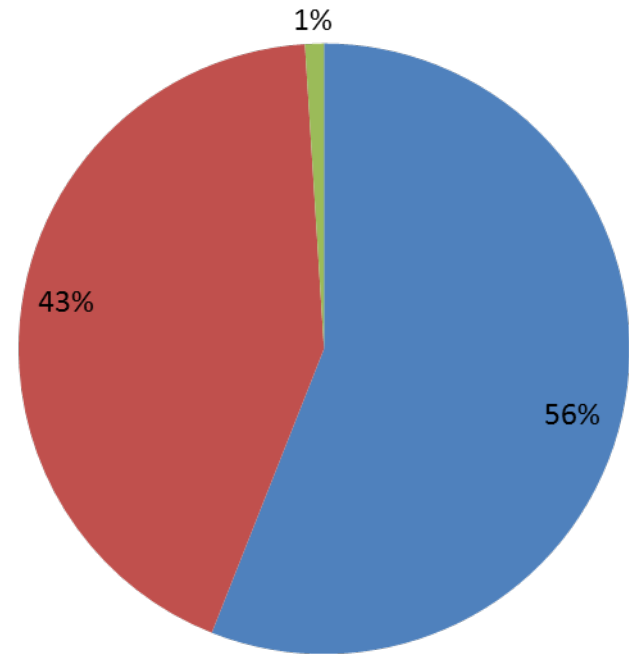
■ Yes ■ No



If Yes →

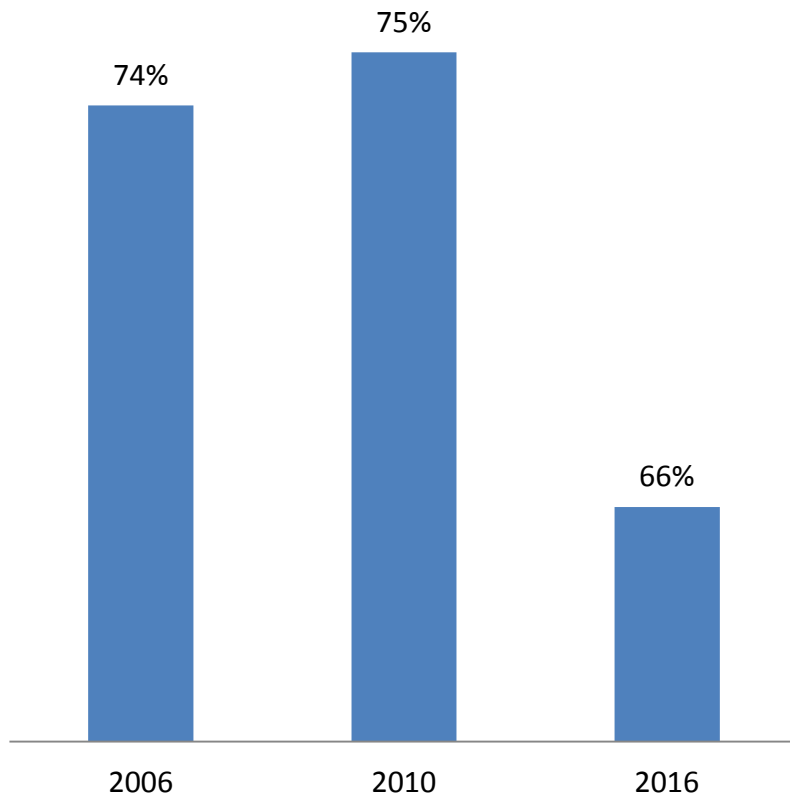
Do you usually wash or rinse avocados before you prepare or eat them?

■ Yes ■ No ■ Don't know/refused



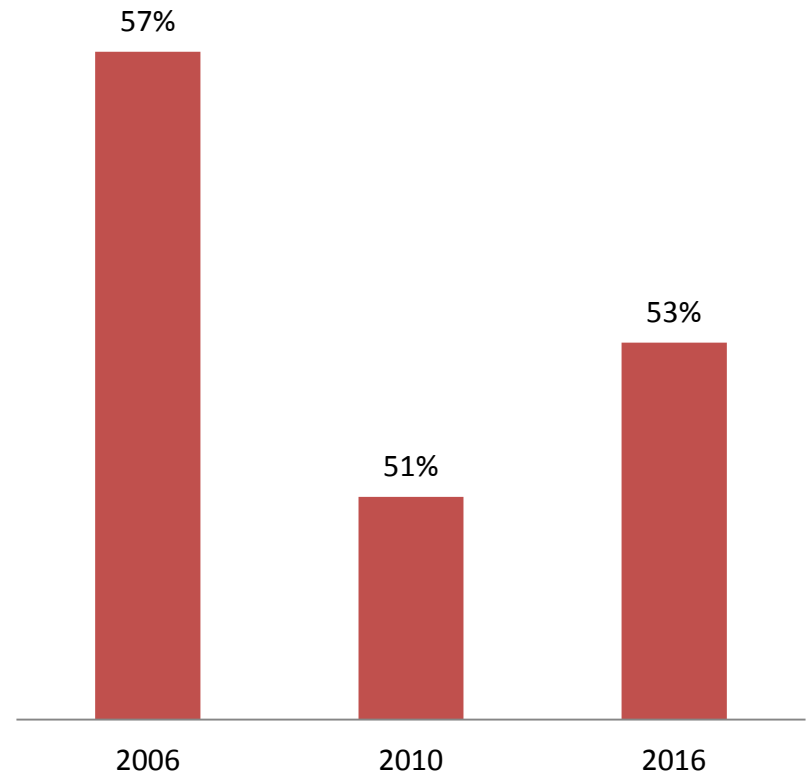
In 2016 fewer respondents reported buying whole cantaloupe, but in all years only slightly more than half wash or rinse them.

Do you ever buy whole cantaloupe?
(Percent "Yes")



*In 2006 we asked, "Do you ever buy cantaloupe?"

Do you usually wash or rinse cantaloupe before
you prepare or cut it? (Percent "Yes")



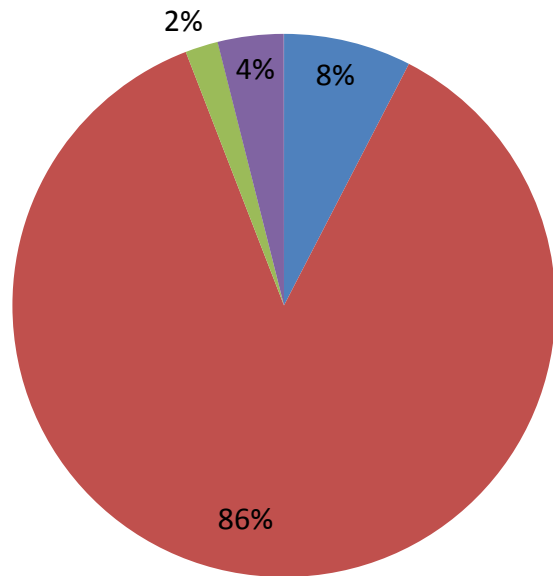
*Asked of those who buy cantaloupe.

RAW MILK AND CHEESE CONSUMPTION

In 2016, 8% of respondents reported eating raw milk cheese. Of those who ate it, the most recent cheese they ate was almost evenly split between hard and soft raw milk cheese.

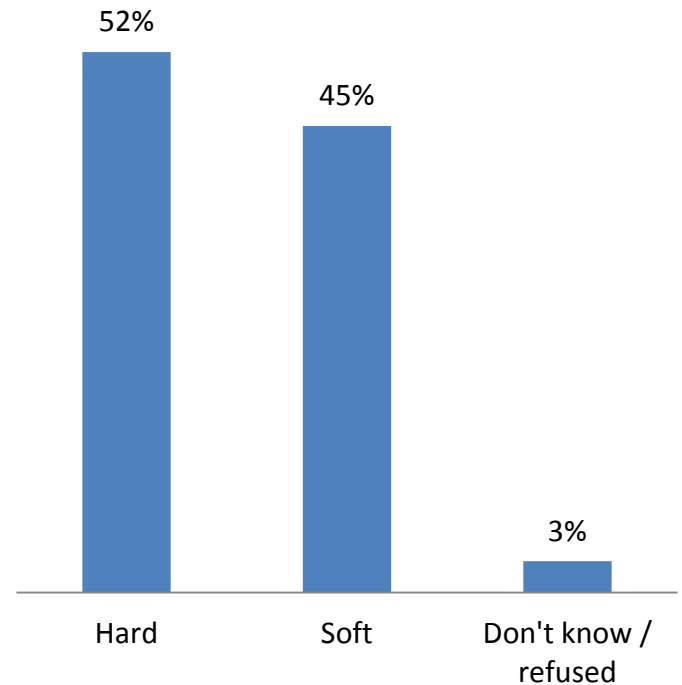
In the past 12 months, have you eaten any cheese that was made from milk that was not pasteurized?

■ Yes ■ No
■ Don't eat cheese ■ Don't know / refused



If Yes →

Thinking of the most recent time that you had raw milk cheese, was this cheese a "hard" cheese such as cheddar or a "soft" cheese such as brie?

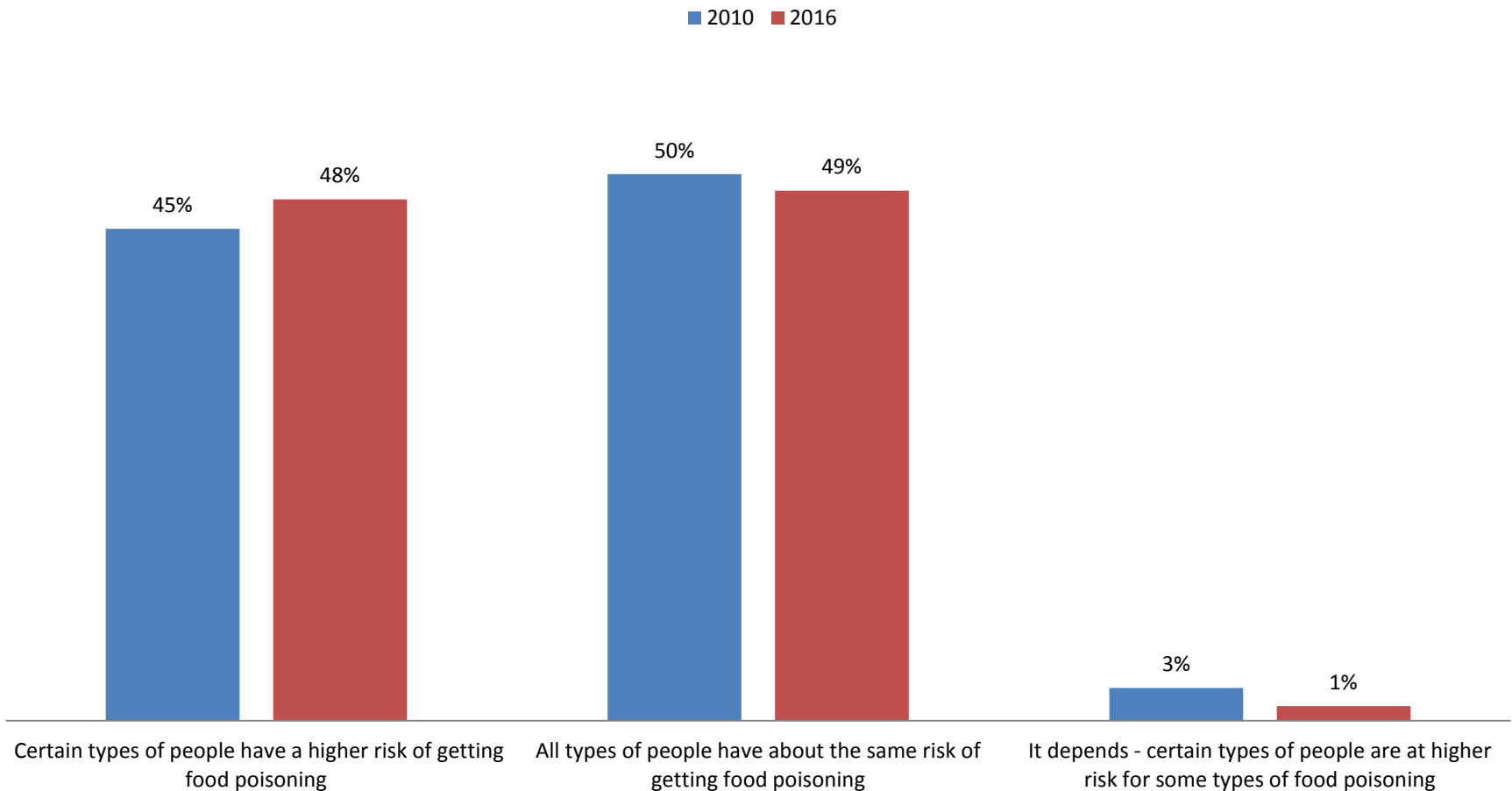


*In 2006, 6% reported eating raw milk cheese. The question was not asked in 2010.

CONSUMPTION OF RAW OR UNDERCOOKED FOODS

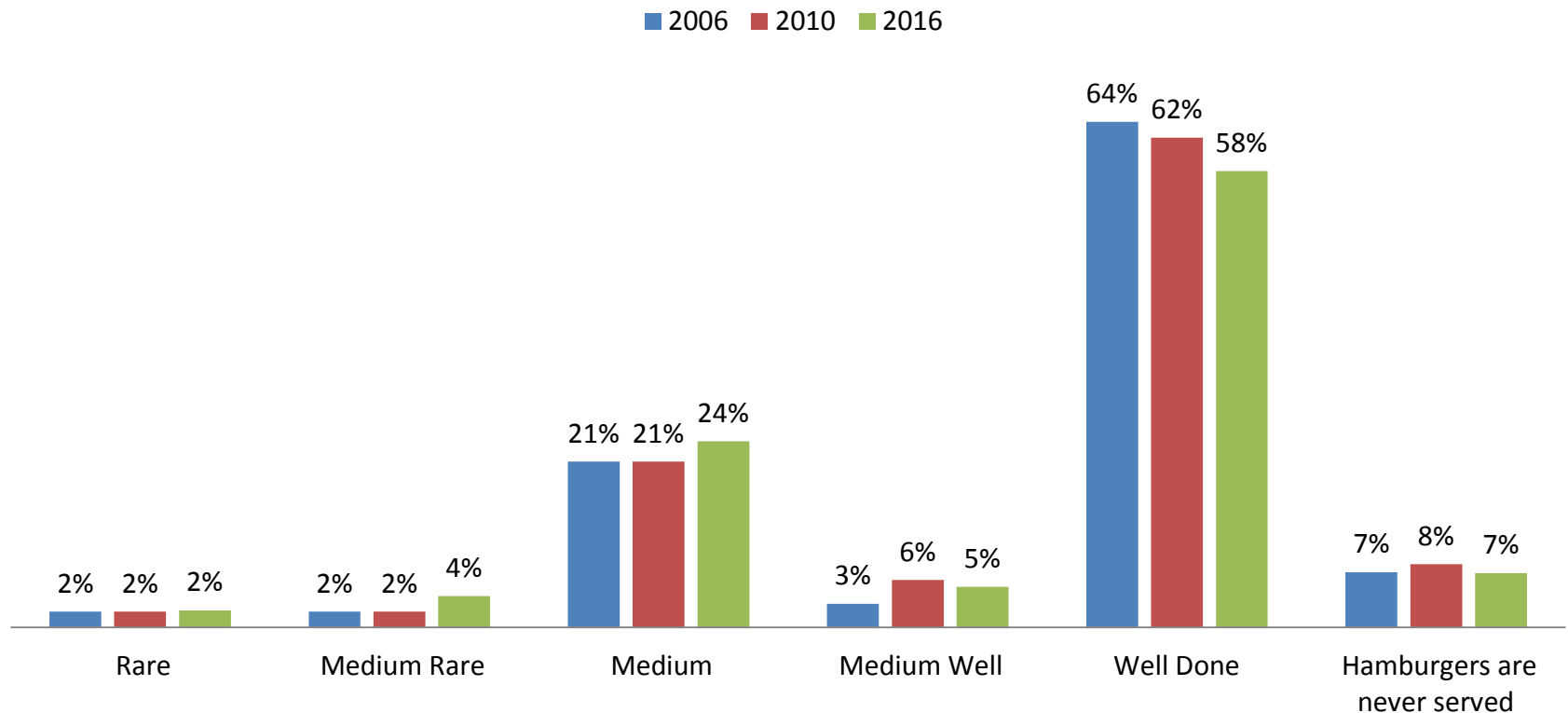
In 2010 and 2016, about half of the respondents correctly thought that certain types of people have a higher risk of getting food poisoning.

Of the following two statements, which one is closer to your view?



The majority of respondents serve hamburgers “well done.”

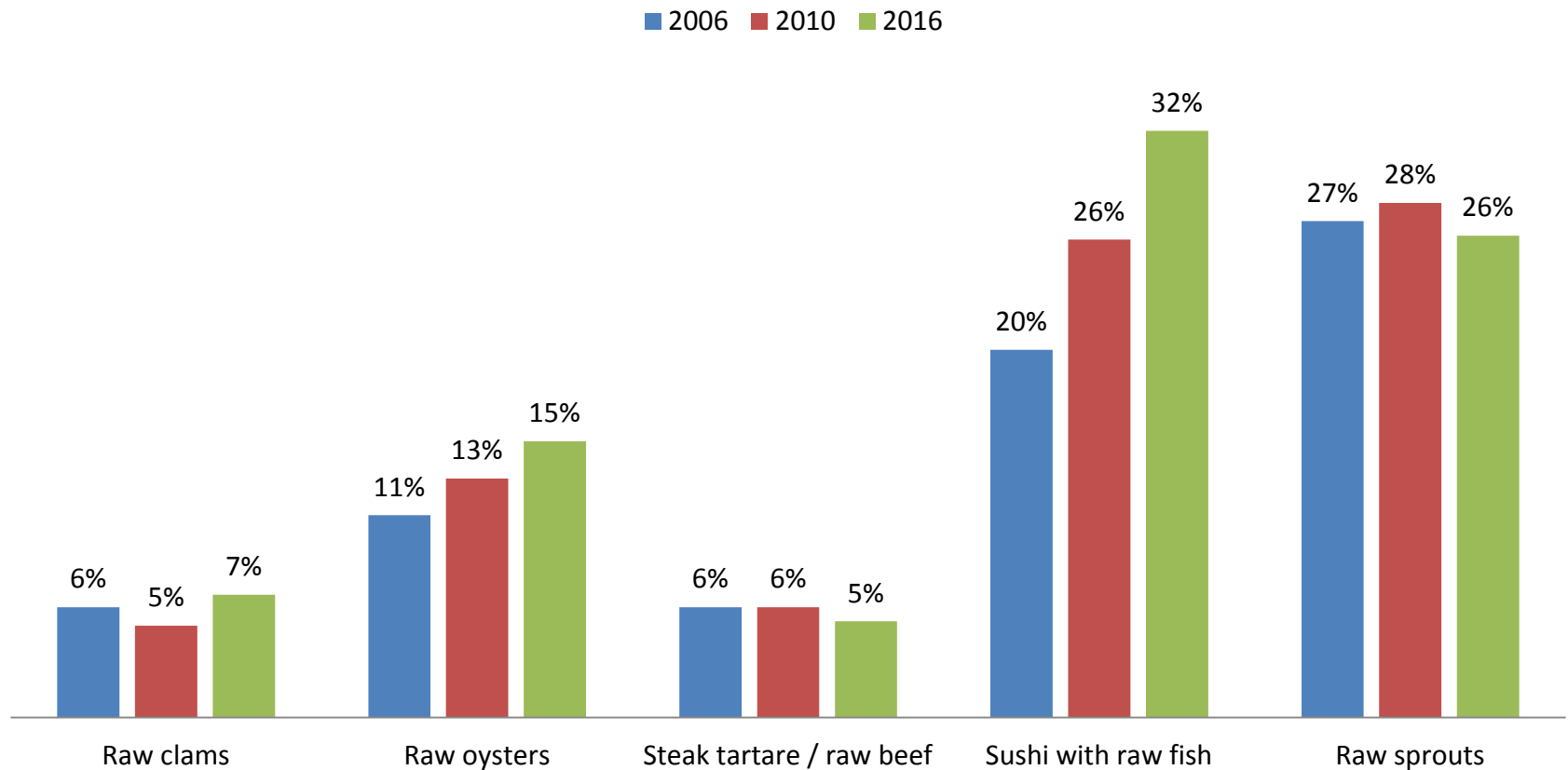
In your home, are hamburgers usually served rare, medium, or well done?



*The categories “medium rare”, “medium well”, and “hamburgers are never served” were not presented to respondents, but were recorded when the respondent offered them.

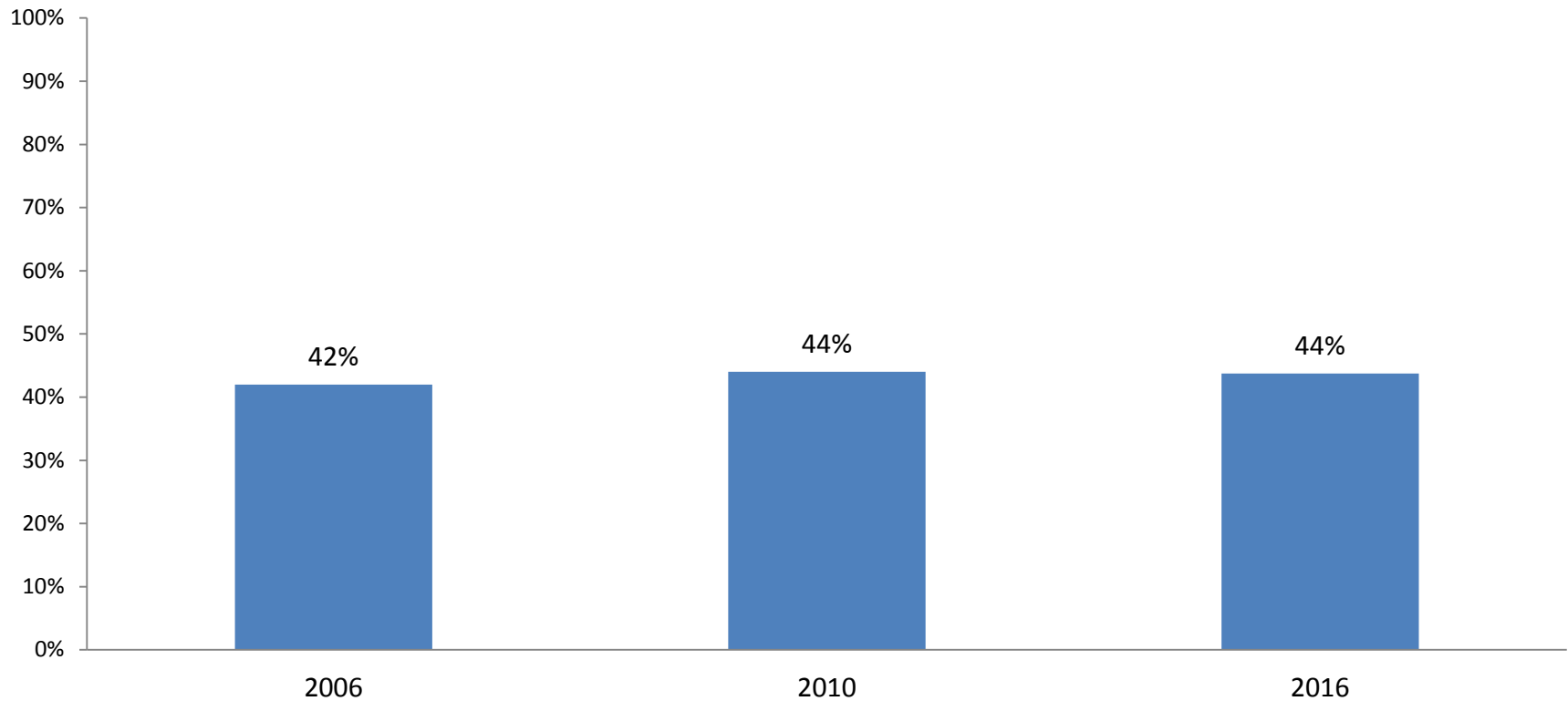
The percent of respondents reporting eating raw oysters and sushi with raw fish has continued to increase.

In the past 12 months, which of the following raw foods did you eat?



The percent of respondents who have eaten undercooked eggs has remained the same at about 44% across the years.

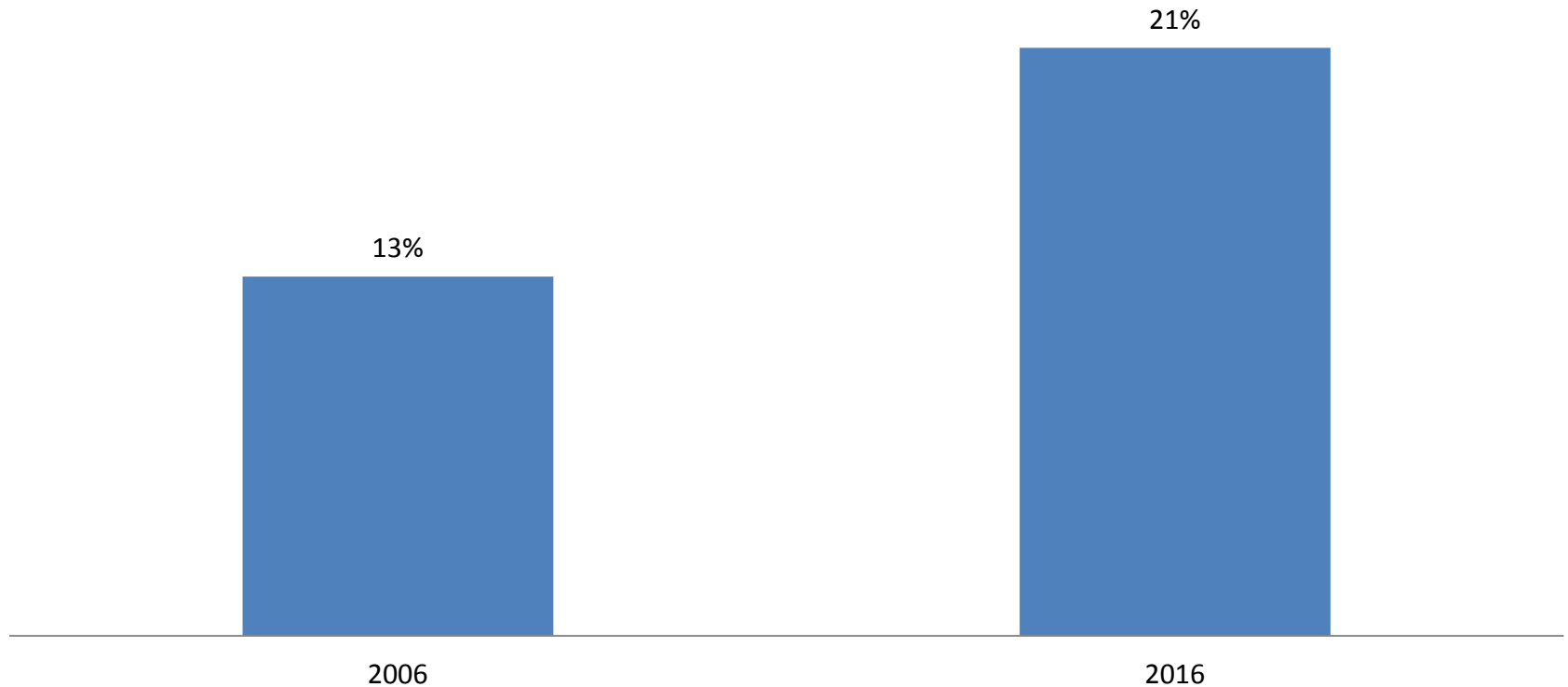
In the past 12 months, have you eaten eggs with runny yolks, soft scrambled eggs, or soft meringue? (Percent "Yes")



RAW SPROUTS

The percent of respondents who have heard of health problems related to raw sprouts has increased from 2006 and 2016.

Have you heard or read about any possible health problems related to eating raw sprouts, such as alfalfa or bean sprouts? (Percent "Yes")

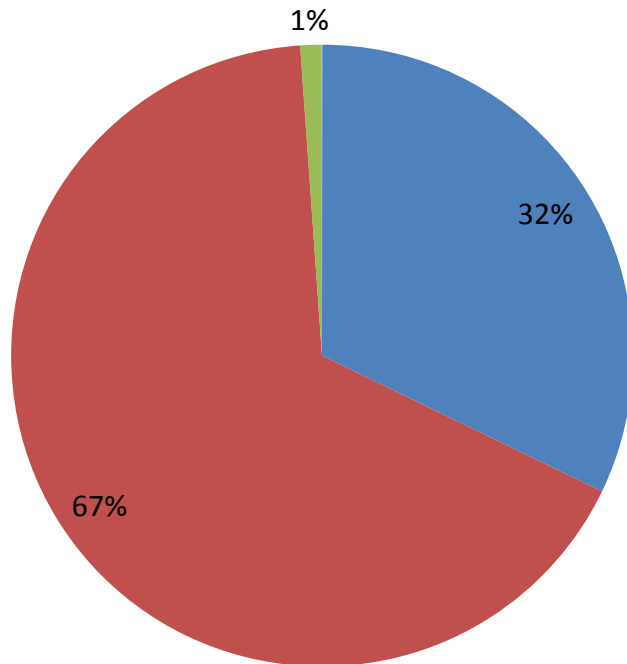


MECHANICALLY TENDERIZED BEEF

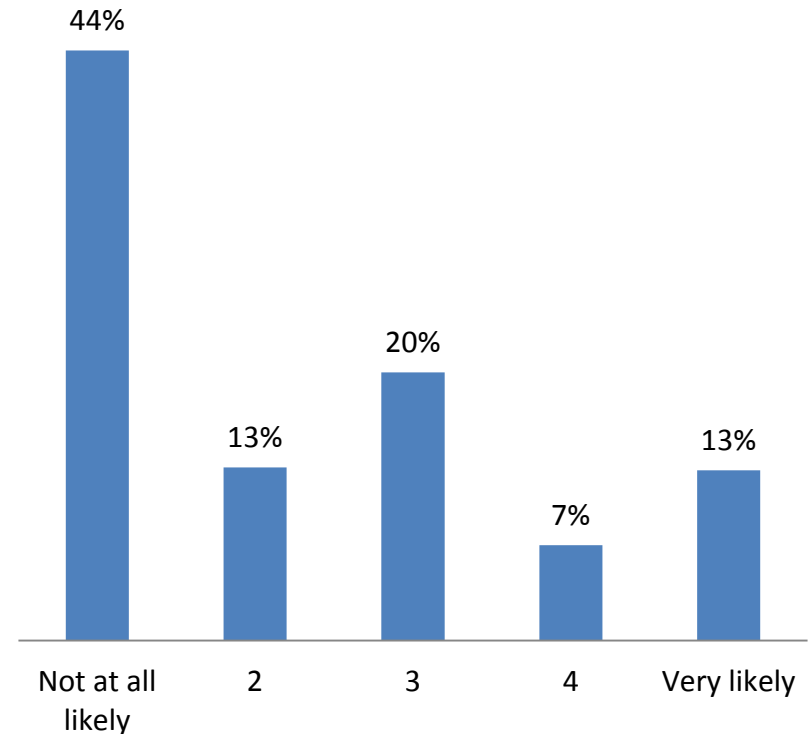
Most respondents had **not heard of mechanically tenderized beef** and most **would not be likely to buy it** if they saw it in the store.

Have you heard of mechanically tenderized or needle tenderized beef or steak?

■ Yes ■ No ■ Don't know / refused



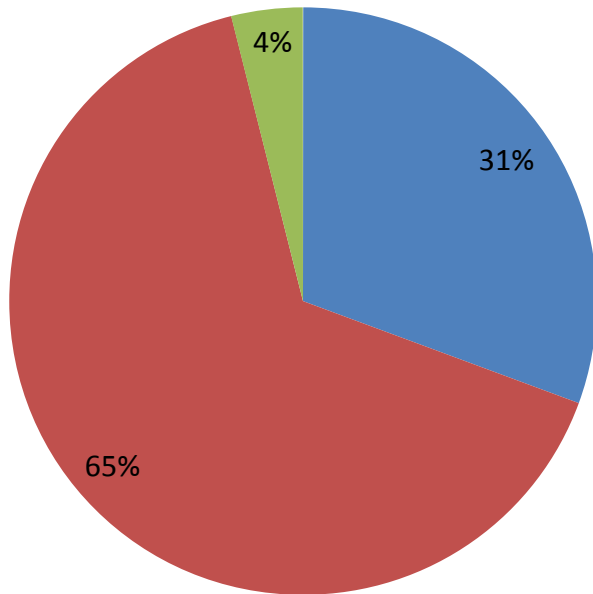
If a package of meat contained a label saying the meat was mechanically tenderized, how likely would you be to purchase that beef?



Of those who heard of mechanically tenderized beef, **only about a third had bought or eaten it.** Of those, most let it rest or cook it until well done, but only a third use a food thermometer when preparing it.

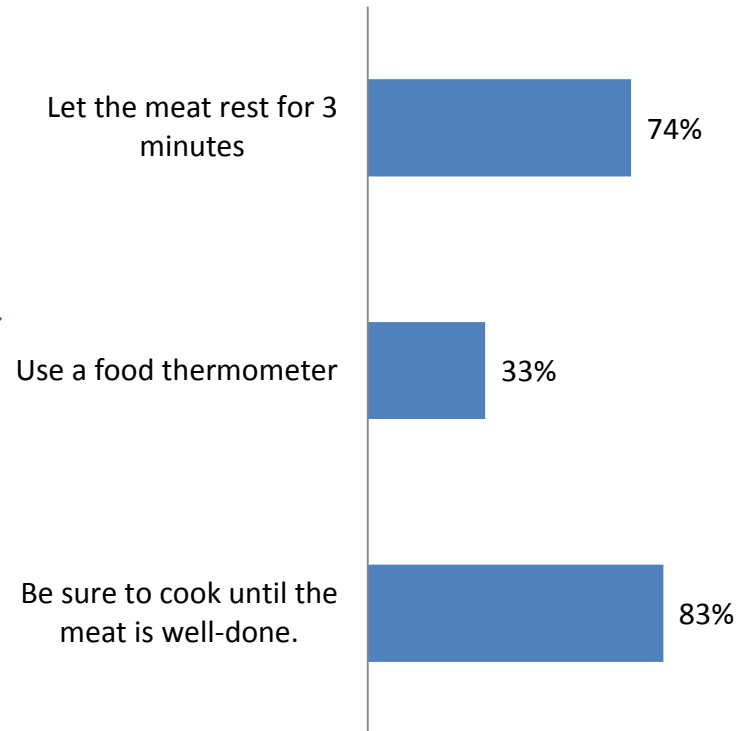
Have you ever bought or eaten beef or steak that was labeled as being either mechanically tenderized or needle tenderized?

■ Yes ■ No ■ Don't know / refused



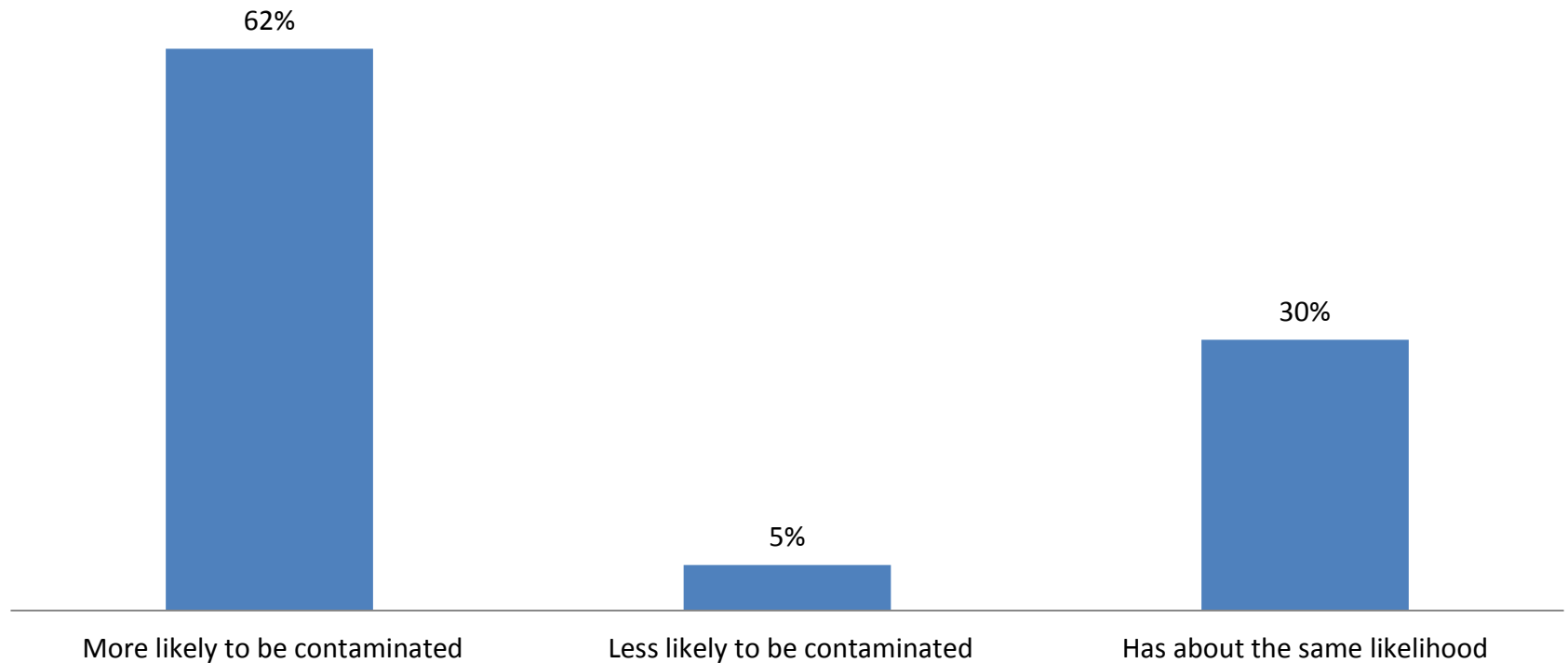
If Yes →

Do you do any of the following things when preparing mechanically tenderized beef?
(Percent "Yes")



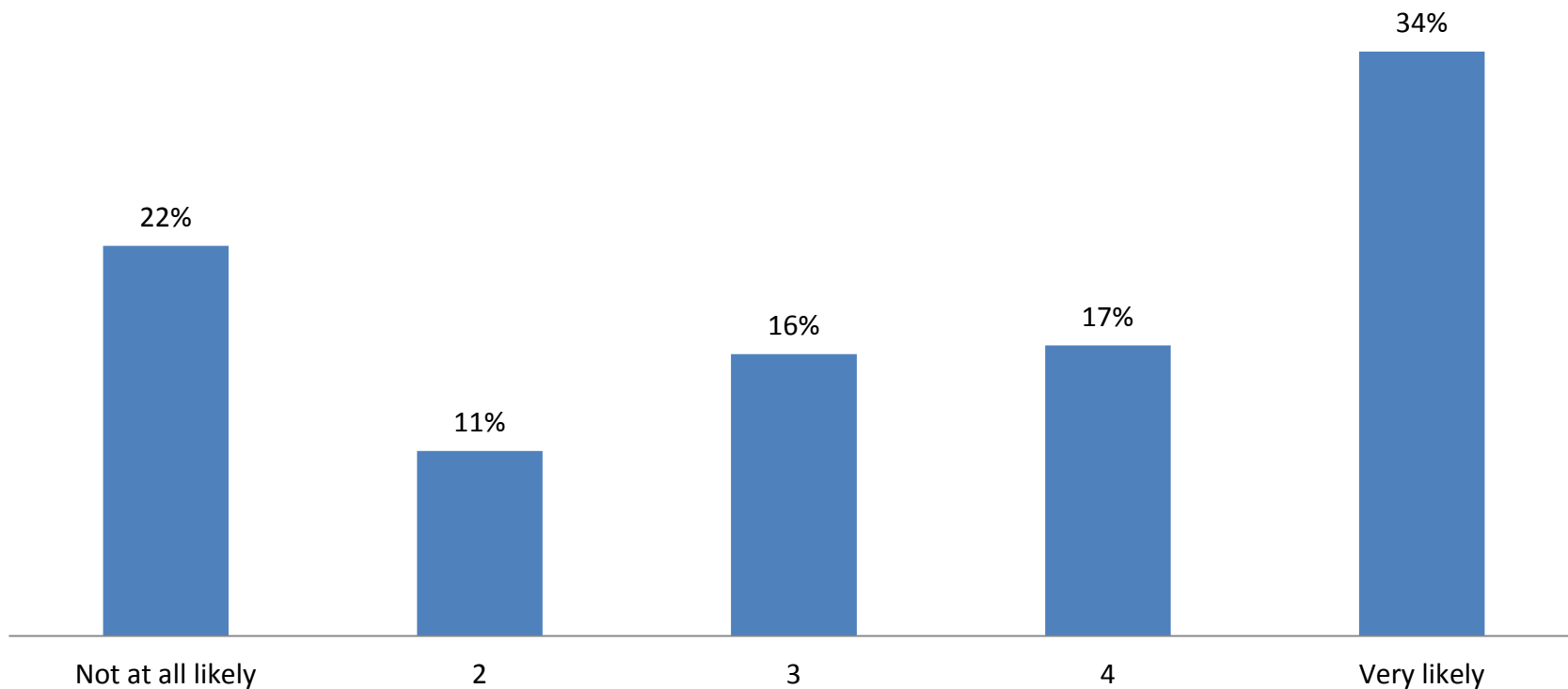
Of those who had heard of mechanically tenderized beef, **most thought it was more likely** to be contaminated with germs compared to regular beef.

Would you say that mechanically tenderized beef is more likely, less likely, or has about the likelihood of being contaminated with germs such as *E. coli* as compared to regular beef?



While about a **third of meat preparers say they are very likely to follow cooking instructions on meat packages**, others are less likely to do so.

When cooking raw meat, how likely are you to follow any cooking instructions that you find on the meat package?*



*Asked of those who prepare raw meat or poultry.

